DEMAND FOR VOCATIONAL EDUCATION, AND ECONOMIC
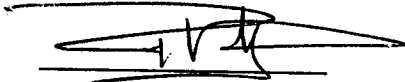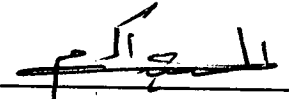# FEASIBILITY OF A VOCATIONAL SCHOOL
IN EL-KAH TOWN

By

Cynthia Jabbour

A research project submitted in partial fulfillment

of the requirements for the degree
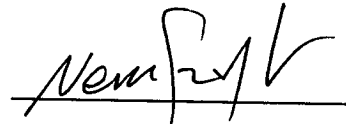
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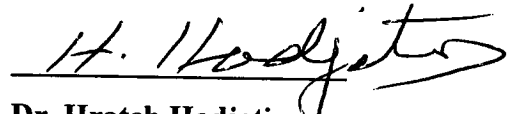
Dr. Philippe Zgheib
Research Director

Dr. Nemr Frayha
Committee Member

Dr. Akram El-Tannir
Committee Member

Dr. Hratch Hadjetian
Dean, FBAE

Notre Dame University

Lebanon

1997

ACKNOWLEDGEMENTS

I would like to extend my gratitude to all those who have helped me realize this paper. Thank you all.

My profound acknowledgements go to my professors and advisors, Dr.Philippe W. Zgheib, to Dr. Nemr Freiha, and to Dr. Akram El Tannirwho have been so patient and so helpful to me. Thank you.

My thanks go also, to every member of my family, especially to my mother and to my fiancé, Nicolas, who made my trip to El-Kah possible; thank you love.

My gratitude goes also to Mr. Nicolas Matar, who helped me in getting information about his town.

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Feasibility of a Vocational School
in El-Kah Town

by

Cynthia F. Jabbour
Notre Dame University,1997

Major Professor : Dr. Philippe W. Zgheib
Master of Business Administration   :

The same latent problem faces almost all developing countries. This problem is how to develop the society of the country. Before 1990, and for years, economists, politicians and development planners have charted year-to-year progress or decline within a country, by measuring average per capita income. So, clearly, before 1990 and for years development of a society was viewed as the development and growth of the capital resources of the economy, often by neglecting the human dimensions in that society. Current views regarding development, have changed. It is thought that the development of a nation is ranked according to the Human Development Index component, a triple component index. One of which is literacy, and the ability that people get, to understand their surroundings and culture. Literacy is attained by investing in the human factor of a country, in other words by offering opportunity of traditional or vocational education. This Literacy component, is the justification of my study, as I am proposing the implementation of a vocational school in a town that offers only traditional education. This implementation requires two objectives, which are the demand for such a vocational education and the economic feasibility of the vocational school. These two objectives are respectively met through two methods, the first of which is a comparative analysis to determine the specialty of the vocational school and the second is the break-even point analysis on three scenarios to determine the best scenario for implementation   (90pages)

Chapter I

INTRODUCTION

Rural Development

Almost all developing countries face the same latent problem, which is the development of their societies. This problem is addressed subjectively varying from one government to another, and each one views it differently, as it is approached differently by each government. The case of Japan can be a very good example, to explain how a developing country can overcome the problem of development by investing in the human factor and in technology. On the other hand, others like Saudi Arabia have invested in natural resources. But no government should forget that

" Development in its broadest sense is to improve the quality of life."[1]

To improve the quality of life of a person, calls generally for higher a level of income and earnings per individual. Moreover, to get a better quality of life, is to get better education , higher standards of health and nutrition, less poverty, a cleaner environment, more equality of opportunities, greater individual freedom and a richer cultural life.[2] On the other hand, there are three kinds of resources in a nation: a) human resources; b) capital resource; and c) natural resource. Capital and natural resources are the passive factors of production, whereas the active parts of production are human beings. It is the human being who accumulates capital and exploits 0atural resource. He builds social, economic,

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[1] World Bank, The Challenge of Development. (New York: Oxford University Press, 1991)4.

[2] Ibid. 4.

and political organizations thereby forwarding national development. For this reason, a developing country, wishing to progress, should first develop its human resource. Clearly, a country which is unable to develop the skills and knowledge of its people and utilize them effectively in the national economy, will be unable to develop anything else.[3]

Moreover, it is important to point out, that expenditures on education and training can be profitably treated as investment in human capital; just as expenditures on capital equipment can be understood as investment in physical capital.[4] So to invest in the human factor is to educate and train the human being. In addition, according to the World Bank Report 1991 :

"Investing in people, if done right, provides the firmest foundation for lasting development"[5]

The truth and validity of this statement, was proven after 50 years of experience dating form the end of World War II. For many years, it has been thought that the government should directly intervene in the development of the economy. Imposing taxes on agriculture, retarding competition, interfering with prices were the used and very much appreciated methods and strategies to develop the economy. These methods are good but they are not good enough. Convictions are growing that the government should resort to investing in citizens.[6] Investing in the human factor, would incur expenditures and costs on education and the training of citizens, with the intent that these costs would be compensated for in the future. The individual, charged with the costs of education and training, bears in mind monetary and non-monetary satisfaction (i.e. higher earnings, better job), he gets after the completion of his studies. The government, subsidizing the costs and expenditures of education and training, anticipates that individuals will help in the improvement of the overall quality of life. One of the requirements of a better quality of life is a cleaner environment. Let us see how the investment in the human factor, applied to this requirement, will help in the development of the overall society. When the

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[3] Frederick H. Harbison, <u>Human Resources as the Wealth of Nations</u> (New York: Oxford University Press, 1973) 3.

[4] Ronald G. Ehrenbery, Robert S. Smith, <u>Modern Labor Economics Theory and Public Policy</u> (USA: Harper Collins Publishers Inc., 1991) 70.

[5] World Bank, The Challenge of Development.(New York: Oxford University Press, '91) 4.

[6] Ibid, 4.

individual learns at school to keep his environment clean, he spares the government the cost of collecting garbage and wastes spread all over the country. As a consequence, the government will have more budget to spend on recycling wastes instead of importing raw materials and paying for them. This concept is also applicable for higher health standards as people, in general, and women, in specific, will learn to be more responsible towards their families' health and nutrition. In addition to this, the government should offer an equal opportunity of education to all the citizens. Each individual must have the right to choose and decide his own life and career, because, for a decent life, a person asks for the equality of opportunity and not the equality in earnings.[7]

In addition, thinking on development has moved and shifted repeatedly, for the last 50 years starting from the end of World War II. It has not moved from darkness to light in a smooth and straight way, but rather viewed successes and failures. For many years, it has been thought that government should intervene directly in the development of the economy.[8] Imposing taxes on agriculture to fund industrial investments was the used and very much appreciated method and strategy to develop the economy. After 50 years of experience, there is almost clear evidence, from both developing and industrial countries that government should not only intervene directly and in detail in the development of the economy as imposing taxes on agriculture, retarding competition, interfering with prices. These methods are good but they are not good enough, convictions are growing that the government should rather invest in citizens.[9]

As a conclusion, lasting development, which is in the broadest sense to improve the quality of life, is to invest correctly in people. Moreover, to be able to develop, a country should develop the skills and knowledge of its people. After all, better education is one of the requirements of lasting development. Clearly then, government should invest in its citizens by offering them more educational facilities. Education should be in the form of academic and vocational education.

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[7] مركز دراسات الوحدة العربية، مشروع لحساب الأمم المتّحدة الإنمائي. (بيروت ١٩٩٤، ١٤)

[8] World Bank, The Challenge of Development.(New York: Oxford University Press, '91) 4.

[9] Ibid, 4.

Benefits of Continuing Vocational Education

The implication is that government should increase the budget spent on educational facilities.

These facilities, should be equally distributed over the different regions of a country in general; Lebanon is special case.

People living in rural areas deal with nature and lead a different life from that of the urban centers and cities inhabitants. This is why, people living in rural area need diversified professional qualifications different than those available in the cities.[10] One can extend his skills and professional qualifications by getting training offered in vocational schools. Moreover, regardless of how far they live from urban centers, Lebanese citizens have the right to get education facilities. One of the many remote villages and towns lacking vocational education is El-Kah town, where academic education is the only offered type of education.

Overview of Research Objectives

Based on the previous justification, two objectives are to be served The evaluation of inhabitants needs for vocational education and the economic feasibility of the development of a vocational school. Consequently, the young generation will no longer feel the need to migrate to the cities to get the chance of pursuing education and building a career.

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[10] Philip H. Coombs, La Crise Mondiale de l'Education (New York: Oxford University Press, 1958) 57.

El-Kah History and Background

El-Kah, is a remote Lebanese town of an approximate surface of 153km2 , in the Baalbeck-El-Hermel Caza in the Bekaa region. It is surrounded by El-Assi river from the West, Ras Baalbeck from the South and Syria from both the North and East. Since it is a border town crossed by an international highway, El-Kah contains a Lebanese Customs post . It is located 136 km to the North East of Beirut and its altitude is of 650m from the sea[11].. The climate is continental i.e. hot in summer (30-35) and cold in winter but the temperature never falls under 0 c., and it does not rain a lot only 200ml per year. El-Kah means "quite plain between two mountains," almost all of the soil is of a white color, mostly good for the plantation of cereals, vegetables(green bean, tomatoes, aubergines) and fruits (apricots, water melon). Before the 1975 war El-Kah was irrigated by El-laboue river. However, during that same war, the river was diverted from the town.Presently, the town is irrigated by artesian wells , all of the plantations are on the north side of the village and water costs 15,000ll per hour of irrigation. This town of 153km^2 is divided into 4 areas: Wadi El Khanzir

Jouar Maaieh   Baaoun   Al Banjakieh.

Only one area divided into 3400 shares that can be sold and bought over a surface of 3500 denhoum. This area is Al Banjakieh.

The three other areas, are not divided into shares, so they are not distributed among inhabitants. Their surfaces are of 63,000 - 35,000- 73,000 denhoum, respectively. The land is not divided among inhabitants in terms of well determined parcels of land. An inhabitant can buy a piece of land in terms of qirat. To get one qirat is to get the right of half an hour of water irrigation. Each one qirat, represents the value of 15 denhoum in each area. Whenever the Lebanese government decides to divide the land among the inhabitants, the owner of 1 qirat will be entitled to 15 denhoums in each of the three areas. The price of one qirat is approximately of 7,000 $..

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[11] كيوفا ج. نجم ١٩٨٦. حول الخصائص السكانية لبلدة القاع وأبرز التحولات الاجتماعية، ٨ ٩-١٠

The other 5,000 live all around the year in their home town; these 5,000 inhabitants are not only old persons or retired ones, but there are also young men and women who have their families and children , a land to cultivate, and/or a business to run. All of the children, boys and girls go to school. Only those who are handicapped or mentally retarded stay at home . There are three schools in El-Kah : a public school, a Choueirite Sisters school and the Maronite Apostolic school. The last is the only one which offers a secondary level. It is worth noticing, that the public school had a secondary section in the early 1970's but it was closed with the beginning of the 1975 war.[12] Those who want to continue their academic achievement can join other schools in Zahle-Bekaa or in the neighborhood. For higher education they can join the Lebanese University in Zahle.

No vocational school facility is offered in the region, this is why I intend to get acquainted with the specific educational needs of El Kah students on the vocational level.

Definition of Terms

As in any other study, there is a need to define certain concepts used in this study in order to avoid any misinterpretation or misunderstanding of any term.

Educated Person : A person who has the faculties and powers developed by teaching instruction or schooling. [13]

Profile of an educated person: An educated person has primarily clear convictions about the relations between people and between people and their environment. Secondly, he has a broad understanding of the cultural, scientific, social and political structures of his society. Thirdly, the educated person has an ability to produce solutions to problems by a logical process of synthesis. Fourthly, he has self-reliance in the sense of being unafraid

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[12] Ibid, 101.

[13] Webster's Encyclopedia, Unabridged Dictionary of the English language. 1989ed.

to face unfamiliar situations as he has the ability to find any information required to solve these situations. [14]

<u>Vocational Education</u> : Educational training that provides a student with practical experience in a particular occupational field, agriculture, home electronics,

or industry. [15]

<u>Qirat:</u> The 24th portion of the thing.[16]

<u>Denhoum:</u> Unit of measure equivalent to 919.3 m^2. In Lebanon, considered to be equivalent to 1000 m^2.[17]

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[14] Don S. Mansell, "Development Technologies - A study for Engineers", <u>The Quarterly Journal of the International Association of Univeristies,</u> Vol 8, n2. June 1995. 34.

