1-1-1974

Education and development in Iraq : with emphasis on higher education.

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EDUCATION AND DEVELOPMENT IN IRAQ,

WITH EMPHASIS ON HIGHER EDUCATION

A Dissertation Presented
By

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Submitted to the Graduate School of the
University of Massachusetts
in partial fulfillment of the requirements
for the degree of

DOCTOR OF EDUCATION

April 1974

Major Subject: International Education

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April 1974

DEDICATION

To my parents, Amina and Abdul Karim Al-Shaikhly, my first teachers, for their immeasurable love and devotion.

PREFACE

As a native Iraqi, the writer has familiarity with Iraq's educational system having been educated in the primary and intermediate schools and the secondary school of commerce and having graduated from the College of Commerce and Economics of the University of Baghdad in 1962. My graduate education was gained in the United States.

I earned a masters degree in Economics at North Dakota State University in Fargo. I have taught in several American higher educational institutions including American International College, Western New England College and the University of Massachusetts. The teaching experience has given me an acute understanding of the role of the teacher and the relationship between education and the "real life" it supposedly trains one for.

Since I have been away from Iraq, I have remained continuously in touch with developments there. The dissertation is oriented toward a problem-solution approach to Iraq's development.

I would like to express my great appreciation to my doctoral dissertation committee composed of: Dr. David R. Evans, Chairman; Dr. Thomas L. Bernard; Dr. Robert L. Sinclair and Dr. George E. Urch. I would also like to thank Dr. Judith L. Evans for accepting and fulfilling the responsibilities as the Dean's representative to my committee. Furthermore, I would like to emphasize the valuable guidance and assistance given me by my advisor Dr. David R. Evans, both during the preparation of the dissertation and through-

out my graduate program at the Center for International Education. My hearty thanks also go to Dr. George E. Urch for his extremely beneficial suggestions and support, to Dr. Robert L. Sinclair for his helpful comments on the dissertation and proposal, and to Dr. Thomas L.Bernard for our interesting informal discussions on the dissertation.

To my brothers Abdul Kader and Abdul Mutalib and my sisters Sadiyah and Amrah go many thanks for providing me with numerous up-to-date helpful Arabic references which were extremely helpful in the writing of this dissertation.

My deep gratitude and appreciation for her support and encouragement go to my closest friend Suzanne E. Kray.

I would also like to thank Mrs. Pauline Ashby for typing the draft, as well as the final copy of the dissertation.

EDUCATION AND DEVELOPMENT IN IRAQ, WITH EMPHASIS ON HIGHER EDUCATION (April 1974)

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ABSTRACT

Iraq is fortunate in comparison to many other developing countries. It has vast natural resources and capital formation which can be utilized to educate the public to aid the development of the national economy.

The objectives of the dissertation are:

1. To explore the potential need for the integration of education and national development.
2. To study the development of the Iraqi higher educational system since the early 1950's in the following context:
    a. Development of the demand for college graduates.
    b. Analysis of college curricula and determination of the educational system's ability to provide graduates with appropriate skills to meet the needs for development in Iraq.
    c. Proposing alternative curricula for higher education in Iraq.

d. A study of existing financing of educational needs.

The dissertation is divided into nine chapters which are directly related to the achievement of the above two major objectives. The first chapter is an introduction to the study and includes basic information about Iraq. The second and third chapters provide the relevant economic issues required for a general background for the study. Chapter II includes an analysis of the concept of human capital. Chapter III outlines in detail the major approaches to economic development. The first objective of the dissertation which is to emphasize the importance of the integration of education and national development in Iraq is discussed in Chapters IV and V. Chapter IV reviews the various projects and programs of economic development undertaken by the Iraqi government since 1950. Chapter V is essentially a continuation of Chapter IV and singles out the issues and problems of education and its importance as a leading sector in the development of Iraq.

The remaining four chapters are designed to achieve the second major objective of the study. Chapter VI provides background materials on education acquired prior to the elementary education. Emphasis is given to the historical development of Islamic philosophy of education. Chapter VII concentrates on the system of primary and secondary schooling prior to university education. Chapter VIII presents a conceptual analysis of the present organizational structure of higher education and its limitations. This includes college curricula, proposed alternative curricula, and financing educational needs. Finally, Chapter IX contains conclusions and recommendations.

The dissertation also includes a discussion of regression analysis, cost-benefit analysis, linear-programming techniques and graphical analysis as alternative approaches to the integration of educational planning and economic development.

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CHAPTER I

INTRODUCTION

Statement of the Problem

Iraq is fortunate in comparison to many other less-developed countries. It has vast natural resources and capital formation which can be utilized to educate the public, not only to increase their productivity, but also to improve the quality of their life.

Much emphasis in education has been and still is on the college graduation certificate as a passport to security, success and status in a supposedly assured government job. Therefore, higher education is viewed as a means to individual social prestige and economic gain. Since the emergence of formal higher education in the first decade of this century, the educational system has failed to change this traditional view of education in Iraq. There must be concern on the part of educators to deal with problem-solution issues which have real-life applications if Iraq's educational system is to benefit the country in dealing successfully with its development.

A most pressing problem faced by Iraq's educational system is that the college graduates in many majors have great difficulty finding jobs. No educational plan exists to stabilize the supply of and the demand for college

graduates. Less-developed countries such as Iraq cannot afford to waste any available resources, be they natural or especially the products of specialized training and education.

The quantitative growth of higher educational institutions had its beginning in the establishment of the School of Law in 1908 for the training of lawyers and judges. Other colleges and institutions of higher learning gradually emerged and all were located in Baghdad. Until 1956 there was no formal university in Iraq. However, in 1956 the various colleges and institutions were incorporated into one unit called the University of Baghdad. It was not long before other universities were founded. In 1963, the University of Al-Mustansiriyah was founded in Baghdad. Soon three other Universities were established outside the province of Baghdad. Mousel University and the University of Sulaimaniyah were both founded in 1967 in the northern part of Iraq, while in the same year, the University of Basrah was founded in southern Iraq.

As the number of universities increased, university student enrollment dramatically grew. Total student enrollment in higher educational institutions in 1957-58 was 5,636 and in 1971-72, enrollment had increased to 48,573.[1]

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[1]See Fahim I. Qubain, Education and Science in the Arab World, (Baltimore, Maryland: The Johns Hopkins Press, 1966), p. 220, and Ministry of Higher Education and Scientific Research, Yearly Statistical Report 1971-1972, Table 1, p. 5, 1972, Statistical Department, Ministry of Higher Education and Scientific Research, Baghdad, Iraq, (in Arabic).

However, the growth in number of students was not accompanied by an increase in the quality of the graduates; nor did it provide for the needed distribution of graduates and educators to the various sectors of the economy which have demand for them. The students have no flexibility in their programs and must enroll in prescribed classes with no choice of electives, which could help broaden the horizon of their fields of speciality.

The Purposes of the Study

The purposes of the study are:

1. To explore the potential need for the integration of education and national development of Iraq.
2. To study the development of the Iraqi higher educational system since the early 1950's in the following context:
    a. Development of the demand for college graduates.
    b. Analysis of selected college curricula and determination of the educational systems ability to provide graduates with appropriate skills to meet the needs for development in Iraq.
    c. A study of existing financing of educational needs.
    d. Proposing alternative curricula for higher education in Iraq.

Research Procedures

The research for this study involves historical analysis and projective techniques. The period to be studied is 1950 to the present. Data will be collected from several sources:

1. Government documents and reports.
2. Periodicals and books.
3. Journal articles.
4. Newspapers.
5. Personal experience, I was educated in the primary and secondary schools and University in Iraq.

Data from the above sources will be chosen on the basis of the criterion of reliability and accuracy. Some data will be used to analyze the quantitative growth of student enrollment in colleges, its relation to the total population, and especially to the total youth of college age; the number and percentages of high school graduates admitted to higher education. Also, data on university graduates and the demand for them as high school and primary school teachers as well by the different sectors of the economy will be discussed. The problem of an over supply of college graduates in a less-developed country like Iraq which cannot afford to waste any resources will be explored and a solution suggested.

Based on comparative study of university curricula, the success and failures of required curricula in higher educational institutions will be evaluated and alternative curricula planning will be proposed.

Financing of higher education will be reviewed and recommendations made for planning and allocation of resources to provide the most efficient and highest quality training of personnel that a developing country like Iraq desperately requires. The important relationship between the budget for higher education and the general government budget and the national income which supplies them must be explored.

Limitations of the Study

One can expect to be faced with several problems when conducting a study which deals with a less-developed country such as Iraq. Unfortunately, much of the data are often incomplete or unavailable. An example, Abdul Majeed Rasheed cited that the cost of educating a student in primary school rose from $492. per student in 1960-61 to $993. per student for the academic year 1969-70.[2] These figures are much higher than the actual figures that should cover the necessary costs for educating a student in Iraq. These figures may include salaries, and may also reflect high costs incurred by erecting expensive school buildings. There is a lack of organized and complete statistical records on

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[2]Abdul Majeed Rasheed, Primary Education in Iraq, Sources and National Growth Plan, 1971, Table 4, p. 6, Educational Planning Department, Ministry of Planning, Baghdad, Iraq, (in Arabic).

Education in its various aspects. The same data are often gathered by several departments and when reported sometimes contain contradictions. Some of the data are aggregated in such a way that analysis on a micro-level is made difficult. Some of the primary data can be obtained through the use of a questionnaire approach, however, this was not possible for this study.

Since a questionnaire form of inquiry is not a usual procedure of gathering data in Iraq, a questionnaire approach was not successful in obtaining useful information. The writer of this dissertation, on August 21, 1973, sent two questionnaires to the Head of the Educational and Psychological Center of the University of Baghdad, and to the Director General of Educational Planning of the Iraqi Ministry of Education. The aim was to obtain the opinions of these high officials on the forces influencing development of education in Iraq, as well as to obtain information on the possible existence of an educational planning system. No answer was received from the Director General of Educational Planning at the Iraqi Ministry of Education. While an answer was received from the Educational and Psychological Center of the University of Baghdad it was very sketchy and devoid of any information which could be used for this study.

It is contended that the lack of accurate statistical data and analytical studies regarding Iraq is a major obstacle to its economic growth and development. Also, the absence of Iraqi manpower studies presents a serious problem in determining the exact human resources needed and available for the development of Iraq.

Selected Review of Literature

There exists no current study nor previous research which singles out the impact of the relation between education as human capital and the development of the national economy in Iraq. There are some studies which might indirectly aid in measuring this effect. Dr. Saleh Hamdan Al-Nasser in his Ph.D. dissertation (Ohio State University, 1971), presented an historical study of educational development in Iraq, Syria and the United Arab Republic. Another Ph.D. dissertation by Rev. John Joseph Diskin (University of Pittsburgh, 1971), was an historic documentary study of the evolution of the government sponsored secular school system in Iraq, 1793-1920. A similar historical document is a dissertation by Abdul Amir Al-Rubaiy, Ph.D. (Kent State University, 1972). It is a study of the manifestations of nationalism and their influence on the Iraqi educational system described mainly as they evolved in the following: (1) the degree of reliance on foreign expertise and the utilization of foreign personnel; (2) the distribution of student missions; and the education of minority groups. A fourth dissertation by Joseph Francis MacDonnell, Ed.D. (Columbia University, 1970) analyzed selected aspects of the UNESCO Mathematics Program for the Arab States and Iraq's present secondary school mathematics program.

Organization of the Study

The study is divided into 9 chapters which are directly related to the achievement of the two major objectives of this study. The first chapter is an introduction to the study. The second and third chapters provide the relevant economic issues required for a general background for the study. Chapter II includes an analysis of the concept of Human Capital. Chapter III outlines in detail the major approaches to economic development. The first objective of the study which is to emphasize the importance of the integration of education and national development in Iraq is discussed in Chapters IV and V. Chapter IV reviews the various projects and programs of economic development undertaken by the government since 1950. Chapter V is essentially a continuation of Chapter IV and singles out the issues and problems of education and its importance as a leading sector in the development of Iraq.

The remaining four chapters are designed to achieve the second major objective of the study. Chapter VI provides background materials on non-formal education acquired prior to the elementary education. Emphasis is given to the historical development of teaching children the Islamic philosophy of life based on the Koran. Chapter VII relates the background material in schooling prior to the beginning of the college education. Chapter VIII presents a conceptual analysis of the present organizational structure of higher education and its limitations. This includes the college curricula and financing of educational

needs. Finally, Chapter IX is a summary and conclusion of the study.

General Information About Iraq

Iraq covers an area of 171,590 square miles, somewhat larger than the State of California. In 1971, the population of Iraq was 9,750,000; with approximately a 3.5 per cent rate of population growth per year.[3] Baghdad, the capital and largest city in Iraq has a population of about 2,000,000.

Iraq is essentially a landlocked country with only a narrow access to the Arabian Gulf through its southern port of Basrah. Syria and Jordan border Iraq on the west. Saudi Arabia and Kuwait border on the south. Turkey touches Iraq on the north. Iraq lies opposite the full length of Iran's western border.

Geographically, Iraq may be divided into three distinct topographical regions: the southwestern desert region extends eastward to the escarpment of the Tigris and Euphrates rivers; the central lowland fed by these two rivers stretches to the Iranian border on the east; and the Kurdustan mountain ranges of northern Iraq form a natural and effective physical boundary (see Figure 1).

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[3]United Nations Development Programme, Country and Intercountry Programming and Projects: Further Review of Criteria to be Followed in Calculating Indicative Planning Figures for the 1977-1981 Period, 25 October 1973, Distr. General, DP/26.

FIGURE 1. MAP OF IRAQ

Territorially, Iraq is divided into sixteen provinces called Liwas.

The temperature in Baghdad, averages 90° Fahrenheit during the months of June through September. However, nighttime temperatures generally drop to about 70° Fahrenheit. During the winter months, the temperature in Baghdad averages around 30° Fahrenheit. Snowfall, unknown in the low-lands of Iraq, is a common occurrence in the northern mountain regions during the winter months. In the northeast highlands, rainfall is considerable during the months from October to May, but further south on the central plain precipitation is slight, averaging about 6 inches annually. The area adjacent to the Syrian desert receives little or no rainfall. As noted earlier, Iraq has a varied topography--ranging from cool, sub-humid mountain ranges to hot desert regions. The attending diversity in temperature and soil types, coupled with irrigation in the drier areas, permits a highly diversified agriculture. The Tigris and Euphrates, Iraq's two great rivers significantly increase the productivity of farmlands by providing rich silts and abundant water for irrigation. In northern Iraq, wheat and barley are grown; in the central part the main crops are fruits and vegetables; but in southern Iraq tropical plants such as date palms and bananas are cultivated.

Surveys indicate that Iraq has economically valuable deposits of iron, copper, sulphur, gypsum, bitumen and marble. Deposits of brown coal at Kirfi, between Baghdad and Kirkuk, produce a few thousand tons of coal

annually. Small-scale local deposits of potassium nitrate, gypsum, quartz and rock salt are exploited in a number of localities under government supervision. Deposits of copper, iron, chromium and manganese have not yet been exploited on a large-scale.[4] However, oil is the greatest source of income and is exploited in the north, northeast, and south of the country. In 1925, the government of Iraq awarded the Iraq Petroleum Company (IPC) a concession for oil development in the northern and central parts of Iraq.[5] Petroleum was first discovered on October 14, 1927 near Kirkuk. By 1952 about 35 producing wells were completed in the Kirkuk field. Two other highly important oil fields were discovered in 1947 and 1953, those were Zubair and Rumaila.[6] In 1964, the

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[4]For more information see: "Iraq," Encyclopedia Britannica, Volume 12, (London: William Benton Publisher, 1969), pp. 537-538.

[5]IPC was composed of four foreign oil companies; American, British, Anglo-Dutch and French and a private Iraqi citizen named Gulbenkian who contributed to the discovery of oil in Iraq. Within the IPC, each of the four foreign oil companies received 23-3/4 per cent and Gulbenkian received five per cent of the IPC's share of oil revenues. Under an agreement concluded in 1952 between IPC and the Iraqi government each party received 50 per cent of the oil revenues.

[6]Information on petroleum is derived from Who's Who in the Arab World, (Beirut, Lebanon: Publitec Publications, Third Edition, 1971-1972); "Iraq," Encyclopedia Britannica, 1969; "Iraq," The Encyclopedia Americana International Edition, 1970, Volume 15, (New York: Americana Corporation, 1970), pp. 388-399; Majed Aizat, Oil Revenues of the Iraqi Government, (Baghdad: Al-Nijoum Press, 1961 (in Arabic); "Iraq," Deadline Data on World Affairs, Greenwich, Connecticut: DMS Inc., May 4, 1973; and United Nations Statistical Yearbook, 1972 1973, Twenty-Fourth Issue, United Nations, New York, New York.

Iraq National Oil Company was founded in order to further seek and exploit oil deposits. At this time, the Iraqi government was responsible for all refining and distributing of oil within Iraq, and for production of crude oil from a single small field outside IPC concessions.

Total oil production has risen steadily from 22 million tons in 1957 to 47.3 million tons in 1960, to 55.6 million tons in 1963, to 60.6 million tons in 1964, and up to 72.6 million tons in 1968. The increase in oil production was accompanied by an increase in oil revenues. By 1950, oil revenues had increased tremendously, in fact they were more than double the 1949 revenues and three times greater than the 1945 total. The 1950 oil revenues amounted to 6,885,751 Iraqi Dinars (ID), (as of March 8, 1974 one ID is equivalent to $3.40 U.S. as reported in the Wall Street Journal), while those for 1945 and 1949 were respectively, 2,709,886 ID and 3,318,701 ID. In 1966, oil revenues amounted to 135,440,000 ID, and to 354,000,000 ID in 1972. However, the Iraqi government also obtained revenues from other sources in addition to oil. In 1972, oil revenues amounted to 68.8 per cent of the total government income.[7]

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[7]Other revenues were derived from taxes on income and wealth, agricultural land taxes, customs duties, excise duties and other sources such as revenues from the government owned and operated transportation system.

Increases in oil revenues since 1950, have helped the government to enact development programs for the different sectors of the economy, including greater expenditures for education. In 1972, Iraq's total expenditures equalled 534.76 million ID.[8] 65.88 million ID or 12.3 per cent of 1972 total expenditures were allocated for education. 14.08 million ID or 2.7 per cent were spent for health; 150.54 million ID or 28.2 per cent for defense; 28.00 million ID or 5.2 per cent for buildings; 60.00 million ID or 11.2 per cent for agriculture; 28.00 million ID or 5.2 per cent for transportation and communications; 86.00 million ID or 16.1 per cent for other development expenditures and 102.26 million ID or 19.1 per cent for other expenditures.[9]

In 1971, Iraq's Gross National Product (GNP) was approximately U.S. $3 billion. GNP per capita in 1971 was U.S. $340. Total exports in 1972, amounted to U.S. $1,529,000. Main exports are petroleum and agricultural products. Most oil moves unrefined to Europe, with increasing amounts going to eastern Asia and Africa. Agricultural products such as barley and wheat are sent to Saudi Arabia, Jordan and Lebanon with some export to the United Kingdom for malting purposes. Iraq is the largest world exporter of dates (about 80 per cent of world sales). There is significant export of raw cotton to Japan, Hong

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[8]The 1972 government budget deficit was financed by foreign loans and government bonds sold to Iraqi citizens.

[9]United Nations Statistical Yearbook, 1972.

Kong, India and Eastern Europe. Live animals are exported to Jordan, Lebanon and Turkey. Total imports in 1972, amounted to U.S. $694,000. Machinery, steelwork and vehicles are principal imports followed by textiles, clothing, tea, sugar, chemicals and pharmaceuticals, timber, rubber and paper.

The Iraqi people are predominantly Moslem, Arab and Arabic speaking. Kurds, a large minority in the north, comprise 20 per cent of the population, while Persians and Turks constitute another five per cent. The government of Iraq since July 17, 1968, has been headed by Major General Ahmed Hassan El-Baker of the Baath Party which espouses belief in Democratic Arab Socialism. On July 14, 1958, the Iraqi monarchy was overthrown by an army coup. A government headed by Brigadier General Abdul Karim Kassem was announced. In February of 1959, the government was overthrown by a military coup and Abdul Salem Mohammed Arif became president. The Baath Party subsequently took control of the government. On November 18, 1963, President Arif overthrew the Baathist government. Arif died in an air crash at Basrah on the Arabian Gulf on April 13, 1966. Subsequently, the Council of Ministers and National Defense Council, acting under the interim constitution, elected Major General Abdel Rahman Arif, brother of the late president, to succeed him. On July 17, 1968, Major General Ahmed Hassan El-Baker, in a bloodless coup d'etat, expelled President Arif.[10]

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[10]Deadline Data on World Affairs, 1972; "Iraq," Encyclopedia Britannica, 1969; "Iraq," The Encyclopedia Americana International Edition, 1970; and United Nations Statistical Yearbook, 1972.

CHAPTER II

EDUCATION AS HUMAN CAPITAL

The concept of human capital has not played a significant role in the writings of most economists. Classical economists treated labor as a homogenous factor in their production functions, due to the fact that they assumed a perfect competition, including perfect mobility of factors of production within a country. In real life, however, the labor force is not homogenous and perfect competition simply does not exist, because the labor force contains workers with different skills. In addition, some members of the labor force may reject the idea of moving to another area for another job, even at higher pay, for various reasons. One of which is their attachment to their native homes.

Most economists up to the present have explored investment in physical capital in order to promote "more output" and to obtain a full employment economy. With very few exceptions, most economists in the past did not pay serious attention and consideration to the concept of education as capital investment in human beings.

Friedrich List of the German historical school, as well as two early classical economists, Karl Marx and Alfred Marshall, did pay some consideration to this concept. List attacked the competitive model of the classical school. He

recognized the significance of education in promoting human capital. Karl Marx, on the other hand, though severely criticizing the writings of the classical school, nevertheless emphasized the importance of a materialistic aspect of physical capital in the production of goods and services. Marx followed the Ricardian doctrine, with a slight modification, that the value of a commodity is determined by the amount of socially necessary units of labor that is needed to produce it. Marx did recognize that human capital is productive, but he believed that no one in the capitalist economy would invest in human capital, because no one could appropriate the benefits from it. He also stressed that the capitalist entrepreneurs snatched the labor's "surplus value." Since, according to Marx, subsistence determined labor's wages, labor could not gain by increasing its human capital; and any increase in the productivity of labor would be appropriated by the capitalists. However, Marx did not foresee that strong labor unions would emerge to demand higher money wages for their members.

Alfred Marshall believed that training industrial labor does influence a worker's earnings. In Marshall's view, education of the worker might lead to an increase in his efficiency, and hence result in higher marginal productivity for his work effort, which could help him earn a higher money wage. Marshall, however, had no strong consideration for the social welfare of the labor force. His treatment of labor was comparable to the way in which physical equipment

is treated in the production process.

Since the late 1950's, the concept of human capital has begun to play an important part in the thinking of modern economists, although this does not mean that economists are actively engaged in the promotion and development of the concept of human capital. So far, very few economists have dealt with this concept. Those economists who are trying to explore the educational aspect of human capital are, moreover, usually economists and not educators: they pursue the problem on an abstract theoretical level rather than on a practical one.

The Chapter consists of four sections. The first part states the conceptual meaning of education as human capital. The second part is devoted to a discussion of education as investment in human capital. The third part explores the development views held by economists as they relate to the concept of education as human capital. The last part contains concluding remarks relating the application of the concept of human capital to Iraq.

Meaning of Education as Human Capital

Many economists and educators view the concept of education as human capital in the sense of a stock of resources. Stock of resource is defined as skills and knowledge acquired as a result of education. For example, Goffman and Sktollar consider skills and knowledge acquired in school as part of human

capital.[1] Harbison and Myers view the rate of human capital formation as an indicator of human resource development. Education is considered an essential factor in the development of societies. Hence, there is a positive correlation between education and economic growth.[2] Eide goes further to suggest that education develops the cultural and social aspects of the society, which are also important factors for economic growth. He also indicates that the developments in technology, in economic performance, and in general welfare of a society are dependent on the supply of high quality manpower.[3]

Education, by improving the knowledge and ability of the human resources, plays an important part in the development of a society. However, any direct correlation between the level of educational attainment and economic growth has not been quantitatively proven. It is especially true in developing countries that "education alone does not create jobs."[4] The question can be raised; how can a developing country like Iraq benefit from expanding higher education when the over-supply of college graduates does not match the few jobs relative to their

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[1]J. Goffman and A. Sktollar, Economic Factors Affecting the Financing of Education, (Gainesville, Florida: National Educational Finance Project, 1970).

[2]Fredrick H. Harbison and Charles A. Myers, Education, Manpower, and Economic Growth, (New York: McGraw-Hill, 1964), p. 13.

[3]K. Eide, "Educational Development and Economic Growth in OECD Member Countries," Economics of Education, E. A. G. Robinson and J. E. Vaizey (eds.), (New York: St. Martin's Press, 1966), p. 174.

[4]A. Burton Weisbroad, "Investment in Human Capital," The Journal of Human Resources, I, No. 1, Summer 1966, p. 13.

fields of study? Application of a curriculum which trains the students for non-existent jobs which do not meet Iraq's real needs have proven to be too costly for the national economy, since students are not required to pay tuition. The overproduction of lawyers in Iraq is an example of an over-investment in university education.

Carrying out the economic development programs of the Iraqi government will require investment in human capital in general. There is a need for technicians and highly educated manpower. University level teachers, schools and facilities are needed in order to increase the percentage of college graduates with the specific skills that are needed to carry out the economic development programs of the country. In Iraq, the industrial sector needs also to be expanded to provide jobs for a great number of technicians, skilled workers, foremen and managers with sufficient income.

Before exploring recent developments in the concept of human capital, a review of the concepts of human capital held by different economists is appropriate.

Human Capital and Marginal Productivity

Treating education as an investment in human capital, Innes, Jacobson, and Pellegrin point out that the process of education enhances the productivity of an individual, and this increase in productivity is reflected in the worker's

future stream of income. They stress, moreover, that they are by no means suggesting that monetary gain is the only motivation of those who seek higher education; it obviously is not. They consider that education is an investment in human capital from the individual's point of view, and thus stress that an individual who is considering an expenditure now which will yield future income ought to consider education as one of the alternatives.[5]

Lester Thurow uses a more general concept of human capital. Thurow focuses his analysis on the conventional aspect of the term marginal productivity of labor in relation to labor's earnings, without examining all the different benefits of education. He points out that the concept of human capital depends upon the assumption that labor is in fact paid according to its marginal productivity; stating that if this was not true, then human capital would not reflect

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[5]John T. Innes, Paul B. Jacobson, and Ronald J. Pellegrin, The Economic Returns to Education, Third Printing, November 1969, The Center for Advanced Study of Educational Administration, University of Oregon, Eugene, Oregon, pp. 1-3.

The rate of return on investment in human capital is based on the fundamental notion that the cost of doing so "equals the net earnings foregone by choosing to invest rather than choosing an activity requiring no investment." By this approach, human capital is another form of wealth entering into the consumption function, because life cycle changes in consumption necessarily depend on the age-wealth profile, and hence on investment in human capital. However, Robert Ferber stated that these and other aspects of human capital for their full implications for consumption economics have yet to be developed. For further information see Robert Ferber, "Consumer Economics, A Survey," Journal of Economic Literature, pp. 1322-1323.

the true value of goods and services which labor produces.[6] He goes further to state that the value of human capital is simply the price of productive capacity multiplied by the quantity of productive capacity, but there is no direct method for measuring either the quantity or price of human productive capacity.[7]

Burton A. Weisbrod maintains the same position as Thurow by equating human capital with personal productivity, pointing out that human capital represents resources which man has utilized to augment his personal productivity. Expenditures on information, labor, mobility, health, education, and training are all capable of enhancing the productive capacity of a worker, thereby increasing his human capital. But Weisbrod regards health and education as the two most important categories of expenditures on human capital. He especially emphasizes education, which is the area of human resource development in which the most pressing issues of today's public policy can be found.[8] It is clear that Weisbrod like Innes, Jacobson, and Pellegrin, considers education as one of the possible capital investment yields which can increase future income for both the individual and for the society as a whole.

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[6]Lester C. Thurow, Investment in Human Capital, (Belmont, California: Wadsworth Publishing Co., Inc., 1970), p. 9.

[7]Ibid., p. 15.

[8]Burton A. Wesibrod, "Investing in Human Capital," American Economic Review, Summer 1966 as cited in Ronald A. Wykestra, editor, Education and Economics of Human Capital, (New York: The Free Press, 1971), p. 71.

H. G. Shaffer restates the Marshallion view that human capital is a metaphor without substantive economic meaning. He states that the concept of education as a form of investment can be usefully distinguished from that of education as a form of consumption.[9] But T. Schultz upholds Irving Fisher's view that the absence of a capital market for human labor does not preclude examination of the services of human capital as if they were capitalized, showing that valuable insights result from such a treatment.[10] Schultz has elaborated on this point in a recent article on investment in education. He states that "although the allocation benefits associated with education imply that there are gains from them that are transferred to consumers, I have not treated these particular gains as social benefits because, in the process of adjusting to the dynamics of a growing economy, less educated persons may become less well-off in competing with more educated persons."[11] It seems that Schultz still maintains that the concept of human capital needs to be examined as if it were physical capital.

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[9]H. G. Shaffer, "Investment in Human Capital: Comment." American Economic Review, Vol. 52, 1961.

[10]Theodore W. Schultz, "The Concept of Human Capital: Reply." American Economic Review, Vol. 52, 1961.

[11]Theodore W. Schultz, "Optimal Investment in College Education: Equity and Efficiency," Journal of Political Economy, Vol. 80, No. 3, Part II, May/June 1972, p. S27.

