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The influence of external and internal parameters of a solar cell on the output power

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Abstract— The main goal of this paper is the study of the influence of internal characteristics of a solar cell such as resistance, current and the solar structure on the output power. Also the influence of the external parameters such as temperature and reflection angle on voltage, current and the output power, is presented. Simulation results are obtained using Matlab software. Finally, using these results, the parameters that have the most influence on the output power are determined.

Keywords— solar cell, internal and external factors, modeling, matlab.

I. INTRODUCTION

Considering the importance of electricity and the methods for electric power production, many efforts have been taken in order to produce healthy energy to save the resources and to prevent environmental troubles. The solar energy is considered as a healthy energy. Reproducibility and environmental compatibility are the main advantages of using the energy of sun. Solar cell is the best replacement of fossil fuels. One of the components of this system is energy transmitter or solar panel. One of the factors which is important in the sizing of the panel is the efficiency. The efficiency of the panel is related to temperature and the temperature is related to the reflection of the sun itself [2]. In [1] and [2], parameters of temperature and reflection angle as external factors which have the most impact on output power and external voltage of the solar cell are studied. The main purpose of this paper is the study of the impact of external and internal parameters of the solar cells on output power and they have been simulated and analyzed by Matlab software.

II. THEORY AND HISTORY OF RESEARCH

From electric net point of view, a reproducible system by the ability to inject power with less frequency or by the ability to adjust radioactive power is useful [5 , 6]. These systems improve the quality of the power by reproducing radioactive power, reforming the power factor and controlling voltage [7].

A. Modeling solar cells

A solar panel is a group of solar cells that have been fastened to each other in the form of occult or parallel[3]. The orbit of a solar cell is modeled like figure 1.

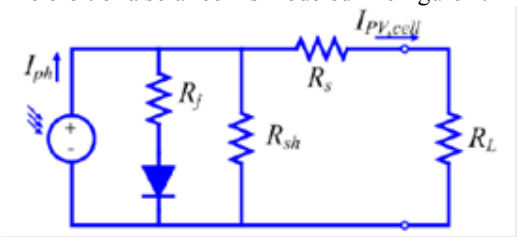

Fig 1: the orbit of a solar cell

The used solar cell in the source [2] has some features that is shown in table 1.

Maximum power (Pmax)	235W
Tolerance of Pmax	10%/-5%
Open circuti Voltage (Voc)	37.2V
Maximum Power Voltage (Vpm)	30.1V
Short Circuit Current (Isc)	8.59A
Maximum Power Current (Ipm)	7.81A
Module Efficiency (%)	14.40%
NOCT	47.5 'C
Temprature Coefficient (Pmax)	-0.485%/'C
Temprature Coefficient (Voc)	-0.36%/'C
Temprature Coefficient (Isc)	0.053%/'C
Dimensions	994*1640*46mm

Table 1: electrical features of a solar cell [2]

B. *Analyzing the external factors (temperature, reflection angle)*

External power and solar cell voltage decreases by the increase of temperature but the flow of short connection decreases while the power of cell by the increase of sun reflection increases. The result of these two factors has been shown by simulated software, voltage curve and the power in the figures 3 and 4 [1].

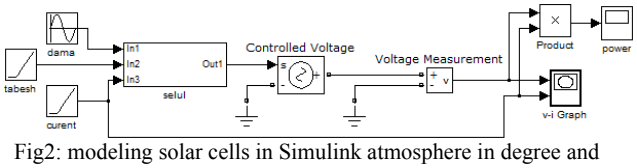

Fig2: modeling solar cells in Simulink atmosphere in degree and variable reflection

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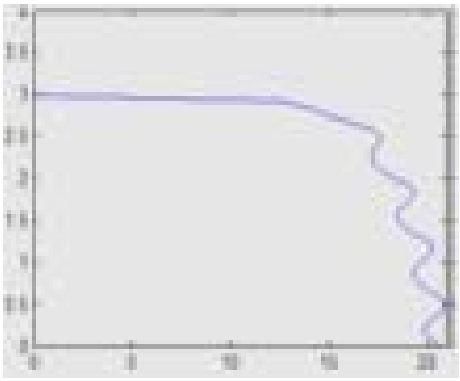

Fig 3: the v-I curve of solar cell in degree and variable reflection

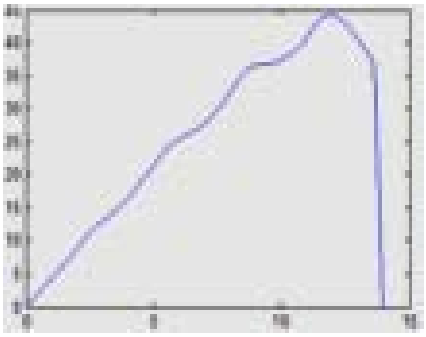

Fig 4: the power curve of solar cell in degree and variable reflection

III. MATERIALS AND METHODS

According to the mentioned chapters in the first part of the essay and the reached results from simulating and researching, we want to simulate and analyze the process of solar cell, considering internal factors like R.I and the factor. The permanent relation that exists in the solar panel is like the following [4]:

$$I = AI_L - AI_o[\,e^{[\frac{\frac{V_c+R_sI}{B}}{\frac{nkT}{q}}]} - 1] - \frac{V_c + R_sI}{R_{sh}}$$

that in the relation the above parameters T, L0, 1L, Ve, K, q, Rsh, Rs, B, A by sequent represent the number of parallel needle, the amount of occult cells in each needle, occult resistance, the barroom of an electron, Boltzmann factor, external voltage, external flow, the flow of short connection, the flow of reversed soak and the temperature of the atmosphere.

According to the analyzed factors, simulating the above relation in Mahtab software considering the impressive parameters would be like the following.

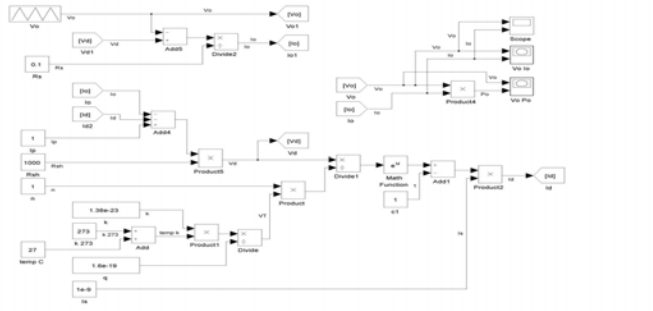

Fig 5: modeling the solar cells in simulink atmosphere in temperature, efficiency, flow and resistance

IV. OUTCOME AND DISCUSSIONS

The achieved results from above simulation, considering the given information and variations are represented in the following table and the impressions of each of them on power and external voltage have been analyzed.

$$I = 1\times10^{-9}A$$
$$Temp = 27^{o}C$$
$$\eta = 1$$
$$R_{sh} = 1000\Omega$$
$$R_s = 0.1\Omega$$
$$I_L = 1A$$