[15] Webster's Encyclopedia, Unabridged Dictionary of the English language. 1989ed.

[16] المنجد للغة العربية. الطبعة الثانية

[17] Ibid

<u>Vocational Specialties and Optimal Operating Conditions</u>

For the sake of this study, more than one method is used to collect the needed data and one method is used to sort out the collected data. As for the optimal operating conditions, the break-even point analysis is used on different scenarios. The first used method in collecting data is the questionnaire, the second method is interviews done with inhabitants and natives of El-Kah, and the third method is to refer to other researches done on El-Kah. The questionnaire, is addressed to the young students of El-Kah schools (3 schools). All of the chosen students were between the ages of 14 years and 18 years. Second, the questionnaire, regroups 12 questions written in Arabic. It was not written in English for the sake of a well understanding of the questions and because the students have a French education not an English one. The questions are divided into two types: close-ended and open-ended questions. The close-ended question is a question that requires only one answer. For example, when the respondent is asked about his gender, or when he is asked to choose from a list his priorities about a matter. The open-ended question. is a question that asks the respondent his opinion about a matter, with no given alternative. So, the respondent has to be creative and write his answer in his own words.

The questionnaire is designed into three parts to answer three major questions: a) general knowledge about students. The results are to be recorded only; b) percentage interest in vocational schools, on behalf of the students of El-Kah; and c) fields of interest and majors to be offered in the vocational school. In this questionnaire, what is of importance, is the identity or identities to be given to the vocational school. The questionnaire can be found in the appendix in the arabic and english versions. The method used in sorting out the results of the questionnaire, is by using the computer software "SPSS". After sorting out the results of the questionnaire, value must be given to the choice of students regarding the fields of specialty of the vocational school. The results of all the questions are to be reported in the chapter concerning the results of the survey. Then, analysis regarding the three different parts of the questionnaire should be done. As for the financial part, the result to be analyzed is that of the break-even point of the different scenarios found.

Chapter II

HUMAN DEVELOPMENT BENEFITS

General Case

This chapter gives an overview about the human development index as a general case and the Lebanese case.

Human Development Index

Almost all nations and countries all over the world, can be classified into two categories: Industrial and developing countries. Before 1990, and for years, economists, politicians and development planners have charted year-to-year progress or decline within a country by measuring average per capita income.[18] As a result, projects were designed to meet economic growth, often by neglecting the human dimensions of development. Now there is a way to measure human development. It is the Human Development Index (HDI) , created in 1990 for the UNDP, by a team of scholars. HDI quantifies the human condition and ranks countries by their success in meeting human needs. The Human Development Index is a triple-component index. The authors selected "life expectancy" as one component. This item was chosen not only for its value but because it deals with health care and people's ability of living long enough to achieve their goals. The second component is "Literacy:" Literacy not only helps people get and keep jobs, but it also

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[18] Charles K.Wilber and Kenneth P. Jameson, _The Political Economy of Development and Underdevelopment_ (USA :Mc Graw-Hill , Inc, 1992), 532.

helps them understand their surroundings and culture. The third component is "Purchasing Power", which is the per capita income adjusted to account for national differences in exchange rates, tariffs, and tradable goods. The purchasing power component demonstrates the relative ability to buy commodities and meet basic needs. According to the HDI as reported by the "Human Development Report, 1990", Japan comes out with the highest HDI ranking(0.996), even though its average real income level($13,135), adjusted to reflect the purchasing power, is lower than that of nine other developed countries . Life expectancy is 78 years and literacy is 99% . At the other end of the spectrum out of 130 country , is Niger, with life expectancy of 45 years, literacy of 14% and average adjusted real income of $452, HDI is 0.116. Out of the 130 countries mentioned in the report, Lebanon ranks 69th with an HDI of 0.735.

As a recapitulation, development is no longer measured by comparing per capita income, but rather by comparing the Human development Index of each country . HDI measures the level of, life expectancy, literacy and purchasing power within a country. Clearly then, scholars by creating the HDI have moved from measuring economic growth to pay more attention to human development and to human needs.

The decade of the 1960's was marked by an optimism that world poverty could be conquered by economic growth. The 1970's saw that hope dashed by growing unemployment, inequality and the intractability of absolute poverty in the third world. In the 1970's a new optimism replaced the old one, the pursuit of "growth with equity" or a strategy of targeting 'basic human needs". The 1980's ushered in a period of greater caution. World poverty will not be eliminated with simple economic panaceas. Resource shortages, rising protectionism in the industrial world, militarism in the third world, the international arm race, and the structure of the world economy all make the design of the development strategies a complex problem in the political economy rather than a simple economic issue. At the beginning of the last decade of the 20th century the old verities are collapsing. More complex solutions should be attained if progress is to be made against the poverty that afflicts the majority of human kind[19]. Despite the vast opportunities created by the technological revolutions of the 20th century, more than one billion people (one fifth of the world's population) live on less than $1 a day- a standard

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[19] Ibid, xiii.

of living that Western Europe and the United States attained approximately 200 years ago[20].

As a conclusion, the most important challenge facing the human race is development . Development, in developing countries, generally calls for higher incomes, better education, higher standards of health and nutrition, less poverty, a cleaner environment, more equality of opportunity, greater individual freedom and a richer cultural life[21]. If we want to apply the HDI to these factors , they all fit one of the three components of HDI, whether it is life expectancy, literacy, or purchasing power. So clearly, the challenge of developing countries is to increase life expectancy, literacy and purchasing power, all of these items deal with people. In other words

"Investing in people, if done right, provides the firmest foundation for lasting development".[22]

But above all, sustainable development requires peace. Because war creates uncertainty of whether to invest in the country capital labor and human factor or not. Moreover, war destroys the infrastructure and whatever has been the fragile base of development. Moreover, the most important reason of famine in developing countries in recent years has not been inadequate agricultural output or poverty, but military conflicts. By conservative estimates, wars have been directly responsible for 20 million deaths since 1950. That includes more than 12 million deaths from civil wars in the developing world [23] As a conclusion, the (human) development of a country which calls for increasing life expectancy, increasing literacy and increasing purchasing power, requires a peaceful climate. "Investments in human being" as a way of development occurred in the 1960's. But since the first "oil crisis" the pendulum swung in the other direction.

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[20] World Bank, The Challenge of Development . (New York: Oxford University Press, '91),1.
[21] Ibid, 4.
[22] Ibid, 4.
[23] Ibid, 2

And the question has become: How to manage the economic crisis and return to economic growth? In other words, the question is what to do first: adjust to short-term economic and fiscal constraints, or pursue a long-run human resources goals, when we already know that the firmest foundation of growth and development is through human resources investment. The best solution is to adjust short-term crisis , keeping human resources development as a goal, because the costs of neglecting the crisis are more calculable and attributable than the long run costs to the development process of neglecting human development. Moreover, the enhancement of human capabilities is both an end in itself and a means to higher production and income.[24]

On the other hand, the key to explaining the differences in the growth of output from country to country is the growth of productivity. Then, growing productivity is the engine of development. But what drives productivity is technological progress, which is in turn influenced by history, culture, education, institutions and policies for openness in developing and industrial countries. In addition, technology is diffused through investment in physical and human capital and through trade.[25]

As a recapitulation, several factors enhance the development of a country, the most important one of which is the human development (life expectancy, literacy, purchasing power). Another factor is the market openness and trade among countries. The last factor is the technological progress of the country. To operate well, a peace climate should prevail in the country.

Let's take Japan as an example of a developing country in the early decade of the 20th century , and as the highest HDI ranking country in the early last decade of the 20th century[26]. How did Japan manage to move so fast from a developing country to the first industrial country. What did the Japanese do? How do the Japanese learn to work? Is the fact that 99% of the Japanese people are literate an important factor of development?

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[24] Charles K.Wilber and Kenneth P. Jameson, _The Political Economy of Development and Underdevelopment_ (USA :Mc Graw-Hill , Inc. 1992), 606.

[25] World Bank, _The Challenge of Development_ . (New York: Oxford University Press, '91),4.

[26] Charles K.Wilber and Kenneth P. Jameson, 534,535.

Case of Japan

Almost imperceptibly, during the 1980's, Japan has become hot news. The successes of the Japanese economy and the resourcefulness of its people have long been appreciated by foreign countries[27].[27] Let us examine the different actions that made it rank first among industrial countries.

In the early 1870's a delegation of senior Japanese statesmen spent nearly a year touring and studying, the United States and Britain. They visited centers of government, of commerce, and in Britain especially of industry. They came up with some reflections about why Britain and America were so prosperous while Japan remained poor. According to them, it was not a matter of difference between industriousness and natural resources but rather in the application of science to production, in planning, organization and disciplined skills. Accordingly, Japan was at the beginning of a long apprenticeship and was to nationally catch up in the accumulation of industrial and capital skills. One of the first tasks of their ambassador in London was to recruit a group of young Scotsmen to fund the first Tokyo college of engineering. In Japanese factories a recurring need for special training programs is taken for granted.[28]

Moreover, the most important real thing is that nearly the whole population of Japan enjoys education, and not just meritocratic or wealthy elite. In addition, because abilities and aspirations differ, not everybody is educated to the same level, but with a general atmosphere of respect for education attainments of even the less able appear strikingly impressive.[29] Less bright children aiming at some of the most selective middle or high schools, are offered after school and Sunday classes to catch up with the others. After school and the Sunday classes offer classes such as, music calligraphy, foreign language classes for those who believe in self development and self cultivation as a condition for citizen self respect[30].[30] The general school system is as follows: a)the compulsory education life span is between 4 and 15 years of age. After reaching the age of 15 the

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[27] Ronald P. Dore and Mari Sako, How the Japanese Learn to work (London: Crown Copyright, 1989), viii.

[28] Ibid, ix.

[29] Ibid, viii.

[30] Ibid, 4.

student can choose to continue his traditional or vocational education; b)high Schools (15-18) both general and vocational; c)two years colleges (18-20) and 4 year universities (18-22) with both vocationally specific and unspecific courses; and d)or five year (15-20) colleges of technology.[31]   All post compulsory educational institutions have entrance examinations, and strict meritocratic rationing is a universal and rigorously applied principle in both the public and the private sector [3232] The curriculum remains a broad one until the end of high school. Every pupil, even in vocational schools continues to study Math, Japanese literature, English history and general science.[33] In addition, the vocational school students are admitted to university by recommendation from their teachers, without submitting an entrance examination. Moreover, vocational schools are serious and well-run organizations.[34] Also, Japanese employers are not only interested in general intellectual abilities but also in attitudes.[35] All of these factors contribute to the fact that vocational schools are not only for drop-outs like it is common in other countries including Lebanon, where university education is widespread and the financial means of doing so is widely available. What is of major importance in Japan, is that education is compulsory until 15 years old. Moreover, in the last two years of compulsory middle school, pupils take a dozen or more mock tests. On the basis of the marks- standardized on the whole 14-year old population of the prefecture, teachers initially advise their children to the type of high

school they should apply for. As a conclusion, almost all Japanese get education each according to his ability, whether general education or vocational education.[36]

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[31] Ibid, 1.

[32] Ibid, 3.

[33] Ibid, 7.

[34] Ibid, 15

[35] Ibid, 14.

[36] Ibid, 20.

Case of Lebanon

Historical Review: 1977 and on

On January 31, 1977, two years after the beginning of the war, under Decree Law # 5, the Lebanese government established the Council for Development and Reconstruction (CDR), and entrusted it with the task of preparing and following up the implementation of an overall reconstruction and development plan to overcome the ravages of the 1975-76 hostilities. This 8-year development plan was mainly designed for the repair of damaged houses, the provision of basic services and the upgrading of the infrastructure, but after the Israeli invasion in 1982, the CDR set about revising and updating the 1978 reconstruction plan.[37] The revised plan considered special projects to rebuild, rehabilitate and develop the infrastructure, housing facilities, educational and health institutions. The project implementation was related with security conditions and availability of funds.[38]

However, the limited recovery achieved in the early part of 1983 was soon interrupted by the renewed tensions in the country, which plunged the economy into a severe recession. [39]And thereafter 1983, Lebanon witnessed several clashes, that attained their climax during the 1988 and 1989 wars, resulting in more destruction in the whole country.