A person may increase his income with more education. But often a business firm may desire to employ people without advanced educational degrees, because it is possible to train them on the job, and pay them less than it would cost to employ people with an advanced degree. I feel that Schultz's view may accurately be applied to a less-developed economy where emphasis is placed on a higher education degree, without ignoring the fact that this is also true in many cases in a developed economy. But, a necessary condition for Schultz's view to hold true, is that the supply and demand equilibrium of college graduates is always maintained. Furthermore, a graduate of an institution of higher education is not always able to get the job he is educated for. In a competitive economy, wages are supposed to be determined by the marginal productivity of workers. Otherwise, it has to be accepted that other factors have interferred with the market supply and demand. In a developing country like Iraq where the government is the main employer of a particular level of educated manpower, the probability exists that because of political considerations and other non-economic reasons, the salaries are not set according to the productivity of employees.

Recent Developments in the Concept of Human Capital

The recent interest in human capital formation reflects the general concern of economists and educators for determining how economic efficiency

and economic growth can be promoted by increasing the amount of investment going into human capital. The amount of investment allocated to human capital formation is a product of past and present decisions. This information is, in turn, a function of three variables; the amount of capital allocated to education, the inefficient use of resources for education, and the cost of alternative investment opportunities in other areas of the economy.

Ronald A. Wykestra stresses that the difference in the growth of output of a given country due to human capital, compared to that of increased inputs of labor and capital, is an example of what has been referred to as a "residual of ignorance," because it reflects the lack of knowledge concerning the real causes of economic growth.[12]

John E. Cheal in his research on investment in Canadian Youth, shares the same philosophy as does Wykestra that the future rate of Canada's economic growth depends highly on educated manpower. His conclusion is that a greater emphasis must be placed on upgrading the qualitative aspect of Canada's human resources.[13] Vaiszey and Debeauvais also suggest that there is no economic

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[12]R. A. Wykestra, op. cit., pp. 1 and 2.

[13]John E. Cheal, Investment in Canadian Youth, (Toronto, Canada: The Macmillan Co. of Canada, Ltd., 1963), p. 8. Solomon Fabricant in his analysis for the period 1889-1957, found that while the total input of labor and physical capital increased at the rate of 1.7 percent per year, the output of the private domestic economy averaged a 3.5 percent contributor to this difference would be an investment in education and research. See S. Fabricant, Basic Facts on Productivity Change, Occasional Paper 63, (New York: National Bureau of Economic Research, 1959).

growth without an adequate educational system. They also believe that the rate of return to investment in human capital in a market economy like that of the U.S. and the social rate of return in all economies is also extremely high.[14]

Studies of education as human capital must emphasize that the costs of education should be compared to their benefits. Sometimes however, it is quite difficult to estimate the impact of education as investment in human capital. Such cases as someone learning to appreciate reading poems for pleasure or playing the piano as a hobby are good examples of this difficulty. However, L. Thurow believes that the "inequality in the distribution of human capital must be recognized and the factors which produce human capital isolated before inequality can be reduced. Consequently the analysis of human capital becomes a key ingredient in studies of poverty and racial inequality and in government programs to alter both of these. Manpower training programs (accounting for $2 billion in U.S. federal expenditures in 1968) are based on the assumption that productivity determines earnings.[15]

Thurow, although he believes that the concept of human capital plays a

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[14]John Vaiszey and Michael Debeauvais, "Economic Aspects of Educational Development," as cited in J. Cheal, op. cit., p. 9.

[15]L. Thurow, op. cit., p. 12.

central role in modern economic analysis, still maintains that such investments, since economic resources for human investment are limited, should be made in the areas where they have the greatest positive impact on the production of goods and services.[16] Hence, Thurow is not concerned with the improvement of quality of education of human beings, but with encouraging "more production of goods and services." Thurow's view is typical of conventional economic thinking which is still a dominant factor today. For example, T. Schultz views the effects of education upon the distribution of personal income. "It is," he says, "strictly an economic approach to this social question."[17] This does not, however, always hold true. A person who has four years of college education may earn a higher salary working in a business firm than some university professors earn.[18]

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[16] Ibid., p. 10. David R. Evans clearly pointed this fact by stating that "Economists have concentrated mainly on the schools as producers of the manpower necessary for economic development and on the private returns to investment in education." See D. R. Evans, Attitudes and Behavior of Teachers in Uganda: An Aspect of the Process of National Development, Stanford International Development Education Center, School of Education, Stanford University, ESCA-1, 1969, Fn. 1, p. 2.

[17] For more details of T. Schultz's view and those of other economists see the Journal of Political Economy, Vol. 80, No. 3, Part II, May/June 1972. This issue contains the publication of papers that were presented in the workshop "Investment in Education: The Equity-Efficiency Quandry," which was held at the University of Chicago, June 7-10, 1971.

[18] The present limited job prospects for college graduates in the U.S. have deterred many potential students from committing themselves to four years of further education which do not promise an economic payoff. As former United States Deputy Commissioner for Higher Education, Joseph Cosand said recently, "too many young people, from high school graduates to Ph.D.'s, have discovered that the years and the dollars invested in education do not correlate with either earning power or job satisfaction in the marketplace..." cited in Western New England College, Report from the President to the Trustees, August, 1973, pp. 1 and 2.

Let us also consider the case of a construction worker who earns higher wages than a janitor with the same educational level. This inequality in pay results because the construction worker may have a special skill, or simply because he belongs to a strong labor union that helps set the minimum wage standard and demands a higher money wage for its members.

Joseph J. Spengler examines three ways in which the cost and the amount of goods and services of the whole economic society are related to human capital in both free and non-free societies:

1. by reducing per unit resource-cost of producing human capital while holding sufficiently unchanged the aggregate amount of goods and services devoted to its formation;
2. by increasing the nation's output of goods and services while holding constant both the fraction of them devoted to the formation of human capital and the cost per unit of this capital;
3. by diverting a larger fraction of society's goods and services to the formation of human capital, while holding constant its cost of production and the aggregate output of goods and services.[19]

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[19]Robert S. Smith, Frank T. deVyver, and William R. Allen, Population Economics: Selected Essays of Joseph J. Spengler, (Durham, N.C.: Duke University Press, 1972), pp. 217 and 218.

It seems that Spengler believes the concept of human capital to be a major factor in the production of goods and services, his reasoning here being close to that of Ricardo and Marx. But Spengler does not share Marx's view that no one in the capitalist economy would invest in human capital. It is very clear, that although Spengler states his argument on a macro-economic level, his analysis follows a micro-economic approach in deriving how human capital leads to increased quantities of goods and services. Moreover, he assumes a constant or a decreasing cost function, and does not mention the relationship between the total cost and the total revenue in determining the optimal profit.

Conclusion

In order for the concept of education as an investment in human capital to have meaningful implications for a developing country such as Iraq, the imperfections that exist in the Iraqi economy must be removed. This, in turn, will induce the production of capital for investment in human beings as well as investment for physical goods. Free choice of profession and free entry into professional jobs will help the concept of education as investment in human capital to be a more meaningful one in Iraq.

The output of college graduates in Iraq has been expanding more than the employment opportunities. The rate of population growth is at about 3.5 per cent per year, which is exceedingly high; this makes it difficult to achieve a

satisfactory balance of growth of employment opportunities versus the demand for jobs in Iraq, which has a slowly expanding economy.

In Iraq one finds that most, if not all, of the highly educated people are employed in government jobs. In many public services, there are more persons employed than the actual need requires. This results from the fact that the government employs more college graduates for a given managerial job than the actual necessary demand for them. This occurs for both of the following reasons: there is no comprehensive economic plan for studying the actual need of the different sectors of the economy employing the college graduates, and the government likes to pursue a full-employment policy. According to this full-employment policy, the government may hire more people for a particular job than the need for them, because it does not know what else to do with them. There are no other opportunities for them. Simply, other job opportunities do not exist because the government is the owner and the operator of the major industrial firms and other big businesses which hire the college graduate. The private sector is so small that its ability to offset this balance is negligible. Therefore, this "over employment" or under-utilization of people in this situation makes the marginal productivities of these over-supply employees not equal to zero, but actually less than zero.[20] This is because the society is paying their

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[20]This term "over employment" is equivalent to the term "disguised-unemployment" in that it includes many workers in a given job or sector whose marginal productivity is less than zero.

salaries without any economic return from them. The society also paid the cost of educating them. It is not implied that higher education is not needed. It must be stressed once again that there is a strong need for technicians and highly educated people to carry out the projects for development and growth in Iraq, given the fact the economic system of Iraq must expand much faster to absorb the increase in the supply of college graduates.

Finally, there is a need for an educational plan in Iraq to equate the supply and the demand for skilled manpower. This educational reform must diagnose the specific needs of the various sectors of the economy, and must incorporate these needs into the changing curriculum, with long-range goals as an important consideration. It is evident that the educational plan for Iraq must be integrated into the overall economic development of the country. This integration should be viewed as a source for broadening the range of job opportunities. This can be achieved through the creation of new industries; it also will entail the training of employees in agriculture, industry, services, and other sectors of the economy in order to improve their knowledge and skills, and thus help increase production.

Last but not least, education as an investment in human capital also needs to be concerned with playing a stronger role in educating the Iraqi people to be conscious of a better quality of life, and of improving the conditions of the natural environment. This concern can be more readily accomplished with a well-educated populace.

CHAPTER III

MAJOR APPROACHES TO ECONOMIC DEVELOPMENT IN THE CONTEXT OF LESS DEVELOPED COUNTRIES

Most economists refer to economic development within the context of developed countries.[1] The belief is that a national economy which is in the process of development or growth necessarily generates a rising gross national product and provides an increasing per capita income for its people, assuming that national production increases more rapidly than population. Some economists believe that economic growth within a nation is evidenced by gradual but steady improvements within the various sectors of its economy. Other economists believe that economic growth within a country is evidenced by the improvement of one sector of its economy that later on generates growth within the other sectors. But all economists agree that a rising per capita income is an important factor in measuring economic growth. A simultaneous development of the industrial, communications, and agricultural

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[1] Ronald Britto points out that "there can be little doubt that the theory of economic growth has attracted tremendous attention from economists in the post-war period. To a large extent his attention was engendered by the importance attached to high rates of growth of national income by policy-makers. . . in Western economics. . ." For further information see R. Britto, "Some Recent Developments in the Theory of Economic Growth: An Interpretation," Journal of Economic Literature, Vol. XI, No. 4, December 1973, pp. 1343-1366.

sectors might be expected to generate an important expansion of the gross national product. This would result in rising wages and salaries. Hence, this simple process would permit the economy to move in a steady circular development, generating a great movement of income among its citizens. Joan Robinson emphasizes this point by stating, ". . . income is the product of expenditures as well as the sources of expenditures, men earn their incomes by supplying each other's demands."[2]

Recently, a very few economists have attempted to show some consideration for important issues such as overpopulation and preservation of the environment, in addition to their concern with strictly economic issues. According to a basic economic philosophy, economic factors such as unemployment, inflation, personal income, and individual opportunities are fundamental to the organization of a given society. Hence, decision makers who adhere to this philosophy accept these economic goals as their main objectives, with the resulting omission of non-economic criteria. Consequently, economic decisions are made independently of ecological concerns. Ecology is the study of relationship of organisms to one another and to their environment.[3] It is

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[2]Joan Robinson, Introduction to the Theory of Employment, (London: Macmillan & Co., Ltd., 1956), p. 3.

[3]Helena Curtis, Biology, (New York: Worth Publishers, Inc., 1968), p. 829.

the system approach applied to the natural sciences, looking at entire communities and their physical environments rather than at single species of plants or animals.[4] Ecologists believe that the environment and non-renewable resources are finite. When the stocks of these resources run out, it is necessary to recycle what has been previously used. Johnson and Hardesty believe that the capacity of the environment to act as a sink for our total waste, to absorb that waste and recycle it so that it does not accumulate as pollution, is limited. They feel that one way to attack the environmental crisis is to reverse the trends which propelled us into the crisis in the first place, and to alter the structure of the society so that an equilibrium can be established. They suggest that the ecologist must convince the population that the only solution to the problem of growth is not to grow. In order to achieve this goal, the population size must decline so that all people may have a suitable standard of living. They further believe that the standard of living is beginning to have an inverse relationship to the quality of life, and that an increase in the gross national product must be constructed from the ecological point-of-view.[5]

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[4]Warren A. Johnson and John Hardesty, (eds.), Economic Growth vs the Environment, (Belmont, Calif.: Wadsworth Publishing Co., Inc., 1971), p. 8.

[5]Ibid., pp. 16-18.

Johnson and Hardesty feel that their analysis applies only to already developed economies, reflecting an obvious error in their thinking. The less-developed countries also face the problems of over-population and ecological crisis. The less-developed countries must learn from the experiences of developed countries, so that they can avoid the mistakes which have resulted from economic growth in developed countries.

Johnson and Hardesty stress ecology as a measure of the growth of a country with no consideration of economic gains.[6] This view is as biased as that of an economist who maintains economics to be involved with the creation of goods and services to satisfy human wants, with no consideration to the importance of pollution or over-population. Hence, the merger of the economist's view, the ecologist's view and the views of others from different fields is needed for the enactment and measurement of economic growth.

The issue of economic development of the less-developed countries is a relatively new one. The concern for developing the poor countries began after World War II. But great controversy arises from the many popular arguments as to which method or what approach the less-developed countries should follow to develop their economies. The debated issues are whether a

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[6]They did not indicate any technique for measuring GNP from the ecological point of view.

less-developed country has to follow a balanced growth approach, i.e., based on the development of the various sectors of the national economy simultaneously, or the development of one sector of the economy as a leading one to generate economic growth for the rest of the national economy. The theoretical analysis of balanced growth might be suitable as a means for developing the economy of a country depending on the availability of natural resources within the country. However, the same argument applies to the unbalanced growth approach depending on the nature of the resources available.

The chapter is divided into four parts. The first part is allocated to the discussion of the views held by the advocates of the balanced growth approach. The second part is devoted to an analysis of the unbalanced growth approach to development. The third part contains criticisms of both approaches. The last part includes concluding remarks.

The Approach of Balanced Growth

There is a problem in discussing the balanced growth approach. Some economists might consider developing two sectors such as industry and agriculture or agriculture and education, etc., of the national economy as a balanced approach toward economic development. Other economists might think that the maintenance of balanced growth is accomplished only by developing simultaneously all the different sectors of the national economy. The following are the views

of some development economists who are believers in the balanced growth approach.

According to Nurkse, capital is a "necessary but not sufficient condition for progress."[7] To him economic development is very much related to human endowments, social attitudes, political conditions, and historical accidents. Although he sees the problem of capital formation (i.e., the need for investment from the point of view of supply and demand conditions), he uses the issues of the balanced growth doctrine as solutions for problems related to economic development in relation only to demands. In his article "Some International Aspects of the Problems of Economic Development" he shows that the balanced growth doctrine is founded on Say's law of the market. This law emphasizes that supply creates its own demand. Taking into consideration a competitive market coupled with flexible prices and wages, he points out:

> The notion of balance is inherent in Say's Law. Take Mill's formulation of it: Every increase of production. . . creates, or rather constitutes, its own demand. Here, in a nutshell, is the case for balanced growth. An increase in the production of shoes alone does not create its own demand. An increase in production over a wide range of

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[7]Ranger Nurkse, Problems of Capital Formation in Underdeveloped Countries, (New York: Oxford University Press, 1953).

> consumables, so balanced as to correspond with the pattern of consumers' preferences does create its own demand.[8]

So according to Nurkse, achieving balanced growth within the different sectors of the economy is the correct approach to develop the national economy. There should be a balanced pattern of investments in a number of different industries, in order that people who are working more productively, with more capital and with improved techniques, will become each others' customers.[9] Joan Robinson emphasizes this fact by stating, ". . . income is the product expenditures as well as the sources of expenditures, men earn their income by supplying each other's demands."[10]

Although Nurkse accepts the classical economists' law of the market and bases his analysis on this law, he does not agree that international trade is an engine of growth of the national economy.[11] Classical economists stress

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[8]Ranger Nurkse, "Some International Aspects of the Problem of Economic Development" as cited in A. M. Agarwala and S. P. Singh, The Economics of Underdevelopment (New York: Oxford University Press, 1963), pp. 357, 358.

[9]Ranger Nurkse, "The Conflict Between Balanced Growth and International Specialization," as cited in Gerald M. Meier, Leading Issues in Development Economics, (New York: Oxford University Press, 1964), p. 250.

[10]Joan Robinson, Introduction to Theory of Employment (London: Macmillan & Co., Ltd., 1956), p. 3.

[11]Ranger Nurkse, "The Conflict Between Balanced Growth and International Specialization," p. 250.

that a country should specialize according to its comparative cost aspects in order to gain from international trade. A country should produce those commodities for which it has abundant resources. They emphasize the development of a single sector as the export sector which will generate economic growth within the rest of the sectors of the national economy. But Nurkse stresses that economic growth comes only through development of the different sectors of the national economy at once, i.e., the cornerstone of the balanced growth approach.

According to Lewis, obstacles to economic development arise as a result of the uneven growth of different sectors of the national economy. He stresses that "the secret of most developed programs is to maintain a proper balance among sectors."[12] In practice he thinks that agriculture is the sector which retards growth. Professor Myint agrees with this argument. According to him the crucial importance is found in a balance between agriculture and manufacturing sectors. He pointed out that:

> . . . while the previous versions of the theory (of balanced growth) were mainly concerned with the balanced growth within the manufacturing sector only, emphasis has now shifted to the broad inter-sectoral balance between agriculture and manufacture, each sector providing the

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[12]W. Arthur Lewis, "The Story of Economic Development"(Homewood, Ill.: Richard D. Irwin, Inc., 1955), p. 141.

> market and supplying the necessary ingredients for the expansion of the other.[13]

Then the way to insure the achievement of balanced growth is to make sure that manufacturing and agriculture grow together. But they need not grow at the same rate because their income elasticities are different.[14]

In case of deficiency and low productivity in the agricultural sector, Lewis argues that government action is needed. He stresses the role of government in economic development by pointing out:

> Collective action in the form of government action is necessary even if only to supplement private action. Governments have extensive functions in promoting economic development. . .[15]

But Myint stresses that a balance between agriculture and industry is needed in order to have positive incentives for the farmers to increase their production. This in turn will lead to an agricultural product surplus which can be shipped to the markets.[16]

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[13]Hla Myint, The Economics of the Developing Countries (Washington: Frederick A. Praeger, Publishers, 1965), p. 128.

[14] Lewis, op. cit., p. 278.

[15]Ibid., p. 79.

[16]Myint, op. cit., p. 132.

The Approach of Unbalanced Growth

The giant and the promoter of this approach is Albert O. Hirschman. Hirschman's conception of the problem of economic development of the underdeveloped countries is based on the attitude of change in the sets of social institutions. So, he is indifferent to the idea of the balance of growth theory which gives its prime emphasis to the economic problems. But the question is how to solve the economic problems of a country if there is a resistance among its people directed toward changes that are opposed to the accepted customs. Hirschman's analysis of attitudes toward changes are two-fold. One is the ego-focused image which states that change is open to the individual, but essentially at the expense of the society. Number two is called the group-focused image. Change affects the group, while the individual's relative position remains the same.[17] So the problem of change is the main obstacle to economic development in underdeveloped nations. Its value in an economic program is evident in its ability to promote the economic conditions of the country, but there is a great problem within the social institutions which are not adaptable to the new environment. The real issue is not resources them-

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[17]Albert O. Hirschman, The Strategy of Economic Development (Forge Village, Mass.: The Murray Printing Co., July, 1964), p. 23.

selves, but the ability to bring them into play.[18]

Hirschman advances the unbalanced growth idea because of the problem which underdeveloped countries have in carrying out development decisions. His approach is an attempt to create pressures on the decision units so that they will be forced to carry out the development decisions. The unbalanced growth approach consists of stimulating different sectors unevenly and selecting the sector which creates the greatest possible degree of pressure on the decision units in other sectors. He claims that industrial countries did not develop through balanced growth. For instance, if one compares the economy of the United States in 1950 with that of 1850 one will find that many things have

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[18]Benjamin Higgins, Economic Development: Principles and Policies (New York: W. W. Norton & Co. Inc., 1959), p. 404.*

*Some economists, such as John Mellor, believe that the basic conception of economic growth in a less-developed country is related to the development of traditional agriculture. For further information see G. S. Tolley, "Review Article: Mellor on Agricultural Development," Economic Development and Cultural Change, Vol. 17, No. 2, Januaty 1969, pp. 254-261. Everett E. Hagen goes on to expand the conception of economic growth. In order to maximize income, a less-developed country should specialize in production using natural resources with which it is favorably endowed (for example, Kuwait is a desert country which has only oil; its land is not suitable for agricultural uses, hence, it is profitable for Kuwait to maximize its resources in the production of oil). For further information see Everett E. Hagen, The Economics of Development, (Homewood, Ill.: Richard D. Irwin Inc., Seventh Printing, December, 1972), p. 161.

grown. But not everything grew up at the same rate throughout the entire century. He states that economic development has proceeded "with growth being communicated from the leading sectors of the economy followers, from one industry to another, from one firm to another."[19]

CRITICISMS

Criticism of the issues involved in both approaches will provide an understanding of the applications of both of them for economic development.

Balanced Growth Approach

Criticisms that can be raised against Nurkse's solution are the following:

Firstly, Nurkse bases his analysis on Say's Law of the market. However, Say's law emerged and developed in England which was a much more developed country than the now underdeveloped countries. Say's law assumes perfect markets and flexible prices and wages, while the market in underdeveloped countries is imperfect and considerable inflexibility of prices and wages exists.

Secondly, Nurkse denies the importance of international trade as momentum for economic growth in underdeveloped countries. The classical

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[19]Albert Hirschman, The Strategy of Economic Development, p. 36.

economists, who believe in Say's law, stress the Ricardian labor theory of value. A country should take part in international trade and allocate its resources according to the comparative costs doctrine.

Thirdly, Nurkse stresses the complementary nature of industries along horizontal lines. But J. Marcus shows this relationship to be competitive rather than complementary.[20]

Fourthly, Myint criticizes Nurkse for his concentrating on income elasticities of demand and neglecting the relative prices in his analysis.[21]

Fifthly, both Hirschman[22] and Kindleberger[23] state that Nurkse in his analysis ignores the possibility of starting with cost reductions rather than new industries. If cost reductions were possible in existing industries, then entrepreneurs would have already carried them out.

Sixthly, Singer feels that there are several areas of doubt about the balanced growth approach in Nurkse's form. He claims that this approach is interpreted as counseling underdeveloped countries to embark on large and

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[20]J. Marcus Fleming, "External Economics and the Doctrine of Balanced Growth," as cited in Agranala and Singh, op. cit., p. 279.

[21]Myint, op. cit., p. 153.

[22]Hirschman, op. cit., p. 62.

[23]Charles P. Kindleberger, Economic Development (New York: McGraw Hill Book Co., 1958), p. 154.

varied packages of industrial investment, with no attention to agricultural productivity, thus leading to trouble.[24]

Seventhly, Nurkse, as well as other advocates of the balanced growth approach, considers other non-economic factors in his analysis. For example, most less-developed countries are facing a severe problem of continuous increase in the rate of population growth. Many of these countries for many reasons such as ignorance, social, cultural and religious restrictions, do not practice any methods to limit their population growth. Therefore, following the balanced growth approach, a country may increase the output of the industrial and agricultural sectors, but this increase in output may not be enough to meet the demand of increasing population.

Criticisms directed toward Lewis' solution are the following:

First, much of the emphasis in economic growth of underdeveloped areas is based on external economies. This is based on the grounds that internal economies cannot exist under competitive conditions. The existence of distinct external economies in supply will lead to priorities for investment in those sectors with economies larger and more potent. But since markets

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[24]Higgins, op. cit., p. 400.

in underdeveloped countries are monopolistic rather than purely competive, the internal economies of scale are important in this area.

Secondly, Hirschman states that Lewis' analysis is based on a comparative static situation in the process of economic growth of underdeveloped economies.[25]

Thirdly, Lewis stresses government action as supplemental to individual action, i.e., when it is needed and necessary to generate economic growth. Hence Lewis is shifting away from Say's law of the market. The balanced approach was originally based on this law. Then there is a contradiction between Lewis' advocation of government action and Say's law. This law is a product of Laissez-faire, which advocated a system of free enterprise organization with no interference of government action in economic affairs.

Unbalanced Growth Approach

The following are criticisms directed toward the unbalanced approach.

Firstly, Hirschman attempts to deny the subsistence mentality as an obstacle to economic growth. The evidence shows that an active demand for capital in underdeveloped countries is a resultant of high interest rates. This

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[25]Hirschman, op. cit., p. 62.

is due to the imperfection of markets of underdeveloped areas.

Secondly, Hirschman's diagnosis of the process of development through the unbalanced growth approach fails to deal with the problem of inflation and unemployment that these countries are facing.

Thirdly, Hirschman, like the advocates of the balanced growth approach, ignores other non-economic factors in his analysis.

Concluding Remarks

One can see that each of these approaches has certain advantages and disadvantages. The balanced approach would provide external economies for the industries in question, through their interrelationships in production and their interdependence via increased incomes. Tibor Scitovsky, in his article "Growth--Balanced or Unbalanced," stated that "it is generally desirable and profitable to expand simultaneously. . . the production and productive capacity of all goods whose relation to each other is that of factor to product or common factor to the same product."[26]

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[26]Tibor Scitovsky, "Growth--Balanced or Unbalanced in the Allocation of Economic Resources." Essay in Honor of G. G. Haley (Stanford: Stanford University Press, 1955), p. 211, as cited in Bela Balassa, The Theory of Economic Integration (Homewood, Ill.: Richard D. Irwin, Inc., 1961, p. 154.

Simultaneous advances in all sectors of the economy are restricted by the quantities of productive factors available and the feasible amount of new investment, as well as by the size of the national markets. So, given these limitations, production units of optimum size will often not be profitable, and thus potential economies of scale will be foregone. This raises the issue of advocating the unbalanced growth approach for the development of the national economy. Robert E. Baldwin points out that there are particular industries and sectors in which intensive investment efforts can pay high dividends by eliminating bottlenecks and stimulating a higher investment rate in other industries. But he goes on to say that the potentialities of a more selective approach to growth do not mean that we can simply forget about balance in the development process of the national economy.[27]

The arguments presented in this chapter should suffice to demonstrate the difficulties that underdeveloped countries face in balanced and unbalanced growth approaches.

These arguments are mostly based on theoretical grounds. When it comes to a real world application one finds oneself in a confusing situation. Also, the availability of natural resources varies from one country to another.

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[27]Robert E. Baldwin, Economic Development and Growth (New York: John Wiley & Sons, Inc., 1969), p. 75.

The value system of certain ethnic groups in certain countries makes it difficult to apply certain methods that are required to generate economic growth. Most less-developed countries usually enact short term economic programs in order to receive their fruits as early as possible for political visibility.

In conclusion, there have been suggested two possible approaches towards economic growth. The representatives of the unbalanced approach believe that developing one sector, for example agriculture, is the first step toward economic development. The representatives of the balanced approach believe that simultaneous improvement of the agricultural, industrial, and other sectors comprise the first step to improvement of the national economy.

It was not the intent of this chapter to explain the economic condition of a less-developed country in relation to various social and political aspects. The effects of these aspects on the economy of a country cannot be denied since they are in fact, necessary conditions in economic studies. However, the social and political aspects are so complex and of such great magnitude that they easily form a complete study of their own. This chapter was an attempt at a more suitable approach to economic growth in a less-developed country. When economists refer to developing the economy, they mean the development of the agricultural, industrial, transportation and communication sectors. Education, health and environmental concerns as well as the other social

services are excluded in setting up economic plans. Consequently, there is a severe shortcoming in this way of thinking. An emphasis on education provides a well trained and productive population. If the population lacks the education that provides them with the skill and know-how that is necessary to carry out the plan for economic growth, a wealth of natural resources is of little use.

CHAPTER IV

ECONOMIC DEVELOPMENT PROGRAMS UNDERTAKEN BY THE GOVERNMENT OF IRAQ SINCE 1950

During the past two decades the Iraqi government has enacted various economic programs and policies in an attempt to develop the economy as a whole. Development, however, was concentrated almost exclusively within the sectors of industry, agriculture, transportation and communications. Education and other social service areas were not considered integral components of the development plans. Revenues were independently allocated to education, and had no direct connection with revenues appropriated for development plans. Furthermore, the amount of money which the government allocated to education was not determined by comprehensive studies of the educational needs of the different sectors of the economy. The significance of education as a leading sector and a necessary condition for the development of Iraq will be discussed in detail in Chapter V.

Table 1 and Chart 1 indicate that government expenditure for education was 16.55 per cent of total expenditures in 1966 and declined to 12.32 per cent of total expenditures in 1972 (but in actual monetary value, educational expenditures increased between the same dates). Expenditures for health, like education,

TABLE 1. IRAQI EXPENDITURES FOR DEVELOPMENT AND NON-DEVELOPMENT SECTORS FOR THE PERIOD 1966-1972[a] (in million Iraqi Dinars)

Items	1966	1967	1968	1969	1970	1971	1972
Expenditures:							
Education	41.19	47.27	49.07	51.48	55.15	61.10	65.88
Health	8.61	9.04	9.99	10.62	11.81	13.75	14.08
Defense*	84.91	83.60	83.82	110.98	142.10	152.08	150.54
Other Expenditure	52.82	52.52	62.62	68.85	79.49	91.77	102.26
Development Expenditure:[b]							
Buildings[c]	16.19	12.05	13.29	12.96	11.83	13.00	28.00
Agriculture	6.00	8.50	11.02	13.24	17.51	28.00	60.00
Transport & Comm.	12.44	15.10	13.60	9.92	10.09	15.27	28.00
Other development expenditure	25.20	47.11	31.01	28.29	131.32	60.26	86.00
Total Development Expenditure	59.83	82.76	68.92	64.41	170.75	116.53	202.00
Total Expenditure	247.36	275.19	274.42	306.34	459.30	435.23	534.76

[a]Includes both ordinary government expenditures as well as Board of Economics expenditures.

*Excluding outlays financed from U. S. grants.

[b]Board of Economics expenditures from the Detailed Economic Plans.

[c]Buildings include public buildings, housing, summer resorts, schools and hospitals.

Source: United Nations, Statistical Yearbook 1972, Table 196, Twenty-Fourth Issue, 1973.