V-I V-P

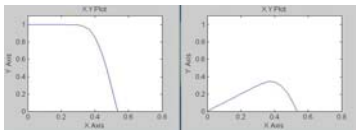

Fig 5: *v-l curve and v-p curve*

V-I V-P

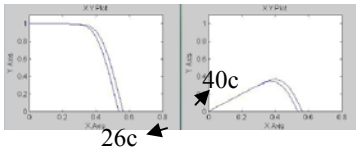

Fig 6: *v-l curve and v-p curve with degree variation*

V-I V-P

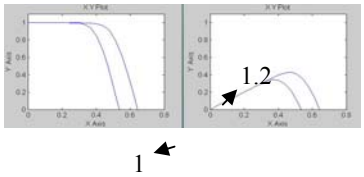

Fig 7: *v-l curve and v-p curve with efficiency variation*

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V-I V-P

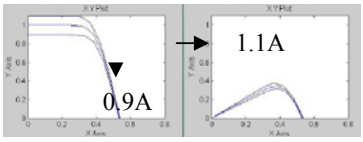

Fig 8: *v-l curve and v-p curve with L1 variation*

V-I V-P

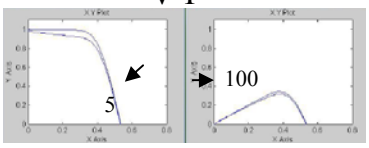

Fig 9: v-l curve and v-p curve with Rsh variation

V-I V-P

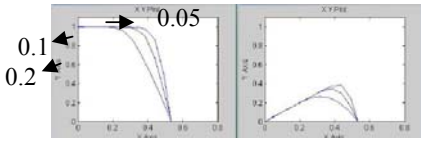

Fig 10: *v-l curve and v-p curve with Rs variation*

V. CONCLUSION

According to the achieved results from the analysis of the solar panel and analyzing the impressions of different parameters on the final efficiency, it has been found that the temperature and external resistance have the most impact on output power and external voltage of a solar cell orderly and also using this energy will be useful economically in long terms.

It became clear that the increase of temperature improves the v-p and v-I curves.

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The analysis of organizational education and training system from economic view and human capital and its role in sustainable development

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Abstract-The social organizations are some of the foremost phenomena at present time. Many requirements are met by organizations in modern world. By the aid of their resources including technology, information, financial sources, and human capital the organizations meet the social requirements. The human capital of the organizations is deemed as the paramount and most effective organizational sources since other sources are perishable but the human capital can be developed. To realize this objective, the reviewing scientific method has been employed. The results of this investigation indicate that the growth and excellence of human capital in the organizations might be only possible through organizational education and training. This issue suggests that organizational investment in growth and development of human capital is more efficient than investment in physical and equipment- related dimensions and it contributes the organizations in realization of their goals and growth and development of organizations will help to national growth and sustainable development from various dimensions. Thus, organizations should change their attitude from equipment- centered view to education and learning-centered approach. Of course, fulfillment of this important point requires serious investment in the field of training and education.

Keywords-Organizational Education and Learning, Human Capital, Economy of Education and Training, Sustainable Development

I. Introduction

Rather than making effort for growth and flourishing the potentials in personnel and directors, organizational education and learning tend to create and improve the needed capabilities in personnel for efficient doing of their occupational tasks based on occupational and organizational requirement. It is obvious that along with complexity of conditions in the organizations, the organizations are placed under new conditions and as a result the personnel will need to new abilities.

The modern system of organizational education and learning requires investment in all dimensions. It is a matter of fact that in order to design and execute this system efficiently, the economic, human, social, and cultural dimensions of this field should be accurately analyzed unless otherwise it is possible for the analysts to become confused with only an economic outlook at this system and they may be moved to this point that organizational education and learning is not cost-effective.

Education and learning are assumed as the most essential and foremost mechanisms for training of organizational human resources. The organizations have no alternative except for development and improvement of education and learning process to train the professional manpower. On the other hand, education and training is a cost-consuming activity and a major part of organizational capital and incomes are devoted to it. Lack of a comprehensive analysis in economic, cultural, social, organizational, and design dimensions and especially execution of education and training system may expose the organizations to some challenges. The present research is intended to study and explore the education and training system from the perspective of human capital and economic view and role of both of them in sustainable development. To meet this end, the researcher should search for and find the answers to the following questions:

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1- What are the paramount attitudes in analysis of investment in the field of training and human resources?

2- How can educational and learning investments be justified from economic viewpoints?

3- What is the effect of organizational education and training systems on growth and development of human capital and finally on sustainable development?

Overall, doing a series of special and certain tasks and practices is necessary with respect to raison d'être of human resource organizations and various social institutions in human communities. These are the practices regardless of which the community could not survive. In this course, several personnel and human resources and manpower are employed and used in these social organizations to do some of the special tasks assigned to the given organization through planning, management, activity, supervision, and executive measure. In other words, each of organizational members composed of manager, CEO, chief, and subordinate does specific task. Simultaneously with developing science and technology and being more specialization of administrative and organizational jobs, the social organizations hold special various theoretical and practical trainings for the personnel after attracting them and before employing them during several phases and depending on sensitivity and the needed expertise of the given task. It is clear that profitability and effectiveness of such specialized and organizational trainings may be realized when they are aligned with the fundamental goals and missions of the organization and they are organized proportional to nature and essence of the given organization. Thus, extraction of general educational principles and fundamentals is necessary and required beforehand; the principles which each of organizational personnel or members should learn them only because of presence in an organization with any administrative and specialized position and they should be considered and utilized as the basic principles of training at phase of planning for educational courses and in codification of textbooks. As a result, one can discuss about the compliance of educational bases in an organization with missions and tasks of that organization on the one hand and essence and nature of the organization on the other hand.

II. Theory and history of research

II-1- Human resources educational and training system and its objectives

From the very beginning, education and training have played essential role in the rites and customs, beliefs and values, attitudes and behaviors, and knowledge and skills in the community have been transferable and continued through educational and training systems. The main mission of educational systems should be introduced as proper training of human resources. It is the proper training that is the main objective in any educational system and it may enable the personnel to achieve human and divine values since the potential talents of human will be gradually actualized in light of proper education and training and they grow and are developed (Vahidi, 2001).

The educational system is responsible for important tasks and practices including culture transfer (cultural transferability), social training (sociability), professional and expert training, innovation and comprehensive growth of personality for the personnel. The efficient educational system is one that considers uniformly human from various moral, rational, emotional, and physical aspects so that the human can be prepared for execution of basic mission as the organizational capital with the maximum level of competency and efficiency.

With respect to various missions and tasks in organizations, the education and training possess different essence and goals out of which one can mention the foremost common goals which are noticed in organizations as follows:

1. Increase in knowledge, information, and professional capability and preparation of personnel for doing new tasks and responsibilities

2. Creating appropriate behavior and proportional to stable values in community of personnel

3. Rising job satisfaction and improvement of spirit and correlation among personnel with organizational objectives

4. Creating spirit of collaboration and cooperation among personnel toward organizational goals

5. Preparation of grounds for growing creativity and flourishing and innovation in personnel

6. Reducing job accidents and losses and various organizational costs

7. Contribution to organizational changes under necessary conditions (ibid, pp 126-127)

II-2- Economy of education

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As the most integrated branch of social- human sciences during its development period and with respect to the facts in industrial communities and given the developments caused by constant change and developing technology and industrial structure, the economics has been exposed to several problems and it has presented the applied strategies and new theories in order to give solution and or for interpretation of modern economic realities caused by behavior of actors (family, enterprise or government) in these communities. Some of these theories have led to arising of new branches in economics. On the other hand, with respect to the personal interest and researching plans in which they participate, the researchers in social sciences employ the knowledge as a tool to analyze various issues and with respect to the facts in their given community even in some fields such as, economy of divorce, economy of theft, rent economy and the like (Emadzadeh, 2003).

The economy of development or economy of education is deemed as these types. However, economics has referred to relationship of training with human capital and thus long run development in the communities from the point of its birth, the economy of education has drawn the attention from some of economists as one of the applied branches of economics during past decades.