Finally, in 1991, Lebanon's long awaited recovery from 16 years of war, appeared to be on course and it is time to reactivate development plans to rebuild the infrastructure namely electricity, water, communication, housing facilities and educational and health

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[37] Marwan Iskandar and Elias Baroudi, The Lebanese Economy in 1982-83 (Lebanon: Middle East Economic Consultants S.A.R.L.), 323.

[38] Ibid, 332,333.

[39] Ibid, 359.

institutions.[40] However, the essence of development and reconstruction, is to invest in the human capital leading to the physical development of the country's infrastructure.

It has been reported by the "Education Center of Research and Development" that the percentage of joining and continuing academic and technical schools has been steadily increasing for the last 3 years by 25.5% and 25.6%, eventhough, the total number of students in vocational schools is still not more than 3% of the total number of students. Whereas in the early 80's from 1,000 student 34% of them left in the primary stage, 24.7% in the complementary stage and 22.3% in the secondary stage, leaving 19% student continuing their education[??]. This steady percentage increase in joining school and continuing education in the last 3 years shows that Lebanon is moving towards and demanding more education for the youngsters meaning that the Lebanese are searching for education, either traditional or vocational.

The New Lebanese Education System

This fact has been noticed by the Lebanese government through the Taef Accord "Itifak al Taef". Besides on the 10th of November in 1993 a committee was created to study the Planning project of educational awakening "Machrouh Khittit Al-Nouhoud Al-Tarbawi" prepared by the Ministry of Education. According to the legislated program in the 17th of August 1994 the ECRD with the help of the UNESCO and concerned and professional people, has devised "Machrouh Al-Haykalieh Al-Jadidah". This program is the application and implementation of the previous legislated law.

I am mentioning the fact of renewing the Lebanese educational system, because it is an important factor of concern after 25 years of stagnation. This stagnation in Lebanon was due to the war. Moreover, it faced an impressive advancement in technology, sciences and arts in other countries. For this reason, Lebanon feels the need for educational changes.[??] Moreover, the human factor is considered to be the prime and most important resource of Lebanon. Due to this fact any recovery of the Lebanese

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[40] "Book of the Year 1991", Britanica, 1992 ed.

[41] المركز التربوي للبحوث والإنماء، مشروع الهيكلية الجديدة للتعليم في لبنان، أيلول ١٩٩٥، ٧.

[42] Machrouh Al Haykalieh Al Jadidah, 1995, p 7.

economy should deal first with people in general and the young generation in particular. The study aims at the following changes in the educational system: a)no change in the overall number of years spent at school; b)the number of years of the primary level increased from 5 to 6 years and decreased from 4 to 3 years in the complementary level; c)the first secondary year should be common for all pupils. In the second secondary year pupils are divided between the scientific and literary sections. In the third secondary year, a fourth branch, dealing with management and economic sciences, has been added to the three previous ones (MathElem. SciencEx. Philo); d) the pupil cannot join the vocational school, before he is 12 years old. The government through the ministry of education intends to increase the compulsory age of education to 15 years old as a second step. e) this previous item leads to the fact that pupils can move from and to academic and to vocational education; f) courses of computer and crafts are to be added to the curriculum. In addition, weeks of study have been extended from 28 to 36 weeks; g) moreover, educational facilities are designed to serve the market best .

I felt the obligation of mentioning the new norms of the renewal program of the Lebanese education system, because it is a serious program, structured and designed professionals. This program deals with both the academic and the vocational educational systems. My major concern is the vocational educational system.

The Vocational School : A Chronological Account

Let us trace the chronological development of the vocational school in Lebanon. The first vocational school in Lebanon appeared in 1904 under the name of School of Vocational Arts "Madrasit al Sanaih wal Founoun" . The student, had to spend 3 years to learn crafts like forging and carpentry, to get a complementary diploma. This school was the only vocational school until 1946. After the independence, the Lebanese government realized that to deal with new technologies, Lebanon needs technicians as intermediaries between top management and workers in the different fields of work. In 1949, this school of Vocational Arts began recruiting students for the secondary level.

In 1960, private vocational schools courses and diplomas were put under the control of the ministry of education . Prior to this date all courses in private vocational schools were a reflection of individual ambitions and thinking. Fields of study were for example, business, music, secretarial studies, dressmaking and nursing.[43] As mentioned previously only two kinds of vocational diplomas were offered (from 1904 until 1960) namely complementary and secondary level Nowadays, several diplomas at several levels are offered. Thereunder is a list of the different levels and diplomas in a vocational school.

There are four kinds of vocational diplomas.

1. CAP: Certificate of Professional Aptitude

2. BP: Professional training certificate. The education level required to get admission to the BP courses is either the CAP or 2nd or 3rd intermediate class. It requires 2 years of study to get the certificate under discussion.

3. BT : Technical Baccalaureate.

- A duration of 3 years is required of the student with an education level of either the fourth intermediate or first secondary grade or with the BP certificate.

- A duration of two years is required for the student who has passed his Bacc I or his second secondary year.

The BT allows the student to get access to Lebanese University or to continue his TS studies in the same fields of studies.

4. TS : Superior Technician

- A duration of three years is required from the student holder of Bacc II or of BT to get his TS diploma .

- A duration of two years is required from the student who has passed his first university year and wants to get a TS diploma.

The New Vocational Education System.

The new vocational education system as studied by The Project of New Education Structure "Machrouh Al- Haykalieh Al- Jadidah" present two diplomas below are the details: a) the Technical Secondary Certificate, Chahadah al Thanawiah al Tikaniah- and

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[43] Bouhouth Al Moufadine p, 25,26,27.

b) the Preparing Vocational Certificate Part I, al Chahadah al Taa'Hiliah al Mihaniah al Oualiah-.

The Technical Secondary Certificate, allows the student to either, work or continue higher education in the chosen field of study. The Preparing Vocational Certificate Part I, allows the student, to either, work in the chosen field of study or continue his studies to get the baccalaureate mentioned, above for the sake of higher education.

The studies in the secondary vocational program are divided into three academic years. The requirements of admission to this program, is the complementary governmental certificate. Three different majors are offered.

1- Agriculture

2- Industrial Studies

3- Services Studies- regrouping the following fields of studies (business, tourism, hotel management, medical studies...)

Concerning the last of these majors, the first year of study is considered to be common for all the different specialties. It is rather in the second and third years that studies are divided among the different specialties. As, for the other two majors (Agriculture, Industrial studies) courses related to the different specialties are taught from the beginning of the first year, only common courses are taken into consideration.

Moreover, for services studies a total of 2,800 sessions to 3,000 sessions is divided over three years of study making an average of approximately 950 sessions per academic year. One academic year accounting for approximately 30 weeks of learning, with an average of 35 sessions per week and not less than 50mn per session. Whereas, for agriculture and industrial studies, a total of 3,000 to 3,300 sessions per program must be taught. An average of 1,050 sessions per year. The three academic years in all the majors are divided into four groups (A,B,C and D). Different proportions of the total number of sessions per year, are given to the identified groups depending on the level of education .

- The student who wants to get the Lebanese Baccalaureate part I, must study during the three years groups A, B and C.(Level 1)

- The student who wants to get the Baccalaureate II degree, will have to study groups B, C and D.(Level 2)

Thereunder, is a table defining groups A, B, C and D.

Table 1: Description of studies for Bacc I. and Bacc II.

GROUP	STUDIES/COURSE
A	Arabic Language
	Foreign Language
	Foreign Language (2)
	Mathematics
	Science
	Social Studies
B	Major Courses
	Requirements for the major courses
	Laboratories Courses
C	Sports Activities
	Other Activities
D	Real Life Application in different industries and organizations

Source: The Project of New Education Structure,1995.

As previously mentioned, each level of study requires a different set of the previous groups (either A,B and C or B,C and D). Now let us detail the different proportions divided among the groups, during three academic years and depending on the different level of studies. As applicable to my study, where the results happen to be an agriculture major, 2 industrial majors and 2 services majors, and where I choose to offer the two different levels of baccalaureate studies, let's calculate the needed number of sessions, during three years for the two levels.[44]

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[44] Al Haykaliah Al Jadidah 1995, p. 63,64,65,66,67.

Table 2: Title of courses included in Services Studies major for BacI.

Level 1 Set A, B, C (Services Studies) = 950 sessions/year

		1st year		2nd, 3rd year		
Group	Course Title	Prop*	# Needed sess.	Prop.	# Needed sess	TotalV**
A	Arabic-Foreign Lang	40%	380	35%	332.5x2	1,045
	Maths-Science-Social St					
B	Major-Requirements	50%	475	60%	570x2	1,615
	& Lab courses					
C	Sports Activities	10%	95	5%	47.5x2	190
	& other					
Total H***		100%	950	100%	950x2	2,850

Source: The Project of New Education Structure,1995.

* Prop :Proportion of courses for the different years, when the total number of session is 950sess/yr. i.e. for year 1 group A courses are allocated 40% of the total session of the 1st academic year.(950x0.4=380 needed sessions).

** Total V : This vertical total represents the total number of group A sessions, the student will get in a total of three years; i.e. to finish his BacI.

*** Total H : This horizontal total represent the total number of sessions the student needs in group A,B,and C to finish his academic year.

A comment is needed after this first table, concerning the percentage allocated to the vocational and technical courses. Regarding the importance of vocational studies in a program of vocational emphasis more than 50% or 55% in the second and third year should be taught. On the other hand the high proportion allocated to languages, sciences and mathematics is understandable, because the new vocational program of studies allows the students to go to and from traditional higher education.

Table 3: Title of courses included in Services Studies major for Bacc II.

Level 2 Set B, C, D (Services Studies) = 950 sessions/year

		1st year		2nd, 3rd year		
Group	Course title	Prop.	# Needed sess.	Prop.	# Needed sess	total
B	Major-Requirements & Lab courses	55%	522.5	45%	427.5x2	1,377
C	Sports Activities & other	5%	47.5	10%	95x2	237.5
D	Applications	40%	380	45%	427.5x2	1,235
Total		100%	950	100%	950x2	2,850

Source: The Project of New Education Structure,1995.

Table 4: Title of courses included in the Agriculture Ind. Studies major for Bacc I.

Level 1 Set A, B, C (Agriculture Ind. Studies) = 1,050 sessions/year

		1st year		2nd, 3rd year		
Group	Course title	Prop.	# Needed sess.	Prop.	# Needed sess	total
A	Arabic-Foreign Lang Maths-Science-Soc St	40%	420	35%	367.5x2	1,155
B	Major-Requirements & Lab courses	50%	525	60%	630x2	1,785
C	Sports Activities & Other	10%	105	5%	52.5x2	210
Total		100%	1,050	100%	950x2	3,150

Source: The Project of New Education Structure,1995.

Table 5: Title of courses included in the Agriculture Ind. Studies major for Bacc II.
Level 2 Set B, C, D (Agriculture, Ind. Studies) = 1,050 sessions/year

Group	Course title	1st year Prop.	# Needed sess.	2nd, 3rd year Prop.	# Needed sess	total
B	Major-Requirements & Lab courses	55%	577.5	45%	472.5x2	1,522.5
C	Sports Activities & Other	5%	52.5	10%	105x2	262.5
D	Applications	40%	420	45%	472.5x2	1,365
Total		100%	1,050	100%	1,050x2	2,850

Source: The Project of New Education Structure, 1995.

After enumerating the different diplomas that a student joining a vocational school can get , let us see what are the different benefit on a personal, social level and national level that will be indirectly resulting from vocational education and achievements.

Benefits of Vocational Development

If the chance of joining a vocational school, is given to the young inhabitants of a Lebanese rural town, three kinds of benefits will be served or attained namely, the inhabitants interests, the community, and the Lebanese economy as a whole.

Personal level

The inhabitants, both the old and the young generations, will attain self satisfaction through education.

Old Generation: The old generation will benefit from their children's education and their acquired know-how. They will confidently rely on their educated children's work. Moreover, parents will feel that the work of a whole life time, is kept safe and further developed and enhanced by their knowledgeable children.

The young generation, on the other hand, will learn all the technicalities and problems related to their field of study. Their acquired education will allow them to get higher financial earnings. Moreover, their satisfaction will be to know how to solve easily and fast the encountered problems. Based on their acquired knowledge and training, they will be able to adjust to changes and to adapt to technical innovations in their field without wasting much time and money.