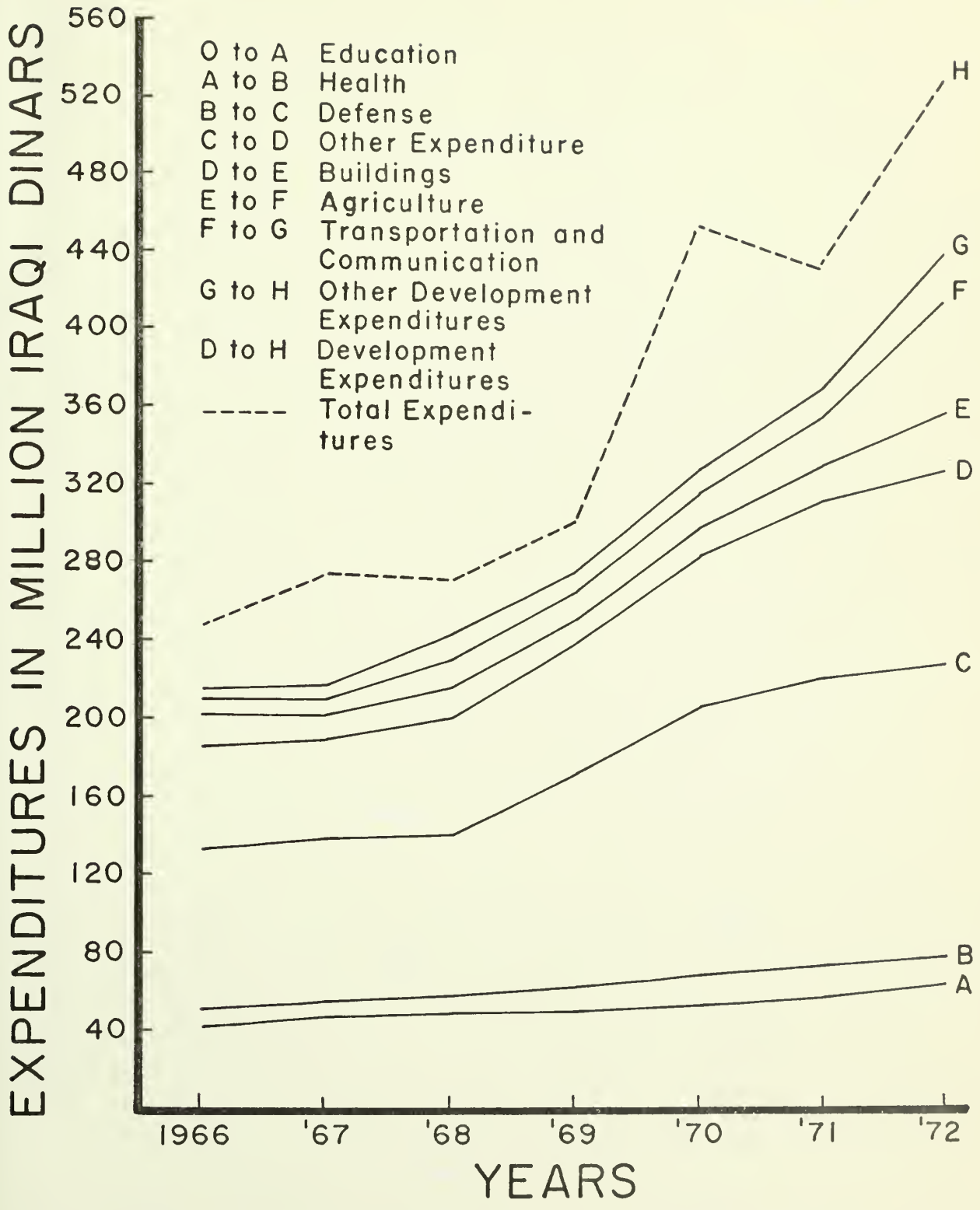

CHART I: Total Iraqi Expenditures for 1966 - 1972

experienced a decline in percentage of total expenditure from 3.48 per cent in 1966 to 2.63 per cent in 1972. Defense expenditures also experienced a decline from 34.33 per cent of total expenditures in 1966 to 28.15 per cent in 1972, but defense remained the largest receiver of expenditures throughout the years from 1966 to 1972. The strong emphasis on defense spending was due to the border disputes with Iran and also, to the general tensions within the Middle-East region. Once tensions in the Middle-East are eased, some of the money can be diverted from defense to education, health, and other social areas. Expenditures for transportation and communications experienced very slight gains from 5.03 per cent of total expenditures in 1966 to 5.24 per cent in 1972. Agriculture was the recipient of the largest gain in expenditures, from 2.43 per cent of total expenditures in 1966 to 11.22 per cent in 1972.[1]

This chapter is divided into two parts. The first part is an historical review of the economic policies carried out by the Iraqi government. The second

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[1]Table 1 is significant because it includes educational expenditures and relates them to other governmental expenditures including development expenditures while tables 8, 10 and 11 indicate only expenditures of the development programs. For example, defense spending is not included in the development program spending. In 1972, of total expenditures of 202.00 million ID, 30 per cent was allocated for agriculture.

part evaluates the programs discussed in section one in terms of their effectiveness in solving the economic problems of the country.

History of the Economic Development Programs

Prior to 1950 there were no specific development programs to industrialize the national economy or stimulate progress. This was due, in part, to the lack of available funds. The agricultural sector was a self-sufficient feudal system, while the industrial sector was dominated by handicrafts and small, old industries which could be found only near the larger cities like Baghdad, Basrah, and Mousel.

By 1950 oil revenues had increased so tremendously that they were more than double those of 1949 and three times greater than those of 1945. Oil revenues in 1950 amounted to 6,885,751 ID, while the oil revenues for 1945 and 1949 were respectively, 2,709,886 ID and 3,318,701 ID.[2] Increases in oil revenues resulted from a contract between Iraq and foreign companies. Table 2 and Chart 2 show revenues from 1966 to 1972.

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[2]Majed Aizat, Oil Revenues of the Iraqi Government (Baghdad: Al-Nijoum Press, 1961), in Arabic, p. 48. This increase in oil revenue kept growing at an increasing rate. In 1955 the oil revenues amounted to 73,742,886 ID. By 1960 oil revenues had reached 95,082,006 ID.

TABLE 2. TOTAL IRAQI REVENUES AND PUBLIC DEBT FINANCING FOR 1966 - 1972
(in million Iraqi Dinars)

Revenues	1966	1967	1968	1969	1970	1971	1972
Taxes on income and wealth[a]	15.29	17.26	18.62	22.02	26.11	33.25	32.74
Agricultural land tax	0.69	0.67	0.90	1.27	1.49	1.95	2.15
Customs duties	28.85	33.08	26.61	31.20	39.44	45.31	44.74
Excise duties	14.87	17.15	17.14	16.57	16.21	20.43	20.45
Oil revenue[b]	135.44	122.42	151.67	174.72	169.01	187.14	354.00
Other receipts	28.02	30.72	71.43	54.66	84.91	78.62	60.60
Total	223.16	221.30	286.37	300.44	337.17	366.70	514.68
Balance (+) or (-)	-24.20	-53.89	+11.95	-5.90	-122.13	-68.53	-20.08
Public debt financing by (31 December):							
Domestic loans	75.99	85.98	82.97	92.97	108.96	---	---
Foreign loans	73.15	83.73	83.71	76.51	87.81	---	---
Total	149.14	169.71	166.68	169.48	196.77	---	---

[a]Taxes on income and wealth include; income tax, surtax, property tax, inheritance tax and stamp duties.
[b]Oil revenue includes amounts earmarked for the ordinary government budget plus oil revenue received by the Board of Economics.

Source: United Nations, Statistical Yearbook 1972, Table 196, Twenty-Fourth Issue, 1973.

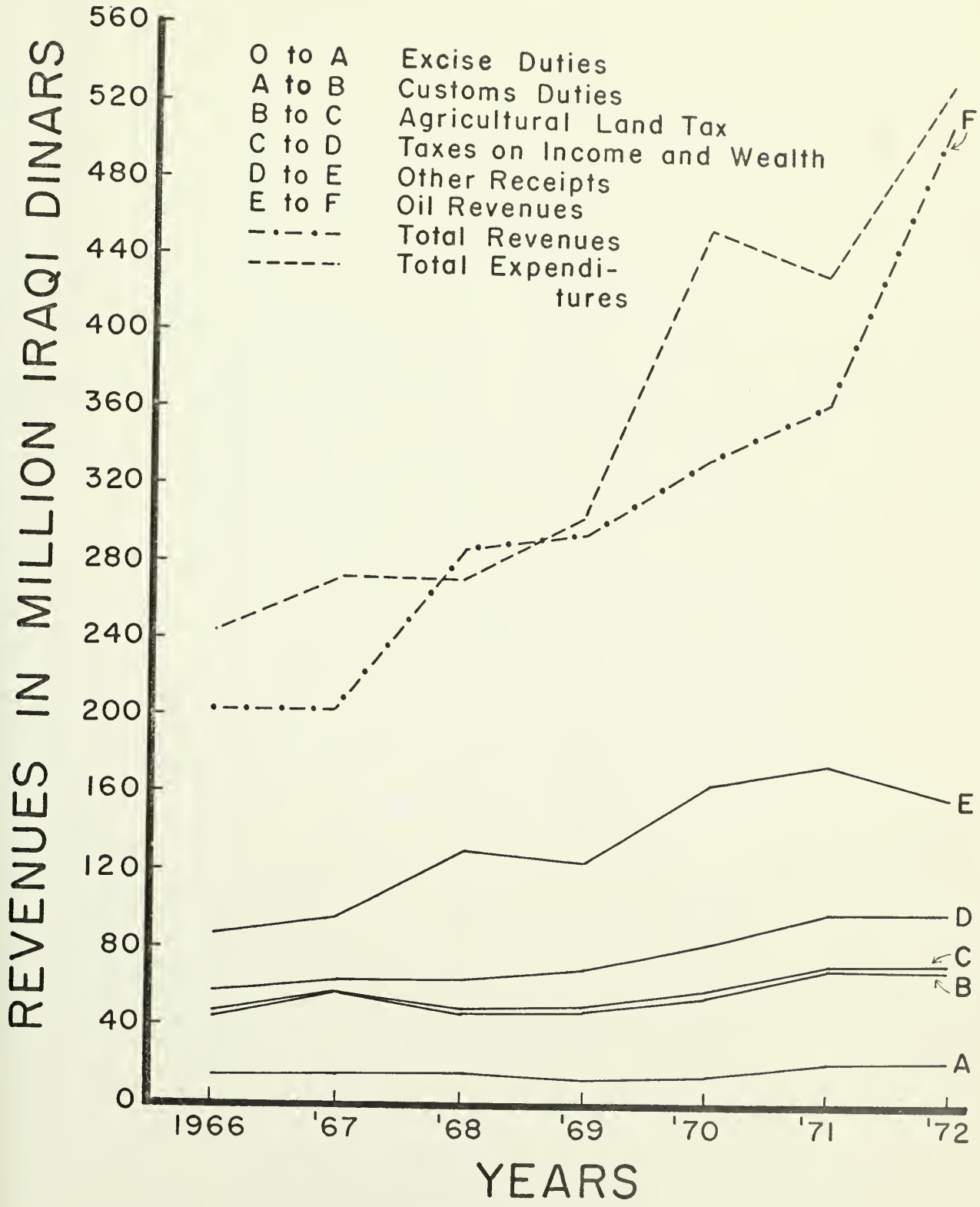

CHART 2: Total Iraqi Revenues for 1966 - 1972

Because of the extraordinary increase in oil revenues, the International Bank for Reconstruction and Development in 1950 advised the Iraqi government to establish a Development Board to assume responsibility for the programs for the development of the Iraqi economy. Fahim I. Qubain points out:

> These funds [oil revenues], almost all in foreign exchange, made it possible for the state to initiate programs of development without the necessity of going through an austerity period or one of heavy taxation, either of which would probably have created considerable political unrest.[3]

In 1950, the government allocated 100 per cent of all oil revenues to Development Board programs. However, in 1952 the income of the Development Board was restricted to 70 per cent of the oil revenues. The Board was an autonomous agency with a budget entirely separate from the government's ordinary budget. The purpose of the Board, as summarized by the International Bank, was for ". . . developing the country's resources and raising the standard of living and to insure some continuity in development which frequent changes in governments have made virtually impossible in the past."[4] The Board was headed by the Prime Minister. Other members included the Finance Minister

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[3]Fahim I. Qubain, The Reconstruction of Iraq 1950-1957, (New York: Frederick A. Praeger, Publisher, 1958), p. 34.

[4]The International Bank for Reconstruction and Development, The Economic Development of Iraq, (Baltimore: The Johns Hopkins Press, 1952), p. 169.

and six executive members, three of whom must be experts. The first was an expert in finance and economics, the second in irrigation, and the third in a field specified by the Council of Ministers. The Council of Ministers also appointed additional executive members, two of whom were foreigners, one British and one American. Voting in the Board followed democratic principles: each member had one vote with the president casting the deciding vote in event of a tie.

During the Development Board's existence three economic plans were developed. The first plan was for 1951-1956, the second was for 1955-1959, and the third, a revision of the second, was for 1955-1960. In 1959, the Iraqi government replaced the Development Board with the Board of Economics, and the third economic plan was replaced by the provisional economic plan of 1959-1960 to 1962-1963.

Table 3 shows that the estimated amount allocated for the first economic plan of 1951-1956 was more than 155 million ID. Irrigation projects ranked first among all the projects, i.e., more than 34 per cent of the total allocations. The industrial sector ranks second with close to 20 per cent, and roads and bridges rank third with less than 18 per cent.

Expenditures for projects of the first economic program were paid by the government without integrating a mechanism whereby the beneficiaries of the projects could contribute toward some of the cost of the programs. For example,

TABLE 3. THE SIX-YEAR PLAN OF 1951-1956

Name of department	Iraqi Dinar	Per cent
Administration, studies & organizational expenses	3,180,000	2.05
Irrigation projects	53,374,000	34.35
Main roads & bridges	26,766,000	17.23
Buildings	18,018,000	11.60
Reclamation of land & other schemes	22,986,000	14.79
Industrial & mining schemes	31,050,000	19.98
Total	155,374,000	100.00

SOURCE: Fahim I. Qubain, The Reconstruction of Iraq 1950-1957 (New York: Frederick A. Praeger Publisher, 1958), p. 41.

the expenditures for irrigation projects helped control flooding by the Tigris and Euphrates Rivers and in turn helped the farmers to plant their lands without fear of loss of their crops. Because the farmers profited from the irrigation projects, they should have been required to pay some of the cost of these projects. If this kind of obligation had been implemented, there would have been two significant results. First, agriculture would have been integrated into the development program and secondly agricultural output would have had to increase in order to pay taxes. Improvement of agriculture would have helped to increase agricultural outputs for both domestic consumption and for export.

For a country like Iraq in which 60 per cent of the people derived their livelihood either directly or indirectly from the land, agriculture should have been integrated into the development plan. However, the Development Board failed to follow an unbalanced growth approach to develop agriculture as a leading sector and it also failed to follow the balanced growth approach by developing simultaneously several sectors that could have been each others customers. The Development Board also failed to integrate the private sector's ability to develop itself as an integral part of the development process of the country.

Table 4 indicates the difference between the actual amounts allocated and the amounts spent. Fifty-three per cent of the money allocated in 1951 was actually spent, so the amount allocated but not spent was 47 per cent of the total.

TABLE 4. ESTIMATED EXPENDITURES, ACTUAL EXPENDITURES, AND UNUSED ALLOCATIONS, PROJECTS OF THE DEVELOPMENT BOARD FISCAL YEARS 1951-1956

	Estimated expenditures	Actual expenditures	Unused expenditures
Year	Iraqi Dinar (thous)	Iraqi Dinar (thous)	Iraqi Dinar (thous)
1951	9,364	5,000	4,364
1952	20,460	8,988	11,472
1953	28,390	12,350	16,040
1954	31,600	18,726	12,864
1955[a]	32,335		
1956[a]	33,225		
Total	155,374		

[a]In 1955 the Iraqi government replaced the first economic plan by the second economic plan of 1955-1959.

SOURCES: Government of Iraq, Development Board, Annual Report on the Operations of the Development Board for the Year 1951 (Baghdad: Al-Ani Press, 1956), p. 16.

Government of Iraq, Development Board, Annual Report for the Financial Year 1952-1953 (Baghdad: Government Press, 1953), p. 1.

Government of Iraq, Development Board, Annual Report for the Financial Year 1953-1954 (Baghdad: Al-Tafaiyudh Press, 1954), p. 5.

Government of Iraq, Development Board, Annual Report for the Financial Year 1954-1955 (Baghdad: Government Press, 1957), p. 3.

In 1952, the percentage spent decreased to 44 per cent of the amount allocated, and thus the percentage not spent increased to 56 per cent. The same relationship existed in 1953 as in 1952. However in 1954 the percentage spent increased to 59 per cent of the allocation. Also the money allocated for each individual project was not completely spent. For example, only 50 per cent of the money allocated to administration was actually spent and only a little over 35 per cent of the money allocated to irrigation was actually spent.[5] Thus, the Development Board did not spend the total estimated expenditure, so the lack of funds was not the primary reason for not fulfilling the programs. The difference between the estimated expenditures and the actual expenditures on the programs could be attributed to difficulties in spending the extra revenue and to the fact that this was the first time Iraq had ever had an economic development program. The government lacked actual statistical information about its natural resources and lacked adequate, trained personnel backed by sound technical knowledge to carry out the objectives of these plans.

In 1955 the government replaced the first economic plan with a new plan for 1955 through 1959. Table 5 shows that the total amount allocated for the

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[5]For more details see Government of Iraq Development Board, Annual Report for the Financial Year 1954-1955, (Baghdad: Government Press, 1957).

TABLE 5. THE FIVE YEAR PLAN OF 1955-1959

Projects	Iraqi Dinar	Per cent
Main projects		
Administration expenses	5,450,000	1.79
Irrigation, drainage & flood control	107,935,000	35.47
Roads & bridges	53,700,000	17.65
Airfields	3,000,000	1.64
Railways	15,500,000	5.09
Main buildings	28,550,000	9.38
Industry, mining & electrification	43,571,000	14.32
Development of animal, plant & underground water resources	6,475,000	2.13
Total main projects	266,181,000	87.47
Small projects		
Buildings & institutes	32,250,000	10.60
Miscellaneous projects	5,875,000	1.93
Total small projects	38,125,000	12.53
Grand total	304,306,000	100.00

SOURCE: Fahim I. Qubain, The Reconstruction of Iraq 1950-1957 (New York: Frederick A. Praeger Publisher, 1958), p. 44.

second plan was nearly twice that of the first. Irrigation ranked first, as it did in the previous economic plan. If the percentage of the development of animal, plant, and underground water resources, which are a part of the agricultural sector, is included with the sector of irrigation, drainage and flood control, the percentage to the broadly agricultural section would be nearly 50 per cent. The percentage provided for industry was 14.33 per cent, and ranks after the sector for communications (roads and bridges, airfields, and railways) which ranks second at 24.38 per cent. In the first plan, the industrial sector ranked second and communications third.

The second economic plan was revised to increase the budget and allocations in 1955, resulting in the third economic plan for the years 1955 to 1960. Table 6 shows that the total amount allocated for the third plan was 64 per cent more than that allocated for the second. But the third plan cannot be considered to have enlarged the scope of diversification. The irrigation, drainage, and storage scheme ranked first, as in the previous two plans. The communications sector was in second place as it was in the second plan, and the industrial sector, with 13.42 per cent of expenditures, ranked third as it did in the second economic plan. Once again the cost of projects was paid by the government and the private sector was not considered as an integral part of the development program. Also, the expenditures allocated for the development projects were not toally spent. Table 7 shows that in 1955 only 71 per

TABLE 6. THE SIX-YEAR PLAN OF 1955-1960

Projects	Iraqi Dinar	Per Cent
Main projects		
Administration	7,350,000	1.47
Irrigation, drainage & storage schemes	153,754,600	30.75
Industry	67,119,217	13.42
Communications	124,367,692	24.87
Main buildings	37,189,000	7.44
Resorts & rest homes	2,580,000	.52
Housing	24,085,000	4.82
Development of animal, plant & underground water resources	14,286,818	2.86
Total main projects	430,732,327	86.15
Small projects		
Buildings & institutes	59,375,000	11.87
Miscellaneous projects	9,900,000	1.98
Total small projects	69,275,000	13.85
Grand total	500,007,327	100.00

Source: Fahim I. Qubain, The Reconstruction of Iraq 1950-1957 (New York: Frederick A. Praeger, Publisher, 1958), p. 47.

TABLE 7. ESTIMATED EXPENDITURES, ACTUAL EXPENDITURES, AND UNUSED ALLOCATIONS, PROJECTS OF THE DEVELOPMENT BOARD FISCAL YEARS 1955-1960

Year	Estimated expenditures Iraqi Dinar (thousand)	Actual expenditures Iraqi Dinar (thousand)	Unused expenditures Iraqi Dinar (thousand)
1955	46,600	33,300	13,300
1956	81,900	43,000	38,900
1957	101,600	57,400	44,200
1958	99,600	52,200	47,400
1959a	19,300	9,200	10,100
1960a	0		
	349,000		

[a]In 1959 the Iraqi government replaced the third economic plan with the provisional economic plan of 1959-1960 to 1962-1963. The 19,300,000 was the estimated expenditure for the part of 1959 which was covered by the third plan. No allocation of estimated expenditures for 1960 was made.

Source: Central Bank of Iraq, Quarterly Bulletin, Selected Issues, 1955-1959. Abbas Alnasrawi, Financing Economic Development in Iraq, (New York: Frederick A. Praeger, Publishers, 1967), pp. 47-48.

cent of the amount estimated for expenditures was actually spent. Much less than that was spent for the years 1956, 1957 and 1958 with respectively 53, 56 and 52 per cent spent. Also, none of the money allocated to the individual projects was completely spent. For example, only about 40 per cent of the expenditures allocated for irrigation were actually spent during the period 1955-1958.

In 1959 the government replaced the Development Board with a Committee called the Board of Economics which was headed by the Prime Minister and included the Ministers of Finance, Development, Economics, Agriculture, Public Works and Communications, Social Affairs, and Foreign Affairs. The Board of Economics had the authority and responsibility for establishing, carrying out, and achieving the economic development programs. Thus, the Board of Economics was a part of the government body, whereas the Development Board had been an independent agency apart from the influence of changing governments. A change of ministry might introduce a point of view different from that of the old regime. Thus, with a change of government there was a tendency to halt existing economic programs and to introduce new ones. This pattern leads to waste of money and effort.

The Provisional Economic Plan was established in 1959 by the Board of Economics and was put into effect in 1960. However, after a few months the Board of Economics replaced this plan by instituting the Detailed Economic Plan

of 1961-1962 to 1965-1966.

Table 8 shows that the Provisional Economic Plan of 1959 emphasized the development of the transportation and communication sector, raising it to 26 per cent of the total expenditures. The second aim of this program was to solve housing problems, and the third aim was to develop the building program. The fourth aim was to improve agriculture; the fifth to improve industry, and, according to Table 8, for the first time the government directly concerned itself with the health and cultural conditions of the Iraqi people.

The Provisional Economic Plan also failed to emphasize the development of agriculture as a leading sector in the development of the Iraqi economy. It, also, did not integrate the private sector as part of the development program. Although the life of the program was very short, 33 per cent of the money allocated for expenditures in 1960 actually was spent.[6]

Table 9 shows that the amount allocated to carry out the Detailed Economic Plan of 1961-62 to 1965-66 was 556,340,000 ID, which was more than the amount allocated to any previous program. In the Detailed Economic Plan, the government for the first time gave primary emphasis to the development of

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[6] In 1960 the estimated expenditures were 137 million Iraqi Dinar and the actual expenditures were 45.5 million Iraqi Dinar. See Abbas Alnasrawi, Financing Economic Development in Iraq, (New York: Frederick A. Praeger, Publisher, 1967), p. 50.

TABLE 8. THE PROVISIONAL ECONOMIC PLAN: 1959-1960 TO 1962-1963

Name of Department	Iraqi Dinar	Per cent
The Agricultural Department	47,938,791	12.22
The Industrial Department	38,729,000	9.88
Transportation & Communications Department	100,831,530	25.71
Housing & Summer Resort Department	76,412,000	19.48
Public Buildings Department	50,484,050	12.87
Public Health Department	24,595,000	6.27
Public Culture Department	39,191,100	9.99
Provisional	14,000,000	3.58
Grand total	392,181,971	100.00

SOURCE: The Ministry of Guidance, Provisional Economic Plan (Baghdad: Al-Iraqi Press, December, 1959), p. 11.

TABLE 9. THE DETAILED ECONOMIC PLAN: 1961-1962 TO 1965-1966

Name of Department	Iraqi Dinar	Per cent
The Agricultural Department	112,990,000	20.30
The Industrial Department	166,786,000	30.00
Transportation & Communication Department	136,450,000	24.50
Buildings & Housing Department	150,114,000	25.20
Grand total	566,340,000	100.00

SOURCE: The Ministry of Guidance, The Five-Year Detailed Economic Plan: 1961-1962 to 1965-1966 (Baghdad: The Waqiyi Al-Iraqi Press, 1961), p. 11.

the industrial sector, i.e., 30 per cent of expenditures (in the previous plan this sector ranked in sixth place, i.e., 9.8 per cent of allocated expenditures). As in the previous plan, the housing and building sector ranked second with 25.2 per cent. Transportation and communications ranked third, i.e., 24.5 per cent (this sector was first in the former program). Agriculture ran fourth, as it did in the previous plan, but in this plan its percentage was 20.3, whereas in the former plan it was 12.2 per cent. The Detailed Economic Plan, as previous plans had done, failed to include the private sector as an integral part of the development program. Also, the plan experienced, as did previous programs, surplus expenditures. Table 10 indicates the per cent of allocated expenditures which remained unused for the years 1961, 1962, 1963 and 1964.

Table 11 indicates that the amount which was allocated to the second Detailed Economic Plan for the period 1966-1967 through 1969-1970 was 444, 700,000 ID. In this plan, as in the previous one, first priority was given to the development of the industrial sector (it amounted to 36.41 per cent of total allocated expenditures in this plan and 30 per cent in the previous one). The development of agriculture ranked second with a share of 27.28 per cent. The sector of buildings and social services ranked third with a share of 18.93 per cent. The transportation and communications sector ranked number four with a share of 17.38 per cent.

TABLE 10. ESTIMATED EXPENDITURES, ACTUAL EXPENDITURES, AND UNUSED ALLOCATIONS OF THE DETAILED ECONOMIC PLAN: 1961-1962 to 1965-1966

Year	Estimated expenditures Iraqi Dinar (thousand)	Actual expenditures Iraqi Dinar (thousand)		Unused expenditures Iraqi Dinar (thousand)
			(%)	
1961	147,500	61,200	41	86,300
1962	108,100	58,500	54	49,600
1963	117,600	53,500	45	64,100
1964	119,600	51,800	45	67,800
1965a				
1966a				

[a]The estimated and actual expenditures for 1965 and 1966 are not available.

Sources: Central Bank of Iraq, Quarterly Bulletin, Annual Report, 1964. Abbas Alnasrawi, Financing Economic Development in Iraq, (New York: Frederick A. Praeger, Publisher, 1967), pp. 50-51.

TABLE 11. THE DETAILED ECONOMIC PLAN: 1966-1967 TO 1969-1970
(In Million I.D.)

Name of Sector	Iraqi Dinar	Per cent
Agriculture	121.3	27.28
Industry	161.9	36.41
Transportation & Communications	77.3	17.38
Buildings & Social Services	84.2	18.93
Total	444.7	100.00

SOURCE: Compiled and computed from data from Central Bank of Iraq, Central Bank of Iraq Annual Report 1969, Baghdad, Central Bank of Iraq, Statistics and Research Department, 1972, Table 40, p. 257.

Table 12 indicates that the emphasis of the 1970-1974 economic development program was again directed heavily toward the development of the industrial sector. With expenditures also allocated for buildings and housing, agriculture and transportation and comm unications. Again the latest development program did not integrate the private sector into the development program.

Efforts to Improve the Economy

The Iraqi government has enacted several economic development programs since 1950. The first three programs (1951-56, 1955-59, and 1955-60) emphasized the development of agriculture; whereas, the fourth Economic Development Program (1959-60 to 1962-63) emphasized the development of the transportation and communications sector. However, the government, after a few months of working with this program, replaced it with a fifth Economic Development Program (1961-62 to 1965-66) which stressed the development of industry. In the sixth Economic Development Program (1966-67 to 1969-70) and in the seventh Program for the period 1970-74, the major emphasis was placed on the development of the industrial sector which had ranked second in the first program, third in the second and third programs, and sixth in the fourth program.

Table 13 presents a comparative picture of the percentages attributed to the agricultural, industrial, and transportation and communications sectors of the different economic development programs.

TABLE 12. THE ECONOMIC DEVELOPMENT PLAN: 1970-1974
(in millions)

Name of Department	Iraqi Dinar	Per Cent
Industry	394.0	38.40
Agriculture	211.0	20.57
Housing and related services	272.0	26.51
Transportation and communications	149.0	14.52
Total	1026.0	100.00

Source: Arab Information Center, Iraq, 747 Third Avenue, New York, December 1973, p. 7.

TABLE 13. COMPARISON OF THE AGRICULTURAL, INDUSTRIAL, AND TRANSPORTATION AND COMMUNICATIONS SECTORS OF THE DIFFERENT DEVELOPMENT PROGRAMS (PER CENT)

PROGRAM NUMBER	1	2	3	4	5	6	7
Sector	1951-56	1955-59	1955-60	1959-60 to 1962-63	1961-62 to 1965-66	1966-67 to 1969-70	1970-74
Agriculture	49.14	37.60	33.61	12.22	20.30	27.28	20.57
Industry	19.98	14.32	13.42	9.88	30.00	36.41	38.40
Transportation & Communications	17.23	24.38	24.87	25.71	24.50	17.38	14.52
Total per cent that these sectors were allocated collectively from the total allocations of expenditures	86.35	76.30	71.90	47.81	74.80	81.07	73.49
Buildings and Housing	11.60	19.98	24.65	32.35	25.20		
Administration, Studies and Organizational Expenses	2.05	1.79	1.47				
Public Health				6.27			
Public Culture				9.99			
Buildings & Other social services						18.93	26.51
Miscellaneous small projects		1.93	1.98				
Provisional				3.58			
Total	13.65	23.70	28.10	52.19	25.20	18.93	26.51
Grand Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Tables 3, 5, 6, 8, 9, 11, and 12.