The theoretical economy of education is usually concerned with 1) Determinant factors for presentation and selection of training for the economic benefits out of personal cost (investment) in education and future profits in the fields of wage and income; 2) The effects of training on individual and the community where s/he lives in and long run economic- social development; and 3) The needed recommendation for the efficient reforms in educational system. Theories proposed by some researchers like Becker and Barro within the narrow economics – in neoclassic major denotes emphasis remained on cost- profit analysis in short term while the more essential role of education in economy is to develop the current value- driven system and transferring it to a system proportional to industrial and trans- industrial age for comprehensive socioeconomic development and intellectual- cultural flourishing and creating civilization transformations. Regardless of such development, the needed institutional and organizational reforms will not succeed for economic development (ibid, 87).

The points derived from history of growth of modern economy suggest that by aiming at fast growth to achieve economic position in advanced industrial world like some of countries in southeastern Asia, the less- developed countries have tried to invest further in education sector with respect to their economic capacity.

II-3- Analysis of training investments from economic theories viewpoints

One of the serious topics in the field of economy of education is to explore the relationship among organizational training and learning with productivity of human capital in workplace. The main question is that if there is any relationship among education level in personnel and the rate of their productivity. The history of study on relationship among education and productivity in developed nations returns to 1960s when for the first time some economists like Meisner and Schulz tried to justify and interpret this relationship logically and with respect to academic criteria. During four past decades, they have shown the research developments in this regard within various dimensions. The scientific findings indicate that the relationship among productivity and education could be examined and analyzed by using four major theories under titles of theories of human capital, screening, filter, and interaction with technical changes (Mardiha, 2003).

Most of researches could indicate the undeniable relationship among education degree, income level, rate of productivity in human resources, and economic growth. It should be implied of course that the empirical evidences and the conducted researches, which confirmed these theories, have mainly demonstrated the effect of educatin on rate of productivity at microeconomic level and through study on performance of personnel inside the factories and industrial and agricultural centers. Hence, it necessitates conducting further researches and at macroeconomic level (regional and national) as well so that to clarify existing of this relationship. In any case, the classic theories of microeconomics were argued that the education might affect on productivity by three ways. The first is that the education trains valuable skill to the personnel and it causes rising the rate of their exploitation in the business and for this reason the directors should also increase their salaries and income by improving their educational degrees. This attitude is confirmed according to human capital theory. Secondly, education does not grant any valuable skill and feature to the personnel, but it only puts some information at directors' disposal thereby they can recognize high-quality personnel from ones with lower quality. As a result, education and training is only deemed as one signal (sign) and thirdly education does not increase rate of productivity but give this opportunity to ones, who are more benefitted from it to act in more dynamic professional environments while dynamics of environment is a factor that improve rate of productivity in human resources per se (Emadzadeh, 2003).

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II-4- Human capital theory

The main theme in all the theories which are concerned with economy of education is to define the relationship among the educational system with economic phenomena including employment market, productivity of human resources, the relationship among employee and employer, theory of salaries and wage and job satisfaction level. The human capital theory is one of most well-known theories, which possesses longer history and background.

Adam Smith, father of economics, may be assumed as the first person, who was interested in using economic theories in research and study on social relations. In fact, Human Capital Theory expresses that from individual's point of view the education is deemed as investment. The value of this training includes direct and indirect monetary costs, which a person or organization has to pay for its achievement and or dispense with them. If the future benefits are higher than value of costs, the education will be profitable and long run investment for the person and organization. In addition, the value of social benefits of education should not be also ignored. Thus, it can be mentioned that human capital theory tends to prove this assumption that the human is the foremost factor among the effective factors on production process. This paradigm from Adam Smith was agreed by the economists based on which with education the humans may be converted into capital and wealth for them and community (Vahidi, 1994).

The human capital theory looks at education and training as a type of investment in skills and assumes it as a method to increase productivity rate of human resources. This paradigm is led to presentation of some growth models in which the productivity is assumed as the result of various performance caused by change rate of access to education. The primary studies in this regard signify this fact that educational changes strongly affect on economic growth. For example, Denison (1979) estimated that about one- fifth of growth in US national income during years (1948-1973) can be attributed to rising of educational level in human resources in organizations. Regarding qualitative improvement in US human resources, the investigation done by Jorgensen and Frameni (1993) assumes one fourth of economic growth during years (1948-1968) caused by rising level of literacy in human resources. Similarly, study on economic growth among six member states in Organization of Economic Cooperation and Development (OECD) for seventy- year time period (1913-1984) indicates that more access to education may highly justify the growth of productivity rate during this period (Wolff, 2007). The aforesaid research findings shows this point that the higher rate of enrollment at high schools and higher education among the employees at age higher than 15, the higher productivity rate will exist in human resources as well. So as a result, it can be implied that productivity rate in workforce in developed countries is higher than in developing nations.

II-5- Economic applications of human capital theory in training and education of human resources

As the economists define, human capital theory proposes a very simple interpretation about role of education. Passing through various educational courses creates several skills, knowledge, insight, and capabilities for which there is some demand in the market. This causes that the given person to achieve further occupational opportunities with higher income if s/he receives more training. The education is generally deemed as public education while special trainings (specialized and professional) are postponed to the time when the person is employed (Bills, 2003).

In Becker's opinion, the educational system provides the needed conditions for the person to acquire occupational and professional capabilities by presentation of primary and basic trainings, but what it causes distinction of a person to other one is the superiority in special and professional skills, which are acquired by participation in the higher education centers or on-the-job training courses.

Another application of human capital theory is to pay attention to time factor as a type of valuable restricted capital and its relation with subject of education. Time-education relationship can be notices regarding some issues including educational risk- taking and emigration (immigration).

The most interesting point of Becker's theory should be search in application of human capital theory to define behavior of the educated persons in relation with the family institution and what it called 'economy of family'. This relationship forms from the very beginning phases so that as the educational level is increased in human capital, the prices of time that s/he allocates to a certain subject will be also increased. Here, Becker refers to human capital proportion in marriage and calls high quality as marriage of high- qualified men with the women. As a result, if a man with high quality of human capital chooses a woman with the similar quality as his wife, this marriage can be called positive unity (Sandemo, 1994). According to Becker's view, some issues like business and income of family, demand for child and time and their quantity, training of children, and leisure times all have several economic effects and consequences are exactly affected by size and amount of human capital from which the spouses are benefitted. For

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instance, one can notice the relationship among period of child- bearing with economic growth and role of human capital in it. When the economy grows, the rate of birth is reduced so the rate of enjoying education is improved so the mean age for childbirth rises. According to opinion of Becker and Barro, improvement of education will also develop technological advancements (Becker and Barro, 1988).

What it can be mentioned according to human capital theory about education and training system is that the investment of organizations in training and education of directors and experts includes several individual, organizational and even familial effects. The growth and training of personnel improves their capabilities and whereas education and training system creates and improves new knowledge and skills in the learners then it will cause the works to be done with lower economic and social costs and this will lead to economic growth in the long run.

In addition, time is important as a significant element in activities of organizations. The educated personnel appreciate more value for the time and use it better.

In addition to these direct effects, education and training of personnel increases their familial satisfaction. The educated persons are potentially able to moiré appropriate marriage, more proper training for the children, and adaptive resolving of their own familial conflicts. The familial appropriate conditions for the personnel improve their organizational actions.