Social level

The availability of a vocational school reduces the migration of youngsters, searching for education and career outside their regions. Clearly, instead of moving to cities and urban centers, young inhabitants of remote towns will remain in their home towns. The society will therefore be a young and adult society rather than old society Secondly, it improves the socio-economic status of a good number of the community 's members (i.e. students joining vocational school).

National level

    The economy will benefit from the inhabitants education in two ways .

The percentage of learned people will increase, because the vocational education offers an alternative and is an addition to the traditional education. Citizenship education, is beneficial as it prepares skilled workers, and responsible and productive citizens. Hence, productive citizens will help improve the welfare of the economy as a whole. When the country equips its industrial, agricultural and services sectors with such trained employees, the economic outcome would be positively influenced, as the citizens are more productive and highly skilled. In addition, an educated person is capable of coping and communicating with other persons and with his environment (see the profile of an educated person). This understanding of the other's cultural, social, political and religious structure, will avoid clashes and civil wars, especially, in a country like Lebanon, regrouping different religious and political affiliations.[45] This stability encourages the development and growth of the country and economy. For instance, the government can dedicate part of its budget to the development projects rather than spending large sums on military and reconstruction concerns. Moreover, ameliorating the know-how of villagers in the technical field (agriculture, hand crafts...) benefits for the economy: the economy will end up importing less services facilities (technicians) and products (agricultural and handicraft products). Consequently, less taxes are paid. On the other hand, the economy may export such services and products, a step which leads to an increase in the GNP.

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[45] World Bank, <u>The Challenge of Development</u>. (New York: Oxford University Press, '91),6.

Chapter III

OBJECTIVES and METHODOLOGY

Objectives

In this project, I propose the case for the development of a vocational school in El-Kah town. This town is approximately 100km to the north of Zahle. It is in the region of El-Hermel on the north-east boarder of Lebanon and it lies on El-Assi riverside. Children can join the schools of El-Kah for traditional education. No vocational school is available for those who choose to continue technical studies or for the drop-outs.

Young inhabitants of this specific rural town have specific social, educational, economic, health, environmental and daily life needs. I am proposing to determine their vocational needs and plan for filling the existing gap. Based on the information that I will gather from the young people and authoritative individuals in that area, I will determine the fields of specialty that will best fit those youngsters needs.

First Objective: Determining the Vocational fields of specialty in El-Kah town

Determining the specific vocational needs and fields of specialty of the young inhabitants should fit and go along with the needs of this region. I have chosen to evaluate and get acquainted with the specific vocational needs because I believe that if the youngsters get the chance and opportunity to get well-trained in the field of their specialty, they will learn how to adapt to changes and technologies related to their

work, in their own town. As a consequence migration of the youngsters from their home town will be limited.

Second Objective: Determining the Economic feasibility and size of the school

Determining the economic feasibility and economic size of the proposed vocational institution, will determine the optimal number of students that should enroll in three different scenarios of the vocational school. The first scenario presents the case of constructing new premises and the allocation of the fixed costs incurred during the construction; the second scenario presents the case of allocation for the vocational school in one of the two private existing schools; and the last scenario presents the case of rented premises. In addition, the optimal number of students will differ from one scenario to the other.

METHODOLOGY

Determination of specialty: Comparative Analysis

For the sake of this study and regarding the determination of different specialization. A questionnaire is addressed to the interested students and interviews were done with authoritative individuals in the town.   It is worthy of notice, that one consistent method is used to sort out the results. As for the economic feasibility of this study, the break-even point analysis on different scenarios is calculated to find the optimal number of students that should enroll. After I have collected all the filled questionnaires forms, the SPSS software is used to help me sort out the results. After sorting out the results of the questionnaire, value must be given to the choice of students regarding the fields of specialty. It may be in accordance with the choices of the adults interviewed or not, but the specific fields of specialty of the school should reflect the priorities of the choices of students.

Description of the questionnaire

The questionnaire regroups twelve questions written in Arabic not in English for the sake of a complete comprehension of the asked questions, and because students have a French education not an English one.

The questions, are divided into two types: a) close ended questions and b) open ended questions.

- The close ended question, is a question requiring only one answer. For example when the respondent is asked about his gender(Q1), only one answer is given; or when he is asked to list his priorities about a matter.(Q12)

- The open ended question is a question that asks the respondent his opinion about a certain matter, with no given alternatives(Q8). The respondents have to be creative and write their answers in their own words.

Moreover, for the sake of emphasis and certainty of the answers chosen, the same subject is asked in three different styles. For example, the same subject (fields of study) is asked in Q8, Q11 and Q12.

The questionnaire is designed to answer three major subjects of interest. The four first questions are designed to answer general information about the student (his gender, level of education, and the occupation of his parents). These four questions are not to be analyzed but only to be recorded. Moreover, the questions numbers 9 and 10 are put to get student's satisfaction with their parents occupation and the continuity in the same field of work. The questions number 5,6 and 7, are designed to find out the percentage interest students have in the vocational type of education. Finally, the questions number 8,11 and 12, represent the dependent variable search, which is the different fields of specialty that the vocational school should offer. The matter of importance, is the identity, or identities to be given to the vocational school, because this school is designed to serve the inhabitants needs of the specific region of El-Kah town.

The independent variables are: a) gender; b) education level (drop out or not); c) occupation of parents (technical, agricultural, crafts, other) and d) student's interests

Description of the sample

Population surveyed. The questionnaire is addressed to the young students(14-18 years old of age) of El-Kah schools. El-Kah has three schools : one public, one for the Choueirites Sisters and the other is the Maronite Apostolic School. Among the students enrolled in one of the three schools, are those from El-Hermel towns. I have not limited my study to the inhabitants of El-Kah, because these mentioned neighbors are using the traditional education facilities offered by the El-Kah schools. Consequently, they would also be using the vocational education facility. In other words, as the schooling facility is not restricted to natives, the neighbors opinion also counts in determining the fields of specialty of the vocational school.

Age range of the population surveyed. The population age range is limited to young inhabitants, between the ages of 14 and 18 years. I have chosen this age range because, usually the degrees offered by the vocational school are addressed to students who have completed either the third and fourth complementary levels or the first secondary grade level. Usually, students between the ages of 14 and 18 years, attain these different required levels. Moreover, it is during this age, that a person begins to think about his or her life career. He or she may choose to quit school and begin working or

join a vocational school in a chosen field or continue his/her higher education. In addition, adults do not always know what is that the youngsters wish to specialize in. Clearly then, it is preferable to ask the concerned person about a decision that concerns him/her, rather than ask an adult about his views and preferences regarding his children.

Sample size. The population size is 88 respondents distributed randomly over male and female students. Girls opinions have been considered, because girls do not choose the same types of jobs as boys do. Moreover, in El-Kah town, girls and boys go to school, meaning that the girl in that town gets the same chance as the boy to get education. It is an obligation than, to get the girls opinion about the different types of specialty they would prefer.

Sample level of education. Only one school offers the secondary level (The Maronite Apostolic School), this is why only 14 students of the secondary level were asked to fill in a questionnaire form. This leaves us, with 78 forms distributed among the complementary students of the three schools.

Other Means of collecting data

Other means are used for the sake of data collection

Interviews

The second method used in data collection is that of interviewing different natives authorities such as school principles.. The interviews, were done face to face and notes were taken by writing on the spot.

Questions asked to the interviewee(s) regarding El-Kah are the following:

a) occupation of inhabitants in general; b) demand of the regional market for a specific vocational school; c) geographic and environmental information; d) medical services available; e) industry available; and f) tourism.

Research

The third source of information is information taken from reading other research done on El-Kah town.

Economic Feasibility: Break Even-Point Analysis

Regarding the economic feasibility part of this study, I am searching for the optimal number of enrollment that is the break-even point of the project depending on its size, its life duration and its expenses and revenues. I have chosen to find the optimal number of students that should enroll in three different scenarios; but in all three cases the school is a private organization.

The first scenario presents the case of new constructed school premises, so construction costs are to be allocated in addition to other fixed and variable operating costs. The expenses of this project would be: a) cost of land; b) cost of the engineering feasibility and execution plans; c) cost of construction d) cost of equipment for the institution; e) cost of furniture; f) cost of stationery and overhead; g) cost of operation and maintenance; and h) salaries of academic and administrative employees.

The revenues of this project would be: a) donations, if any; b) tuition fees; and c) other

The second scenario presents the case of an extension of already existing premises. In this case fixed costs represent only administrative salaries and operation and maintenance fixed costs in addition to variable operating costs.

The third scenario presents the case of rented premises, where rental costs are to be added to the fixed cost of the second scenario.

For the sake of finding the optimal number of students that should enroll in each and every scenario, I am using the Break-Even Point Analysis.

Description of the Break-even point analysis

In Theory. The break-even point is the volume of activity where the organization's revenues and expenses are equal .[46] Expense are the cost of the goods and services used up in the process of obtaining revenue. Expenses are sometimes referred to as the "cost of doing business".

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[46] Ronald W. Hilton, Managerial Accounting. (NY: McGraw-Hill, 1994), 319.

A project incurs fixed costs and variable costs. A variable cost changes in total in direct proportion to a change in the level of activity. In other words, total variable cost increases or decreases proportionately with the activity change, but unit variable cost remains unchanged in total as the level of activity varies.

For example, and as applicable to my study; the services rendered for the students by a physician, will cost in total more when the number of students increase, but in unit price it will remain unchanged. Whereas, the total fixed expenses remain unchanged independent of the total number of students. When the number of students increase, the unit fixed expenses will decrease, because the denominator will be greater.

In contrary, to the unit variable costs, unit fixed costs declines as the activity level increases.[47] As a recapitulation, and concerning my study, the break-even point, is the number of students (activity level) where the school will have no profit no loss when we consider as variable expenses the pay of instructors and other expenses related directly to the number of students, and revenue is considered to be the tuition fees per student.

In mathematical equation:

Sales revenue - Variable expenses - Fixed expenses = profit = 0 at Break-even.

in other words to fit the studied case:

Sales revenue = tuition fees per student per year

Variable expenses = pay per instructor per year + costs incurred by services to the students (medical and insurance services)

The equation at equilibrium is   **TFC + TVC = TR**

In Practice : As applicable to my study. As applicable to my study, if I get the fixed expenses, the variable expenses incurred in the project and the unit revenue from the studied project I will determine the optimal number of students that should enroll in the institution. The previous formula, will determine the number of students that should enroll so as to break-even (no profit no loss), any additional enrolled student will return in a profit for the school . I must get a theoretical number of students from 110 students to

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[47] Ibid, 330,331,333.

policy costs $5 per student= 5X. So, **TVC1= 715X+3X+5X=723X** As for TVC2, you can find the different details in the appendix.

Total Revenue. Thirdly, the total revenue is determined according to other vocational schools in rural areas, which happens to be around $1,100. Moreover, total revenue = tuition fees * number of students; tuition fees = $1,100; and number of students = X. So, **Total Revenue =TR= $1,100 X**

For recapitulation the equation is at equilibrium : **TFC+TVC=TR**

As applied to my study, **TFC+TVC1+TVC2= $1,100**

This formula is applicable to the three different scenarios, considering every time different total fixed costs. Let us consider the methodology of each scenario separately.

Application of the Break-even point equation

First Scenario: Building the premises.
The first scenario presents the case of building the premises of the school. Allocation of 7% depreciation of the total cost of construction of the premises and laboratories should be included in the calculation of the optimal number of students of this scenario. So TFC includes the general formula described above; for recapitulation

Total Fixed Costs= Admin Salaries+Costs of Building+Cost of Labs+Cost of Equip,Fur

The formula at equilibrium is: TFC+TVC=TR

$$TFC+TVC2+TVC1=TR$$
$$TFC+TVC2+723X=1,100X$$
$$TFC+TVC2=(1,100-723)X$$
$$TFC+TVC2=377X$$

The optimal number of students is **X= (TFC+TVC2)/377.(1)**

TFC and TVC2 are calculated in the appendix according to theoretical numbers of students from 110 to 500 students; whenever the equation(1) gives the same theoretical result $(X=X0)$; it will mean that the optimal number of students that would balance revenues with expenses is found. The calculations are done by iteration.

Second Scenario: Using existing premises.
The second scenario, presents the case of the extension of the already existing two premises. In this case only administration salaries are to be included in the total fixed costs. Variable costs remain the same as for the first scenario.