Chart 3 illustrates the unstable relationship between the estimated and actual expenditures of the development programs from 1951 to 1964. It is evident that the estimated expenditures have never fully been spent.

None of the Economic Programs, however, has integrated the development of education as an integral, if not a leading, sector in the development of Iraq. Also, none of the programs considered developing the various sectors of the national economy simultaneously in a balanced approach to economic growth or by an unbalanced approach.

Not one of the first four programs was ever completed. Dr. Fawzi El-Kaissi, the Cultural Attaché at the Iraqi Embassy in Washington, D.C. in 1959, pointed out the results of the development programs enacted by the Development Board as being ". . . swimming pools, the recreation facilities on [the] Tigris, the houses for bodyguards, the lakes, status, or other luxurious furnishings."[7] In additon, the government paid more attention than it should have to the construction of modern roads and bridges in Baghdad. The construction of such roads and bridges was not specifically for economic objectives, since they only benefited Baghdad. From a development standpoint, the purpose for constructing roads and bridges should be to connect the many regions of Iraq thus permitting

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[7] Fawzi El-Kaissi, The Republic of Iraq, Establishment, Policies and Achievements, (Washington, D.C.: Embassy of the Republic of Iraq, 1959), p. 9.

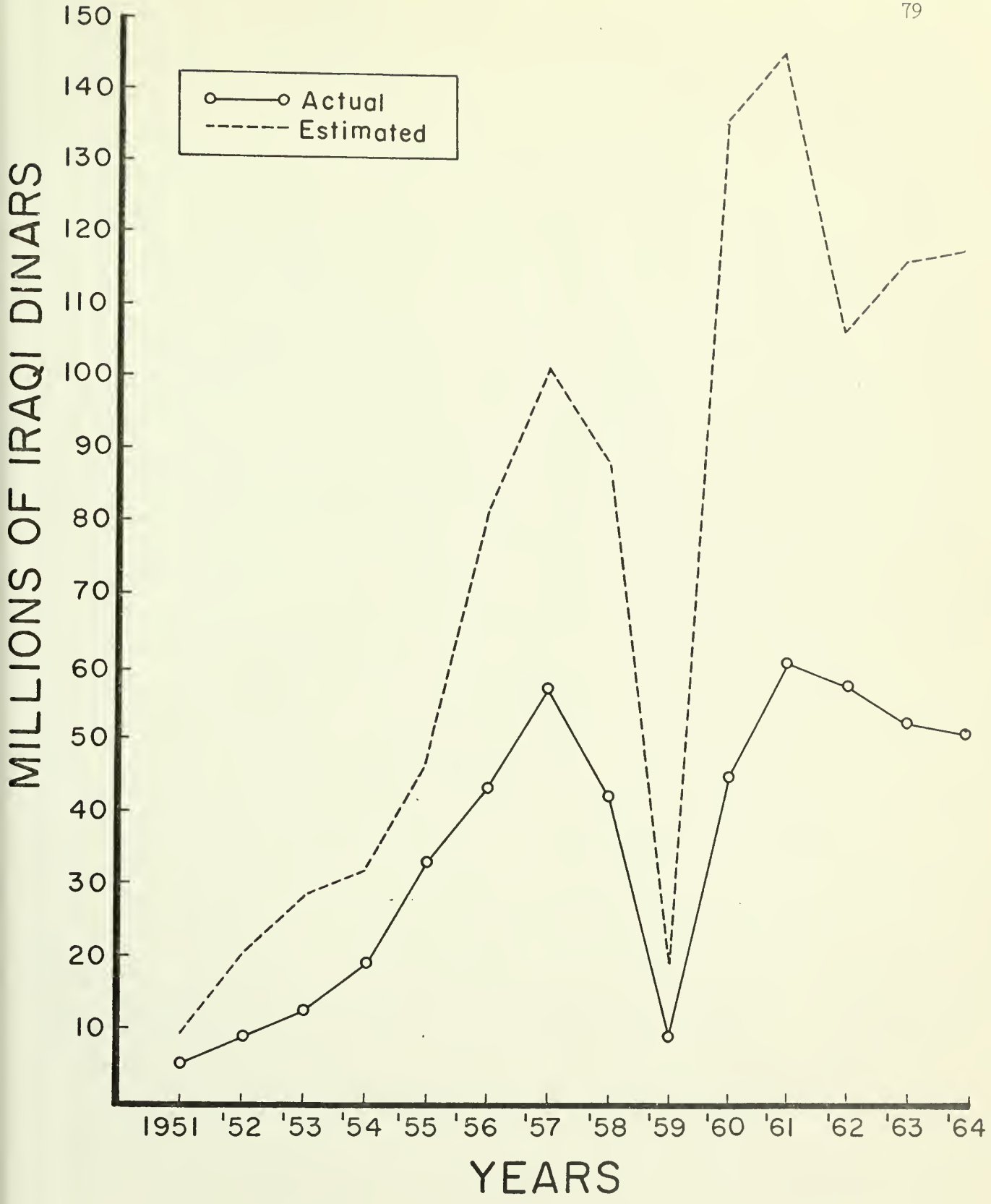

CHART 3: Estimated and Actual Expenditures of the Development Programs for the Years 1951 - 1964 (In Millions of Iraqi Dinars). Source: Tables 4,7,10

easy movement of agricultural and other resources to the consumers and markets around the country.

Dr. Fawzi El-Kaissi stated that the duty of the Board of Economics, which replaced the Development Board, was to:

> . . . draw up a long-term plan for developing the different sectors of the National economy in all regions of Iraq, taking into consideration maximum social benefit rather than maximum monetary gains alone.[8]

The Board of Economics began to enact economic programs in 1959. The fifth program stressed the development of industry more than the development of the other various sectors of the national economy. Very little new manufacturing resulted from this program. Iraqi manufacturing was still limited and largely confined to textiles, tobacco processing, soap and brick manufacture, leatherwork, and cement industries.[9] Theoretically, this is not true development of industry. Ideally, full development of industry, both light and heavy, would

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[8] Ibid., p. 10.

[9] It is emphasized in the Investment Programme for the fiscal year 1973-74 that the full implementation of the industrial sector will ultimately yield (per year): total paper and paper board production of 41 thousand tons; oil refining capacity of 4 million tons of crude oil; 270 thousand units of bicycle tire tubes; 140 thousand tons of refined sugar (beet and cane); 21.5 thousand tons of animal feed; 7 thousand tons of dehydrated onion; 120 million units of bricks; and 6300 k.w. new capacity for villages together with local power lines with a total length of labor 1000 kilometres. Al-Jamaheer House for Press, The Baghdad Observer, Karantina Area, Baghdad, Iraq, P.O.B., 257, April 10, 1973, Vol. V, No. 1581, p. 6.

provide the Iraqi market with consumer products and productive materials to be used as capital in production. This would enable the Iraqi economy to be more self-sufficient, rather than dependent almost entirely on imports.

The majority of the Iraqi people are uneducated. Development of education is the most vital element in achieving the development programs. It would help create well trained people in different fields to plan and achieve these programs. Hence, the development of the educational sector should be integrated and considered the leading sector in any development program of Iraq. This would help bring well trained and skilled workers and managers to carry out the achievements of the goals of these programs.[10] Also, the integration of education with other sectors of the national economy in one economic plan would help maintain an equilibrium between the supply of and the demand for college graduates.

Despite poverty, the problem of capital formation should be non-existent in Iraq, because Iraq receives a great amount of money in oil revenue each year. More densely populated countries tend to use primitive tools and equipment and

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[10]John L. Simmons points out that agriculture is unable to progress fast enough due to the planning and management failures. See his article, "Agricultural Development in Iraq: Planning and Management Failures," The Middle East Journal, Vol. 19, No. 2, Spring 1965.

a large labor force in production, while in Iraq, capital can be more easily used as a substitute for some of the labor force. This requires that laborers must be taught to understand the efficient use of the modern innovations in production.

In conclusion, Iraq has plenty of money from oil for development, but very little of this development has been totally effective. The solution is a good plan and proper direction and management by the government. However, a well educated elite working unselfishly for the government cannot solve the problems of Iraq as long as approximately 80 per cent of the population is uneducated.

CHAPTER V

ISSUES OF DEVELOPMENT OF EDUCATION AS A LEADING SECTOR IN DEVELOPMENT OF THE NATIONAL ECONOMY OF IRAQ

Education in Iraq is controlled by the national government. The majority of the schools, primary, secondary and university, are owned and operated by the national government. Tuition is free on all academic levels. The government also pays partial or the full cost of board, lodging, and medical care in the teacher-training institutions, secondary schools, and vocational schools. In addition to the government operated schools, there are also private schools operated under the guidance of minority groups such as Iranian organizations or Christian religious denominations. The curricula of these schools must also conform with government school regulations and instructions.

The government officially favors coeducation on the primary level. However, coeducation hardly exists in the cities due to cultural barriers which insist on separation of males and females. All rural primary schools are coeducational, not because it is the favored system, but due to the physical shortage of school buildings. The number of coeducational schools increased

from 425 in 1956 to more than 1,700 in 1965.[1]

Formal education in government schools is based on an academic year which extends from early September until the middle of June, with no summer school. Hence, most of the students are left with nothing to do for the whole summer. A few try to buy textbooks for the coming academic year and start to read them in order to get higher averages in a system where grades and degrees, rather than experience, are highly stressed. Students attend classes five and one-half days a week and average five hours of daily instruction.

Education, presently, does not play its role as a leader in developing the economy or the cultural life of the people. Emphasis is placed on the expansion of educational buildings and facilities, with little concern given to the internal problems of the educational system to improve the efficiency and the skill of the students.

In discussing education in Iraq, this chapter will be divided into two parts. The first part identifies some of the problems faced by education in Iraq. The second part contains recommendations for a possible solution to these problems.

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[1]Arab Information Center, Education in the Arab States, Information Paper, Number 25 (I-XIII), 757 Third Avenue, New York, January 1966, pp. 35-39.

Problems of Education

Most developing countries lack the necessary capital to finance their education programs. Iraq, on the other hand, receives substantial oil revenues every year. This money could be used to improve the conditions of human capital in Iraq by helping to solve the problems of education. These problems can be grouped into the following topics:

1. Strong emphasis on the study of Arabic language in itself as all the education an individual needs.
2. Strong stress on past historical Islamic glories and achievements.
3. Elementary education not available to all children.
4. Urban concentration of teachers.
5. Under-utilization of college graduates.
6. Brain drain--emigration of trained manpower.

The above problems are not the only ones that are facing the educational system in Iraq at the present time. But these problems have been identified because of their importance within the scope of this study. These problems should not be considered mutually exclusive, but rather they should be grouped together, and recommendations to solve them should be integrated and simultaneously put into practice. The following is a discussion of each of the problem areas.

1. Arabic Language as an Education in itself. The study of the Arabic language occupies a great part of the curriculum at the elementary and high school levels. Studying the Arabic language is highly encouraged by educators as a sufficient education unto itself. Students are required to devote half of their academic study period to the reading, debating and memorizing of poems. Strong stress is also placed on the study of the classic Arabic grammars. It would appear that all the emphases are leading in only one direction; that is, to produce a large number of skilled poets and story writers. And in fact, Iraq is famous for her poets. For those not so inclined the emphasis on Arabic offers the student little chance to take other courses of interest to him. It also encourages him to memorize rather than to be creative and destroys the individual's initiative for searching for possible alternative solutions to a given problem. After finishing high school, the student finds the same teaching techniques employed in the universities. Although he might now be studying engineering, the manner in which teaching is handled on a theoretical level is the same--all the student needs do is memorize and feed back what he has been taught in the classroom. The student is already prepared for that teaching style based on his elementary and high school education. The student has no opportunity to obtain practical experience. So, if he gets the chance to graduate and become a teacher in elementary or in high school, he will function like his predecessors.

2. Emphasis on Past Historical Achievements. During the elementary and high school years, teachers place strong emphasis on nationalistic ties, and especially on past Islamic achievements. The students have to read textbooks about past Islamic leaders and the Islamic Empire which extended from Spain to China. The wars in which the Muslims engaged are required to be memorized in order to be fed back for examinations. The extreme preoccupation with the Islamic past opens the door for the student to live in an atmosphere full of day dreams, and creates a future individual who looks mostly to the past. It is important to remind the present generations about the achievements of their great grandfathers, but it is also of equal importance to teach modern skills and know-how.

3. Children and Elementary Education. There are several factors that injuriously influence the education of Iraqi children. The first factor is that not every child of eligible school age has the opportunity to go to school. Table 14 shows that for the academic year 1960-1961, the number of children who were of eligible age to be enrolled in elementary schools was 1,339,000, while 760,000 actually got the chance to go to school. Therefore, 43.2 per cent of the children eligible for schooling did not get the chance to attend school. For the academic year 1969-70, the number of eligible students increased to 1,907,000 and although the number of students actually enrolled went up to 1,053,000, the percentage of students who did not get the chance

TABLE 14. COMPARISON OF CHILDREN OF ELIGIBLE ELEMENTARY SCHOOL AGE (6-12 years) AND THOSE ACTUALLY ENROLLED IN PUBLIC AND PRIVATE SCHOOLS

Period	Number of Children of Eligible School Age (6-12 years old)			Number of Students Actually Enrolled in Elementary Schools			Number of Students Enrolled per 1,000 Children of Elementary School Age		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1960-61	677,000	662,000	1,339,000	556,000	204,000	760,000	821	308	568
1969-70	966,000	941,000	1,907,000	743,000	310,000	1,053,000	769	329	552

Source: Abdul Majeed Rasheed, Primary Education in Iraq, Sources and National Growth Plan, 1971, Table 1, p. 3, Educational Planning Department, Ministry of Planning, Baghdad, Iraq, (in Arabic).

to attend schools went up as well; to 44.3 per cent. The causes for this low enrollment are:

1. The rate of population growth in Iraq is high; 3.5 per cent per year. School facilities are unable to keep up with demand.
2. There is a high drop out rate. In a survey conducted in four southern provinces in 1962, it was shown that out of 40,314 students enrolled in primary schools more than 30 per cent of them dropped out before the end of their first academic year.
3. Most families in rural areas consider their children as an economic asset because of their help on the farm. These families thus forego the chance for free tuition, schooling, and school supplies for their children, and involve them directly in the families' support.
4. The social institutions are very rigid and still look unfavorably on the education of females.
5. There is a lack of school facilities and teachers in rural areas. Most teachers strongly prefer to teach in urban areas.

The second factor which influences the education of children in elementary schools is that not all the children who are actually enrolled get the chance to graduate from elementary school. For every one thousand students enrolled in elementary schools, 384, i.e., 38 per cent, were unable to finish school.[2] Not all of the remaining 616 who graduated finished the elementary education in the normal required six years. As can be seen from the data below, 30 students out of the 616 graduates took eleven or more years to finish elementary school. Only 112 students finished school in six years:

Number of Graduating Children out of 1,000 Enrolled in Elementary Schools	Required years to Complete Elementary Education
112	6
194	7
154	8
82	9
44	10
30	11 and more
616	

Therefore, it took an average of 7.74 years per graduating student to finish elementary school. Although the government encourages schooling by making

[2] Abdul Majeed Rasheed, Compulsory Primary Education in Iraq, Sources and National Growth Plan, 1971, p. 43, Educational Planning Department, Ministry of Planning, Baghdad, Iraq (in Arabic).

it compulsory, the above data indicate that college graduates who teach in elementary schools fail quite a large number of children. Educators appear to believe that the more students they fail, the better the educational system will be. Before a teacher implements this sort of policy, he needs to question his role as a teacher. Does he create interests and initiatives among students to learn the subject matter? Does he create a healthy atmosphere in the classroom to make it easy for the students to enjoy attending classes? The teachers who are college graduates memorized books and articles and did not have a healthy learning atmosphere themselves. Consequently, the only way they can manage their classrooms is through limiting the opportunities for students to ask questions and explore. If a student misbehaves himself according to the judgment of the teacher, then he should be punished, and sometimes may be beaten with a ruler or stick.

The teachers also treat each subject equally in terms of grading exams, and completely disregard that a student may have less interest in math, but a very strong interest in music or art. The student then flunks his whole academic year because he did not do well in mathematics. Do all children need to be mathematicians? How many of the students will be able to use what they learn from math after ten or twenty years? Other objections could be raised to question the way many teachers may teach mathematics, in so dull a manner that it does not create student involvement in the learning process.

Therefore, the student should not be blamed for his failure; rather the teacher must question his own role.

The educational policy-makers need to be concerned about the cost of educating these children. By flunking them year after year, the cost for educating a student at a particular grade level increases greatly. This money could be better used to educate an additional new student.

4. Urban Concentration of Teachers. Most college graduates have a strong preference to work in the large cities. The unwillingness of educators to work or to teach in rural areas, where about 60 per cent of the people live, hinders the development of the rural area. It also weakens the quality of education in these areas. Some of the reasons that lead educators not to teach in these regions are:

1. Since the majority of college graduates reside in cities, they may not like to teach in rural areas because of loneliness of being away from home. Family ties are so close that most students live at home while attending schools. City life is also attractive because of many conveniences lacking in rural regions.
2. A female college graduate may be willing to teach in a rural area and gain new experience, but her

parents often refuse permission.

3. The college graduate has been educated primarily by reading textbooks, mostly of a theoretical nature, and oriented towards an urban experience.

5. Under utilization of College Graduates. The problem of having too many qualified college graduates and too few corresponding positions for them has resulted from a lack of enactment of a valid educational plan. From Table 15 it is obvious that there is a surplus of male college graduates who are qualified to teach physics, Arabic, history and geography. For most other subject areas, including English language, mathematics, chemistry, biology and fine arts, there was a shortage of male teachers.

Table 16 presents a picture of the female teaching situation. There are many more female college graduates available for teaching than positions available for them. There are 216 female college graduates with English language majors who could fill teaching positions. From Table 15 it is evident that there were 20 English language teaching vacancies in male high schools. Why don't unemployed female English teachers fill these 20 vacancies? The answer is very simple. Coeducation does not exist in high schools or in the majority of elementary schools. Male teachers can teach only at male schools and female teachers only at female schools.

If a male or female college graduate is unable to obtain a teaching

TABLE 15. ESTIMATE OF OVER-SUPPLY O F MALE COLLEGE GRADUATES OF SCIENCES, LANGUAGES AND SOCIAL STUDIES APPLYING FOR TEACHING VACANCIES AS OF JUNE 1972

Subject	Number of teacher openings	No. of male grads. applying for teaching jobs	Number Employed as Teachers	Over-Supply or Vacancy*
Arabic Lanugage	160	299	160	+ 139
Kurdish Language	21	21	21	None
English Lanugage	250	230	230	- 20
Mathematics	195	147	147	- 48
Physics	100	123	100	+ 23
Chemistry	91	74	74	- 17
Biology	107	98	98	- 9
History	67	147	67	+ 80
Geography	86	140	86	+ 54
Fine Arts	60	31	31	- 29
Sociology	10	10	10	None
Home Economics	---	---	---	----
Physical Education	107	107	107	None
Total	1261	1434	1138	+ 296 - 123

* +over-supply
-vacancy

SOURCE: Abdul Majeed Al-Soufy and Talib Ibrahim Al-Akaby, Summarized Study about Available Estimate of College Graduates of Sciences and Social Studies, August 1972, Table 1, p. 4, Educational Planning Department, Ministry of Planning, Baghdad, Iraq, (in Arabic).

TABLE 16. ESTIMATE OF FEMALE COLLEGE GRADUATES OF SCIENCES, LANGUAGES, AND SOCIAL STUDIES AND FEMALE COLLEGE GRADUATES EMPLOYED AS TEACHERS, 1969-70 and 1970-71.

Subject	No. of College Grads			No. employed as teachers			Unemployed or employed in other sectors
	69/70	70/71	Total	1970	1971	Total	
Arabic Language	249	134	383	91	67	158	225
Kurdish Language	9	21	30	9	16	25	5
English Language	179	182	361	82	63	145	216
Mathematics	80	80	160	62	65	127	33
Physics	46	78	124	35	52	87	37
Chemistry	91	78	169	33	27	60	109
Biology	87	132	219	7	42	49	170
History	38	30	68	36	21	57	11
Geography	25	27	52	23	20	43	9
Fine Arts	4	3	7	--	4	4	3
Sociology	25	11	36	6	--	6	30
Home Economics	35	44	79	32	20	52	27
Total	889	836	1725	416	434	850	875

SOURCE: Abdul Majeed Al-Soufy and Talib Ibrahim Al-Akaby, Summarized Study About Available Estimate of College Graduates of Sciences and Social Studies, August 1972, Table 2, p. 5, Educational Planning Department, Ministry of Planning, Baghdad, Iraq, (in Arabic).

position, he or she can look for a job in the industrial, agricultural or services sectors. Major new jobs are advertised by the public sector (most industrial and services organizations are owned and operated by the government). According to an article entitled "Job Market in Iraq," published in the Baghdad Observer, the job market can be classified into the following three groups:[3]

A. Fields which have great demand for applicants:	B. Fields which have limited demand for applicants:	C. Fields which have poor demand for applicants
1. Engineering, especially mechanical, electrical, civil, chemical, and oil.	1. Law	1. Arabic language
2. Business administration, especially accounting.	2. Statistics	2. Foreign languages other than English
3. Economics.	3. English language	3. Psychology
4. Technical fields, esp. related to industry: oil, communications, heavy machinery, drafting, maintenance; with special priority given to graduates of technical schools.	4. Mathematics	4. History
	5. Warehouse Mgmnt.	5. Geography
	6. Translation (English-Arabic)	6. Archeology
	7. Biology	7. Political sciences
	8. Physics	8. Home economics
	9. Agronomy	9. Education
5. Secretarial, including typing.		10. Fine arts
6. Medical, especially pharmacy, medical technicians, nurses.		11. Religious sciences
		12. Physical education

[3] "Job Market in Iraq," The Baghdad Observer, Vol. V, No. 1697, August 28, 1973, p. 6.

Some college graduates who are unable to get teaching jobs, also have a hard time getting jobs in other areas. For example, Tables 15 and 16 show that there were 139 male and 225 female college graduates who majored in Arabic language and were unable to get teaching positions. If they turn to fields outside teaching such as positions in industries, services, or agriculture, their chances are also very poor.

In order for college graduates to obtain non-teaching jobs, they must meet the following set of criteria set up by the government:

1. College education
2. Work experience (unspecified)
3. Iraqi citizenship
4. Completion of military service or its legal waiver
5. Member of certain professions suitable to certain jobs
6. Age (unspecified)
7. Clean record (unspecified)
8. Medical fitness

Most, if not all, college graduates lack work experience. Consequently, if a college graduate was not able to get a teaching job, he would have a difficult time getting a job anywhere else.

6. Brain Drain, Emigration of Trained Manpower. Iraq, like other developing countries, experiences an emigration of people with hard skills. Emigrants from Iraq have usually gone to the United States, France or England. The total population of the Arab World is around 120 million. The number of students in higher education in Arab countries may be estimated at 300,000. There are also, about 20,000 Arab students studying in European and North American institutions of higher education. Approximately 10 to 20 per cent of Arab students who study outside their countries do not return, and instead work or teach in the developed countries. Out of the 300,000 students who study in higher education institutions in the Arab countries, between 5,000 and 7,000, i.e., about 2 per cent, leave the Arab countries after their graduation and reside in the industrialized countries.[4]

Emigrants from Iraq usually have hard skills. Table 17 shows that there were 470 graduates from engineering schools in 1967. One hundred thirty-six engineers emigrated to the United States, Canada and France between 1962 and 1967.

There are many reasons why an individual emigrates from his country. Some of the reasons which led Iraqi students to immigrate to a developed country are the following:

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[4]Malcolm Adesishea, "Brain Drain from the Arab World," January-April, 1970, Table 1, p. 6. Educational Planning in Arab Countries, Quarterly Journal, P. O. Box 5244, Beirut, Lebanon (in Arabic).

TABLE 17. EMIGRATION OF ENGINEERS AND NATURAL SCIENCE GRADUATES FROM SOME ARAB COUNTRIES BETWEEN 1962-1967 AND NUMBER OF TOTAL COLLEGE GRAUDATES IN 1967

Country	Total College Graduated in 1967	Engineers				Natural Sciences			
		Graduated 1967	Immigrated to			Graduated 1967	Immigrated to		
			U.S.	Canada	France		U.S.	Canada	France
Algeria	644	134	4	1	----	98	1	2	----
Iraq	5047	470	122	13	1	1020	52	8	4
Jordan	1308	20	79	----	----	133	38	3	----
Lebanon	2149	279	177	19	129	251	72	8	24
Morroco	5927	295	14	4	129	59	3	13	14
Syria	3030	159	83	5	56	35	23	2	9
Tunisia	566	49	1	----	94	70	5	----	11
U.A.R.	26,888	1709	89	116	44	8249	57	68	13
Other Arab Countries	1685	95	----	----	----	259	----	----	----
Total: Arab Countries	42,244	3210	569	158	453	10,174	251	104	75
Total number from all nations who immigrated to the United States			10,787				3,978		

SOURCE: Malcolm Adesishea, "Brain Drain from the Arab World," January-April, 1970, Table 1, p. 6. Educational Planning in Arab Countries, Quarterly Journal, P.O. Box 5244, Beirut, Lebanon, (in Arabic).

1. Lack of opportunities in Iraq for some individuals who have hard skills. Some would be unable to carry out research on a level to which they had become accustomed while studying in a developed country. A lack of facilities, and modern technical equipment in Iraq makes some types of research difficult to conduct.
2. Difficulties in readjusting to their culture after living a long period of time in a developed country and becoming accustomed to other ways of living.
3. Difficulty of finding jobs.
4. Higher wages and salaries in the developed countries.
5. Lack of mobility between jobs encourage some aggressive individuals to immigrate to developed countries where they can explore different opportunities.
6. Political instability encourages some individuals with hard skills to immigrate to a developed country which is more politically stable.

Malcolm Adesishea believed that as a result of the brain drain from the Arab countries, education should no longer be considered an engine to development.[5] Adesishea is correct in implying that the money invested in educating

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[5] Ibid., p. 14.

these emigrants is wasted. But he should not blame the entire educational system. Approximately 80 to 90 per cent of Arab students who study overseas return to their countries, and about 99 per cent of the students who study in the Arab countries remain in their country.

Recommendations for Solving the Problems of Education

The graduates of higher educational institutions in Iraq can play a very important role in attempting to solve the problems that are facing education in Iraq. As these graduates become educators themselves, they can help to apply the recommendations suggested below to the educational system. However, each recommendation should not be singled out as the only solution to a specific problem of education. Rather one must consider these recommendations as requiring simultaneous implementation in order to solve the problems of education. The recommendations are:

1. The establishment of an elementary education system in which no child fails any of his six years of education.
2. The establishment of a coeducational system in both the elementary and high schools.
3. The enactment of an educational plan which must be integrated with the economic development program. One of the aims is to stabilize the supply of and the demand for college graduates.

4. The control of the increase in population.

There may be other solutions in addition to the above recommendations. However, implementation of the four recommendations will help reduce the problems that are facing education in Iraq.

1. Elementary Schools Where No One Fails. There is a high failure rate for children in elementary schools. There is also a large proportion of school age children unable to attend elementary schools. This is definitely an unhealthy situation if education is to take its place as a leading sector in the development of Iraq. Therefore, a solid approach must be taken in order to remove the present obstacles facing the elementary educational system. It is suggested that this approach be based simply on the premise that no child should fail any of his first six years of formal education. Those who will be responsible for the success of this program are the college graduates who will become the teachers and administrators.

The elements of the proposed Iraqi elementary school program in which no one fails are the following:

1. At the start of the academic year, a contract is developed between the student, his or her parents, and the teacher as his or her advisor. All of them should agree on the student's instructional objectives, geared to his own ability to succeed.

2. The contract must also contain a written list of courses and learning experiences which the student must undertake in order to fulfill the instructional objectives.
3. In the middle of the academic year a report must be made on the student's progress so far toward achieving the objectives of the contract.
4. The student finishes his academic year when he has completed the objectives of his program.
5. All students are automatically advanced to the next academic year. If a student was unable to finish part of the objectives of the previous contract, he must carry the obligation to finish this part while working on the set of objectives created in the new contract for the present academic year.
6. Sharing experiences and learning processes must be strongly maintained in regular open class discussions among the students.
7. The grading system is removed and an indication of a pass is given instead. The major aim is for the student to show that he has completed the main objectives of his contract.

One may ask the question, will the product of such a system be able to attend a high school? The answer is yes, he will be able to attend high school. The learning system in high school will be similar to that of the elementary school. Emphasis will be on learning rather than on flunking. The philosophy of a school in which no one fails is carried over to the high school.

The advantages of the elementary school system where no one fails are the following:

1. It helps the child not to be labeled as a "failure." It gives the child the feeling of responsibility for his own conduct and progress.
2. Most children are going to end up feeling good. This helps create a suitable atmosphere for learning.
3. This system helps improve a child's self-image and creates a feeling of self-worth and the ability to succeed. It helps him to believe in himself, to believe that he is not a miserable failure. He has a chance for success in anything.
4. It brings direct contact between every student and his teacher. Therefore, it creates a healthy relationship between both the student and the teacher, one in which there is mutual respect.

5. It helps remove the student from following the old traditional system of taking a given set of courses every year. In this program the student has the choice of selecting courses and experiences according to his or her ability. Every child is capable of being a success and becoming an active and productive member of society.