II-6- Economy of organizational higher education

The second half of twentieth century can be assumed as the time of emerging of economic view toward educational system and in particular the higher education. The phenomenon of globalization has played essential role in emerging and spreading of this attitude. The globalization phenomenon tried to introduce higher education as a jumping platform for economic development and to demonstrate its practical and technical value. The achievement in higher education is deemed as rising access to scientific researches, which leads to holding race and competition at individual, organizational, and national levels. This competition spreads within the borders between universities and among higher education centers at international level and enter them in modern classification of the developed, developing, and retard groups. If the countries were shown by means of terms and division and position of them in world economic cycle yesterday, these are universities and higher education centers which are characterized by one of these features today and they are no longer assumed as winners or losers of economic lexicons and or exclusively specified to financial and material investors. At this time, new winners and losers are members of faculties and universities. The latest research findings indicate that the learning is the key for arrival at knowledge- based community and anyone can build and produce knowledge through training (Brewer et al, 2003).

According to this attitude, the universities and higher education centers in organizations are assumed as the key for economic growth in the given organizations. Thus, the economic analysis of higher education is deemed as a new opportunity for the universities in the knowledge- based economy. Under this condition, the universities and higher education centers are considered both as effective factors for economic growth and as a new and intact ground for profitable activities such as a new and attractive industry for investment by the investors (Kerr, 1982). For this reason, some analysts like New (1988) argues that the education in general and higher education in particular have lost their position as a social procedure and policy everyday more than ever and they are noticed growingly as economic tools while the sociologists, politicians, planners, and directors and even parents mostly utilize from so-called terms among the economists- which denote economic view toward the education- like rate of return, growth in human interests, effectiveness, efficiency, productivity, and personal cost creation (Watson, 1996).

Dominance of economic view to education is manifested, especially about higher education so that during two final decades of twentieth century even in China- that claimed developing education as main tools for realization of social justice- it was assumed as a type of investment in human capital. For this reason, it can be anticipated that in twenty first century, investment in education and especially in higher education will be converted into the greatest field of economic investment in organizations and communities (Jones, 1996).

II-7- Science and technology

Contribution to growth and improvement of Information Technology (IT) is one of the consequences of organizational education and training system in the organization. Information Technology and Communication (ITC) has provided valuable opportunities for economic and social development based on information to organizations (Sarkar Arani, 2005). If economic superiority was a function of natural resources and ratios of production

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factors (coefficients of capital to labor) in the past, but human's brain is deemed as essential factor today. Compared to the previous centuries, twentieth century and the current century possess a lot of advantages, but probably none of them is as valuable as the factor of scientific development. Before Gutenberg's invention of printing at the half of sixteenth century, Europe presented about 1000 books every year. Four and half century later (1950), this number became 120000 (UNESCO Regional Summit, 1991). In 1965, the quantity of world daily journals was about 1000 titles while today the size of existing data in a normal CD is more than 2000 books with 200 pages in normal size (Khalkhali, 2002). These quantitative developments show the fast changes in the field of human sciences and knowledge. The resulting outcomes from the fast changes in field of knowledge can be mentioned at least in five cases. These cases affect on higher education system more than ever:

● *Instability*: It means the information and data are quickly reorganized.

● *Outdated nature*: Some information becomes quickly old and useless.

● *Professional and occupational multiplicity*: It means that a person has to change his/ her job periodically.

● *Continuous training and apprenticeship*: That is the learning is assumed as a permanent process and a tool to adaptation to new circumstances.

● *Communication network*: It means that the data and information can be widely disseminated and spread (Abbasi and Madandar, 2000).

In fact, the governing new paradigm over economy of education is based on this assumption that the education provides the maximum benefit for personnel and organizations and tendency to participate in educational institutes is deemed as an individual choice and decision to access to employment market at better position. This approach causes creating the possibility for competition among personnel to further, faster, better access to education that is not necessarily negative since individual mobility and progress will be finally followed by constructive social outcomes (Sarkar Arani, 2005).

II-8- Economic outcomes of organizational and higher education and their role in sustainable development

The education and in particular organizational and higher education has been further noticed than other educational courses due to economic outcomes and it has been considered as one of the main reasons for development of countries and organizations. This issue is especially addressed in analysis of economic growth at countries from southeastern Asian region by the economists. The studies which have been mainly conducted during two past decades witnessed this effect so that the findings of research from Li and Liu and Wong (1994) show that the economic growth in two countries of South Korea and Taiwan has been mainly affected by their human capital. Also in his research, Lin (2003) tried to examine the undeniable effect of higher education in economic growth in Taiwan so that one percent increase in capital for higher education have led to 19% increase in production of this country during the given period of time (Lin, 2004). Voon (2001) had acquired the similar results to findings of Lin's research in Hong Kong during 2001. Similarly, the investigation of Tilek (2003) about relationship among organizational and higher education with Human Development Index and parameter of sustainable development showed in 49 Asian countries that in these communities:

● There is strong relationship among organizational and higher education with economic sustainable development.

● The rate life expectancy is increased and childbirth rate is reduced with spreading organizational and higher education.

● The marriage methods are changed and its age is postponed.

● A very negative strong relationship is observed among rate of enrollment in higher education with poverty; and

● A very positive strong relationship is seen among rate of enrollment in higher education with rising income level.

One of the most distinct economic effects of organizational and higher education system can be searched in relationship between universities and work market and employment system. However, this relationship does not express new subject and the economic planners are aware of its importance for several years, intensification of world competitions requires looking more deeply at performance and position of organizational and higher education systems. It is clear that the large- size and leading enterprises tend to choose their needed human resources among the educated persons of the best universities since labor market is classified according to value and reputation of enterprises. On the other hand, the universities and higher education institutes are also ranked according to the opportunities, which are created for employment of their

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graduates in large- size and leading organizations and enterprises. In fact, a mutual relationship and effect have been created among system of employment with higher education system. For this reason, employment of graduated people from higher education centers measures the effectiveness of higher education like an economic criterion (Sarkar Arani, 2003).

When Castles (1996) divided world workers into four main groups of high- value laborers (Knowledge- Workers), producers with high- capacity (workforce with lost cost), producers of raw materials, and unemployed producers (workforce without value), he apparently showed that the knowledge- workers are the product and output from a modern and dynamic higher education system. For this reason, the subsequent changes during recent years exerted in higher education system at developed countries and proposing some subjects such as accreditation in universities indicate that there is a very close and interrelated competition among these institutes. Rather than proving the universities as the paramount centers and sources of training of knowledge- based workforce in this competition, they have been involved in perfect competitive economy to attract financial sources. This competition conveys a completely clear message:

Table 1: Composition of national wealth based on role of investment in various points of the world for 1994

Geographical zone	National wealth (based on per capita for one thousand million USD dollars)	Human capital (in percent)	Physical capital (in percent)	Natural capital (in percent)
North America	326	76	19	5
Western Europe	237	74	23	3
Middle East	150	43	18	39
South America	95	74	17	9
Eastern Asia	47	77	15	8
South & east of Africa	30	65	25	10
West Africa	22	59	18	21
South Asia	22	65	19	16