The formula at equilibrium is: TFC+TVC=TR

$$TFC+TVC2+TVC1=TR$$

$$36,000+TVC2+723X=1,100X$$

$$36,000+TVC2=377X$$

The optimal number of students is **X= (36,000+TVC2)/377.**

Third Scenario: Renting the premises. The third scenario, presents the case of rented premises, where the rental costs are to be considered as 10% of the cost per square meter of the construction. In this scenario rental costs are to be added to the administration and salaries to form the fixed expenses. Variable expenses are the same as in the two other scenarios.

The formula at equilibrium is: TFC+TVC=TR

$$TFC+TVC2+TVC1=TR$$

$$TFC+TVC2+723X=1,100X$$

$$TFC+TVC2=377X$$

The optimal number of students is **X= (TFC+TVC2)/377.**

Chapter IV

ANALYSIS OF RESULTS AND CONCLUSION

As previously described the questionnaire is filled in by 88 student from the three different schools in El Kah town. The SPSS software program was used for the matching of the different question with each other. Hereafter you can find tables describing all the results, arrived at with the help of the spss software.

Analysis of the results of the survey

The first four questions in the questionnaire are designed to answer general information about the student (his gender, level of education, and the occupation of his parents). These questions for record and sample description were used to cross tabulate the other eight questions. Besides, the questions numbers 9 and 10 are used to identify the degree of students' satisfaction with their parents occupation and the willingness to continue in the same field of work.

Question 1. Gender

Male	Female
31%	69%

Question 2. Occupation of the Father

Agricult.	Bus.Man	Employee	Soldier	Teacher	Construct.	Dead	Unemploy.	Total
28%	19%	16%	14%	10%	6%	6%	1%	100%

Question 3. Occupation of the Mother

Housework	Teacher	Agriculture	Business	Employee	Sewing	Total
80%	7%	4%	3%	3%	3%	100%

Question 4. Education Level

Complementary	Secondary
82%	18%

Question 9. Continue the Father's Occupation

Yes	No
29%== 12% Male 17% female	71%== 19% Male 52% Female

Reason for the positive answer

For continuity	Interes-ting	Easy	Money
12%== 8% M 4% F	10%== 2% M 8% F	4%== 4% F	3%== 3%M

Reason for the negative answer

No interest	For man	Dead
54%== 17% M 37% F	16%== 16% F	1%== 1% M

10% only of the sample find their father's occupation interesting, while 54%do not find any interest in continuing in the same fields of work. These results reflect the fact that children have their own dreams, which are in opposite direction with their parents conditions and situation. First, because dreams cannot be controlled. Second, the children may not want to have the same economic and social situation as their parent's.

Question 10. Continue the Mother's Occupation

Yes	No
20%== 20% Female	80%== 31%Male 49% Female

80% of the mothers are housewives, on the other hand 80% ofchildren, out of which 31% form the whole male sample, have no interest in continuing their mother's

occupation. So, 49% are gilrs. This high percentage for negative answer among the girls can be an index that girls refuse to continue the traditional work of women which is to stay home. Gilrs, who are used to get traditional education, are demanding to pursue higher education and get in the fields of work.

Reason for positive answer

For continuity	Interesting
14% ==	6%==
14% F	6% F

Stays Home	No interest
44%==	36%==
18% M	6% M
26% F	30% F

The questions number 5, 6 and 7 are questions designed to answer the percentage of interest the students of El Kah town show in the vocational school. As shown by the computer results, after the complementary level, 16% of the students chose to join a vocational school and 84 % chose the secondary level. After the secondary level, 85% chose to continue their studies at the university. Only 15% chose the vocational school. Moreover, when asked about their decision if they fail their class, 87% chose to repeat their class, 11% to join a vocational school and only 2% chose going to work. As you can realize, the results show a high percentage of students who are inclined to academic education rather than vocational education. You may think after sorting these results, as only 15% have chosen vocational education, that my study in this region is irrelevant, as only 15% had chosen vocational education which is relatively a low percentage. On the contrary, these results are not comprehensible but excepted, as well as taking into consideration that the inhabitants of El-Kah town are all directed towards education and only handicapped children do not go to school. Unfortunately, no vocational school facility is offered in this region, so inhabitants of El Kah are not familiar with this type of education. Otherwise, their answers would have been more positive. Moreover, the created programs of the vocational school, should be in accordance with the needs of the young generation and the region. In addition, the school programs should be serious enough to create o new generation of well-trained and well-educated persons, to insure a

continuity in education. Only, when all these conditions are met, the inhabitants of El-Kah will encourage their children to join the vocational school, where the students learn how to merge their practical and theoretical given.

Question 5. Continuing after Complementary

Vocational	Secondary
16% == 6% Male 10% Female	84% == 25% Male 59%Female

The ones who have chosen the vocational school are divided according to their parents Occupation, as follows: **Father occupation**

Soldier	Agriculturer	Dead
4%	5%	2%

and the teacher, constructor, employee and unemployed occupation got each 1%

We can say that the 16% of children who chose to pursue vocational education have their fathers work in agriculture, in the army, or dead. We can argue that the economic situation of these children is not very much prosperous, as they have chose the faster way for earning money which is to get technical jobs.As for the mother's occupation 12% of the students, who have chosen the vocational school have their mother at home.

Question 6. After Secondary

University	Vocational
85% ==23% Male 62% Female	15% == 7% Male 8% Female

Question 7. If you fail

Repeat class	Vocational	Go to Work
87%=29%Male 8%Female	11%==2%Male 9%Female father 2% dead 2% soldier 2% agriculture	2%==1%Male 1%Female father 1% agriculture 1% dead

The questions number 8,11,and 12 are questions designed to answer the student's majors of interest chosen upon joining the vocational school. Computer results reveal, there is a discrepancy between the results of the 3 different questions (8,11,12). When in front of an open ended question, (Q8 is on the first page and the alternatives are in Q12 on the 2nd page), the student's interest was directed towards jobs different from those in Q11 and Q12. For example, in question 8, which is the question related to the preference of students in continuing vocational education with no given alternatives; " Agriculture", as a field of work, was not mentioned. Whereas, in the two other questions 11 and 12 related to the best jobs that fit El Kah town ; "Agriculture", got the highest percentage rate (60% for Q11 and 64% for Q12). Moreover, the "electricity" field of study got 30% in Q12 and was not mentioned in Q8. In addition, the "electronics" major got, in Q8, 16%and ranked second ; but it ranked 10th in Q12. These results show that the respondents or more specifically the children, have a clear idea about the fields of study that best fit their region. These fields of study, are not always of interest to them for they may not satisfy their dreams. They would nonetheless choose these fields because they are crucial for their region. To elaborate more on this discrepancy issue, we can argue that the children's dreams are contrary to their region's need. In addition, dreams are almost always, contrary to one's situation. For example, these students may wish to move to urban centers and cities to pursue their chosen educational need, but their situation may not allow them to . Second, El-Kah town does not present industries or big business centers. Out of the reality, of what is needed and demanded in their towns; students have answered specifically this Q12, which asks clearly about the most preferred job according to their town.

Question 8. What field of Vocational Studies you prefer

Comput.	Electro-nics	Business	Modeling	Eng'g &Constr	Nursing	Lang-uages	Manual Job	Hotel Mgt
27%==	16%==	14%==	13%==	10%==	9%==	6%==	4%==	1%==
3% M	10%M	4% M	4% M	3% M	4% M		4% M	
24%F	6% F	10%F	9% F	7% F	5% F	6% F		1% F

Question 11. Concerned Job

Agric.	Teach.	Modeling	Busin.	Nursing	Computer	Eng'g& cons	Army	Crafts	Hotel Mgt
60%	9%	8%	7%	4%	4%	4%	2%	1%	1%

Question 12.Jobs by Preference

1st pos	2nd pos	3rd pos	4th pos	5th pos	6th pos	7th pos	8th pos
Agricult.	Electricity	Metal Work	Computer	Hair Des	Civil Eng'g&T opogr	Business	Sewing
64%	30%	21%	18%	17.5%	17.5%	17%	16.9%

9th pos	10th pos	11th pos	12th pos	13th pos	14th pos
Wood Workshop	Electronics	Inter Des.	Modeling	Radio TV	Hotel Mgt
16.4%	15.8%	14%	13.6%	12.7%	10.9%

This table of Q12, reflects the different percentages concerning the jobs chosen by the 88 students questioned. Accordingly, the jobs were put by priority, the best and most wanted job being the one with the highest percentage. The results in this table appear to be divided among three groups of preference percentage rates. The first group presents majors with percentage rates of more than 20%. The second group majors lie between 15% and 20%; and the third group is between 10% and 15%. The majors of the first group of preference are as follows: Agriculture in the first position at 64%. Business at 30%. Metal workshop at 21%. The second group of majors are Computer, Hair style, Civil Engineering, Electricity, Sewing, Wood workshop and Electronics As for the third group, the majors are Inter Design, Modeling, Radio TV and Hotel management. Finally, for projection use, we can say, that in the future, the answers to such question may be different than those given in 1997. El-Kah, is a border town, which has a customs post office; moreover, this town lies on El Assi riverside. This town can be a touristic town. This is why, I think that in the future hotel management and engineering studies would be the most demanded majors.

Analysis of the Results of the application of the break-even point equation

As described in the previous chapter, the break-even point equation is applied on three different scenarios, namely; a) to build the premises of the vocational school; b) to extend one of the two private schools in El-Kah; and c) to rent the premises for the vocational school. For each scenario, the number of students that will break-even total expenses with total revenues will be determined. Hereafter, you can find the different results of the application of the equation and their analysis as relevant to my study.

First scenario: Building the school.

Figure 1 : Results of break-even point equation applied to first scenario:

x0	TFC+TVC2	x = (TFC+TVC2)/377
200	**75,044**	**199.054**

As it appears above, 200 students is the optimal number to break-even such a project. This number is very feasible in a town like El-Kah, which has three schools and a high percentage of literate students. Any additional enrollment, will be a profit to the institution. Moreover, we should not forget that this optimal number represents the calculation of a depreciation of 7% of the whole cost of buildings and laboratories; the total fixed and variable costs incurred in this project are equal to $75,044 per year. The only questionable issue is the willingness of an initial investor to invest around $335,000 and recuperate them over a period of at least 14 years. The investment incurred in this project is a) $175,000 for the building of premises; b)$148,000 for the labs equipment; and c) $11,875 for the costs of equipment and furniture; making a total of $334,875.

Second scenario: Using existing school.

Figure 2: Results of break-even point equation applied to second scenario:

x0	36,000+TVC2	x = (36,000+TVC2)/377
130	**50,519**	**134.001**

In this second scenario, presenting the case of the extension of existing premises, total fixed and variable costs amount to $50,519. In this case, the optimal number of students equals approximately 132 student. No initial investment is required in this case, only administrative salaries and operating costs are incurred. So, basically, if there is no demand for such a vocational extension there would not be a loss as no initial investment was made. Any additional student more than 132 will return into a profit for the school. To elaborate, the optimal number of student of the first case (200students) will be

considered. Thus the profit in the second case becomes (200-132)x1,100=$74,800 of profit.

Third scenario: Renting premises

Figure 3: Results of break-even point equation applied to third scenario:

x0	TFC+TVC2	x = (TFC+TVC2)/377
200	**80,294**	**212.98**

The third scenario, presents the case of rented premises at a rate of 10% of the cost of 1 square meter in dollar. In this case total fixed and variable costs exceed the two other cases, and amount to $80,294. The optimal number of student required to break-even these costs is approximately 210 students. This case presents the facility of rent, where also no need for an initial investment is required, as is in the first case. Meaning that, any realized profit is a real profit that goes directly to the institution and not to cover the initial investment. As an elaboration also, let us make the difference between the first, second and third optimal numbers of students. (210-200)x1,100=$11,000 profit for the first scenario; and (210-132)x1,100= $85,000 profit for the second scenario.