In order that this system of elementary school, in which no one fails, be successful, the teachers must have the desire and enthusiasm to work very closely with the children. The teachers must treat each individual according to his ability to learn. The above system could be instituted gradually by implementation in one area of Baghdad for example at first.

2. Coeducational System. The establishment of a coeducational system in both elementary and high schools would play a significant role in removing some of the problems of education. The advantages of the coeducational system are the following:

1. It helps teach both boys and girls to live with each other. This, in turn, reduces discrimination of women.
2. It may help reduce transportation costs for some parents by having both male and female students attend one school.

3. It helps open the door for a female to teach in any school. Many of the unemployed female college graduates desire to teach but cannot get jobs because the job market for them is so limited, as earlier indicated. Female teachers are unable to teach in a male school. Under a coeducational system, females would have more opportunities to find teaching jobs.

4. It helps reduce the number of school buildings needed. Both males and females would attend the same school building. Table 18 clearly shows that for the academic year 1969-1970 there were 879 rented elementary school buildings, i.e., 21.7 per cent of the total elementary schools in Iraq for the same period. The cost of these rented buildings amounted to 263,890 ID per year.[6] These rental expenditures could be partly eliminated. Also, these buildings may not have been built in the first place as school buildings. Therefore, they may not furnish the most suitable environment for learning.

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[5]Talib Ibrahim Al-Akaby, Situation and Growth of Elementary Education in Iraq for 1960-1961 to 1969-1970, Education Planning, 1970, p. 11, Educational Planning Section, Ministry of Education, Baghdad, Iraq (in Arabic).

TABLE 18. NUMBER OF ELEMENTARY SCHOOLS IN IRAQ TYPE OF OWNERSHIP 1969-1970

Type	Number	Per cent
Government Buildings	2809	69.3
Buildings Given to the Government	360	9.0
Rented from Private Owners	879	21.7
Total	4053	100.0

SOURCE: Talib Ibrahim Al-Akaby, Situation and Growth of Elementary Education in Iraq for 1960/1961-1969/1970, Education Planning Section, Ministry of Education, Baghdad, Iraq, (in Arabic).

Note the total number of elementary schools in Table 18 differs from the total for 1969-70 in Table 19. Different sources provide the differing statistics. However in Table 18 a breakdown of school building ownership proved to be of interest.

On the whole, the application of the coeducational system will help modify the educational set up as well as some of the social life of the people. It will have the effect of allowing women more equal opportunities with men in all segments of the economy. In 1969-1970, 29 per cent of elementary school students were female.

3. Educational Plan. The equilibrium between both the supply of and the demand for college graduates is vitally needed. Also, the integration of education and the different sectors of the economic plan is essential for providing the required college graduates with sufficient skills to plan and carry out the objectives of the economic program.

4. Population Crisis. The continuous rate of growth of population in Iraq represents a severe crisis. The rate of population growth in Iraq is 3.5 per cent which is much higher than in most countries. Hence, it is clear that all attempts to educate and feed more people, or save the environment, will be made fruitless if population growth in Iraq continues unchecked. The students need to be made aware of the population problem. This can be achieved by incorporating it into the curriculum.

Conclusion

In conclusion, this chapter has stated the problems of education in Iraq and presented some recommendations for their solution. The government, so far, has not dealt sufficiently with solving these problems. The government's main

concern is to expand building facilities rather than solving such problems as the high drop out and failure rates in elementary schools and the high rate of unemployment among college graduates. The government tries to deal with the problem of the brain drain by only allowing people to leave the country on official government missions or for illnesses which no local doctor is able to deal with.

Iraqi college graduates must work for the implementation of the recommendations brought up in this chapter. Removing the problems will help education to become a leading factor in the development of the whole country.

One needs to be concerned with the fact that social, cultural, and political institutions must be adaptable to integrate new modes of production. The institutions in Iraq are formed and based on traditional aspects of life. In order to make these institutions adaptable the traditional formal education must be broken away from. This traditional formal education has been dominating the educational system since the 1920's. It is time to break away and inject new modern methods into the Iraqi educational system. The main hope for this is in the college graduates who can carry out the recommendations suggested in this chapter.

CHAPTER VI

DEVELOPMENT OF ISLAMIC EDUCATION, WITH EMPHASIS ON THE KUTTAB SCHOOLS AS PRE-SCHOOL EDUCATION

Arabia, before the emergence of Islam in the seventh century, was characterized by primitive Bedouin collectivistic tribes. No central government existed to rule them. Local laws governed and managed relationships within each tribe and among the different tribes. The main occupations in Arabia were trade and commerce, which were looked upon as favorable blessings, as well as profitable enterprises. Trade and commerce were based on barter bargaining. The city of Mecca was the center of internal trade, as well as the center of external trade with foreign countries. Agriculture was looked upon as an unfavorable occupation, and as a consequence was the job of slaves. In contrast, in the Hebrew, Greek, and Roman civilization, agriculture was the only worthy occupation, while trade and commerce were regarded as unprofitable and unfavorable occupations. Therefore slavery, as in the Greek era, was recognized as a natural and acceptable social institution.

With the emergence of the Islamic doctrine, a framework of an urban civilization began to develop and helped create permanent settlement of the tribes and the institution of centralized government. Slavery was abolished. Church and state were combined as the head of the Islamic church was also the

head of the Islamic State. F. Z. Mohammad, emphasized this fact. He stated:

> . . . the head of the state, the Caliph. . . is elected by the people and. . . he is responsible to them. In other words, the Caliph derives his powers from the Islamic Umma (Umma meaning nation).[1]

Islam stressed the individualistic motives by recognizing private ownership of land. Agricultural land was privately owned by its actual cultivators. Public land contained originally unowned land or land left without heirs after the death of the owner, or land donated to the state. Islam encouraged agriculture as well as commerce and trade. Any type of job was blessed as long as it was productive and profitable to the man himself and did not include any exploitation of another person. Thus, private capital was allowed to seek its profitable uses. But, interest on lending money was not allowed.[2]

The preceeding socio-economic background influenced the Islamic view of education.

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[1] Fahdi Zaky Mohamad, Foundations of Arabic-Islamic Political Thought, (Baghdad: Ministry of Culture and Guidance, 1964), p. 31.

[2] For further information and analysis of Islamic views on interest and lending money see Falih Al-Shaikhly, "The Philosophy and History of Usury With Special Reference to Islam," The Henry George News, Henry George School of Social Science, April, 1970.

Before discussing the Kuttab schools, the Islamic philosophy of education requires attention. The remainder of this chapter is divided into three parts. The first of which deals with the early development of Islamic education. The second part is devoted to the organizational structure of education in Islam. The third part is centered around an analysis of Kuttab schools, which examines early Islamic trends in these schools, as well as the Kuttab schools which have continued to exist in Iraq up to the present time.

Early Islamic Educational Development and the Role of the State

Islam played a dominant role in the development of the educational system in the Middle East. All educational instruction was given in Mosques. Special rooms in the Mosques were allocated as meeting places for learning the teachings of the Prophet Mohammad and the Koran. The economic, political and social affairs of the Middle East were primarily based on these teachings.

The role of the state in educational development had its beginnings in view of the following progression:

1. Private education emerged early in the development of Islamic education. Students paid their teachers and received certificates from them for the courses they attended.

2. The state subsidized and organized the teachers into teaching cooperatives. Mosques were assigned to them or built for their use.[3]

Although the teachers were organized into cooperatives, their independent personalities did not melt into a uniform policy in these state sponsored organizations. The previous close relationship between the student and individual teachers continued unchanged. The student still received the certificate from an individual teacher for studies undertaken under the teacher's direction. The certificate indicated the extent of the student's studies. D. B. Macdonald pointed out that "by this means the student was enabled to take a place in the long chain of traditionalists through whose ears and lips the sayings and doings of the Prophet had gone; he obtained a humble part in what was, in a sense, an apostolic succession."[4]

The Organization of Islamic Schools

In the actual development of the Islamic educational system, a division existed between primary and higher education. The primary educational system actually existed in the first century of Islam, i.e., in the seventh century AD.

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[3]Duncan Black Macdonald, Aspects of Islam, (New York: Books for Libraries Press, First published in 1911, reprinted 1971), pp. 301, 302.

[4]Ibid., p. 303.

Islam maintained a hall (majlis) for the teaching of tradition and knowledge ('ilm). Gradually colleges and halls grew which catered only to religious education. In 830, the Caliph Ma'mun established a research academy for philosophy and astronomy in Baghdad the capital of the Islamic Empire.[5]

By the tenth century AD, Islamic schools were organized into the following three stages:[6]

1. Primary Srage
2. Secondary Stage
3. Undergraduate and graduate Stage

1. Primary Stage. Students were admitted to this stage of education at the age of twelve. The student by this age had memorized the entire Koran and passed an examination in Arabic, dictation and arithmetic. The student enrolled in the primary level of education after having studied in the Kuttabs, i.e., pre-school education.

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[5]For further information see, "Islam," Encyclopedia Britannica, 1969; Volume 12, (London: William Benton, Publisher, 1969), p. 668.

[6]Most of the information for this section was derived from the following sources: Roderic D. Mathews and Matta Akrawi, Education in Arab Countries of the Near East, (Washington, D.C.: The American Council on Education, Second Printing, September 1950); H. A. R. Gibb, Modern Trends in Islam, (Chicago, Ill.: The University of Chicago Press, 1947); E. I. J. Rosenthal, Political Thought in Medieval Islam An Introductory Outline, (London: Cambridge University Press, 1962); Harvey H. Smith, Nancy W. Al-Any, et al. Area Handbook for Iraq, (Washington, D.C.: U. S. Government Printing Office, March, 1969); Fahim I-Qubain, Education and Science in the Arab World, (Baltimore, Md.: The Johns Hopkins Press, 1966), and D. B. Macdonald, op. cit.

The primary stage constituted a four year program, which included the study of Muslim law, monotheistic divinity, the life of the Prophet and his disciples, intonation of the Koran, Arabic reading, grammar and morphology, arithmetic, geometry, algebra, hygiene and drawing. On completion of this stage, the student received the certificate of primary studies.

2. Secondary stage. This stage of education contained a five year program offering the following studies: Muslim laws, commentaries on the Koran, tradition, monotheistic divinity, Arabic grammar and morphology, rhetoric, composition, history of Arabic literature, prosody and rhyme, reading and memorization, logic, physics, chemistry, biology, history, and geography. The graduate was granted the certificate of secondary studies.

These original primary and secondary stages of Islamic education remained virtually unchanged until the period of domination under the Ottoman Empire beginning in 1638 A.D. Modifications under the Turks developed gradually. By the early 1900's, Iraq's educational system had started to become westernized.

3. Undergraduate and Graduate Stage. Studies were conducted in the Faculties of Muslim Law, Theology, and Arabic. Undergraduate work continued for four years and led to the Higher Diploma. Graduate work of two years led to the degree of savant, and of five to seven years to the degree of savant with the title of professor.

The above higher educational structure existed for many centuries throughout the major universities in the Muslim World. The universities were structured around Mosques. The Mosque of Al-Azhar established in 972 A.D. in Egypt, is the oldest continuously existing Muslim University which carried the aforementioned educational majors. In the late nineteen-sixties, some additional curricula were added to the above majors. For example, a medical school was integrated into the university as a major field of study. In 1234, Mustansiriyah University was founded in Baghdad and still exists today.

All Muslim universities revolved around theology. The first scholars and teachers were theologians, and all of their interests were connected with the growth of their theological system. But this educational system by the end of the thirteenth century, was slowly yielding to the pressure of reforms which sought to lessen the theological emphasis in education. The most effective reformer was Ibn Khaldun, a fourteenth century philosopher and educator.

Abu Zayd Ibn Khaldun was born in Tunisia on May 2, 1332 and died in 1405. He was one of the strongest personalities of Arab-Muslim culture in the period of its decline. He is generally regarded as an historian, sociologist,

educator, economist, and philosopher.[7]

Ibn Khaldun was emphatically of the school of pedagogy which stressed understanding rather than memorizing. He emphasized that teaching should be gradual, step by step and precise.[8] The gradual teaching took the following form:

1. As a preliminary training, a general outline of the subject should be presented;
2. the whole should be gone over again, and its particular elements, difficulties and contradictions explained, and
3. it should be again revised, leaving no word nor detail untouched.

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[7]For further information about Ibn Khaldun's life and his work see B. Lewis, V. L. Menage, G. H. Pellat, and J. Schacbt, editors, The Encyclopedia of Islam, (London: Luzac & Co., 1968), pp. 825-832. Jean David C. Boulakia in a recent article stated that "Ibn Khaldun was a fourteenth-century thinker who found a large number of economic mechanisms which were rediscovered by modern economists. Also, he used these concepts to build a coherent dynamic system." See Jean David C. Boulakia, "Ibn Khaldun: A Fourteenth Century Economist," The Journal of Political Economy, Vol. 79, No. 5, September/October, 1971, pp. 1105-1118.

[8]D. B. Macdonald, op. cit., p. 312.

But many teachers overwhelmed their untrained pupils with all the details at once, thinking it was good training. The student, however, thought the difficulty was in the subject and many gave up schooling. Ibn Khaldun's view was that the student should not be disturbed in the use of his textbooks. Not until the student had learned one thoroughly should he be given another. Further, he said, when a subject has been begun it should be pursued steadily and without interruption until it is finished. Two subjects should not be studied simultaneously.[9]

Ibn Khaldun's philosophy of education was six centuries ahead of his time. He was revolting against the methods of teaching and learning which predominated during his time, a revolt which no others ventured to do. He rejected the idea of memorization and learning by heart. He regarded education as a gradual learning process. He looked to the teacher, as an educator, to show the student the different alternatives in pursuing solutions to a given problem. If one studies more carefully Ibn Khaldun's ideas on education, one definitely becomes aware that he was primarily concerned that the school become an institution enabling everyone to have the chance to learn, and not to fail.

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[9] Ibid., pp. 312, 313.

Kuttabs

The Kuttabs, as pre-school education, started in Iraq during the first century of the Islamic period. They were attended by children from six to the age of twelve. With the emergence of western-type primary education, the Kuttabs were attended by children three to six years of age. The Kuttab was regarded as an acceptable religious and social institution to educate the children. They were organized on a non-formal educational basis in the sense that there were no specific required attendance hours, and no rigid organizational set-up. The Kuttab was located either in a room in a Mosque or in a room of a private house. The students sat on a rug on the floor; no desks and chairs were used. Education in these institutions was free, but the parents usually contributed some money to the teachers. The teachers lived on these donations and regarded their job as part of their devotion to the religious faith. The Kuttab education was not subsidized by the government.

The Kuttab was run by a Mullah, i.e., a teacher, and the Mullah usually had an assistant. The children were taught the Koran, reading, writing, and arithmetic. Some of these children, after they had completed this course of study enrolled in the primary stage of education.

The child, a male or a female, enrolled in the Kuttab at the age of six. Usually the child brought with him a copy of the Koran, or a chapter of the

Koran, a slate, ink, and several quill pens to help him in writing the alphabet and arithmetic. At the beginning of the learning period the students had the words spelled out loud. After the children learned the spelling of words, they moved quickly to the next stage of reading.

The students sat in the room according to their seniority. The beginners usually sat in the back of the room. The Kuttabs had no grading system and the students progressed at their own rates. Those who advanced in their studies sat in the front near the Mullah. The assistant to the Mullah supervised newcomers. After they completed their assignments, the assistant informed the Mullah, and the Mullah in turn gave them new assignments.[10]

When the student had fully learned the first chapter of the Koran, his family would invite his classmates and the teacher to their house to eat helawah, i.e., halvah. The family also would give a special gift to the teacher.[11] When the student had learned the Koran completely, his family would make a full celebration for him, for his teacher, for his classmates, and for the people in his district. There was usually a big march from the Mosque or private house

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[10]Abd Al-Rzzaq Al-Hilali, History of Education in the Turkish Rule in Iraq 1638-1917, (Baghdad: Sharikat Al-Tabah and Al-Nasher Al-Ahliah, 1959), p. 49 (in Arabic).

[11]Ibid.

in which the Kuttab was located, to his parents house. The children usually walked in an organized group. Those who carried the Koran were put in the front and followed by others who carried candles and chapters of the Koran. When they arrived at the student's house they entered and each was served with a soft drink. After a while they were all served dinner, and after they finished eating, they left the house.[12]

The student, by his completion of the full memorization of the Koran, achieved the highest honor that a child could dream to achieve. Whenever the need arose in conversation with others, he could refer to any part of the Koran. It gave him the social status of a complete person who knew the wisdom of Allah and consequently of what was good and bad in the present life.

There is no accurate figure of the number of Kuttabs in Iraq during the time of the Ottoman Empire. The best estimate of the number of Kuttabs in Iraq during the rule of Turks is 400. It was estimated that the number of Kuttabs in 1923 was 300.[13]

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[12]Al-Sheikh Hashim Al-Adhami, History of the Mosque of Abu-Hanifah (The Grand Jurist) and the Mosques of Adhamiya, (Baghdad: Al-Ani Press, 1967), pp. 21-22 (in Arabic). See also George E. Urch and Robert P. Pearson, A Comprehensive Strategy for Adding a Non-Western Dimension to Elementary and Secondary Schools: Curriculum Materials on the Middle East, Volume Two, January 1973, Center for International Education, School of Education, University of Massachusetts, Amherst, Massachusetts, pp. 85-91.

[13]A. H. Al-Adhami, op. cit., p. 62.

Gradually the Kuttabs yielded to the new western educational schools. At the beginning of the twentieth century the government began to establish elementary schools. In 1908, there were 130 elementary schools in Iraq.[14] By 1913, their number had increased to 160. But these schools were mainly located in three big cities--Baghdad, Mousel and Basrah. Therefore, in all other areas, the Kuttabs still retained their position of importance. The total registered attendance in 1913 for all elementary schools was only 6,000 students.[15] The wide expansion of elementary schools in Iraq in recent years has crippled the Kuttab system of education. The academic efficiency of the Kuttabs declined. Emphasis became focused on memorization of the Koran with little emphasis on the teaching of arithmetic, reading and writing.

In conclusion, the following reasons led to the gradual decline of the Kuttabs:

1. The separation between the state and religion which began as the Ottoman Empire was declining. The head of the state was no longer a head of the Islamic church.

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[14]A. A. Al-Hilali, op. cit., p. 61.

[15]Abdul Wahab Mutal Al-Dahiri, The Introduction of Technology Into Traditional Societies and Economics (Using Iraq as a Case Study), (Baghdad: Al-Ani Press, 1969), p. 79.

2. The widespread of elementary schools which required the enrollment of all children at the age of seven.
3. The establishment of private kindergarten schools for children which were primarily located in urban areas.

On the whole, changes in the social structure may also have contributed to the decline of these schools. Modernization led some urban people to be less-religious than their parents. This discouraged them from sending their children to the Kuttabs. Also, the demand of the society for a college graduate, with a hard skill major, influenced some parents to send their children to elementary schools so that they would have a better chance of admission to secondary and higher education. In addition, the government stated that any male who did not complete elementary school by the age of eighteen would be drafted into the army. This was yet another pressure on parents to send their children to the elementary schools, at the expense of the Kuttabs.

Today, the Kuttabs, although limited in years of instruction and subjects taught, are one of the remnants of the educational system of the past which was based entirely on the Islamic philosophy. At the height of the Kuttab's influence, children in Kuttabs were reading, writing and learning submerged in the Islamic tradition. These children grew into very religious and morally concerned adults.

Because of the increasing occurrence of western-type elementary schools, the Kuttabs were forced to cater to much younger children whose parents desired them to have a traditional religious foundation before they enter the elementary schools. Elementary schools took over most of the areas of instruction which were once the realm of the Kuttabs. In the declining impact of the Kuttabs, Iraq has lost a large part of the traditional Islamic education, but has gained a more modern system of early education which prepares its students more adequately for the westernized secondary and higher educational schools which will equip graduates with much needed technical skills.

CHAPTER VII

PRE-UNIVERSITY EDUCATION: ELEMENTARY AND HIGH SCHOOLS

This chapter will discuss the elementary and high school education in Iraq. Topics covered include the organizational set-up of primary and high schools and the curricula and financing of these institutions.

Organization

The modern school system in Iraq is a simple-ladder structure which includes schools from the primary through the college level, (see Figure 2). The primary course lasts six years for pupils from six to twelve years of age. Boys and girls are segregated into separate schools, except in rural areas where all children attend the same school due to the lack of school buildings.

The student at the end of six academic years of primary education must take the public baccalaureus primary examination. If he passes this examination, he has the opportunity to enroll in an intermediate high school. The intermediate school consists of three academic years. At the end of the third academic year, the student takes a public baccalaureus intermediate examination. If he passes this examination, he is then eligible to enter a preparatory senior high school. In the preparatory school, the student specializes in a literary, scientific, or

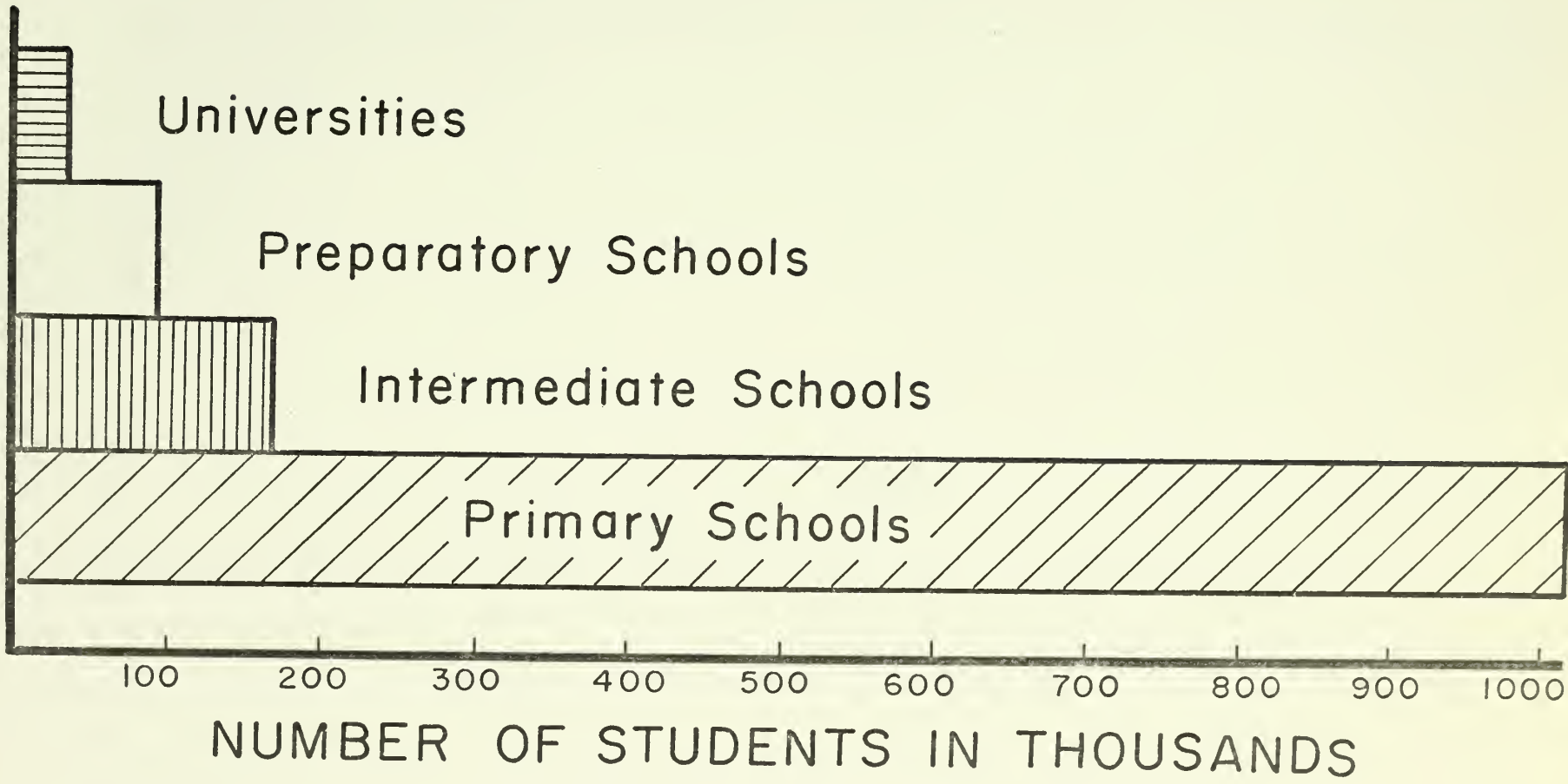

FIGURE 2a: Actual Relationship of Number of Students in Primary[x] and Secondary Schools and in Universities[xx] in 1969-70

[x] In 1969-70, there were 1,907,000 children of primary school age eligible for primary schooling. [xx] For structure of Universities, see Appendix A

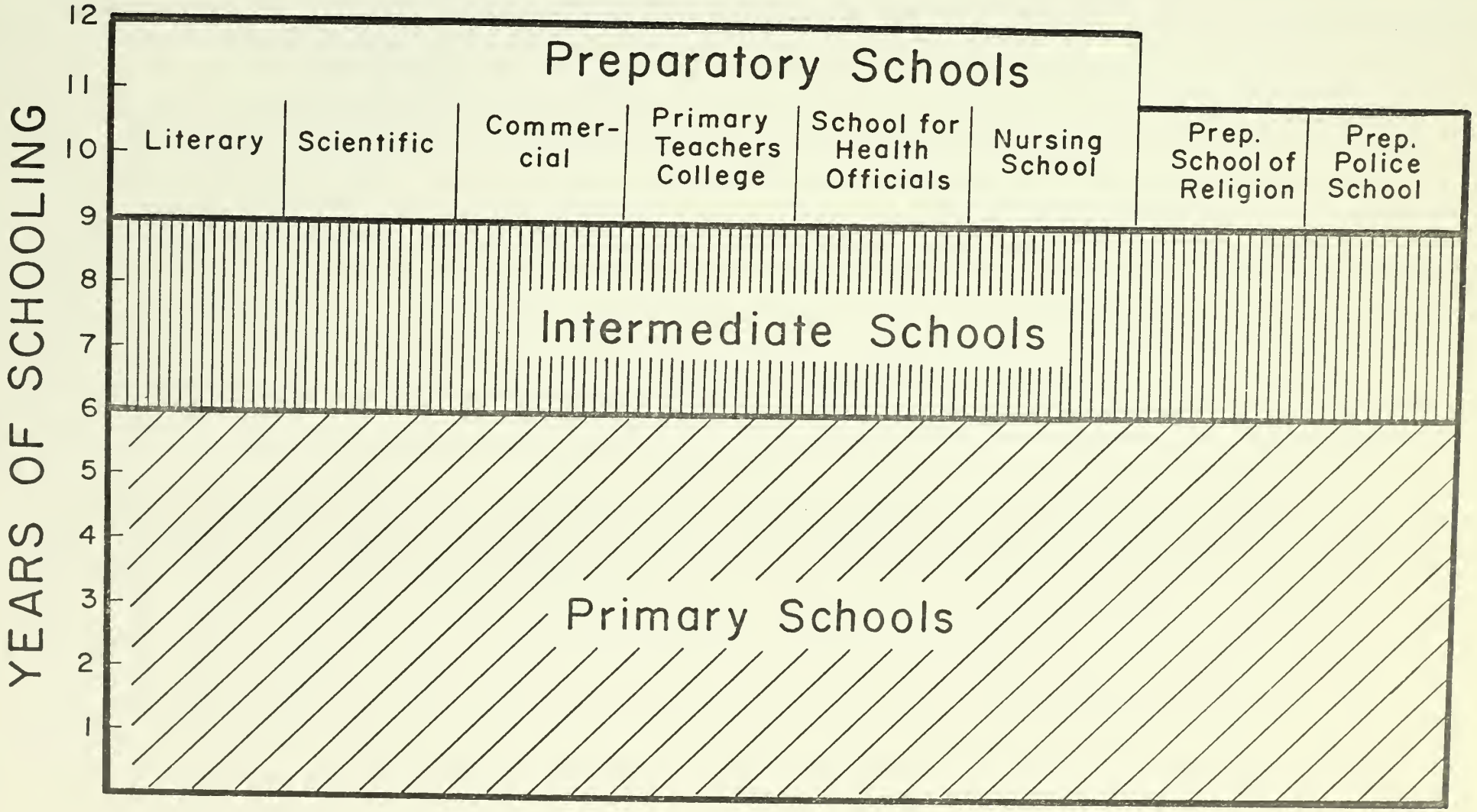

FIGURE 2b: Organization of Primary and Secondary Education in Iraq, 1969-70

commercial course, which, until recently lasted two years. A new structural change has initiated a three year course of study in the preparatory high school which makes the overall high school program six years in length.[1] At the termination of the preparatory high school education, the student takes a public baccalaureus preparatory examination. A successful graduate of the intermediate high school may also choose to enter one of the three-year programs of either the primary teachers college, the school for health officials or the nursing school. A male student may also enter the preparatory police school or the preparatory school of religion, each of which offers a course of two years duration.

Since 1920, primary and high schools have experienced continuous growth in the number of schools, students, and teachers.[2] Table 19 indicates that the number of students enrolled in primary schools increased tremendously between the periods 1920-21 to 1969-70. For example, the number of students enrolled in the academic year 1960-61 was 760,463 and in 1969-70 increased to 1,053,183, i.e., a 38 per cent increase between these two periods, and nearly

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[1]At the present time, data is not available on preparatory schools with the new three year course of study.

[2]After World War I, Iraq broke away from the Ottoman Empire and was subsequently dominated by England. At that time the western-type educational system described here was developed.