III. Conclusion

Despite of historical background, it has been only during several past decades that the economic growth theories has assumed role for education and training system in formation of national wealth (human capital). Before this time according to viewpoint in these theories, economic growth was assumed as the result of population growth and technological advancements and this fact did not matter that education might play role in rising national wealth. In any case, the further researches proved that among various forms of capitals, the human capital has the greatest share in formation of national wealth. The comparative study by World Bank has identified the share of investment types in formation of national wealth separately based on various regions in the world and for 1994. As it shown in Table (10, the World Bank has evaluated composition of national wealth separately based on three types of human, physical, and natural capitals and due to difficulty in measurement and conversion of quality into numerical quantity, the role of social capital has not been addressed. Nonetheless, the given findings are evident that the share of human capital in composition of national wealth is ranged from two third to three quarters in all regions of the world- except Middle East region. Similarly, the portion of physical capital is among one quarter to one sixth in all of regions. It is interesting that the natural capital has very little share in national wealth at advanced areas in the world so that the portion of this capital in national wealth is less than 5% in advanced areas of the world namely North America and western Europe. Inversely, the portion of human capital (43%) in formation of national wealth at Middle East is even less than in southern, eastern, and western countries in Africa. This finding may clearly demonstrate the raison d'être for economy of education and show that all of the efforts and measures, which have been made by economists to enrich this field of studies is based on this fact that despite of richness of natural capital, the educational investment in any country and in each of educational courses and for any person- female or male- includes a lot of benefits, which could never be ignored. This issue suggests that investments of organizations in growth and

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development of their human capital will be more efficient than investment in physical and equipment- related dimensions and it may contribute the organization to realize their goals. It seems that the managers of organization should move toward changing the approach from equipment- centered to education and training- centered attitude so realization of this important objective requires serious investment for education and training and if such an important and profitable investment is done by all large and small public and private organizations, it will certainly play great role in sustainable development.

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Environmental Effects of Climatic Factors on the Yield of Irrigated Wheat (Case Study of the Town of Roshtkhar)

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Abstract: The investigation of fluctuation climate on agriculture products is in the field of meteorology. Climatic elements including precipitation, temperature and humidity are among parameters that have important effects on agricultural activities. There for investigation of climatic elements in different geographical areas is very important .The main objective of this study is the investigation of the Impact of climate parameters on yield of wheat in roshtkhar. The spss software has been used to analyze date. The results obtained showed reduced yield in recent years the city of Roshtkhar.correlation coefficients showed a significant relationship between climate factors and yields of wheat moisture performance significant.

Key words: climate, wheat, spss, solidarity

INTRODUCTION

The stability of agricultural production is one of the most important aspects of sustainable agriculture. The climate and soil are among the most important factors of production and exploitation of land is mainly based on the quality of these two factors (Mirza Bayati, 2004).

Climate is among the main and decisive factors determining the agricultural geography (Koochaki and Khazanedari, 1997) and it is also the main determinant of global agricultural models (David Greek, 2009).

Agricultural production is highly correlated with annual precipitations and good climatic conditions. However, the climate is the only source that a man can use to any amount with paying no fees. In our country, due to very limited rainfalls, the overwhelming heat in summer and extremely cold temperatures in winter, the climate plays a special role in agricultural productions (Khayatzade Mahani, 2006). Among the great achievements in the field of breed, technology, irrigation, pest and weed control, and biotechnology, the climate has still remained as a major and determinant factor in agricultural geography (Koochaki and Khazanedari, 1997). Generally, agricultural planning associated with planting, growing and harvesting, controlling the pests and diseases, etc. will have little success without understanding the impact of and controlling the climate nature (Kaviani and Alijani, 2001).

Awareness of the right time of planting, growing and harvesting of garden and agricultural crops and identifying the climatic indicators make it possible for planners to think about the appropriate allocation of resources to different crops. Study of climate and environmental factors in determining the agricultural and gardening crop species of each region has become an essential matter. Today, agricultural management and increased production per unit area require optimal utilization of natural resources and further knowledge about these resources (Noori, 2004).

The climatic conditions such as light intensity, temperature, rainfall, wind speed, air humidity and their changes are the main factors that determine the type of plants that are capable of growing and developing in a certain region. In order to grow farming and gardening products of a particular area in a certain region, we should inevitably carry out a detailed study of the weather conditions of the region (Mousavi Bayegi and Ashraf, 2009). Currently, the agricultural sector is one of the most important economic sectors of a country, to the extent that it can be said that a country's economic growth is not possible without increased agricultural growth. Since each agricultural crop requires certain climatic conditions and its growth is possible only within certain limits, among the factors affecting agricultural production, climate conditions are among the most important natural variables that even on a small scale and with spending high costs, the man is not able to control them. Inattention of farmers and agricultural specialists to the climate, causes great damages to the agricultural crops. The evidences of these effects can be annually found as frostbite, heat exhaustion, frost, etc. (Naseri, 2000).

Wheat is among the most important agricultural productions that in addition to providing the main food of human, it can be used to feed the birds and some domestic animals. It is also used in some industrial plants. Its stems and chaff can be used to provide the bedding for the livestock and can also be used in manufacturing paper and as ceiling cover of buildings and

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in most villages, it is used as fuel and even for feeding the animals and strengthening the farm lands. It plays an important role in agricultural, industrial and commercial employment (Khodabandeh, 1998).

In Iran, wheat is considered as one of the strategic agricultural products that due to supplying the main food for humans and livestocks, it is particularly important (Khosravi and Torkamani 2000)

Statement of the problem:

Climate is one of the most important factors considered by the mankind throughout his history. The reason is the important role of climatic elements on human life and especially on agricultural products (Alijani, 2005).

In Iran, due to restrictions such as heavy rainfall, frost, rainfall fluctuations etc., the knowledge of climate plays an important role in agricultural success. Correct understanding of climate conditions of each region can help the farmers in timely planting and meeting the plants requirements during the growing season and thereby can help to develop the quantity and quality of agricultural products.

Today, there are concerns about climatic changes caused by human activities. Because, climate changes have impacts on agricultural productions and in the future, the climate changes will be considered as one of the influential factors of agricultural production (Hoodguest et al, 2000). The phenomenon of drought and wet years has been passed on from one generation to the next for many years. In today's life, in spite of all the advancements of human in technology, production and modification of all agricultural crops, the weather is still among the factors that have remained largely uncontrollable. Infection of plants to pests and diseases is also subject to weather conditions. The plant has also critical steps toward climate factors such as cold, heat, humidity, wind, etc. Knowledge of these steps in agricultural plants allows for appropriate decision making for timely farming operations (Kafi et al, 2000).

Wheat is the most important crop on earth. It is well known that every day, wheat is planted in some part of the earth and it is harvested at some other part, on the same day. This implies the very high adaptation capability of the plant to various climates. Globally, nearly 52 percent of the world's arable lands are devoted to growing cereals (Emam, 2005).

Due to creating employment and income in the world and particularly in developing countries, wheat cultivation is important. Wheat not only plays a very important role in feeding the human, but its grains are used to feed birds (poultry, etc.), for industrial applications (making papers, roof covers of buildings, etc.). Its stalks and chaff are used for livestock bedding, animal feed, boosting agricultural lands and medicinal purposes (production of various vitamins from the bran, etc.) (Khodabandeh, 1998).

Roshtkhar is located at an altitude of 1141 meters above sea level, between 34° 30' to 35° 13' northern latitudes and 59° 30' to 59° and 55' eastern longitudes. It is located in the central regions of Khorasan Razavi and has a dry climate. Its vast plains have provided favorable conditions for agriculture which is the main economic activity of the town. Therefore, during 2010-11, from a total of 31,606 hectares of infield lands in Roshtkhar, 13,500 hectares have been devoted to wheat cultivation (Jangi, 2012).

Given the dry climate of the region and the adaptability of the crop to the climatic and soil conditions of the region, it is the most important crop in the Roshtkhar region, so that it has the first rank among the crops produced by the town. It is therefore important to examine role and importance of climate in its production.

Research questions:

1- What are the main climate factors affecting on irrigated wheat yield?

2- Do climate parameters have made changes in the rate of irrigated wheat yield of the town?