CONCLUSION

Though the rebuilding of the Lebanese infrastructure is an urgent business, yet it is essential to give every Lebanese citizen the opportunity of getting decent education regardless of how far away they live from the urban centers. El-Kah town is one of those remote towns that deserve such an opportunity. Inhabitants need diversified professional qualifications different from those available for inhabitants of urban centers and cities. One should bear in mind that the inhabitants of rural areas deal with nature. They lead a special mode of life with respect to those inhabiting the cities.[48] The survey reveals that the most wanted major is agriculture followed by business. Three different scenarios studied in this paper, each one presents different fixed cost numbers. For each one of the three scenarios, the break-even point or in other words the optimal number of students, at which the school will balance revenue to expenses, has been determined. Two of the three scenarios do not need an initial investment (the extension, and rented premises). The first scenario, requires an initial investment of approximately $500,000 if the school's capacity is 500 students. This is why, in my opinion, this case is the least feasible one, because it requires an initial investor, who will recuperate his money in a maximum of 14 years. Moreover, the rental case, presents one difficulty which is the high level of the break-even point (210 students per year). The most feasible case is thus the use of existing premises thereby extending them into a vocational facility . This case requires only 132 students per year to break-even.

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APPENDICES

APPENDIX A: the questionnaire in english

In the appendix you can also find the original Arabic copy of the questionnaire addressed to students of El-Kah town; hereafter, is the English translated questionnaire.

Q1. Gender

     ---- Male

     ---- Female

Q2 What is the occupation of your father:

Q3. What is the occupation of your mother:

Q4. What your level of education:

Q5. When you would have completed your complementary level, you would prefer to join a:

     ---- Vocational school

     ---- Continue in the second grade

Q6. What kind of educational institution would you choose after the Bacc Part II:

     ---- University

     ---- Vocational school

Q7. If you ever fail do you choose to :

     ---- Repeat you class.

     ---- Join a vocational school.

     ---- Quit school and work.

     ---- Other (specify)--------------.

Q8.If you ever join a vocational school, what major do you choose to follow:

Q9. Do you like to continue in your father's occupation field of work:

     ---- Yes

     ---- No

     Why: --

Q10 Do you like to continue in your mother's occupation field of work:

    ---- Yes

    ---- No

    Why:--

Q11. In your opinion what is the best job or jobs that fit best the Bekaa region:

Q12. Among these listed jobs as examples, put, before the most preferable job in your opinion, numbers going from 1 to 15. 1 being before the best job.

----Agriculture   ---- Modeling

---- Electricity   ---- Hair Design

---- Electronics   ---- Sewing

---- Metal Work   ---- Wood Workshop

---- Topography and Civil Eng'g   ---- Radio and Television

---- Business   ---- Hotel Management

---- Computer   ----Interior Design

---- Other ------------.

APPENDIX B : the questionnaire in arabic

١- الجنـس :

☐ ذكر

☐ انثى

٢- مهنة الاب : _____

٣- مهنة الأم : _____

٤ -ما هومستواك العلمي : _____

٥- إذا انهيت المرحلة المتوسطة، هل تفضل أن تلتحق بمدرسة :

☐ مهنية

☐ ثانوية

٦ إذا كنت في المرحلة الثانوية (أو تابعت دراستك في الثانوية) هـل تختـار بعـد صـف البكالوريا القسم الثاني :

☐ الجامعة

☐ المعهد التقني

٧- إذا رسبت في صفك ماذا تفعل ؟

☐ اعيد السنة الدراسية

☐ ألتحق بمدرسة مهنية

☐ أترك المدرسه وأتجه للعمل

☐ غيره _____

٨- إذا اتجهت نحو المدرسة المهنية، اي اختصاص تختار ؟

_____

٩- هل تميل(ين) الى متابعة مهنة والدك ؟

☐ نعم

☐ كلا

لماذا _____

١٠- هل تميل(ين) الى متابعة مهنة والدتك (إذا كانت تعمل) ؟

☐ نعم

☐ كلا

لماذا _____

١١- برأيك ما هي أفضل مهنة/ مهن تناسب منطقة القاع ؟

_____

١٢- من بين هذه المهن المقترحة على سبيل المثال لا الحصر، ضع رقم ١ جانب المهنة التي تعتبرها أكثر أهمية لمنطقتك وبالتسلسل بالنسبة للأقل أهمية :

☐ علوم تجارية		☐ تقنية زراعية
☐ الفندقية		☐ كهرباء
☐ برمجة كمبيوتر		☐ الكترونيك
☐ التجميل الداخلي		☐ حدادة
☐ تصميم وتنفيذ الازياء		☐ نجارة
☐ تصفيف و تزيين الشعر		☐ الهندسة المدنية والمساحة
☐ التفصيل و الخياطة		☐ راديو – تلفزيون
		☐ غيرها: _____

APPENDIX C:tables of different costs

Let us first begin to determine the total fixed costs incurred in the project

Total Fixed Costs= Costs of Building+Cost of Labs+Cost of Equip,Fur+Admin Salaries

Administration cost is considered to be fixed dependless of the number of students.
This cost is allocated annually for
1 president : monthly $1,500 annually : $18,000
1 secretary for the president 1 accountant and 1 admission officer each will
get $500 per month. A total of $18,000 annually
As a total annually

Administration cost =	$36,000

Cost of Building
The cost of building is calculated first, in square meters; and then each one sqare
meter cost is considered to be $300.
allocation of students per one classroom is approximatevely 25 Student per classroom
allocation of students per one bathroom is approximatevely 25 Student per bathroom

cost of buildings		110 std	120std	130 std	140 std	150std	200std	250std	300std	350std	400std	450std	500std	900std
		4clas	5clas	5clas	6clas	6clas	8clas	10clas	12clas	14clas	16clas	18clas	20clas	30clas
Classrooms	30m2/class	120	150	150	180	180	240	300	360	420	480	540	600	900
Offices(4)	25m2/off	100	100	100	100	100	100	100	100	100	100	100	100	100
Laboratories(5)	30m2/lab	150	150	150	150	150	150	150	150	150	150	150	150	150
Bathrooms	5m2/wc	30	35	35	40	40	50	60	70	80	90	100	110	200
Total in m2		400	435	435	470	470	540	610	680	750	820	890	960	1350
if 1 m2 =$300		120,000	130,500	130,500	141,000	141,000	162,000	183,000	204,000	225,000	246,000	267,000	288,000	405,000
Rounded up		125,000	135,000	135,000	145,000	145,000	175,000	200,000	225,000	250,000	275,000	300,000	325,000	425,000
7% Depreciation	7%													
to be allocated in calculation	10%	$8,750	$9,450	$9,450	$10,150	$10,150	$12,250	$14,000	$15,750	$17,500	$19,250	$21,000	$22,750	$29,750
For Rental cost 10%		$12,500	$13,500	$13,500	$14,500	$14,500	$17,500	$20,000	$22,500	$25,000	$27,500	$30,000	$32,500	$42,500

Cost of Laboratories

Cost of laboratories	110 std	120std	130 std	140 std	150std	200std	250std	300std	350std	400std	450std	500std	900std
Metal work lab	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000
Computer lab	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Chemistry lab	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000
Hair design lab	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Total labs in $	148,000	148,000	148,000	148,000	148,000	148,000	148,000	148,000	148,000	148,000	148,000	148,000	148,000
7% Depreciation to be allocated in calculation	$10,360	$10,360	$10,360	$10,360	$10,360	$10,360	$10,360	$10,360	$10,360	$10,360	$10,360	$10,360	$10,360

Cost of Equipment and Furniture

cost of equipment and furniture	unit cost	110 std 4clas	120std 5clas	130 std 5clas	140 std 6clas	150std	200std	250std	300std	350std	400std	450std	500std	900std
Chalkboard	$50	450	500	500	550	550	650	750	850	950	1,050	1,150	1,250	1,750
Desk/class	$110	990	1,100	1,100	1,210	1,210	1,430	1,650	1,870	2,090	2,310	2,530	2,750	3,850
Desk/office	$340	1,360	1,360	1,360	1,360	1,360	1,360	1,360	1,360	1,360	1,360	1,360	1,360	1,360
Chair	$85	1,105	1,190	1,190	1,275	1,275	1,445	1,615	1,785	1,955	2,125	2,295	2,465	2,975
File cabinet	$140	420	420	420	560	560	560	700	700	700	700	840	840	1680
Bulletin board	$10	90	100	100	110	110	130	150	170	190	210	230	250	350
Desk/std	$30	3,600	3,900	4,200	4,500	4,800	6,300	7,800	9,300	10,800	12,300	13,800	15,300	20,400
Total equip.furn		8,015	8,570	8,870	9,565	9,865	11,875	14,025	16,035	18,045	20,055	22,205	24,215	32,365
7% Depreciation to be allocated in calculation		$561	$600	$621	$670	$691	$831	$982	$1,122	$1,263	$1,404	$1,554	$1,695	$2,266

Secondly, let us determine the variable expenses incurred in the project

TVC= TVC1+TVC2

TVC1 is the costs related directly to the students

cost related directly to the number of students are pay per teacher(715X)

because the pay per teacher should represent 65% of the tuition fees per student

and medical services(3X) and insurance(5X)

TVC1 = 715X+3X+5X

TVC2 is the operation and maintenance costs

no operation and maintenance costs are incurred if the number of students is 0

Cost of Operation & Maintenance

Cost of operation &maint	110 std	120std	130 std	140 std	150std	200std	250std	300std	350std	400std	450std	500std	900std
Total classrooms	4clas	5clas	5clas	6clas	6clas	8clas	10clas	12clas	14clas	16clas	18clas	20clas	30clas
4 offices+5 labs	9	9	9	9	9	9	9	9	9	9	9	9	9
Light heat water	7,500	7,750	7,750	8,000	8,000	8,500	9,000	9,500	10,000	10,500	11,000	11,500	15,500
Telephone bills	750	775	775	800	800	850	900	950	1,000	1,500	2,000	2,500	5,500
Maintenance (5% of equip)	401	429	444	478	493	602	701	802	902	1,003	1,110	1,211	1,618
Cleaning expenses	4,800	4,800	4,800	4,800	4,800	4,800	7,200	7,200	9,600	9,600	12,000	12,000	16,800
Stationary	750	750	750	800	800	850	900	950	1,000	1,500	2,000	2,500	5,500
Total oper&maint costs	$14,201	$14,504	$14,519	$14,878	$14,893	$15,602	$18,701	$19,402	$22,502	$24,103	$28,110	$29,711	$44,918

Thirdly, the total revenue should be determined

According to other vocational schools in rural areas, I assume that the tuition fees are of $1,100

Total Revenue = Tuition Fees * Number of Students

Tuition Fees =$1,100

Number of Students = X

Total revenue incurred by students =$1,100 X

For recapitulation

The equation is at equilibrium:

As applied to my study

TFC+TVC=TR

TFC+TVC1+TVC2=$1,100X

APPENDIX D:

the results of the break-even point application on the three scenarios

First Scenario

$$X=377/(TFC+TVC2)$$

X0	FC	x=fc/377
150	72,094	191.22958
200	**75,044**	**199.05438**
250	80,043	212.31565
300	82,634	219.18886
350	87,625	232.42812
400	91,117	241.68859
450	97,025	257.35968
500	100,516	266.62016

In this first scenario the optimal number of students appeared to be 200 students .
of X matches the set of X0

Second Scenario

$$X=377/(36,000+TVC2)$$

X0	FC	x=fc/377
80	47,136	125.02918
110	50,201	133.15849
120	50,504	133.96154
130	**50,519**	**134.00133**
140	50,878	134.95557
150	50,893	134.99469
200	51,602	136.87599
250	54,701	145.09615
300	55,402	146.95424
350	58,502	155.17838
400	60,103	159.42374
450	64,110	170.05371
500	65,711	174.29907

Third Scenario

$$X=377/(TFC+TVC2)$$

Total Fixed Costs=admn sal+oper&maint cost+rental costs

X0	FC	x=fc/377
110	73,622	195.28329
120	74,963	198.84191
130	74,999	198.9374
140	76,408	202.67321
150	76,444	202.76804
200	**80,294**	**212.98011**
250	86,043	228.23077
300	89,384	237.09337
350	95,125	252.32202
400	99,367	263.57188
450	106,025	281.23236
500	110,266	292.48223

APPENDIX E:

Results of the application of Cost Benefit Analysis to two scenarios

Cost Benefit Analysis Application and its Results

Each dollar invested in a project should have a return greater thanb the usual interest rate of return that the investor can get if he deposiots his money in a bank or other financial institution. Therefore, when we study the case of investing in building the vocational school premises or renting the premises for the school; we should make sure that the project is profitable at the end of n periods. n, being the number of years when the school attains its maximum capacity of number of students.