TABLE 19

GROWTH OF SCHOOLS, STUDENTS, AND TEACHERS IN PRIMARY EDUCATION DURING 1920-21 TO 1969-70

School Year	Number of Schools	Number of Teachers	Number of Students
1920-1921	89	486	8,001
1930-1931	316	1,325	34,513
1940-1941	735	3,525	90,794
1950-1951	1,101	6,367	180,779
1960-1961	3,679	25,046	760,463
1965-1966	4,538	42,878	964,327
1969-1970	5,540	57,912	1,053,183

Source: Arab Information Center, Education in the Arab Countries, January 1966, Information Paper, Number 25 (I-XIII), Arab Information Center, 757 Third Avenue, New York, New York, 10017.
Abdul Majeed Rasheed, Primary Education in Iraq Sources and National Growth Plan, 1971, Table 9, p. 24, Educational Planning Department, Ministry of Planning, Baghdad, Iraq (in Arabic).

a four per cent gain per year. However, not every eligible child of primary school age has the opportunity to enroll. From Table 19, it is clear that 43.2 per cent of all eligible children did not have the chance to enroll in primary schools in 1960-61. This category of children increased to 44.3 per cent in 1970-71, although during this same ten year period the number of schools increased by more than 51 per cent. This indicates the essential need for building new schools and changing to a coeducational system of primary education which would make possible more efficient utilization of educational buildings in all sections of the country.

The number of primary school teachers increased from 25,046 in 1960-61 to 57,912 in 1969-70, i.e., a 131 per cent increase during this ten year period and approximately a 13 per cent increase per year. Most primary school teachers are graduates of only the primary teachers' college which is on the secondary preparatory high school level. In addition, some university graduates may end up teaching in primary schools, because they are unable to obtain jobs elsewhere. This fact has helped to increase the number of available primary school teachers, and helped reduce the teacher-student ratio from 1:30 in 1960-61 to 1:18 in 1969-70.

Not every primary school graduate enrolls in high school. In fact, a great many students never graduate at all or drop out during the six year program. In 1956-66, only 39.9 per cent of the previous year's primary school graduates

actually enrolled in the first year of high school. Seventy-six per cent of these were male students and 24 per cent were female.[3] There remained 60.1 per cent of primary school graduates who did not enroll in high schools. There exist numerous reasons why so many promising children do not go on to high schools. One important reason is the lack of high schools and high school teachers in some rural areas. Many farmers discourage their children from enrolling in high schools; instead, these children work on the land. Some parents will not allow their daughters to continue their education beyond the primary level.

High schools experienced very significant growth in the number of students, teachers, and school buildings between 1920-21 and 1970-71. Table 20 shows that the number of students increased from 106,658 in 1960-61 to 276,970 in 1970-71. However, not all high schools in Iraq experienced similar growth in the enrollment of students. For example, in 1957 the total population of Iraq was 6,538,199 persons; 2,526,988 persons, i.e., 39 per cent of the population, lived in the big cities: Baghdad, Basrah, and Mousel. The total number of high school teachers was 3,588, and 2,131 of these teachers or 59 per cent were located in the above three cities.[4] This high concentration of teachers in the

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[3]Muhammad Ahmad Al-Ghannam, Educating the Arab Nations, (Cairo: Matbah Al-Takadom, 1969), Table 4, p. 13 (in Arabic).

[4]Mohammad Jawad Rithha, Studies in Comparative Secondary Education, (Baghdad: Matbah Al-Marif, 1962), p. 112 (in Arabic).

TABLE 20. GROWTH OF SCHOOLS, STUDENTS AND TEACHERS IN SECONDARY EDUCATION (INTERMEDIATE AND PREPARATORY) DURING 1920-21 to 1970-71.

School Year	Number of Schools	Number of Teachers	Number of Students	Intermediate	Preparatory
1920-1921	3	34	110		
1930-1931	19	129	2,082		
1940-1941	44	472	13,969		
1950-1951	90	999	22,706		
1960-1961	287	3,588	106,658	80,205	26,453
1970-1971	816	12,245	276,970		

Source: Mohammad Jawad Rithha, Studies in Comparative Secondary Education, Baghdad: Matbah Al-Marif, 1962, Table 3, p. 109 (in Arabic).
Saad Abdul-Baky, "Relationship of Secondary Education and Higher Education in Iraq," Table 1 p. 113, Ministry of Higher Education and Scientific Research, First Conference Book of University Education in Iraq, June 14-18, 1971, Baghdad, Iraq (in Arabic).

three largest cities leaves other parts of the country with proportionally fewer high school teachers. The disproportional representation of high school teachers in small town and rural areas is due to the unwillingness of teachers to teach in these areas, as well as to a lack of high school facilities. Some rural areas are fortunate to have high schools. However, the quality of teaching is generally very poor. The best-qualified teachers are usually found in the large cities. It is the urban teachers who write the questions for the public examinations, thus making it more difficult for a student from a rural area to pass them.

The growth of the high school student enrollment was not an equal expansion into the different fields of study. The different levels and areas of education closely parallel the stratification of occupations on the basis of social prestige. Table 21 shows that the majority of students were enrolled in scientific and literary academic areas of study. There was a significantly lower enrollment in technical majors. This lack of interest in technical majors, as reflected in lower enrollments, may be due to some of the following reasons:

1. High school graduates with scientific majors have a greater chance to enroll in any university major. Graduates with a high school technical major have a disadvantage, since they are limited in their choice of a university major. For example, a high school graduate with an agricultural major has only the chance to be accepted in an agricultural university. If this

TABLE 21. DISTRIBUTION OF PREPARATORY HIGH SCHOOL STUDENTS ACCORDING TO MAJOR FOR THE PERIODS 1960-61, 1965-66, and 1970-71

Year	Academic High School Education			Technical High School Education					Total Preparatory High School Enrollment
	Scientific	Literary	Total	Agricultural	Industrial	Commerce	Home Economics	Total	
1960-61	10,194	8,248	18,442	1,640	2,089	1,279	3,003	8,011	26,453
1965-66	18,418	22,619	41,037	1,896	1,598	478	3,654	7,626	48,663
1970-71*				3,616	2,814	1,583	1,757	9,770	

*Number of students majoring in scientific or literary majors for 1970-71 was not made available.

Source: Saad Abdul-Baky, "Relationship Seeondary Edueation and Higher Education in Iraq," Tables 3 and 6, pages 115 and 117 in Ministry of Higher Edueation and Scientifie Researeh, First Conferenee Book of University Education in Iraq, June 14-18, 1971, Baghdad, Iraq (in Arabic).

university has not accepted him, then he is not able to obtain a university education because other universities will not accept his high school major.

2. The graduates with academic majors usually earn much higher salaries than graduates with technical majors.
3. Graduates with academic majors command more social prestige than technical high school graduates. The society, for instance, places greater value on high school graduates with a scientific major in comparison to one with an agricultural major. The society looks down on a person who works with his hands. Most education is centered on the theoretical approach.
4. Teachers in primary and high schools place emphasis on memorization, with little concern to practical, field experience.
5. There is no educational plan to identify the actual need in the different sectors of the economy for persons with technical knowledge. If this can be achieved, it may help create interest in technical fields.

Not every preparatory senior high school student has the chance to graduate. Many students leave school before completion of the three year program and many high school seniors fail the public examination which is given at the end of the preparatory period. This examination is difficult and contri-

butes substantially to the high attrition rates prevailing at the secondary level. The public baccalaureus preparatory examination qualifies students for admission to the university. This examination is regarded as the decisive point in a student's academic career. Usually about 30 per cent of the students who take this examination pass the first time. Those students who fail in one or two subjects, or have an average below 60 per cent after passing all the courses, may repeat the examination at the end of the summer. When the examination is given at the end of the summer, another 50 per cent of the students pass the examination. It was estimated that in 1969-70 only 73 per cent of the students majoring in academic fields graduated from high school.[5]

Not all the high school graduates have the opportunity to enroll in Iraqi universities. Table 22 shows that the average yearly percentage of high school graduates accepted in universities between the academic periods of 1965-66 to 1971-72 was 65.1. Therefore, 34.9 per cent of high school graduates were not enrolled in universities. Some of them enroll in teacher education institutions for the following reasons:

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[5]Saad Abdul-Baky, "Relationship between Secondary Education and Higher Education in Iraq," in Ministry of Higher Education and Scientific Research, First Conference Book of University Education in Iraq, June 14-18, 1971, Baghdad, Iraq, 1, 106, (in Arabic), Table 2, p. 114.

TABLE 22

YEARLY AVERAGE OF HIGH SCHOOL GRADUATES INCLUDING THOSE ACCEPTED BY IRAQI UNIVERSITIES DURING THE PERIOD 1965-66 to 1971-72

Sex	Yearly Average High School Graduates	Yearly Average of High School Graduates Accepted in Universities	Yearly Average percentage of High School Graduates Accepted in Universities
Male	11,033	7,471	67.7
Female	3,715	2,130	57.3
TOTAL	14,748	9,601	65.1

Source: Ministry of Planning, Report of Sub-Committee on High School Graduates, September 1972, Table 2, p. 7, Educational Planning Department, Ministry of Planning, Baghdad, Iraq (in Arabic).

1. The educational period involves only two years, compared to a longer four year university period.

2. These institutions provide free room and board for their students. This encourages students from poor families to enroll.

3. Until recently, graduates of these institutions were readily able to find teaching jobs. But this is no longer true. During the academic year of 1967-68 male graduates of these institutions numbered 2,444, and only 1,448 of them were able to get teaching jobs in primary schools. Out of the 1,721 female graduates only 50 obtained teaching jobs.[6]

Some of the graduates of these institutions lack the skills which are needed to compete with university graduates who may have to teach in primary schools.

Curricula

The Ministry of Education, through the Education Council comprised of the Minister of Education and Senior Ministry Officials, prepares a general curriculum which is followed by all schools--both state and private. The Ministry of Education also recruits and promotes the teachers, and approves the public school textbooks. The various fields of study and curricula, whether in the academic or technical fields, are unified and follow a standard pattern. Hence, the volume of instruction, books and the subjects of instruction are standardized

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[6] For further information see Talib Ibrahim Al-Akaby, Institutions for Preparing Males and Female Teachers in Iraq and Its Growth for the Period 1960-61--1969-70, 1970, Educational Planning Department, Ministry of Planning, Baghdad, Iraq, (in Arabic).

and they are the same in each of the educational districts. The following analysis of curricula is divided into two parts. Part A deals with the primary school program. Part B deals with the intermediate and academic preparatory high school programs. Other preparatory school programs are not dealt with here, because the great majority of the students are enrolled in the academic preparatory high schools.

A. Primary School Program of Studies

The first curriculum of a primary school program of studies was written in 1922 and revised repeatedly in 1926, 1940 and 1943. Since 1958, minor alterations in the curriculum have been introduced.[7]

Table 23 indicates that the emphasis of the curriculum is heavily oriented toward the teaching of the Arabic language and penmanship. These skills are so necessary for active participation in the country. Students, also must learn the Koran and religious information. The Koran is given a first reading in the first four grades and reread in the fifth and sixth grades with emphasis on correct intonation. Parts of the Koran are memorized in each of the six years. Religious information includes a study of the main tenets of Islam relative to God, the

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[7] Arab Information Center, Education in the Arab Countries, January 1966, Information Paper, Number 25 (I-XIII), p. 35, Arab Information Center, 757 Third Avenue, New York, N.Y., 10017.

TABLE 23

PUBLIC PRIMARY SCHOOL PROGRAM OF STUDIES, IRAQ
1961-1962

SUBJECTS	Periods Per Week					
	1st grade	2nd grade	3rd grade	4th grade	5th grade	6th grade
Religion and Koran	2	2	2	2	2	2
Arabic Language and Penmanship	10	10	8	8	6	6
English Language	-	-	-	-	4	4
Arithmetic and Measurement	6	6	6	6	5	5
Geography	-	-	-	3	2	2
History	-	-	-	-	2	2
Moral and Civic Duties	-	-	-	-	1	1
Object Lessons and Hygiene	-	-	-	3	3	3
General Knowledge About Life	4	4	6	-	-	-
Drawing and Manual Arts	3	3	3	3	2	2
Music and Singing	1	1	1	1	1	1
Physical Education	2	2	2	2	2	2
Total for Male Students	28	28	28	28	30	30
Home Arts and Needlework	-	-	-	-	2	2
Total for Female Students	28	28	28	28	32	32

Source: Satah Al-Hasry, Arab Education, (Cairo: Dar Al-Tabah Al-Hadithah, 1963), Table 70, p. 329 (in Arabic).

Prophets, especially Muhammad and explanation of important traditions and ethical principles.[8]

The study of the Arabic language includes reading, oral and written composition, memorization, dictation, grammar, and handwriting. The course in the English language stresses grammar as a means to an end. English language instructors are usually graduates of primary teachers' institutions, and receive their entire education in Iraq where the spoken language is Arabic. They have never been outside Iraq. All knowledge of the English language which they possess is obtained from reading English textbooks. In the primary schools, there are no English language laboratories which can assist the students to pronounce words correctly. Therefore, an elementary school student is generally poorly trained in English.

Arithmetic and measurement includes the study of the fundamentals of addition, subtraction, division and multiplication. It also involves the study of the Iraqi currency, notions of time and the calendar, the metric system, and the English measures of weight and length. Some elements of geometry are also introduced. Other subjects such as history, geography, and moral and civic duties are centered mostly on the Arab and Iraqi history and experience.

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[8] Ibid., p. 36, and Roderic D. Mathews and Matta Akrawig Education in Arab Countries of the Near East (Washington, D.C.: American Council on Education, Second Printing, September 1950), pp. 149-152.

B. Secondary School Program of Studies

Modern secondary education was initiated and developed very slowly after World War I. Secondary school buildings were first built in 1920 in the three major Iraqi cities: Baghdad, Mousel and Basrah. Only males attended these schools. In 1930, secondary schools for girls were established in the same three major cities. The length of the academic high school course of study was four years. In 1939, this period of study was extended to five years, with an intermediate stage of three years and two years for the preparatory stage.[9] This division has presently been extended to a three year intermediate and three year preparatory program, with each stage of education being concluded by a public examination.

A very extensive science program is provided at the intermediate and preparatory stages. Table 24 shows that the science program begins with a course in general science in the first year. The course includes a study of air, water, heat, fuel, weather and climate, the solar system and the stars, plant and animal life, hygiene, electricity and magnetism, and light and sound. In the second year a course in botany and another in chemistry is offered. A course in physics is offered in the third year. A more extensive treatment of chemistry is maintained in the fourth and fifth years. A continuation of the study of botany

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[9]Arab Information Center, op. cit., p. 45.

TABLE 24

PUBLIC SECONDARY SCHOOL PROGRAM OF STUDIES, 1961-1962

SUBJECTS	PERIODS PER WEEK						
	Intermediate			Preparatory			
	1st year	2nd year	3rd year	4th year		5th year	
				Literary	Scientific	Literary	Scien
Religion	1	1	1	1	1	1	1
Arabic	6	6	6	7	5	7	5
English	6	5	5	7	6	7	6
History	2	2	2	3	-	3	-
Geography	2	2	2	2	-	2	-
Civic Duties	1	1	1	-	-	-	-
Economics	-	-	-	2	-	2	-
General Mathematics	3	-	-	3	-	3	-
Mathematics and Algebra	-	3	-	-	-	-	-
Algebra	-	-	2	-	2	-	3
Geometry	2	2	3	-	-	-	3
Trigonometry	-	-	-	-	3	-	-
General Science	3	-	-	2	-	2	-
Physics	-	-	3	-	4	-	4
Chemistry	-	3	-	-	4	-	3
Botany	-	2	-	-	4	-	-
Zoology	-	-	-	-	-	-	4
Art	2	1	1	2	1	2	1
Physical Education	2	2	2	2	2	2	2
Hygiene	-	-	2	-	-	-	-
Society and its Problems	-	-	-	1	-	1	-
Total for Male Students	30	30	30	32	32	32	32
Home Arts and Needlework	2	2	2	2	2	2	2
Total for Female Students	32	32	32	34	34	34	34

Source: Stah Al-Hagry, Arab Education, (Cairo: Dar Al-Tabah Al-Hadithah, 1963), Tables 71 and 72, pp. 327-328 (in Arabic).

is included in the fourth year program. The study of zoology is given in the fifth year. Throughout the five year program, strong emphasis on thorough learning of the Koran, other religious information and the Arabic language is maintained. Students also study English as a foreign language, during their five years of study in the high schools.

Courses which deal with nationalistic concepts are also offered. Economics, and Society and Its Problems are two courses which constitute part of the curriculum of the preparatory literary major. These courses are considered to be a continuation of the civic duties course.

The above courses are offered in both male and female high schools. However, girls must enroll in an additional course, i.e., Home Arts and Needle Work, throughout their five years of high school. This course teaches female students manual arts such as; sewing, embroidery, knitting, cooking, and home cleaning.

Financing of Education

The cost of primary and secondary education is paid by the government. Therefore, education is considered to be free. All children receive free text-books and students from poor families are usually supplied with winter clothing.

Primary education receives the highest proportion of money allocated to primary, secondary, and higher education. Table 25 indicates that most of

TABLE 25

EDUCATIONAL FINANCE 1960-61
RECURRING EXPENDITURE BY LEVEL AND TYPE OF EDUCATION
(in thousand dinars)

Level and Type	Amount	Per Cent
Total recurring expenditure	23,989	100.0
Expenditure for administration or general control (not distributed by level and type of education)	951	4.0
Expenditure for instruction (distributed by level and type of education)	23,038	96.0
Primary and adult primary education	12,509	52.1
Secondary Education	8,121	33.9
Higher Education	2,408	10.0

Source: UNESCO, World Suvrey of Education IV Higher Education, 1966, p. 637, United Nations Educational, Scientific and Cultural Organization, New York, New York.

recurring expenditures are allocated to primary and adult primary education.[10] The total amount of expenditure for instruction in primary schools during the academic year of 1960-61 was 12,509,000 ID, or 52.1 per cent of total recurring expenditure. In 1969-70, this figure increased to 34,500,000 ID.[11] Hence, there was a 176 per cent increase in expenditure for primary education between the above two periods. This huge increase in expenditure was not accompanied by an equal increase in the number of students enrolled in primary schools. Table 26 indicates that there were 760,463 students enrolled in primary schools during 1960-61 in comparison to 1,053,183 in 1969-70, i.e., a 38 per cent increase. Expenditure for instruction per primary school student in 1960-61 was 16.44 ID and increased to 32.76 ID during the 1969-70 academic year. However, these costs do not actually reflect only cost of instruction but are inflated with expenditure for supplies and buildings, etc. Spanning the same two academic periods there was a 131 per cent increase in the number of primary school teachers, from 25,046 to 57,912.

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[10] The Ministry of Education maintains evening primary schools which follow essentially the same program of studies as the day primary schools. These schools are attended by children of school age and adults who work during the day and prepare for the public examination which leads to the primary school certificate.

[11] Abdul Majeed Rasheed, Primary Education in Iraq, Sources and National Growth Plan, 1971, Table 4B, p. 6, Educational Planning Department, Ministry of Planning, Baghdad, Iraq, (in Arabic).

TABLE 26. GROWTH IN NUMBER OF STUDENTS, TEACHERS AND EXPENDITURE FOR INSTRUCTION FOR PRIMARY, SECONDARY AND HIGHER EDUCATION, 1960-61 and 1969-70.

LEVEL OF EDUCATION	Total Number of Students			Total Number of Teachers			Teacher/Student Ratio		Total Expenditure for Instruction in Iraqi Dinars (ID)			Expenditure for Instruction per student per academic year in Iraqi Dinars (ID)	
	1960-61	1969-70	% Inc.	1960-61	1969-70	% Inc.	1960-61	1969-70	1960-61	1969-70	% Inc.	1960-61	1969-70
Primary (6 years)	760,463	1,053,183	38	25,046	57,912	131	1:30	1:18	12,509,000	34,500,000	176	16.44	32.76
Secondary (Intermediate and Preparatory levels) (6 years)	106,658	276,970*	160	3,588	12,245*	241**	*** 1:30	*** 1:23	8,121,000	++	++	76.14	++
Higher	12,260	35,544	190	852	1,722	102	1:14	1:20	2,408,000	++	++	196.41	++
TOTALS	879,381	1,365,697		29,486	71,879				23,038,000				

*These are 1970-71 figures. 1969-70 figures unavailable.
**Percent increases from 1960-61 to 1970-71.
***Calculated from 1970-71 figures.
++ Data unavailable.
Calculated by the writer from various sources including: Abdul Majeed Rasheed, Primary Education in Iraq Sources and National Growth Plan, 1971; Mohammad Jauad Rithha, Studies in Comparative Secondary Education 1962; Saad Abdul-Baky, First Conference Book of University Education in Iraq, 1971; UNESCO, World Survey of Education IV Higher Education, 1966.

In 1960-61, 33.9 per cent of total recurring expenditures for education was allotted for secondary education. The amount allotted was 8,121,000 ID and for 106,658 secondary school students in 1960-61, that was 76.14 ID expenditure per student. Ten per cent of total recurring expenditures went for higher education.

In conclusion, primary and secondary education are built on static standardized curricula which have changed little over many years. All students, at a particular academic level take the same set of courses. The curricula do not offer students an opportunity to choose among a number of elective courses. In addition to the rigidity of the curricula, the textbooks also have changed little. Teachers use the same textbooks over and over every academic year. By using the same textbooks every year, a teacher becomes uneager and inactive in his teaching. As a result, the overall quality of teaching can become poor and unproductive in creating an atmosphere of active learning which will successfully motivate the students.

The primary and secondary public examinations represent a severe set back in the learning process of education. Students tend to center all their academic efforts to pass these examinations. The examinations are very difficult, and very often students from poor quality schools have difficulty passing them. The rate of failure in all primary and high schools is very high. When students have to repeat the academic year again, an additional cost for educating them is incurred.

Some of the problems mentioned above would be alleviated by the introduction of the educational reform first suggested in Chapter six. This alternative system, whose benefits have already been explained in some detail, would provide that no student would fail in either the primary or the secondary course of education. Every student would be successful in as much as he was capable of doing.

CHAPTER VIII

DEVELOPMENT OF THE IRAQI HIGHER EDUCATIONAL SYSTEM

There was no formal organized university in Iraq prior to 1956. Higher education was provided in separate colleges which were located mainly in Baghdad. The idea of establishing a modern university in Iraq was suggested first by the Council of Ministers in 1921. In 1943 and 1945 other attempts were made to establish a university in Iraq, but these attempts did not progress beyond producing the draft of a charter for a proposed university. For several centuries Iraq was under the control of the Ottoman Empire. This period was followed by a British mandate from 1920 until 1932. Consequently, little encouragement was given to higher education.

Chapter VIII explores the historical development of higher education in Iraq. The chapter is divided into four parts. The first part presents a general background and deals with the organizational development of higher education. The second part concentrates on college curricula and determination of the higher educational system's ability to provide college students with sufficient skills to meet the needs for development in Iraq. The third part deals with alternatives to the present curricula in higher education. The fourth part concentrates on the financing of higher educational needs.

Organization

In Iraq modern institutions of higher learning were established very recently. These institutions, first founded in Baghdad, slowly expanded to other major cities. The first college was the College of Law which was founded in 1908. The College of Law was organized primarily to train Iraqi students in modern judicial and administrative procedures, and to prepare them for junior government posts.[1] The College of Medicine, the second college to be built, was founded in 1927 in Baghdad on the same philosophical grounds in terms of curriculum and teaching, as the English Royal Hospital in Great Britain and provided the only medical training available in Iraq at that time. The College of Pharmacy was founded soon after the establishment of the College of Medicine. No additional colleges were built in the thirties. Since the forties, other colleges were constructed in Baghdad and other major cities. (For more details about the different colleges and their establishment, dates, see Appendix A.) However, the development of higher education in Iraq was and still is a result of governmental action and not of private initiative, with the single exception of Al-Mustansiriyah University which was founded in Baghdad in 1963 as a private institution of higher learning.

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[1] Sabah Yousef Al-Malah and Talib Ibrahim Al-Akaby, Higher Education in Iraq for the Period 1960/61-1969/70 and Its Modern Progress Directions, April 1971, Educational Planning Department, Ministry of Planning, Baghdad, Iraq, (in Arabic), p. 3.

There are four government owned universities in Iraq (See Figure 3). The oldest is the University of Baghdad which was founded in 1956 and incorporated existing colleges established between 1908 and 1952. The other three state universities are: Basrah University, founded in 1967; Mousel University, founded in 1967; and the University of Sulaimaniyah founded in 1968.[2] Table 27 indicates (see Chart 4) that the University of Baghdad had the largest number of students in 1971-72. If the student populations of the University of Baghdad, Al-Mustansiriyah University, the Technical Institutes and the Colleges of Theology, which are all located in Baghdad were added together, then it would follow that nearly four-fifths of Iraqi college students are located in Baghdad.

Each University is autonomous, is responsible only to the Ministry of Higher Education and Scientific Research, and is governed by a University Council and an Academic Council.[3] The University Council is headed by the president of the University and includes the dean of colleges and four faculty representatives of the Ministry of Higher Education and Scientific Research. In practice, major decisions affecting University affairs are reached on the basis

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[2] Ibid., and also Appendix A.

[3] The Ministry of Higher Education and Scientific Research founded in 1970. Before 1970, each university was responsible to the Iraqi Council of Ministers.

TABLE 27

NUMBER OF STUDENTS AT IRAQI HIGHER EDUCATIONAL INSTITUTIONS -- DISTRIBUTED ACCORDING TO THE LEVEL OF EDUCATION FOR THE ACADEMIC YEAR 1971-1972

University, Institute, or College	First Year Students	Second Year Students	Third Year Students	Fourth Year Students *	Fifth Year Students **	Sixth Year Students**	Total
Baghdad University	7,718	4,341	3,706	5,833	788	260	22,646
Mousel University	1,767	1,461	539	804	135	182	4,888
Basrah University	1,224	949	479	757	40	-	3,449
Sulaimaniyah University	397	361	356	239	-	-	1,353
Technical Institutes	1,000	607	123	88	-	-	1,818
Colleges of Theology	721	505	535	483	-	-	2,244
Al-Mustansiriyah University	4,519	3,289	1,665	2,702	-	-	12,175
TOTALS	17,346	11,513	7,403	10,906	963	442	48,573

*Fourth year statistics for most of the universities may reflect a large number of students who are repeating courses in order to pass examinations for graduation.

**The liberal arts curriculum extends for four years. Some of the science colleges, such as the Engineering Colleges have five year programs. The College of Medicine maintains a six-year program of studies.

Source: Ministry of Higher Education and Scientific Research, Yearly Statistical Report 1971-1972, Table 1, p. 5, 1972, Statistical Department, Ministry of Higher Education and Scientific Research, Baghdad, Iraq, (in Arabic).

FIGURE 3. MAP OF IRAQ WITH UNIVERSITIES INDICATED

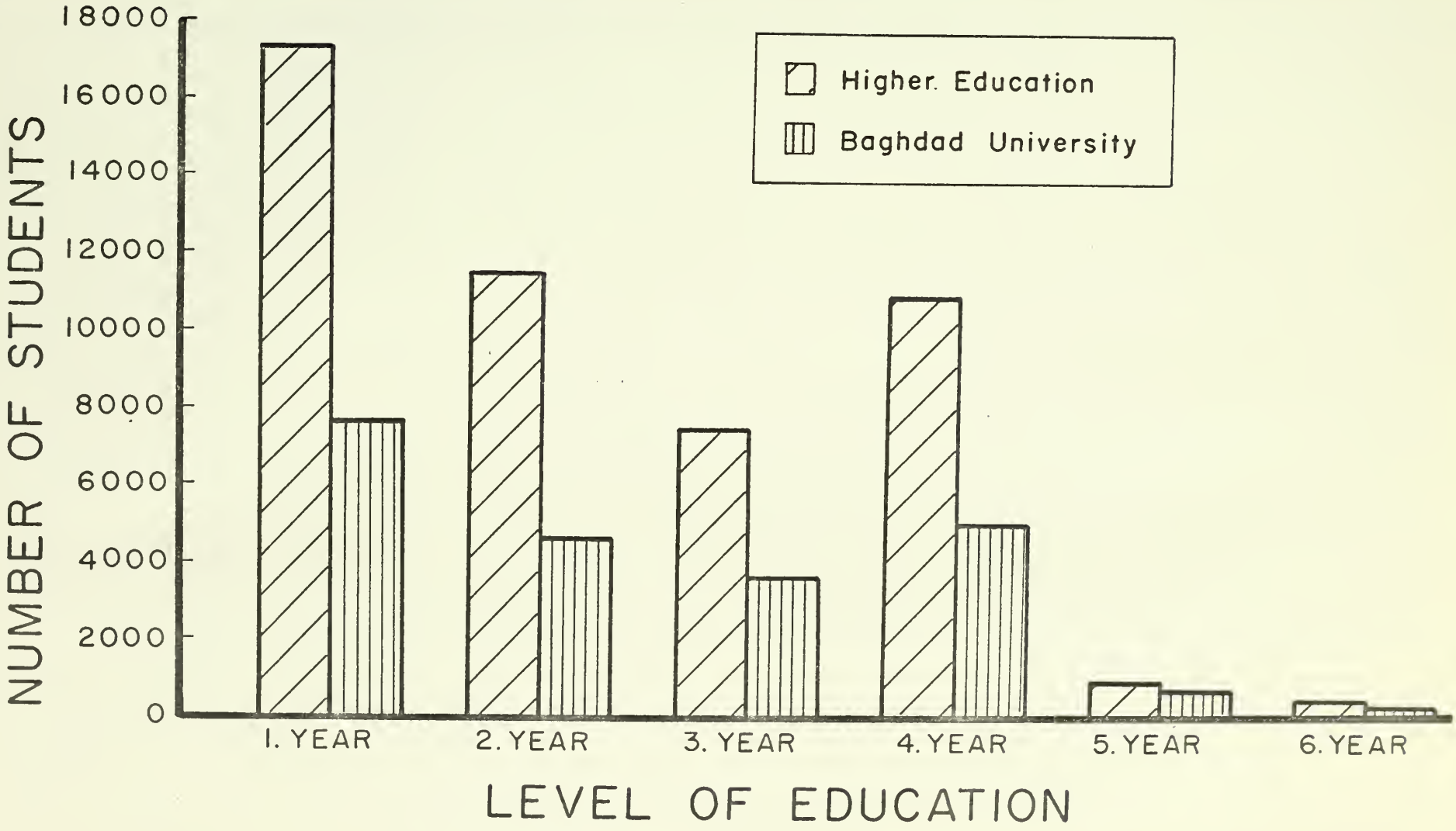

CHART 4: Number of Students at Iraqi Higher Educational Institutions and Baghdad University Distributed According to the Level of Educatin for the Academic Year 1971 - 1972. Source: Table 27.

of agreement between the University president and the representatives of the Ministry of Higher Education and Scientific Research. The Academic Council, composed of heads of the various academic departments, deals with curricula, faculty appointments, admission standards, and examination procedures.[4]

The University is obligated by law to promote scientific research and to revive, promote and preserve the country's Arab-Islamic heritage. The average program of study lasts four years and leads to a B.A. or B. S. degree. However, instruction in the College of Medicine lasts six years with a Doctor of Medicine degree, and five years of study are required in the College of Architecture, Dentistry, Pharmacy, and Veterinary Medicine. The University of Baghdad and Mousel University also offer Master of Science and Master of Arts degrees.[5]

The establishment of other universities in addition to the University of Baghdad, helped increase the opportunities for more students to enroll in higher education. In 1957-58 the total enrollment in higher educational institutions was 5,636 students, 24.53 per cent of these were female students.[6] Table 28 incidates that by 1965-66, the total student enrollment had increased by more than five times the student enrollment of 1957-58. This increase, however, did

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[4] S. Y. Al-Malah and T. I. Al-Akaby, op. cit., pp. 3-54.