Research hypotheses:

1- It seems that among the climate factors, the parameters of humidity, rainfall and temperature have the greatest effect on the yield of irrigated wheat.

2- It seems that in the last few years, major changes have occurred in the rate of irrigated wheat yield.

Research objectives:

Defining a good research design will enable researchers to spend the least money for solving the concerned problems, objectively and accurately (Nabavi, 1995).

The overall goal of this research is to understand the existing opportunities and potentials of the region, so that with the knowledge about these features and proper planning and by raising the awareness among farmers toward agricultural development and finally the sustainable development of the region, the appropriate context is provided for the wheat cultivation in the suitable conditions of the region. Therefore, in addition to increasing economic productivity, employment, providing income and improving the social situation, it can prevent the migration of villagers. The overall objective of this research was providing an appropriate design and solution that can play a more effective role in the agricultural development of the region.

Research Background:

In order to achieve the purpose of research, awareness and understanding of the background of the problem seems essential and necessary; because it makes the research and its contents clearer. Literature review by researchers could be important in several ways. Because, the authors carry out the research to assess the feasibility of its scientific application (Moulazadeh, 1998).

Nassabian and Sadralashrafi (2004) evaluated the effects of rainfall and temperature on the yield of strategic agricultural products. The results showed that the yields of irrigated wheat, potatoes, and irrigated cotton have the most reactions for a temperature rise equal to a Celsius degree in the provinces of Lorestan, Fars, Zanjan, Kermanshah and Khorasan, respectively. And the provinces of Khorasan, Fars,

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Zanjan and Kermanshah have the highest response for one millimeter rainfall increase.

Using Zicardian method, Vaseghi and Ismaili (2008) examined the economic effect of climate change on agricultural sector of Iran (Case study: Wheat). The results showed that an increase in temperature and decrease in rainfall will cause 41 percent reduction in the yield of wheat in the country up to next 100 years.

Zarrin and Farajzadeh (2002) modeled the wheat yield with regard to climatic and agricultural parameters in Western Azerbaijan and obtained the analytic functions of wheat yield for the area.

Using stochastic production function, Karbasi and Nodehi (2003) examined the effect of using inputs on production risk of wheat growers of Neishaboor. Results showed that fertilizer, the value of consumed seeds and the cost of machineries had a positive and significant effect on wheat production. Lamason (1974) studied the effects of rainfall fluctuations on agriculture success in eastern Montana. The results showed that the possibility to obtain a high yield in this area is once every 23 years while the complete destruction of the yield resulting from drought can be expected once every seven years.

Different climates of irrigated wheat and their recommended cultivars

There are different planting dates for different climates of the country. But wheat planting period in dry and hot climatic conditions of Roshtkhar region is from November 11th to December 21st and the best time is first half of December. The number of seeds used is 350-400 seeds per square meters and commonly early spring wheat is used for this purpose. Currently, land and bedding preparation for dry and hot areas is the same as land preparation for temperate climates.

Table (2-5): the relationship between performance and pre-season rainfall (mm). (Koochaki, 1985)

More than 199 mm	150-199 mm	100-140 mm	Less than 100 mm	Amount of rainfall
945	670	520	240	The average yield (kg/ ha)
4	9	8	0	the years with a yield of 650 kg per hectare to the total number of years

Location and extent of the study area:

The province of Khorasan Razavi with an approximate area of 127,600 square kilometers covers 7.7 percent of the total area of Iran. The Province is located between 34° to 38° northern latitudes and 57° to 61° eastern longitudes. Roshtkhar is a town of Khorasan Razavi Province located at a distance of 190 kilometers from the Capital of the Province (Mashhad). Roshtkhar has an approximate area of 3598 square kilometers and located between 34° 30' to 35° 13' northern latitudes and 59° 30' to 59° 55' eastern longitudes and its height from sea level is 1141 meters (Rahmanipour, 2013).

Figure (3-1) shows that the neighboring cities of this town are Dolat Abad Zaveh and Torbat Heidarieh to the north and northeast, Mah Velat to the west, central part of Gonabab to the south and southwest and Salami, Zuzan plain and central regions of Khaf to the south and southeast (Roshtkhar Statistical Yearbook, 2009).

Figure 3-1: Location Map of Roshtkhar in Khorasan Razavi province

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According to Figure (3-2) and (3-3), it can be seen that the town has 70 villages, farms and rural areas in two districts and four counties.

Figure (2-3): The pyramid of town separated into districts and counties

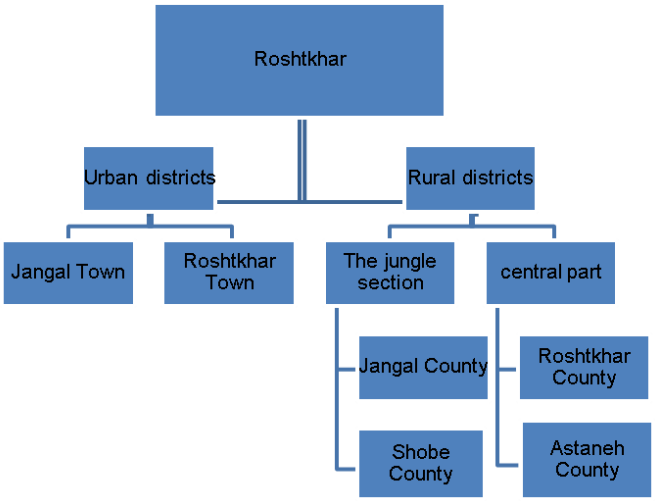
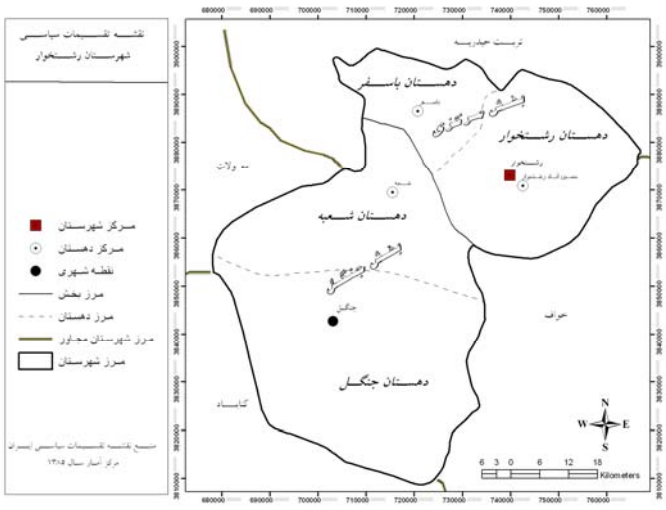


Figure (3-3): The map of the political subdivisions of Roshtkhar



Roshtkhar climatic parameters:

Given that the climatic data were essential for the study and the necessity of using various and multiple parameters affecting the growth and yield of wheat required the use of synoptic stations, due to lack of such stations, the data of three stations of Torbat Heidarieh, Malek Abad and Khaf were inevitably used. The specifications of studied meteorological stations are presented in Table 3-2.

Table (3-2): Specifications of meteorological stations

Malek Abad	Khaf	Torbat Heidarieh	Station specifications
Measurement of evaporation	Synoptic	Synoptic	**Type of station**
35-80	34-35	35-16	**Latitude**
59-23	60-90	59-13	**Longitude**
1196	998	1450	**Height from sea level**

First, according to data gaps of Khaf station, Torbat Heidarieh synoptic station was considered as the reference station and using differences and ratios, statistical gaps of Khaf were filled.