What is the capacity of the school

This school offers 5 majors of study, because El-Kah town cannot accomodate for more. According to the requirements of the ministry of education each major should be offered in two different certificates (BaccI and BaccII). This leave us with an overall of 10 different majors offered by the vocational school, at a time for a three years program of studies. If we assume that for the first year 200 students are to be enrolled, we will have randomly 20 students for each major of study. Besides, 10 majors are offered per year for a total of three years of study, if we allocate 1 class per major, this will make a total of 30 classes for the whole school's programs. If we assume that each classroom can allocate 30 students, this will make a capacity of 900 students. So, the capacity of the initial investment is 900 students.

When is this capacity attained

The growth rate for 1996 is of 7%. If we assume that the enrollment for the first year is 200 students, the second year enrollment should increase by 7% giving a total of 200 +214= 414 students. The following numbers are students enrollment per year after the growth rate is applied for the last enrollment number.

3rd year = 414+(214*0.07)+214=   643 student

4th year =   688 student

5th year =   736 student

6th year =	787 student
7th year =	842 student
8th year =	901 student

So, at the 8th year the capacity will be attined and more capital should be invested to extend the school premises if need be. Therefore, the cost benefit analysis should be done over a period of 8 years only with the initial investment required for either one of the scenarios.

Fixed costs included in the cost benefit analysis

The different costs incurred in constructing the premises are found in the appendix.

Whereas, the calculation of the instructor's salaries follows:

For the first year of study for the assumed 5 majors are offered 2 majors in services studies 2 in industrial studies and agriculture, we need in number of sessions for group A (380+380+(420*3))=2020 sessions per year. Each week the teacher should give 24hours, a total of 30 weeks is taught per academic year, making a total per teacher of 720 sessions per year . Thus, for 2020 sessions we need 3 teachers. Assuming that each teacher gets monthly 700,00L.L.for 12 months == (3*700,000*12)=25,200,000L.L.

if the dollar rate is 1$=1,530lL.L. we will have 25,200,000/1530=$16,470

Applying the same logic for all the other taught subjects we will get for the first year an amount of $78,943 to be paid as instructor's salaries.

Instructor's salaries for the 2nd year are: $ 156,680

Instructor's salaries for the 3rdyear are: $ 163,969

After the third year the inflation rate of 1996, which is 10.85% is applied for the salaries of the third year. Because the classrooms can accomodate 30 students per classroom so no additional teacher is needed.

Below you can find the cost benefit analysis applied for the case of building premises and the case of renting the premises.

Cost Benefit Analysis - Year 1

Description	U.S.D	
TUITION		220,000
RENTAL COST BUILDING	42,500	
DEPREC.LABS	10,360	
DEPREC. EQUIPMENT	2,266	
ADMINISTRATION	36,000	
INSTRUCTORS SALARIES	78,943	
MAINTENANCE	1,618	
INSUR+MED SERV FOR STUD	7,200	
LIGHT,HEAT&WATER	15,500	
TELEPHONE BILLS	5,500	
CLEANING EXPENSES	16,800	
STATIONARY	5,500	
Total Operating Cost		222,187
Net Income		-2,187
Cash flow		10,439
PV of CF		8,999

Cost Benefit Analysis - Year 2

Description	U.S.D	
TUTION		246,641
RENTAL COST BUILDING	47,111	
DEPREC.LABS	11,484	
DEPREC. EQUIPMENT	2,512	
ADMINISTRATION	39,906	
INSTRUCTORS SALARIES	156,680	
MAINTENANCE	1,794	
INSUR+MED SERV FOR STUD	7,981	
LIGHT,HEAT&WATER	17,182	
TELEPHONE BILLS	6,097	
CLEANING EXPENSES	18,623	
STATIONARY	6,097	
Total Operating Cost		315,466
Net Income		-68,825
Cash Flow		-54,829
PV of CF		-40,749

Cost Benefit Analysis - Year 3

Description	U.S.D	
TUTION		483,829
RENTAL COST BUILDING	52,223	
DEPREC.LABS	12,730	
DEPREC. EQUIPMENT	2,784	
ADMINISTRATION	44,236	
INSTRUCTORS SALARIES	163,969	
MAINTENANCE	1,988	
INSUR+MED SERV FOR STUD	8,847	
LIGHT,HEAT&WATER	19,046	
TELEPHONE BILLS	6,758	
CLEANING EXPENSES	20,643	
STATIONARY	6,758	
Total Operating Cost		339,983
Net Income		143,846
Cash Flow		159,360
PV of CF		102,102

Cost Benefit Analysis - Year 4

Description	U.S.D	
TUTION		814,526
RENTAL COST BUILDING	57,889	
DEPREC.LABS	14,111	
DEPREC. EQUIPMENT	3,087	
ADMINISTRATION	49,035	
INSTRUCTORS SALARIES	181,760	
MAINTENANCE	2,204	
INSUR+MED SERV FOR STUD	9,807	
LIGHT,HEAT&WATER	21,112	
TELEPHONE BILLS	7,492	
CLEANING EXPENSES	22,883	
STATIONARY	7,492	
Total Operating Cost		376,871
Net Income		437,654
Cash Flow		454,852
PV of CF		251,215

Cost Benefit Analysis - Year 5

Description	U.S.D	
TUTION		897,442
RENTAL COST BUILDING	64,170	
DEPREC.LABS	15,642	
DEPREC. EQUIPMENT	3,421	
ADMINISTRATION	54,356	
INSTRUCTORS SALARIES	201,481	
MAINTENANCE	2,443	
INSUR+MED SERV FOR STUD	10,871	
LIGHT,HEAT&WATER	23,403	
TELEPHONE BILLS	8,304	
CLEANING EXPENSES	25,366	
STATIONARY	8,304	
Total Operating Cost		417,762
Net Income		479,680
Cash Flow		498,743
PV of CF		237,452

Cost Benefit Analysis - Year 6

Description	U.S.D	
TUTION		959,628
RENTAL COST BUILDING	71,132	
DEPREC.LABS	17,340	
DEPREC. EQUIPMENT	3,793	
ADMINISTRATION	60,253	
INSTRUCTORS SALARIES	223,341	
MAINTENANCE	2,708	
INSUR+MED SERV FOR STUD	12,051	
LIGHT,HEAT&WATER	25,942	
TELEPHONE BILLS	9,205	
CLEANING EXPENSES	28,118	
STATIONARY	9,205	
Total Operating Cost		463,089
Net Income		496,539
Cash Flow		517,671
PV of CF		212,452

Cost Benefit Analysis - Year 7

Description	U.S.D	
TUTION		1,026,693
RENTAL COST BUILDING	78,850	
DEPREC.LABS	19,221	
DEPREC. EQUIPMENT	4,204	
ADMINISTRATION	66,791	
INSTRUCTORS SALARIES	247,574	
MAINTENANCE	3,002	
INSUR+MED SERV FOR STUD	13,358	
LIGHT,HEAT&WATER	28,757	
TELEPHONE BILLS	10,204	
CLEANING EXPENSES	31,169	
STATIONARY	10,204	
Total Operating Cost		513,334
Net Income		513,358
Cash Flow		536,783
PV of CF		189,914

Cost Benefit Analysis - Year 8

Description	U.S.D	
TUTION		1,098,634
RENTAL COST BUILDING	87,406	
DEPREC.LABS	21,306	
DEPREC. EQUIPMENT	4,660	
ADMINISTRATION	74,038	
INSTRUCTORS SALARIES	274,435	
MAINTENANCE	3,328	
INSUR+MED SERV FOR STUD	14,808	
LIGHT,HEAT&WATER	31,877	
TELEPHONE BILLS	11,311	
CLEANING EXPENSES	34,551	
STATIONARY	11,311	
Total Operating Cost		569,031
Net Income		529,603
Cash Flow		555,570
PV of CF		169,449

NET PRESENT VALUE	
Initial Investment (LABS+RENTAL COST)	222,865
Cash Flows	1,130,834
Net Present Value	**907,969**

As it appears, the Net Present Value after 8 years and discounted at an interest
rate of 16% has a positive value, amounting to $907,969 of profit when we consider .
the case of renting the premises.

Cost Benefit Analysis - Year 1

Description	U.S.D	
TUITION		220,000
DEPR COST BUILDING	29,750	
DEPREC.LABS	10,360	
DEPREC. EQUIPMENT	2,266	
ADMINISTRATION	36,000	
INSTRUCTORS SALARIES	78,943	
MAINTENANCE	1,618	
INSUR+MED SERV FOR STUD	7,200	
LIGHT,HEAT&WATER	15,500	
TELEPHONE BILLS	5,500	
CLEANING EXPENSES	16,800	
STATIONARY	5,500	
Total Operating Cost		209,437
Net Income		10,563
Cash flow		23,189
PV of CF		20,705

Cost Benefit Analysis - Year 2

Description	U.S.D	
TUTION		246,641
DEPREC COST BUILDING	32,978	
DEPREC.LABS	11,484	
DEPREC. EQUIPMENT	2,512	
ADMINISTRATION	39,906	
INSTRUCTORS SALARIES	156,680	
MAINTENANCE	1,794	
INSUR+MED SERV FOR STUD	7,981	
LIGHT,HEAT&WATER	17,182	
TELEPHONE BILLS	6,097	
CLEANING EXPENSES	18,623	
STATIONARY	6,097	
Total Operating Cost		301,333
Net Income		-54,692
Cash Flow		-40,696
PV of CF		-32,443

Cost Benefit Analysis - Year 3

Description	U.S.D	
TUTION		483,829
DEPR. COST BUILDING	36,556	
DEPREC.LABS	12,730	
DEPREC. EQUIPMENT	2,784	
ADMINISTRATION	44,236	
INSTRUCTORS SALARIES	163,969	
MAINTENANCE	1,988	
INSUR+MED SERV FOR STUD	8,847	
LIGHT,HEAT&WATER	19,046	
TELEPHONE BILLS	6,758	
CLEANING EXPENSES	20,643	
STATIONARY	6,758	
Total Operating Cost		324,316
Net Income		159,512
Cash Flow		175,027
PV of CF		124,584

Cost Benefit Analysis - Year 4

Description	U.S.D	
TUTION		814,526
DEPREC COST BUILDING	40,522	
DEPREC.LABS	14,111	
DEPREC. EQUIPMENT	3,087	
ADMINISTRATION	49,035	
INSTRUCTORS SALARIES	181,760	
MAINTENANCE	2,204	
INSUR+MED SERV FOR STUD	9,807	
LIGHT,HEAT&WATER	21,112	
TELEPHONE BILLS	7,492	
CLEANING EXPENSES	22,883	
STATIONARY	7,492	
Total Operating Cost		359,505
Net Income		455,021
Cash Flow		472,219
PV of CF		300,095

Cost Benefit Analysis - Year 5

Description	U.S.D	
TUTION		897,442
DEPRE-COST BUILDING	44,919	
DEPREC.LABS	15,642	
DEPREC. EQUIPMENT	3,421	
ADMINISTRATION	54,356	
INSTRUCTORS SALARIES	201,481	
MAINTENANCE	2,443	
INSUR+MED SERV FOR STUD	10,871	
LIGHT,HEAT&WATER	23,403	
TELEPHONE BILLS	8,304	
CLEANING EXPENSES	25,366	
STATIONARY	8,304	
Total Operating Cost		398,511
Net Income		498,931
Cash Flow		517,994
PV of CF		293,910

Cost Benefit Analysis - Year 6

Description	U.S.D	
TUTION		959,628
DEPRE-COST BUILDING	49,793	
DEPREC.LABS	17,340	
DEPREC. EQUIPMENT	3,793	
ADMINISTRATION	60,253	
INSTRUCTORS SALARIES	223,341	
MAINTENANCE	2,708	
INSUR+MED SERV FOR STUD	12,051	
LIGHT,HEAT&WATER	25,942	
TELEPHONE BILLS	9,205	
CLEANING EXPENSES	28,118	
STATIONARY	9,205	
Total Operating Cost		441,749
Net Income		517,879
Cash Flow		539,011
PV of CF		273,063

Cost Benefit Analysis - Year 7

Description	U.S.D	
TUTION		1,026,693
DEPREC.COST BUILDING	55,195	
DEPREC.LABS	19,221	
DEPREC. EQUIPMENT	4,204	
ADMINISTRATION	66,791	
INSTRUCTORS SALARIES	247,574	
MAINTENANCE	3,002	
INSUR+MED SERV FOR STUD	13,358	
LIGHT,HEAT&WATER	28,757	
TELEPHONE BILLS	10,204	
CLEANING EXPENSES	31,169	
STATIONARY	10,204	
Total Operating Cost		489,679
Net Income		537,013
Cash Flow		560,438
PV of CF		253,486

Cost Benefit Analysis - Year 8

Description	U.S.D	
TUTION		1,098,634
DEPR COST BUILDING	61,184	
DEPREC.LABS	21,306	
DEPREC. EQUIPMENT	4,660	
ADMINISTRATION	74,038	
INSTRUCTORS SALARIES	274,435	
MAINTENANCE	3,328	
INSUR+MED SERV FOR STUD	14,808	
LIGHT,HEAT&WATER	31,877	
TELEPHONE BILLS	11,311	
CLEANING EXPENSES	34,551	
STATIONARY	11,311	
Total Operating Cost		542,809
Net Income		555,825
Cash Flow		581,792
PV of CF		234,986

NET PRESENT VALUE	
Initial Investment	605,365
Cash Flows	1,468,387
Net Present Value	**863,022**

As it appears, the Net Present Value after 8 years and discounted at an interest rate of 12% has a positive value, amounting to $863,022 of profit when we consider the case of building new premises.