[5] Ibid.

[6] Fahim I. Qubain, Education and Science in the Arab World (Baltimore, Md.: The Johns Hopkins Press, 1966), p. 220.

TABLE 28. NUMBER OF STUDENTS AT IRAQI UNIVERSITIES AND THEIR PERCENTAGE OF THE TOTAL UNIVERSITY AGE POPULATION OF IRAQ

Year	Population of Iraq	Number of Persons in Iraq of University Education Age	Number of Students at Iraqi Universities			Number of University Students for Every 1,000 Persons of the total Iraqi Population	Number Univers Students Every 1, Persons Universit Age
			Total	Males	Females		
1957-58	6,538,199	*	5,636	4,253	1,383	0.9	*
1960-61	6,885,244	576,388	12,260	9,496	2,764	1.8	21
1965-66	8,047,415	693,085	29,077	21,552	7,525	3.6	42
1969-70	9,148,846	825,572	35,544	27,653	7,891	3.9	43
1971-72	9,800,000	*	48,573	38,072	10,501	5.0	*

*Data not available.

Source: Compiled and computed from data in Sabah Al-Malah and Talib Ibrahim Al-Akaby, Higher Education in Iraq for the Period 1960/61 - 1969/70 and Its Modern Progress Directions, April 1971, Table 4, p. 46 and pp. 3, 47, Educational Planning Department, Ministry of Planning, Baghdad, Iraq, (In Arabic). Ministry of Higher Education and Scientific Research, Yearly Statistical Report 1971-72, p. 1, 1972, Statistical Department, Ministry of Higher Education and Scientific Research, Baghdad, Iraq, (in Arabic).

not include a proportional increase in both male and female students. For example, in 1965-66, out of 29,077 university students, 74.13 per cent were male and 25.87 per cent were female. In 1969-70 out of 35,544 college students, 77.80 per cent or 27,653 were male; i.e., an increase of 28.3 per cent over 1965-66 male enrollment. Females accounted for 22.20 per cent, or 7,891 of students enrolled in 1969-70 and was an increase of only 4.9 per cent over 1965-66 female enrollment.[7] In 1971-72, 48,573 students were enrolled in universities, 78.38 per cent were male and 21.62 per cent were female students.[8] Higher educational institutions experienced great increases in

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[7] S. Y. Al-Malah and T. I. Al-Akaby, op. cit., Table 6, p. 47.

[8] Ministry of Higher Education and Scientific Research, Yearly Statistical Report 1971-1972, p. 1, 1972, Statistical Department, Ministry of Higher Education and Scientific Research, Baghdad, Iraq, (in Arabic).

Not all the students enrolled in Iraqi Universities were native citizens. Some of them were non-Iraqi citizens. For example in 1964-65 the University of Baghdad had 1,020 foreign students, including 812 from the various Arab countries, 137 from Asia, 25 from Western Europe and the United States, 25 from Communist countries, and 21 from Africa. Many of these students, especially from the Arab countries, were studying at the expense of the Iraqi government. In 1971-72 the number of foreign students at the University of Baghdad went up to 3,280, including 2,861 from Arab countries, 264 from Asia, 77 from Africa, 49 from Western Europe and the United States, and 29 from Communist countries. Foreign students were also enrolled at other Iraqi universities. Out of the 4,888 enrolled at the University of Mousel in 1971-72, 387 were foreign students; out of the 3,449 enrolled at Basrah University in 1971-72,336 were foreign students; out of the 1,353 students enrolled at Al-Sulaimaniah University in 1971-72 there were 25 foreign students; and out of the 2,244 students enrolled at Al-Mustansriah University 221 were foreign students. For further details see F. I. Qubain, op. cit., p. 231, and Ministry of Higher Education and Scientific Research, op. cit., Table 2, pp. 6-10, and Table 1, p. 5.

student enrollment, especially from 1957-58 to 1960-61, with a 118 per cent increase and from 1960-61 to 1965-66 with a 137 per cent increase. These dramatic increases were due primarily to growth of the largest universities during this time. From 1965-66 to 1969-70, there was a 22 per cent increase in enrollments and from 1969-70 to 1971-72 there was a 37 per cent increase. Table 28 shows that the number of university students for every 1000 persons of the population doubled from 1.8 to 3.6 between the period of 1960-61 to 1965-66; and increased slightly from 3.6 to 3.9 between the period of 1965-66 to 1969-70. The number of university students for every 1000 persons of university age also doubled from 21 to 42 between the period 1960-61 to 1965-66, and increased slightly from 42 to 43 between the period 1965-66 to 1969-70. The growth in number and size of universities especially in the late 1950's and early 1960's as well as encouragement by the government for high school students to attend universities are responsible for the significant growth in enrollment.

The increase in student enrollment was accompanied by an increase in the number of university teachers. However, looking at Table 29, (see Chart five) it was clear that as the number of students increased between 1960-61 and 1969-70 the number of college teachers increased, but increased at a slower rate. The teacher-student ratio was 1:14 in 1960-61; 1:21 in 1965-66; and 1:21 in 1969-70. In 1971-72 the teacher-student ratio fell appreciably to 1:36, because the student enrollment increased to 48,573 and the teaching force

TABLE 29

NUMBER OF STUDENTS AND FACULTY IN HIGHER EDUCATIONAL INSTITUTIONS IN IRAQ

1960/61 - 1969/70

YEAR	NUMBER OF STUDENTS	NUMBER OF TEACHERS	TEACHER-STUDENT RATIO
1960/61	12,260	852	1:14
1965/66	29,077	1,341	1:21
1969/70	35,544	1,722	1:21

Source: Sabah Yousef Al-Malah and Talib Ibrahim Al-Akaby, Higher Education in Iraq for Period 1960/61-1969/70 and Its Modern Program Directions, April 1971, Table 15, p. 64, Educational Planning Department, Ministry of Planning, Baghdad, Iraq, (in Arabic).

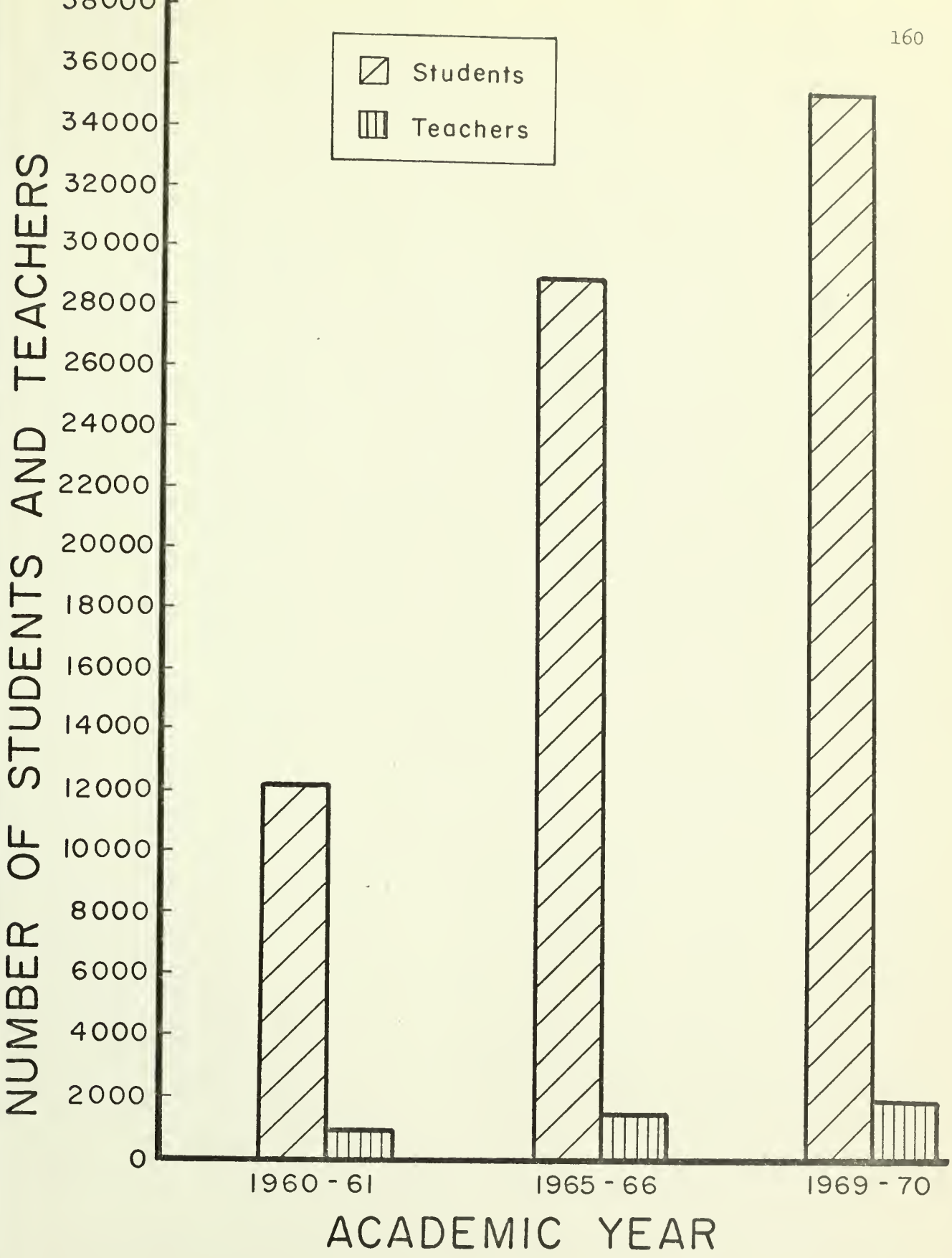

CHART5: Number of Students and Faculty at Higher Educational Institutions. Source: Table 29.

decreased to 1,337.[9] This decline may have been the result of a failure to report some teachers attached to institutions or colleges which were not part of the university academic staffs. If this was the case, it would have increased the teacher-student ratio to more than 1:36. Another possibility, because the decrease is so radical, is that one or more institutions were left out of the faculty count or that perhaps for the years 1971-72, reporting procedures had changed in a particular way.

The teacher-student ratio varies from one university to another, and also between different colleges of the same university. For example, the teacher-student ratio for the College of Medicine at the University of Baghdad in 1969-70 was 1:9, while that of the College of Medicine at the University of Mousel was 1:29 for the same academic year. For science colleges at the University of Baghdad, the ratio was 1:21 in 1969-70; while that of Mousel University and Sulaimaniyah University was 1:15 and 1:16 respectively for the same academic year.[10]

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[9] Ibid. Also in the same source it was stated that the academic staff in the Iraqi universities in 1971-72 totaled 1,337, including 107 professors, 64 associate professors, 397 assistant professors, and 769 lecturers. Out of the 1,337 college teachers, 739 had a doctoral degree, 439 had a masters degree, 32 had a high diploma, 36 had a bachelor's degree, and 92 carried other degrees.

[10] Sabah Yousef Al-Malah and Talib Ibrahim Al-Akaby, Higher Education in Iraq for the Period 1960/61-1969/70 and Its Modern Progress Directions, April 1971, Table 16, Educational Planning Department, Ministry of Planning, Baghdad, Iraq, (in Arabic).

Not every student enrolled in a university was able to graduate. Table 30 indicates that of the 1,024 students accepted in the College of Education at the University of Baghdad in 1963-64 only 58 per cent were able to graduate after four years of education. Therefore, 42 per cent of the students were not able to graduate within four years. The failure rate is very high in all majors. Of 407 students who were accepted in engineering in 1963-64, 62 per cent graduated after five years of required studies.[11] Table 31 shows that 1,273 students in higher education in Iraq in 1970-71 either were dismissed, due to failures, other unstated reasons, or because they voluntarily quit. The failing of students is built into the educational system, for the feeling is that the more students are failed the stronger and tougher the education system is supposed to be.

Iraqi educators do not give enough attention to the problem of teacher inadequacy. Rather, they concentrate on the students inability to pass written examinations, which are based on memorization of dictated lecture notes. This antiquated form of teaching in Iraqi institutions of higher education does not

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[11] From Table 30 it is clear that some of the colleges named at the University of Baghdad no longer exist. Some of the college's names were changed. For example, the College of Law changed its name in 1968-69 to The College of Law and Politics. Some colleges merged. For example, the College of Commerce, Economics, and Management merged in 1968-69 into a College of Management and Economics.

TABLE 30. NUMBER OF STUDENTS ACCEPTED TO AND GRADUATED FROM THE UNIVERSITY OF BAGHDAD DURING THE PERIOD 1963/64 - 1971/72

Colleges and Institutes	1963-1964		1964-1965		1965-1966		1966-1967		1967-1968		1968-1969		1969-1970		1970-1971		1971-1972
	Accept.	Grad.	Accept.	Grad.	Accept.	Grad.	Accept.	Grad.	Accept.	Grad.	Accept.	Grad.	Accept.	Grad.	Accept.	Grad.	Accept.
Education	1,024	366	1,132	365	729	398	701	598	840	852							
Literary	462	312	773	213	413	294	262	383	203	605	1,301	926	-	1,033	1,300	1,003	1,102
Engineering	407	112	312	112	315	220	241	216	322	253	289	209	275	296	251	346	401
Science	342	80	446	80	454	131	373	179	328	184	385	296	630	309	694	798	803
Women	374	126	552	128	515	161	152	263	192	509							
Commerce	227	125	251	125	300	171	251	163	172	264					265	186	363
Agriculture	143	70	193	70	244	89	304	105	119	128							
Theology	127	52	468	52	289	160	256	92	52	408							
Law	641	314	277	314	235	452	182	322	124	202							
Economics and Politics	328	172	297	172	376	216	272	209	154	231							
Dentistry	50	21	80	21	71	23	72	29	83	28	134	47	63	55	83	59	94
Medicine	328	125	237	125	288	145	236	227	218	219	351	297	235	250	277	262	244
Pharmacy	121	26	105	26	115	33	98	42	108	69	140	92	79	104	77	179	112
Nursing	9	-	24	-	17	19	10	7	20	18	42	13	27	12	41	12	57
Veterinary Medicine	42	15	74	15	56	20	55	23	59	38					52	45	114
Foreign Languages							315	161	186	217							
Management							209	88	91	122							
Physical Education							172	104	89	137	167	153	378	165	138	98	103
Industry											147	56	-	67			
Law and Politics											326	302	86	268	277	178	222
Management and Economics											1,011	551	299	688	261	476	473
Fine Arts											90	29	164	51	150	31	100
Agriculture and Veterinary Medicine											456	201	155	226	244	123	290
Technical Engineering																	2,785
Teacher Training																	

Source: Ministry of Higher Education and Scientific Research, Yearly Statistical Report 1971-1972, Table 5, pp. 112 and 113, Statistical Department, Ministry of Higher Education and Scientific Research, Baghdad, Iraq (In Arabic).

TABLE 31

NUMBER OF IRAQI COLLEGE STUDENTS WHO WERE DISMISSED, QUIT, OR TRANSFERRED FROM ONE COLLEGE TO ANOTHER FOR THE ACADEMIC YEAR 1970-1971

University, Institute or College	Number of Students Dismissed because of failure		Number of Students Dismissed for other reasons		Number of Students who Delayed College Education Due to Official Decision		Number of Students who Quit or transferred to Another College	
	Male	Female	Male	Female	Male	Female	Male	Female
Baghdad University	139	43	80	9	80	20	145	20
Mousel University	26	3	47	2	16	1	18	1
Basrah University	9	3	4	1	6	4	28	12
Sulaimaniyah University	16	6	13	-	28	3	61	4
Technical Institutes	13	2	1	1	2	1	22	6
Colleges of Theology	79	2	-	-	19	-	33	-
Al-Mustansiriyah University	177	4	2	-	112	9	178	7
TOTALS	513	63	147	15	263	38	485	50

Source: Ministry of Higher Education and Scientific Research, Yearly Statistical Report 1971-1972, Table 3, p. 11, 1972, Statistical Department, Ministry of Higher Education and Scientific Research, Baghdad, Iraq (in Arabic).

create an atmosphere that stimulates the students to become involved in the learning process. Failure also wastes the money invested in the training of people who do not graduate. And most important, the personal growth of the students who do not pass is hindered as they are forced to think of themselves as failures. Iraq cannot afford to produce failures. Each student should be able to be successful within his own ability for the good of the country.

Najah Al-Rawy, in his survey of the engineering education in Iraq in 1971, pointed out that non-Iraqi teachers fail many fewer students than do Iraqi professors. Al-Rawy tried to infer that the strength of the academic program is positively correlated to students' failure.[12]

In 1960-61 a graduate program, with emphasis on the masters degree, in the fields of civil engineering, history, and agriculture, was introduced by the University of Baghdad. In 1961-62 a master's degree was implemented in chemistry, anthropology, and geography. The master's degree program was extended in 1962-63 to include the Arabic language and mathematics; Islamic Theology and education and psychology were added in 1964-65; social, botanical and zoological sciences in 1966-67; law in 1967-68; mechanical and electrical

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[12]Najah Al-Rawy, "Problems of University Teachers in Iraq," p. 183, in Ministry of Higher Education and Scientific Research, First Conference of University Education in Iraq, June 14-18, 1971, Baghdad, Iraq (In Arabic).

engineering in 1969-70; and medicine, management, and economics in 1970-71,[13] The other universities, except Mousel University, did not offer any graduate degree. At the beginning of 1967, the University of Mousel expanded its program to include graduate studies in chemistry, zoology, and civil engineering.[14]

The student enrollment in the above graduate programs was very low. Table 32 indicates that the university of Baghdad had made a total number of 691 graduate admissions by June 1971; in 1971-72 there were 261 more graduate admissions,[15] resulting in a total of 952 graduate admissions by 1971-72. The total student population at the University of Baghdad for that year, however, was 22,646.[16] Hence, the percentage of graduate students to the total student body at the University of Baghdad in 1971-72 was about four per cent. The percentage of graduate students to undergraduate students at universities in Egypt ranges between 20 to 25 per cent.[17] There are several reasons which led to the low enrollments in graduate studies in Iraq. Some of these reasons are the following:

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[13]Hasham Hamzawy, "Graduate Studies and Scientific Research," in Ministry of Higher Education and Scientific Research, op. cit., pp. 140-141.

[14]Ibid.

[15]Ministry of Higher Education and Scientific Research, Yearly Statistical Report 1971-72, Table 7, p. 15.

[16]Ibid., Table 1, p. 5.

[17]Hasham Hanzawy, "Graduate Studies and Scientific Research," op. cit., pp. 140-141.

TABLE 32

NUMBER OF STUDENTS ACCEPTED IN THE GRADUATE PROGRAMS, THOSE GRADUATED, AND THOSE STILL STUDYING

Up to June 1971

Major	Accepted in University of		Graduated from University of		Still at University of	
	Baghdad	Mousel	Baghdad	Mousel	Baghdad	Mousel
Civil Engineering	26	3	4	-	5	3
Agriculture	28	-	11	-	12	-
History	86	-	21	-	35	-
Chemistry	54	10	31	5	13	5
Anthropology	33	-	15	-	10	-
Geography	36	-	15	-	11	-
Arabic Language	114	-	30	-	58	-
Mathematics	40	-	19	-	17	-
Islamic Theology	56	-	19	-	27	-
Educational Psychology	51	-	16	-	23	-
Physics	28	-	10	-	15	-
Social	13	-	6	-	7	-
Botany	22	5	9	1	12	4
Law	104	-	1	-	62	-
Electrical Engineering	-	-	-	-	-	-
Mechanical Engineering	-	-	-	-	-	-
Sociology						
Total	691	18	207	6	307	12

Source: Hasham Hamzawy, "Graduate Studies and Scientific Research," p. 143, Ministry of Higher Education and Scientific Research, First Conference of University Education in Iraq, June 14-18, 1971, Baghdad, Iraq, (in Arabic).

1. The universities in Iraq were recently founded and the faculty has little experience in supervising graduate studies. The graduate faculty lack experience in doing research themselves and, hence, find it difficult to efficiently advise students in conducting their own research. In addition some students may have dropped out of the graduate programs or not been able to graduate due to a lack of communication with their inexperienced, unconfident, and insecure teachers.
2. Students after graduation from college must serve in the army for two years. Therefore, those students who are qualified and willing to continue their graduate studies must first go into the army. After the completion of two years in the army, they may find it very difficult to readjust to academic life.

However, the above factors should not hinder implementation of graduate programs in Iraq. But the orientation of graduate studies should be directed toward dealing with the solutions or alternatives to the existing problems of development in Iraq. The role of a graduate faculty should not be to dominate, but rather to guide students. The graduate student must be given the opportunity

to develop his own ability to conduct his own research, with support and guidance from the faculty.

Curricula

The Ministry of Education had always prepared the University curriculum. However, in 1970 the Ministry of Higher Education and Scientific Research took the responsibility for preparing the university curriculum, and recruiting and preparing university teachers.[18]

The curriculum in each university is prescribed and there are no elective courses that the student may choose, except in the College of Agriculture. The student is not allowed to take courses outside his major. This kind of education may produce a student with more knowledge about his major, but he may lack a sense of his own identity and his own creative abilities.

In 1952 the College of Agriculture was established at Baghdad. The second agricultural college was established at Mousel in 1964-65 as part of the Mousel University. The College of Agriculture at Baghdad has been greatly influenced by American training patterns. The college had a direct tie with

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[18] For further details see Ministry of Higher Education and Scientific Research, First Conference of University Education in Iraq, June 14-18, 1971, Baghdad, Iraq, (in Arabic).

Arizona University from 1952 to 1957. The University of Arizona provided some of its faculty, in addition to faculty members from other American universities.[19] The instruction in this college, as well as in other science colleges, is given in English. In the non-science colleges, instruction is given in Arabic.

In 1960 the College of Agriculture at Baghdad had eleven departments: botany, agricultural chemistry, agricultural economics and rural sociology, animal husbandry, agricultural engineering, field crops, soils, entomology and zoology, horticulture, and arid regions.[20] American influence on the College of Agriculture is reflected in its pursuit of the credit point system. The student must complete 140 credits of course work in order to graduate. The academic year, which lasts nine months, is divided into two semester Each hour of theoretical instruction per week throughout the semester is regarded as one credit point, while each three hours of laboratory or field work is awarded one credit point.[21] The course schedule at the College of Agriculture, as well as at other colleges, is normally 15 to 24 hours per week.[22]

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[19]F. I. Qubain, op. cit., p. 252.

[20]Ibid.

[21]Ibid., pp. 252 and 253.

[22]Arab Information Center, Education in the Arab Countries, January 1966, Information Paper, Number 25 (I-XIII), p. 62, Arab Information Center, 757 Third Avenue, New York, New York, 10017.

The traditional patterns of education are still a dominant factor in the other colleges of the universities. For example, in the field of commerce and economics, the students, as can be seen from Table 33, must take seven prescribed courses each year, with no opportunity for them to choose courses within, or outside, their majors. There are two examinations during the nine-month academic year, a mid-year examination which is usually given in January, and a final examination which is usually given in June. The students customarily begin an intensive preparation for the final examination at least a month ahead of time and no classes are held during this preparation period.[23] If the student is unable to pass one or two courses, he must take the examination again at the end of the summer. If he fails one course at the end of the summer, then he has to repeat the whole academic year. If the student fails a course again, he is dismissed from the college. Therefore, the student centers all his effort on passing the examinations. Education is not a means of obtaining knowledge, but rather a means of obtaining an academic degree which the society values very highly.

For science majors, the emphasis is also on specialization and the students are not allowed to take any subject outside their general field of interest. For example, in the college of Medicine in Baghdad the curriculum

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[23]The above situation was experienced by the author of the dissertation when he earned his bachelor degree from the College of Commerce and Economics in 1962.

TABLE 33

COLLEGE OF COMMERCE AND ECONOMICS

UNIVERSITY OF BAGHDAD, PROGRAM OF STUDIES

1958/59 - 1961/62

First Academic Year 1958-59

Accounting
Principles of Law
Economics
Business Administration
Financial Mathematics
Economic Geography
English Language

Second Academic Year 1959-60

Obligations
Accounting
Business Administration
Labor Economy
Financial Mathematics
Economics
English Language

Third Academic Year 1960-61

Monetary Theory
Economic of Underdeveloped Countries
Public Finance
National Income
Statistics
Economic Theory
Development of Economic System

Fourth Academic Year 1961-62

Economic Relations
Economic Doctrines

Iraqi Economic System
Agricultural Economy
Statistics
Economic Planning

Source: College of Commerce and Economics, University of Baghdad, 1973.

is uniform for all students. It consists of six years of study, including one year of internship, leading to a doctor's degree in medicine and surgery. High school graduates register directly in the College of Medicine, without any pre-med, college-level training. The college has twenty-four departments, which illustrate its development as a college with a diversified curriculum.[24]

The above three examples of college curricula indicate the following:

1. The college student's learning experience is based on textbook knowledge, except for the one-year internship for medical students. Most of the textbooks contain outdated knowledge. The books in Arabic are primarily translations of books which the instructor had used during his graduate studies; therefore, if he earned his graduate degree in the forties, the ideas contained in his translation would tend to derive from books which he studied in his own student days. On the other hand, the ones in English (textbooks used in the science colleges are in this language) are usually of early edition, because of the difficulties, in

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[24]Some of these departments are: biology, chemistry, physics, anatomy, biochemistry, histology and embryology, physiology, pharmacology, bacteriology, and parasitology, pathology and public health. For information about the College of Medicine of the University of Baghdad, see F. I. Qubain, op. cit., pp. 258 and 259.

terms of time and money, in obtaining the recent editions of textbooks published in the United States. Another negative phenomenon is that the student may read a textbook which contains an experiment which must be performed by him in order to understand the the subject matter, but the college may lack the equipment which is needed to perform the experiment. Hence he will end up just reading the textbook and looking at the illustrations of the experiments.

2. The student is obliged to study textbooks and attend classes only within his own field of specialty. As indicated in Table 33, a student who is majoring in commerce and economics has to take courses in economics and business only. Therefore, the student does not have the opportunity to explore other fields which might be very helpful to him in understanding the different aspects of life and in functioning more realistically in his job after graduation.

3. The student has to sign up every year for prescribed courses and to attend classes. There is no independent study to offer the student the freedom to conduct his own

research or to facilitate a close relationship with and individual instructor.

The above limitations which are facing Iraqi higher education must be modified in order for education to play its important role as a leading factor in the development of the country. One possible alternative to standard college curricula is a non-formal approach to student development. The following section on non-formal education will deal with a proposal for modifications of the university curricula.

Proposed Alternative Curricula

The Iraqi university curriculum needs to be totally modified to include courses within and outside the student's major. In the new university curriculum it is, also, equally important to assign credits for independent studies, as well as for practicum experience. The new proposals for the Iraqi university curriculum can be expressed as a learning educational experience in the following distributional context:[25]

Subject	Semester Hours
Courses within the Major of the Study	48
Practicum	18
Independent Studies	24
Courses outside the Major of the Study	30
Total	120

[25] The distributional context of subjects and semester hours should not be looked at as a fixed entity, but rather a flexible one which can be modified to fit the different colleges. Practicum experience involves performance outside the classroom, for example student-teaching for student majors in education, or internship in a bank or a business firm for a student majoring in economics or in business.

In order to achieve the above proposed curriculum for a four year period of university education, the full year must be divided into two semesters and a six week intersession between the two semesters, and a summer school. Therefore, this will be a departure from the present existing tradition of a full academic year which lasts nine months with no summer school. However, a four year university program should not be the only required standard for a student to complete his college education. There can be a different set of alternatives in which the student may complete his college education in less than four years. The following are three alternatives which a student might follow to complete the 120 required semester hours based on a pass-fail system for graduation. These alternatives explored the various options.

Alternative A

The student may enroll in the following program for the same number of courses and credits for every year of his four years of college education:

First Semester		Inter-Session		Second Semester		Summer		Total Credits
Course	Cr.	Course	Cr.	Course	Cr.	Course	Cr.	
Two core	6	Practicum	6	Two core	6	None		18
One Elect.	3			One Elect.	3			6
One Ind. Study	3			One Ind. Study	3			6
Total	12		6		12			30

Alternative B

The student may enroll in the same number of courses and credits, as stated in Alternative A, in the first and second semesters, and enroll in the practicum for 12 credits during the full summer period of three months. Therefore, the difference between this proposal and Alternative A is that the student will not sign up for practicum credits during the inter-session period. However, the student will be able to finish his practicum credits in two summer sessions. The student, according to this alternative, as in the case of A, will require four years to complete the university education.