To correct the suspicious data or filling the blanks in the statistical data set, the differences method was used for temperature, and the ratio method was used for precipitation and relative humidity.

Research Methodology

For data analysis, we evaluated the position and extension of agricultural lands of the study area and identified the yield of agricultural crops, including cereals (irrigated wheat). Then the cultivars were recognized. Given that in the past, there was much raining in the region and the weather was suitable for growing crops, the farmers had no problem with the cultivars and the land was ready and suitable for cultivation of any type. But in recent years, due to the changes in the type of precipitation and climate of the region, the authorities have decided to conduct research about the current changes and conditions. Therefore, among the adaptable cultivars for the climate of the region (used since 2010-11) that had high protein content, we can mention to Zare, Pishgam and Orum cultivars.

Then, the cultivated acreages of agricultural crops were compared for the town among which the most cultivated area is devoted to irrigated wheat and the dominant cultivation in the region occurs in winter. Also, changes in cultivated area and irrigated wheat yield of the town was determined for the statistical period (2002-2011) and provided as some curves. And finally, we investigated the relationship between the mean humidity, rainfall and temperature with yield of irrigated wheat. This means that the 10-year data of irrigated wheat yield and the restored data of the climate were fed into Excel for analysis. Then, Spss was used to assess the impact of climatic parameters on the yield to determine which parameters have the greatest impact on the yield. Based onrestored statistics for Roshtkhar in Tables of Appendices (3-2-1) and agricultural statistics provided by Agricultural Jihad of Khorasan Razavi province in Table of Appendix (7) and using Spss, some diagrams were plotted and in these diagrams, the coefficient of determination (R2) and their correlation values were also specified.

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Table (3-4) cultivated area, production and yield of wheat in Roshtkhar during the 2009-10 agricultural year

Yield (ha kim)		production (ton)			cultivated area (Ha)			Agricultural crop	
Rain fed	Irrigated	total	Rain fed	Irrigated	total	Rain fed	Irrigated	Name of the crop	Type of crop
400	3200	44650	1450	43200	17200	3700	13500	wheat	cereals

Reference: Simaye Keshavarzi of Roshtkhar, 2009

The most important areas of the town in terms of growing irrigated wheat are the villages of Astaneh, Roshtkhar, Shobe and Jangal. Rainfed wheat is also cultivated in certain lowland and mountainous areas with good rainfalls

October is mostly the season for wheat cultivation in the town and the harvest begins in late June and early July. There is also a spring cultivation of wheat which usually happens in late March and according to the yearly rainfalls. Wheat production is mostly of the irrigated kind. If the rains are good, rainfed cultivation is also carried out and given the low cost of production, it is economical. It should be mentioned that the quality of rainfed wheat is much more than the irrigated wheat for baking breads.

Table (4-4): The cultivated area and agricultural production rate of the town separated into two categories of irrigated and rainfed crops for 2009-10 farming year.

Yeald (Kg/ha)	Production (ton)	Cultivated land (Ha)	The type of crop	row
3200	43200	13500	Irrigated wheat	1
3700	10360	3950	Irrigated barley	2
2603	18578	10100	cotton	3
31000	66030	2130	Sugar beet	4
30000	9000	300	Onion	5
10	-	4500	Saffron	6
8	3200	4000	Rainfed wheat	7
850	2125	2000	Rainfed barley	8

Table (4-4) and the diagram of Figure (4-1) show that the town's most important crops are wheat, barley, cotton, saffron, sugar beets and onions. 13,500 hectares of lands are allocated to irrigated wheat and the dominant cultivation season in the region is winter. However, 4000 hectares of lands are allocated to rainfed wheat cultivation.

Therefore, most of the produced wheat of the region is of the irrigated kind.

Investigation of the relationship between average humidity and irrigated wheat yield

The plotted diagram (Figure 4.4) shows that the humidity is depicted on the x-axis as the independent variable and the wheat is depicted on the y-axis as the dependent variable. The left to right slope of the regression line indicates that if one variable increases, the other variable decreases and the type of relationship is an inverse or negative correlation.

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Based on the scatter of points relative to each other or relative to the line, the correlation value can be guessed and the scatter of points in Figure (4-4) shows a low correlation between the two variables.

R2 (coefficient of determination) is equal to 0.18. Coefficient of determination is the ratio of changes that the two variables make simultaneously and it ranges from zero to one. If multiply 0.18 by 100, it can be represented as a percentage. This means that 18 percent of the wheat yield is affected by humidity and 82 percent of the wheat yield is dependent on other variables.

Discussion and conclusions:

1 – During the past 10 statistical years, the wheat yield of Roshtkhar has been fluctuating constantly. So that, due to favorable weather conditions, it had an ascending trend since the 2001-2002 crop year up to the end of the 2006-2007 crop year. During the 2007-2008 crop year, due to lower rainfall, it suffered a downward trend. The grain yield increased again in 2008-2009 crop year and since 2009-2010 crop year up to 2010-2011, the yield decreased again.

2- Based on statistical analysis performed using Pearson method for the climatic parameters of temperature, humidity, rainfall and frost, it became clear that based on the coefficient of determination, the parameters of humidity, rainfall and temperature had the first, second and third priorities in determining the yield, respectively.

3- In addition to climatic parameters, the most important factors affecting wheat yield loss are as follows:

A) Low level of scientific and applied knowledge of farmers

B) Failure in timely supply and distribution of agricultural inputs (seeds, fertilizers, pesticides, etc.)

C) High level of wastes in various stages of production

D) Damages caused by pests, plant diseases, weeds and the lack of proper management in controlling them

E) Limited water resources or lack of proper irrigation system in many areas of the country

F) Lack of proper and optimal use of chemical fertilizers, their shortage or failure in timely supply and distribution of them

G) Improper and irregular application of agricultural machineries and equipment

H) Lack of agricultural mechanization development in many operating systems.

I) Lack of equipment, tools and credits in various fields of agricultural research, promotion, and training

J) Lack of investment in production of agricultural crops

K) Failure of national policies and programs for production of agricultural crops

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Site location of temporary accommodation after the earthquake using GIS: A Case Study of Tehran Municipality's District 5

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Abstract
Studies in the field of the post-catastrophe management shows that in most cases, especially in urban and more developed areas, construction and reconstruction after the event will be complicated and slowed down. This is due to several factors such as complexity, remains of the damaged building elements, the level of area development, administrative construction regulations, too many homeless people, basic living standards, etc. At this stage, supplying permanent accommodation after the temporary settlement is a major problem. One of the most important problems which is considerable after a quake for responsible crisis management organizations is choosing a suitable and safe place as a temporary residence for catastrophe-stricken people. Geographical Information System, due to its unique locating efficiency can be used as a proper tool for logical locating in the hands of decision makers.
This article tries to study district 5 of Tehran city as a sample area in choosing trend of proper places for residing quake-stricken people soon after the event. So, primarily the conceptual sample was designed, and then various data needed to establish a data base including facilities, services, vital networks information, and also natural features and characteristics of the area were collected and put in a similar framework of numerical properties. The data, then, analyzed comprehensively using Geographical Information System. At the next stage, the standard features of locating emergency residing quake-stricken people data were entered into the location data base and researching as well as extracting the results were done based on the mentioned information. Considering all standards of locating a proper place as a temporary residence for the quake-stricken, such as vital networks of power, gas and others and also natural conditions of the area, the results proved that the best places for temporary residing operations are open areas of some parks in this district.