Cost Benefit Analysis - Year 1

Description	U.S.D	
TUITION		220,000
DEPRE COST BUILDING	29,750	
DEPREC.LABS	10,360	
DEPREC. EQUIPMENT	2,266	
ADMINISTRATION	36,000	
INSTRUCTORS SALARIES	78,943	
MAINTENANCE	1,618	
INSUR+MED SERV FOR STUD	7,200	
LIGHT,HEAT&WATER	15,500	
TELEPHONE BILLS	5,500	
CLEANING EXPENSES	16,800	
STATIONARY	5,500	
Total Operating Cost		209,437
Net Income		10,563
Cash flow		23,189
PV of CF		19,991

Cost Benefit Analysis - Year 2

Description	U.S.D	
TUTION		246,641
DEPRE COST BUILDING	32,978	
DEPREC.LABS	11,484	
DEPREC. EQUIPMENT	2,512	
ADMINISTRATION	39,906	
INSTRUCTORS SALARIES	156,680	
MAINTENANCE	1,794	
INSUR+MED SERV FOR STUD	7,981	
LIGHT,HEAT&WATER	17,182	
TELEPHONE BILLS	6,097	
CLEANING EXPENSES	18,623	
STATIONARY	6,097	
Total Operating Cost		301,333
Net Income		-54,692
Cash Flow		-40,696
PV of CF		-30,245

Cost Benefit Analysis - Year 3

Description	U.S.D	
TUTION		483,829
DEPR COST BUILDING	36,556	
DEPREC.LABS	12,730	
DEPREC. EQUIPMENT	2,784	
ADMINISTRATION	44,236	
INSTRUCTORS SALARIES	163,969	
MAINTENANCE	1,988	
INSUR+MED SERV FOR STUD	8,847	
LIGHT,HEAT&WATER	19,046	
TELEPHONE BILLS	6,758	
CLEANING EXPENSES	20,643	
STATIONARY	6,758	
Total Operating Cost		324,316
Net Income		159,512
Cash Flow		175,027
PV of CF		112,140

Cost Benefit Analysis - Year 4

Description	U.S.D	
TUTION		814,526
DEPR COST BUILDING	40,522	
DEPREC.LABS	14,111	
DEPREC. EQUIPMENT	3,087	
ADMINISTRATION	49,035	
INSTRUCTORS SALARIES	181,760	
MAINTENANCE	2,204	
INSUR+MED SERV FOR STUD	9,807	
LIGHT,HEAT&WATER	21,112	
TELEPHONE BILLS	7,492	
CLEANING EXPENSES	22,883	
STATIONARY	7,492	
Total Operating Cost		359,505
Net Income		455,021
Cash Flow		472,219
PV of CF		260,806

Cost Benefit Analysis - Year 5

Description	U.S.D	
TUTION		897,442
DΞΡ¬R COST BUILDING	44,919	
DEPREC.LABS	15,642	
DEPREC. EQUIPMENT	3,421	
ADMINISTRATION	54,356	
INSTRUCTORS SALARIES	201,481	
MAINTENANCE	2,443	
INSUR+MED SERV FOR STUD	10,871	
LIGHT,HEAT&WATER	23,403	
TELEPHONE BILLS	8,304	
CLEANING EXPENSES	25,366	
STATIONARY	8,304	
Total Operating Cost		398,511
Net Income		498,931
Cash Flow		517,994
PV of CF		246,617

Cost Benefit Analysis - Year 6

Description	U.S.D	
TUTION		959,628
DΞΡ¬R COST BUILDING	49,793	
DEPREC.LABS	17,340	
DEPREC. EQUIPMENT	3,793	
ADMINISTRATION	60,253	
INSTRUCTORS SALARIES	223,341	
MAINTENANCE	2,708	
INSUR+MED SERV FOR STUD	12,051	
LIGHT,HEAT&WATER	25,942	
TELEPHONE BILLS	9,205	
CLEANING EXPENSES	28,118	
STATIONARY	9,205	
Total Operating Cost		441,749
Net Income		517,879
Cash Flow		539,011
PV of CF		221,210

Cost Benefit Analysis - Year 7

Description	U.S.D	
TUTION		1,026,693
DEPREC. COST BUILDING	55,195	
DEPREC.LABS	19,221	
DEPREC. EQUIPMENT	4,204	
ADMINISTRATION	66,791	
INSTRUCTORS SALARIES	247,574	
MAINTENANCE	3,002	
INSUR+MED SERV FOR STUD	13,358	
LIGHT,HEAT&WATER	28,757	
TELEPHONE BILLS	10,204	
CLEANING EXPENSES	31,169	
STATIONARY	10,204	
Total Operating Cost		489,679
Net Income		537,013
Cash Flow		560,438
PV of CF		198,283

Cost Benefit Analysis - Year 8

Description	U.S.D	
TUTION		1,098,634
DEPREC. COST BUILDING	61,184	
DEPREC.LABS	21,306	
DEPREC. EQUIPMENT	4,660	
ADMINISTRATION	74,038	
INSTRUCTORS SALARIES	274,435	
MAINTENANCE	3,328	
INSUR+MED SERV FOR STUD	14,808	
LIGHT,HEAT&WATER	31,877	
TELEPHONE BILLS	11,311	
CLEANING EXPENSES	34,551	
STATIONARY	11,311	
Total Operating Cost		542,809
Net Income		555,825
Cash Flow		581,792
PV of CF		177,446

NET PRESENT VALUE	
Initial Investment	605,365
Cash Flows	1,206,249
Net Present Value	**600,884**

As it appears, the Net Present Value after 8 years and discounted at an interest
rate of 16% has a positive value, amounting to $600,884 of profit when we consider .
the case of building new premises.

Cost Benefit Analysis - Year 1

Description	U.S.D	
TUITION		220,000
RENTAL COST BUILDING	42,500	
DEPREC.LABS	10,360	
DEPREC. EQUIPMENT	2,266	
ADMINISTRATION	36,000	
INSTRUCTORS SALARIES	78,943	
MAINTENANCE	1,618	
INSUR+MED SERV FOR STUD	7,200	
LIGHT,HEAT&WATER	15,500	
TELEPHONE BILLS	5,500	
CLEANING EXPENSES	16,800	
STATIONARY	5,500	
Total Operating Cost		222,187
Net Income		-2,187
Cash flow		10,439
PV of CF		9,321

Cost Benefit Analysis - Year 2

Description	U.S.D	
TUTION		246,641
RENTAL COST BUILDING	47,111	
DEPREC.LABS	11,484	
DEPREC. EQUIPMENT	2,512	
ADMINISTRATION	39,906	
INSTRUCTORS SALARIES	156,680	
MAINTENANCE	1,794	
INSUR+MED SERV FOR STUD	7,981	
LIGHT,HEAT&WATER	17,182	
TELEPHONE BILLS	6,097	
CLEANING EXPENSES	18,623	
STATIONARY	6,097	
Total Operating Cost		315,466
Net Income		-68,825
Cash Flow		-54,829
PV of CF		-43,710

Cost Benefit Analysis - Year 3

Description	U.S.D	
TUTION		483,829
RENTAL COST BUILDING	52,223	
DEPREC.LABS	12,730	
DEPREC. EQUIPMENT	2,784	
ADMINISTRATION	44,236	
INSTRUCTORS SALARIES	163,969	
MAINTENANCE	1,988	
INSUR+MED SERV FOR STUD	8,847	
LIGHT,HEAT&WATER	19,046	
TELEPHONE BILLS	6,758	
CLEANING EXPENSES	20,643	
STATIONARY	6,758	
Total Operating Cost		339,983
Net Income		143,846
Cash Flow		159,360
PV of CF		113,432

Cost Benefit Analysis - Year 4

Description	U.S.D	
TUTION		814,526
RENTAL COST BUILDING	57,889	
DEPREC.LABS	14,111	
DEPREC. EQUIPMENT	3,087	
ADMINISTRATION	49,035	
INSTRUCTORS SALARIES	181,760	
MAINTENANCE	2,204	
INSUR+MED SERV FOR STUD	9,807	
LIGHT,HEAT&WATER	21,112	
TELEPHONE BILLS	7,492	
CLEANING EXPENSES	22,883	
STATIONARY	7,492	
Total Operating Cost		376,871
Net Income		437,654
Cash Flow		454,852
PV of CF		289,059

Cost Benefit Analysis - Year 5

Description	U.S.D	
TUTION		897,442
RENTAL COST BUILDING	64,170	
DEPREC.LABS	15,642	
DEPREC. EQUIPMENT	3,421	
ADMINISTRATION	54,356	
INSTRUCTORS SALARIES	201,481	
MAINTENANCE	2,443	
INSUR+MED SERV FOR STUD	10,871	
LIGHT,HEAT&WATER	23,403	
TELEPHONE BILLS	8,304	
CLEANING EXPENSES	25,366	
STATIONARY	8,304	
Total Operating Cost		417,762
Net Income		479,680
Cash Flow		498,743
PV of CF		282,987

Cost Benefit Analysis - Year 6

Description	U.S.D	
TUTION		959,628
RENTAL COST BUILDING	71,132	
DEPREC.LABS	17,340	
DEPREC. EQUIPMENT	3,793	
ADMINISTRATION	60,253	
INSTRUCTORS SALARIES	223,341	
MAINTENANCE	2,708	
INSUR+MED SERV FOR STUD	12,051	
LIGHT,HEAT&WATER	25,942	
TELEPHONE BILLS	9,205	
CLEANING EXPENSES	28,118	
STATIONARY	9,205	
Total Operating Cost		463,089
Net Income		496,539
Cash Flow		517,671
PV of CF		262,252

Cost Benefit Analysis - Year 7

Description	U.S.D	
TUTION		1,026,693
RENTAL COST BUILDING	78,850	
DEPREC.LABS	19,221	
DEPREC. EQUIPMENT	4,204	
ADMINISTRATION	66,791	
INSTRUCTORS SALARIES	247,574	
MAINTENANCE	3,002	
INSUR+MED SERV FOR STUD	13,358	
LIGHT,HEAT&WATER	28,757	
TELEPHONE BILLS	10,204	
CLEANING EXPENSES	31,169	
STATIONARY	10,204	
Total Operating Cost		513,334
Net Income		513,358
Cash Flow		536,783
PV of CF		242,787

Cost Benefit Analysis - Year 8

Description	U.S.D	
TUTION		1,098,634
RENTAL COST BUILDING	87,406	
DEPREC.LABS	21,306	
DEPREC. EQUIPMENT	4,660	
ADMINISTRATION	74,038	
INSTRUCTORS SALARIES	274,435	
MAINTENANCE	3,328	
INSUR+MED SERV FOR STUD	14,808	
LIGHT,HEAT&WATER	31,877	
TELEPHONE BILLS	11,311	
CLEANING EXPENSES	34,551	
STATIONARY	11,311	
Total Operating Cost		569,031
Net Income		529,603
Cash Flow		555,570
PV of CF		224,395

42,97

NET PRESENT VALUE	
Initial Investment (LABS+RENTAL COST)	222,865
Cash Flows	1,380,523
Net Present Value	**1,157,658**

As it appears, the Net Present Value after 8 years and discounted at an interest rate of 12% has a positive value, amounting to $1,157,658 of profit when we consider the case of *renting* premises.