Alternative C

The student may enroll in the same number of courses and credits for every year of the three years of college education which will be required to complete the college degree:

First Semester Credits	Inter Session Credits	Second Semester Credits	Summer Credits	Total Credits
15	6	15	6	42

Therefore, the student will be able to earn 126 credits, which will be more than the 120 credits required to complete the degree for a college education. Alternative C will require the student to take a heavier load than Alternatives A or B in terms of courses and credits, but if the student is willing to work, he will be free to do so.

The above suggested three alternatives need not be seen as the only possible ones; other sets of alternatives could be explored, but there are many advantages to the implementation of these particular three. Some of these advantages are the following:

1. The student would be encouraged to enroll in other elective courses outside of his major field. This in turn, would help broaden his perspective and understanding of other aspects of relevance to his own area. For example, if the student has to come up with different solutions to a given problem, he will integrate in his analysis other aspects which may have great relevance to his study. For example, an economics student working on the findings of solutions to the poverty in Iraq, may not come up with solutions based solely on economic answers, but may integrate into his analysis other aspects of life, such as the problem of population and social humanity.
2. The student would be helped throughout the practicum experience, to relate how the subject matters learned in his classrooms can be utilized in a real working situation. Hence, the practicum experience would help narrow the

bridge between the academic and the practical life where knowledge is put to effective and active use. The offering of a practicum would be an essential and important factor in the development of the university education in Iraq. It would help the student to relate directly to the real life he is preparing himself for. This, in turn, would help the student not to have a kind of culture shock after graduation, because he would have been exposed to the practicality of earning a living and helping his country when he was in school. This would also help those who would like to become elementary or high school teachers to encourage their own students to think and conduct their work and studies in a practical sense.

3. It would help the students to build up a close relationship between himself and his teacher, which is extremely needed. The present university educational system does not assign the student a faculty advisor, because each academic year the student enrolls in the prescribed courses.

Under the proposed system, if the student enrolled in an independent study, he would maintain a close relationship between himself and the faculty member who would guide him in his independent research work. This would help the

student to gain a personal learning experience from his teacher outside the classroom. It would also help the student to have a better work relationship with his supervisor after graduation.

Under any of the three proposed alternatives, the student would have an advisor who would help him in the guidance and organization of his program of studies.

Higher Educational Financing

The cost of higher education, as in the case of primary and secondary education, is paid by the government, except for Al-Mustansiriyah University which is a private instutition. Al-Mustansiriyah University supports its operations from the following sources: student tuition and fees, interest on money deposited in the commercial banks, and finally gifts and loans.[26] For example the Iraqi Teacher Association gave Al-Mustansiriyah University 13,000 ID as a gift when it was first founded.[27] It also received from the Association of Gulbenkian a 100,000 ID gift when it was established, and another 5,000 ID as a gift in 1965.[28] But Al-Mustansiriyah University also borrowed from the government 150,000 ID for the academic year 1967-68 and 100,000 ID for the academic year 1968-69.[29]

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[26] S. Y. Al-Malah and T. I. Al-Akaby, op. cit., p. 139.

[27] Ibid.

[28] Association of Gulbenkian is named after Gulbenkian an Iraqi citizen who who helped the government and the foreign oil companies to discover oil. For his service he was rewarded five per cent of the oil profits.

[29] S. Y. Al-Malah and T. I. Al-Akaby, op. cit., p. 139.

The four state universities are fully financed by the government, and they provide free education. Table 34 shows that the government continues to increase its financial support. Comparing the budget for higher education and the ordinary government budget, the former maintained a steady small increase. But the increase in the budget for higher education was not brought about by an actual plan based on the actual need for higher education. In 1967 Mousel and Basrah Universities were founded, but as Table 34 indicates the budget for higher education increased from 6,100,000 ID in 1967-68 to 7,490,000 ID i.e., with the assumption that the 1,390,000 ID would cover the costs of these two universities and the rest would be allocated to the University of Baghdad. When the fourth state University of Sulaimaniyah was founded in 1968, the budget of higher education only increased from 7,490,000 ID in 1967-68 to 7,790,000 ID in 1968-69, i.e., leaving only 300,000 ID to be allocated to the University of Sulaimaniyah.

The budget for higher education would seem to be used primarily to pay for university instruction. As Table 25 illustrated it is clear that the amount allocated to cover the cost of instruction for higher education in 1960-61 was 2,408,000 ID and this was only slightly higher than the 2,370,000 ID of the budget for higher education in the same academic year. Therefore, one can infer that the money allocated for the budget for higher education was merely a representative payment for the cost of university instruction, unless the

TABLE 34

BUDGET OF HIGHER EDUCATION OF FOUR UNIVERSITIES:

BAGHDAD, SULAIMANIYAH, MOUSEL, AND BASRAH,

AND GENERAL BUDGET FOR PERIOD 1960/61-1969-70
(In thousands Iraqi Dinars)

Year	Budget for Higher Education	General Budget	Percentage of the General Budget Allocated to the Higher Education Budget
1960-61	2,370	114,300	2.1
1961-62	2,550	119,200	2.2
1962-63	2,850	128,400	2.3
1963-64	3,250	149,000	2.2
1964-65	4,000	180,000	2.2
1965-66	5,850	187,500	3.1
1966-67	6,100	192,400	3.2
1967-68	7,490	205,500	3.6
1968-69	7,790	247,600	3.2
1969-70	8,730	267,900	3.2

Source: Sabah Yousef Al-Malah and Talib Ibrahim Al-Akaby, Higher Education in Iraq for the Period 1960/61-1969/70 and Its Modern Progress Directions, April 1971, Table 43, p. 140, Educational Planning Department, Ministry of Planning, Baghdad, Iraq (in Arabic).

expenditures for instruction implicitly include other costs of higher education. The number of teachers at the state universities in 1969-70 was 1,722 (see Table 29), while the budget for higher education in 1969-70 was 8,730,000 ID. According to these figures, the average salary for a university teacher in Iraq in 1969-70 was 5,069 ID (i.e., $17,742 per year) which was extremely high and much inflated. The actual salary might be nearly half of this amount. Therefore the figure 5,069 ID may include some other costs of higher education in addition to the salaries of the instructors.

The money allocated to higher education was usually not completely spent. Table 35 (see Chart six) shows that only in 1962-63 and 1963-64 were the allocated expenditures completely spent. The academic year of 1961-62 experienced a deficit. The other seven academic years maintained a surplus budget and this signifies the lack of adequate planning of the budget.

Concluding Remarks

To conclude this chapter, higher education experienced an increase in the number of institutions of higher learning and, also in the number of students and of faculty. But the fact still remains that higher education in Iraq has not yet removed itself from the traditional bind of education. For example, a definite reform is needed to modify the present university curriculum. The emphasis must be shifted from the theoretical textbook memorizations to understanding the practical and beneficial uses of knowledge.

TABLE 35

ALLOCATED EXPENDITURES AND ACTUAL EXPENDITURES FOR THE FOUR UNIVERSITIES: SULAIMANIYAH, MOUSEL, BAGHDAD, AND BASRAH, NUMBER OF STUDENTS IN THESE UNIVERSITIES AND AVERAGE MONEY SPENT PER STUDENT

Year	Allocated Expenditures (in thous. ID)	Actual Expenditures Used (in thous. ID)	Percentage of Actual to Allocated Expenditures	Number of Students	Average Money Spent Per One Student
1960-61	2,370	2,000	84.7	11,417	175
1961-62	2,550	2,800	109.8	13,389	209
1962-63	2,850	2,850	100.0	13,399	213
1963-64	3,250	3,250	100.0	16,822	193
1964-65	4,000	3,900	97.5	21,249	184
1965-66	5,850	5,830	99.5	24,723	236
1966-67	6,100	6,090	99.8	26,709	228
1967-68	7,490	6,890	92.0	24,391	282
1968-69	7,790	6,980	89.6	21,564	323
1969-70	8,730	7,550	86.5	26,474	285

Source: Sabah Yousef Al-Malah and Talib Ibrahim Al-Akaby, Higher Education in Iraq for the Period 1960/61-1969/70 and Its Modern Progress Directions, April 1971, Table 44, p. 141, Educational Planning Department, Ministry of Planning, Baghdad, Iraq (in Arabic).

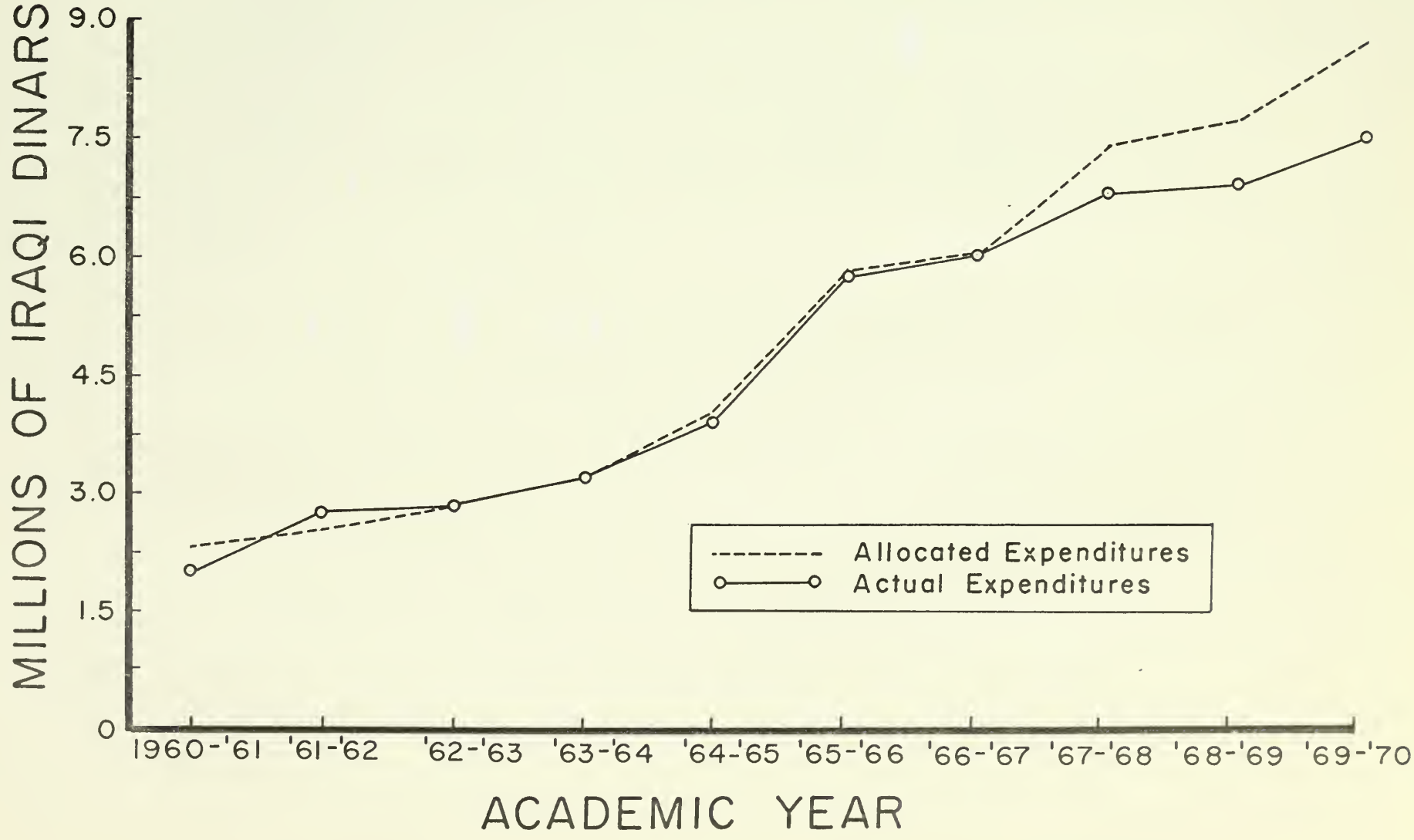

CHART 6: Allocated and Actual Expenditures for the Four State Universities: Sulaimaniyah, Mousel, Baghdad and Barsah, 1960-61 to 1969-70 (In Millions of Iraqi Dinars). Source: Table 35.

Education should be viewed as an experience in exploring the individual's potential and a guide in developing his own identity and creativity. Therefore, the aim of education is not to fail students in order to obtain a strict educational system. The teacher must be encouraged to conduct research in addition to his own teaching. This would help him keep in touch with the current state of knowledge in his field and would encourage him to update his lecture notes.

The academic year in Iraq needs to be flexible and should extend for a variety of options during the entire year. Along with the extension of this period, there should be an effort to involve students in projects outside the classroom. This would represent an important shift for the educational system in Iraq. It would help the Iraqi teachers to be involved all year around. It would also give them the responsibility of supervising the students on a personal basis which should give the teachers more satisfaction. In short, it would help humanize education through the close interaction between students and teachers.

CHAPTER IX

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The study has identified and discussed the lack of coherent correlation between education and economic development. Since the early 1950's, the Iraqi government has enacted several economic programs with the aim of improving the economic conditions in Iraq. However, none of the programs successfully followed either an unbalanced approach to growth in which development of one sector (like agriculture) as a leading sector generates growth and incentives for other sectors to follow, or a balanced approach to growth in which different sectors of the economy are developed simultaneously. Education was not included as an integral part of any of the development programs. Also, the expenditures allocated to each of the programs were never totally spent, indicating inefficient and ineffective planning.

One of the requirements for a successful economic program is a managerial staff with the knowledge and experience to set up and carry out the objectives of the program. Therefore, the need arises for higher education to provide the manpower with the ability to formulate economic programs for the country. However, higher education has its own problems which hinder

its capability to actively and directly function in this way.

The university is unresponsive because its curriculum is rigidly standardized and students must enroll only in prescribed programs of course work. Students have no contact with bodies of knowledge outside of their majors. After such an education, the graduate may be able to handle some of the theroetical aspects of his major field of study, but he lacks knowledge about other related fields as well as the practical side of his own field.

Presently the educational system requires that young students around the age of 14 decide on their future careers by the type of preparatory secondary school they choose to attend. These students make an important decision both for their own futures and for their country's future. Such decisions should be based on realistic expectations of useful employment in the future. The student may choose a field because of his own feelings and desires or because of the emphases on certain subjects in primary and intermediate schools. However, the student may find in the majority of cases after his graduation that the demand for his type of skill is slim. Therefore, it might be advantageous to think of modifying not just the university curricula, but also to start from the bottom-up, from the primary and secondary school curricula. Students should be made aware of the realistic future demands and opportunities for all areas of study throughout their schooling. Only by being informed can they make thoughtful decisions about their futures.

Studies should be conducted periodically to determine the demand for college graduates as teachers, as government employees and as employees in the different sectors of the economy. These studies should take into account all factors which can affect supply of and demand for workers in the present as well as in the foreseeable future in order to allow young students a realistic view of career possibilities. Past and present trends in employment as well as future projections may help them to choose fields of study which may help them after graduation to obtain jobs. The above discussion should be considered as an applicable analysis for a country like Iraq which invests in education to help the students to obtain hard skills that are essential for obtaining jobs, and moreover, to initiate everyone's participation in achieving the goals of economic growth for the country.

Recommendations

The institutions must be sensitive and adaptable to new ideas in order to maintain a responsive educational system to lead the economic development of Iraq.

The dissertation contained some recommendations as possible solutions to some of the problems that are facing the educational system in Iraq, with special emphasis on higher education. Consideration of an educational plan demands further emphasis. Iraq lacks an educational plan which can rationally allocate, and efficiently utilize the services of the university graduates as well

as all other trained personnel in the different sectors of the economy. The actual demand for university graduates by the different sectors of the economy must be clearly defined. But in order to specify the precise demand for college graduates, an accurate projection of growth for each sector is necessarily required. This, in turn, depends on other factors, such as per capita income, rate of population growth, taste and preference and the value of exports and imports.

There is a wide range of choice in the selection of a method for educational planning.[1] However, some technical indicators such as regression analysis and cost-benefit analysis may be used to analyze the relationship between the growth of university graduates and the employment opportunities as high school teachers and in other occupations in other sectors of the economy. But the results of these analyses may not reflect the real life in Iraq. For example, a simple regression analysis may be used to analyze the relationship between the growth of university graduates and high school teachers. However, this simple regression analysis does not represent reality, because other factors are required to explain this relationship. Some

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[1] For details of analysis of some of the alternative approaches to educational planning in Iraq see Appendix C. Appendix C discusses the techniques of linear programming and graphical analysis.

of these factors include the rate of growth in population, death rate per 1000 and birth rate per 1000, rate of development of the economy, per capita income, and several other variables. Therefore, a need for a multiple regression analysis is required to analyze such a relationship.

It is also difficult to use the cost-benefit analysis, in order to analyze the relationship between the growth of the number of university graduates and high school teachers. The cost of education is paid by the government. It is very hard to measure the benefits of higher education. For example, government policy may require that four university graduates be employed in a given job, while in actuality the job requires only two persons. Therefore, we have an over-employment in this particular case. However, the aim of the government is to maintain a full-employment economy. Hence, to estimate the monetary benefits that can be derived from the services of these four college graduates becomes a difficult task.

The main objective of any technical indicator is to simplify a situation so that it may be easily understood.

The availability of capital and natural resources alone are not sufficient conditions for economic growth, since the managerial skills to put these resources into more productive use is essential. The educational sector should not only lead the way by providing the trained manpower resources needed to perform effectively in the different sectors of the economy, but it should

increase the productivity of the unskilled and uneducated majority of the population. An example could be to educate farmers to improve their agricultural methods to increase production.

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APPENDICES

APPENDIX A

UNIVERSITIES, COLLEGES, INSTITUTES

IN IRAQ

	College of Sciences
	College of Law and Political Sciences
A. Al-Mustansiriyah University Founded 1963 (Baghdad) Private Control	College of Business Administration & Economics
	College of Arts
	College of Technology
	College of Administration & Economics (1969)
	College of Agriculture (1952)
	College of Arts (1949)
	College of Dentistry (1953)
	College of Education (1971)
B. Baghdad University Founded 1955 (Baghdad) Government Control	College of Engineering (1942)
	College of Engineering Technology (1970)
	College of Law and Political Science (1908)
	College of Medicine (1927)
	College of Nursing (1962)
	College of Pharmacy (1927)
	College of Physical Education (1955)
	College of Sciences (1949)
	College of Veterinary Medicine (1955)
	Academy of Fine Arts (1967)

Affiliated Research Centers

Center for Educational and Psychological Research

Center for Economic and Administrative Research

Center for Palestinian Studies Research

Center for Urban and Regional Planning

Psychology Clinic

Center for Medical Research

C. Basrah University
Founded 1967
(Basrah)
Government Control

College of Science

College of Engineering

College of Arts

College of Law and Economics

College of Medicine

D. University of Mousel
Founded 1967
(Mousel)
Government Control

College of Agriculture

College of Arts

College of Engineering

College of Medicine

College of Science

E. University of Sulaimaniyah
Founded 1968
(Sulaimaniyah)
Governmental Control

College of Engineering

College of Agriculture

College of Science

F. Colleges and Institutes
All Founded in Baghdad

Al-Shari'a College (An Islamic College)

Higher Institute of Accountancy and Business Administration

Higher Institute of Industry

Higher Technical Institute (created 1960 by U.N. Special Fund)

Institute of Fine Arts (1936)

APPENDIX B

COLLEGE OF COMMERCE AND ECONOMICS

UNIVERSITY OF BAGHDAD, PROGRAM OF STUDIES

1958-59 - 1961-62

DEANSHIP OF THE COLLEGE OF
ECONOMICS & POLITICAL SCIENCE
BAGHDAD, IRAQ

No. 3827
Date 18/12/1973

TO WHOM IT MAY CONCERN

This is to certify that Mr.Falih Abdul Karim Al-Shaikhly whose photograph is affixed above is a graduate of the College of Commerce and Economics for the year 1961-1962.

His record during the four academic years is shown below . He was granted a Bachelor of Commerce and Economics.

First year 1958-1959

Accounting	77
Principles of law	56
Economics	82
Business Administration	74
Financial Mathematics	91
Economic Geography	75
English	72
Total	527

Second year 1959-1960

Obligations	80
Accounting	52
Business Administration	54
Labour Economy	69
Financial Mathematics	60
Economics	58
English	62
Total	435

Third year 1960-1961

Monetary Theory	76
Economic of Under Developed Countries	73
Public Finance	66
National Income	63
Statistics	73
Economic Theory	85
Development of Economic System	83
Total	519

Fourth year 1961-1962

Economic Relations	75
Economic Doctrines	78
Petroleum Economy	90
Iraqi Economic System	82
Agricultural Economy	68
Statistics	57
Economic Planning	85
Total	585

Note: Number of students taking the graduate exams: 206
Number of students passing the exams: 160
Mr.Al-Shikhaly rank is the 14th .

B.H.Hussain
Assistant Dean

Ass[illegible] of Arts and Economics

for The President

[illegible] Gabbar Dawood Al- Azzawi

19 DEC 1973

APPENDIX C

TWO ALTERNATIVE APPROACHES TO EDUCATIONAL PLANNING IN IRAQ

Two alternative approaches to educational planning in Iraq will be analyzed.[1] The first approach is a mathematical linear programming which is a long-run theoretical analysis. The second approach is a technique of graphical display which is a short-run analysis.

Mathematical Linear Programming

Mathematical linear programming techniques were developed and have been used in developed countries. They are designed to find efficient resource allocation patterns in complex situations. They have been, for example, used in

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[1]Samuel Bowles in his Planning Educational Systems for Economic Growth, (Cambridge, Massachusetts: Harvard University Press, 1969) stated four alternative approaches to educational Planning:

1. Manpower requirements approach: as an attempt to drive required educational outputs from a set of economic growth projections.

2. A modified manpower requirements approach: as an estimation of the relationship between aggregate output and the educational level of the labor force.

3. Rate-of-return method: as a measure of both the economic benefits and the costs of schooling.

4. Linear programming: as an intertemporal optimizing model of the educational sector.

For further details see Chapter V.

scheduling, and in the developing of optimization of resources in government, business and agriculture.[2]

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[2]There is much literature about the application of linear programming to different sectors of the economy of developed countries. Very recently it has been used in analyzing some of the educational issues in these countries. A few attempts also have been made in developing nations to use the linear programming method as a theoretical tool.

The following are some suggested readings on linear programming analysis as applied to some cases of education in developed countries:

James F. McNamara, "Mathematical Programming Applications in Educational Planning," Socio-Economic Planning Sciences, Vol. 7, 1973.

A. A. Ewald & F. F. Kiker, "A Model for Determining the Input Cost of University Degrees," Socio-Economic Planning Sciences, Vol. 4, 1970.

Frederick L. Golladay & Irma Adelman, "Socio-Economic Policy Alternatives in National Development: A Parametric Programming Analysis," Behavioral Science, Vol. 17, 1972.

Paul Alper, "Some Consistency Models in Educational Planning," Socio-Economic Planning Sciences, Vol. 4, 1970.

Paul M. LeVasseur, "A Study of Inter-Relationships Between Education, Manpower and Economy," Socio-Economic Planning Sciences, Vol. 2, 1969.

Paul W. Hamelman, "Inter-Threshold Resource Planning for Public Higher Educational Systems," Socio-Economic Planning Sciences, Vol. 4, 1970.

Werner Z. Hirsh, "Demand for Education, and its Estimation," Socio-Economic Planning Sciences, Vol. 2, 1969.

Gareth L. Williams, "Towards A National Educational Planning Model," Socio-Economic Planning Sciences, Vol. 2, 1969.

Allen Baisuck & William A. Wallace, "A Computer Simulation Approach to Enrollment Projection in Higher Education." Socio-Economic Planning Sciences, Vol. 4, 1970.

The linear programming method requires that there be a feasible set of alternatives identified. Alternative solutions must be systematically examined in terms of well-defined choice criterion. The linear programming analysis can be stated as:

Maximizing the objective function $Z(t) = e'(t)\ X(t)$

Subject to the following set of constraints:

$$Ax(t) \leqq b(t);\quad x(t) \geqq 0$$

Where:

- $x(t)$ is an n X 1 vector of decision variables at time "t".
- A is an m X n matrix of the constant co-efficients of educational constraints.
- $b(t)$ is an m X 1 vector of fixed resources which cannot exceed the final demands which must be met by the activities undertaken.
- $e(t)$ is an n X 1 vector of values attaching to the decision variables in the objective function.

The above linear programming model can be used for a specific case in higher education. It can be used to determine the maximization of college enrollments as in the following:

$$\text{Maximizing} \quad E = \sum_{t=1}^{k} (S_t)\ (P_t)$$

Where: E College student enrollment which is represented by non-zero weights on college level enrollments and zero coefficients on all other levels of education.

S_t Is an "n" dimensional vector of enrollments in each of the "n" levels of the college educational system of time "t".

P_t Is an "n" dimensional vector of coefficients representing the relative importance of college educational expansion level for each period "t".

The linear programm ing method is proposed as a technique for setting up an educational plan for higher education in Iraq. The higher education system is represented by an intertemporal input-output model. The input-output model describes the flow of students by means of an accounting matrix. The output of universities, i.e., university graduates, are either employed as teachers in primary and secondary schools, or employed in different sectors of the economy. The input-output model also describes the educational system's demand for economic resources.

The student flow equations describe in three matrix equations the flow of students graduating from and dropping out of universities. The student flow equations for graduating students provide an estimate of the total number of graduates available from the higher educational system in period "t" for assignment to the labor force, and to primary and secondary school as teachers. The

estimate is obtained by multiplying a vector of student enrollments by a matrix stating graduation probabilities. Adjustment factors are attached to each assignment in order to account for labor force participation rates and continuation rates of graduates of each type of university major.

The proposed educational plan for higher education is the following:

$$(I - \lambda) \quad (S_t) \quad = \quad (II)^{-1} \quad (W_t) + (K)^{-1} \quad (S_{t-1}) + (II^t)^{-1} \quad (T_t)$$

$(I - \lambda)$ Is an n X n diagonal matrix of the differences between the identity matrix and the diagonal matrix of drop out rates.

(λ) specify to the "n" levels of the educational system.

(II) Is an n X n diagonal matrix of labor force participation rates by level of educational attainment. Therefore, $(II)^{-1}$ may be interpreted as the number of graduates that must be assigned to the work force to provide an economically active worker. $(II^t)^{-1}$ represents the analogous information concerning teachers.

(W_t) Is an "n" dimensional vector of work force assignment variables.

$(K)^{-1}$ Is an n X n diagonal matrix of continuation probabilities. These coefficients express the propensities of graduates who seek additional education beyond the undergraduate degree.

(T_t) Is an "n" dimensional vector of teacher force assignment variables and is analogous to the matrix (W_t) above.

The student flow equations are subject to a set of constraints: teacher constraints, building constraints, and budget constraints. The teacher constraints restrict academic enrollments to levels that can be staffed by available teachers. The building constraints limit educational activities to available buildings. The

educational program is constrained by the budget which is allocated for period "t".

Finding the most feasible solution to satisfy the objective function gives the maximum number of university graduates. But further analysis is needed to examine the demand for graduates. This, in turn, requires the integration of education and economic planning. The linear programming method is used as a tool to analyze this integration. The objective function is expressed as the maximization of employment in sectors of the economy for graduates of universities. Hence, the objective function is represented by the product of a vector of gross production by sector, a matrix of labor output, i.e., university graduates, requirements, and a weighting matrix representing the relative importance attached to the expanding employment in each sector of the economy. The objective function is expressed in the following:

Maximizing $Q = (I)\ (L_t)\ (Y_t)$

Where: (I) Is an "n" dimensional row vector of utility weights attached to employment in each occupation.

(L_t) Is an n X m matrix of labor output coefficient for each college graduate.

(Y_t) Is an "m" dimensional vector of production level variables.

The above linear programming analysis defines the transfer of resources from one sector to another. The higher educational system supplies the economy with technical manpower on one level, while the economic system provides the physical resources and services needed by the higher educational system.

Hence, these two sets of flows influence the allocation of resources within each subsystem; the requirements of the different sectors of the economy for technical manpower influence the decision of whether to allocate college graduates to teaching, to continuing graduate education, or to joining the labor force. Similarly, the allocation of resources from the different sectors of the economy to higher education removes resources from use as intermediate or final goods and determines, according to the opportunity, costs of the use of resources. But the determination of this allocation which is based on the opportunity cost principle requires an optimal rationale. This optimal rationale is based on economic criterion which the government may not like to pursue for different reasons. The government may allocate the resources to higher education based on a political decision with no consideration of the maximization of economic objectives. Furthermore, there might be a lack of technical managerial staff to carry out the formation and the application of the proposed linear programming method of the integration between higher education and the economy. However, even if the know-how exists among the technical managerial staff to carryout the integration between higher education and the economy, the application of the results of the analysis may run into difficulties. A technique can be developed to estimate the enrollment of graduate students with different skills, but the technical projections of the demand from different sectors are difficult to estimate. The different sectors are not developed to the extent that they can project with accuracy their own internal growth so that they could absorb more

college graduates. But in the long-run if the attempts are made to estimate the growth of the different sectors of the economy as well as the higher educational system and the integration between them, then the application of the linear programming method as an analytical tool can begin. However, for the short-run a simplified technical indicator tool must be used. Graphical analysis provides such a tool.

Graphical Analysis in Higher Education Planning

D. R. Evans views graphical analysis as a valuable analytical approach in education planning in such areas as display, extrapolation, and projection.[3] Evans goes further to stress the advantage of using graphical analysis in the following:

1. Graphical analysis helps government officials, who frequently have limited understanding of the mechanism of the educational process, to pursue it much more easily with graphs rather than with other technical indicators.
2. Graphical display of the dynamic patterns in the educational system would allow the implications of various policy

[3] For further details see D. R. Evans, "The Use of Graphical Analysis in Education Planning," Comparative Education Review, Vol. XII, No. 2, 1968, pp. 139-148.

alternatives to be clearly and simply demonstrated.

3. Graphical analysis need not be heavily dependent on the educational and census data which is typically sketchy or even completely absent.
4. Graphical analysis approaches have inherent in them the techniques of extrapolation and projection.[4]

The above advantages of graphical analysis make its application very important and useful in the planning of higher education on one hand, and in the integration of education planning and economic development on the other hand.

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[4] Ibid., pp. 139-149.