Keywords: temporary residing, crisis management locating, earthquake, Geographical Information System

Introduction

Natural and unnatural disasters around the world each year are caused casualties and considerable property damage. 40 natural disaster to take place in the world, 31 species have been recorded in Iran. With urbanization around the world have been in the twentieth century disasters cause huge casualties. This is the so-called third world countries as well due to lack of concerted amenities exacerbated by increasing population. Iran, with an area of 1648195 square kilometers earthquakes on the Alpine-Himalayan belt is located. About 77 percent of the nearly 300 cities on earthquake fault zones are located. As of 1280 over a fifteen centuries of magnitude higher than 7 on the Richter scale occurred in IranAnd from 1336 to 1383, more than 200,000 people have lost their lives in an earthquake.

In the last two decades, more than 100,000 people have died and more than the number of earthquakes with a disability, physical injuries, mental disorders such as depression, chronic fear and etc have become cheronic. The death toll in casualties that occurred in Japan compare, In its toll sometimes does not even count the fingers of two hands!

We must ask how a country like Japan before and after quake able to maintain proper management of natural disaster claimed the lives of its citizens. And if we can, with proper management of natural disasters the country has not witnessed massive losses? Subject locate temporary housing after the earthquake site roudbar modulate the focus of managers, statesmen and thinkers of society were different opinions on this subject was presented However, a major drawback was that if we were in the process of disaster management in the country favorably and widely implemented, we no choice but to analyze the components do not have the state cities and temporary accommodation Suitable evaluate places. These components are: 1, 2 residential units in district 4 District 5 3 cities like Tehran metropolitan area of 1.0 22 districts, 144 districts have been formed in the neighborhood of 1500.Experience shows that despite the fact that people of different earthquakes due to its Islamic culture and human sacrifice to help the survivors of any assistance nor diminish, But at the time of the incident and the extent of goal me And able to help their fellow countrymen are not effective and in fact subdued,

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and the magnitude and extent of the disaster is simply a lack of management!

Theoretical perspectives

Definition of Crisis

Crisis accident caused by natural and human actions occurs suddenly and hardship and difficulty to impose a set or a human society and eliminate the need for urgent action, there is an urgent and extraordinary. (Site Jmbt Crescent www.rcs.ir)

By the time of the disaster management cycle

1-Before the crisis: the three key steps in this process should be done .

-Creation of a crisis management team

-Creating a worst-case scenario to demonstrate .

- Define a standard procedure for the implementation of activities to pre-crisis

In fact, the loss prevention and preparedness phases of disaster management is that the long-term measures.

Prevention is the set of measures intended to prevent a crisis from hand to hand awareness of the need to pass some laws are applicable.

Reduce the set measures and measures to mitigate the effects of natural and human crisis

Preparation: a set of measures that governments, organizations, communities and individuals, enabling them to respond quickly and effectively to crisis situations

Preventive actions are usually directed from the top management of the organization, but more Readiness done.

2-stage or time of crisis: in this phase of the three main activities carried out:

-Emergency operations

-Focus on the dissemination of news and information that is publicly desired .

- Designate one person as responsible for sending messages to professional media are reporting.

In general, this process involves operations and emergency response.

3- After the crisis: that at this stage the three main activities carried out :

-Restructuring and reorganizing

-Identifying the causes of the crisis to the next

-Communicating with stakeholders to inform them of the results and effects of the crisis

Overall, this stage involves organizing and reconstruction.

Reconstruct the set of tasks that society or individuals in crisis to crisis conditions return to normal, and not necessarily to their sustainable development. When the maximum effect that the construction management team is familiar with the fact that the crisis is a process of dynamic and complicated. . (Site Crescent www.rcs.ir)

Place of temporary housing in the disaster management cycle

The first part of the resettlement and reconstruction in the disaster management cycle after the counter or on the side of the same time, temporary accommodation causing. ('s Red Crescent that internal bulletin 1387)

Measures required in the temporary accommodation

However, in the interim settlement, there is little opportunity for reflection and planningbut at this stage, the necessary measures must be planned ahead. Activities during this phase should be performed 2 to 6 days after the onset of a crisis. These activities are as follows (the Red Crescent Medical Bulletin 1386)

1-The rapid activation of eight groups: building construction camps, hospitals, lodging, food, water and clothes, waste disposal, sanitation workers, creating a tent camps or temporary housing facilities in appropriate locations and transmit predetermined the survivors of the camps.

2-allocations of temporary accommodation for those in need.

3-supplying food to regular services based on predetermined programs .

4-waste disposal and wastewater needs in regular service on predetermined programs .

5-Treatment needs in regular service schedules predetermined.

6-Supplying drinking water and consumed as a regular service on a predetermined program

7-provide a toilet and utility services regularly and according to a predetermined program

8-Social workers

9- Provide lighting and fuel

Review of global experiences

After the accident in most countries in the reconstruction and rehabilitation and helping people to translate and integrate settlement construction in the settlements as places are safer with less risk. The issue of small towns and villages and the displacement of the aggregation issue is solely related to small villages and scattered.

World trade is related to a number of countries are seeking to build camps Accidents sometimes in towns and settlements have become permanent. (Red Crescent site www.rcs.ir)

Review of Experiences in Iran

After the accident with assistance from the government and foreign aid to rebuild the damaged areas. this reconstruction, especially in urban areas where the rate of habitat loss and displacement less had little effect on the future, are constant. But in areas where the risk of future disasters continue to threaten settlements and environmental conditions for Handling

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Accommodations were provided, usually two patterns of movement and assembly have been taken.

Attempted to shift settlements in iran nearly a decade, starting in 1340. From this year on, the country witnessed the horrific events such as earthquakes, floods, landslides, sea encroachment, and ultimately damages the war in some areas, which led to the decision makers to shift Accommodations herein. The information available includes the displacement of residents, type of event, the location and quality of the reconstruction. (Same)

Methodology location

In order to find suitable locations for a specific purpose during the site selection process is necessary. To follow standard procedures defined this process as there are different methods. Including site selection model based on discrete choice models takokomy numerical models, location models using linear programming and binary choice model where the spatial cross-correlation model, site selection model using basic elements Bayesian probabilistic model for assessing the ecological and environmental models and location models in GIS That adherence to these methods, in addition to speeding up the process of site selection will be aiming to improve. in this paper, namely the location of the traditional methods of site selection and site selection using GIS techniques is discussed. (Yazdani, 1384)

Location models in GIS

GIS provides only a basic model This system can be used to model the fluid flow problems. In addition, these systems can represent a wide range of statistical tools for modeling and analysis of network professionals prepare. Four models of land suitable for analyzing geographic information systems described by these four models include:

1- Models of Boolean functions(Two for Two)

This model was used in 1947 by Varnz in 1989 by Rubynu emerged. Geological map of the individuals used in the models. The combination of modeling logical Maps as yes or no (zero or one) and by using conditional operators, results. The maps used as evidence if the layer is assumed to be a standard in place, whether it is true or not. In this model, there are no other accountability requirements. In fact, every member of only one (true) or zero (false) explains. The final result of this model is to find a suitable location for a particular activity, but this site is appropriate or inappropriate, and the other between the two does not exist. . (Yazdani, 1384)

2- Built on the evaluation criteria

This model has two states, or that the evidence is binary or multi-class maps. If the map obtained from the binary, the sum of all the maps of the composition and the sum of the weights conversion. The result is the sum of a range of values between zero and one that is suitable intervals to produce an output map can be classified as. . (Yazdani, 1384)

3- Logical model of indefinite

In classical set theory, are defined as a member of a series of true or false (one or zero). But a member of an indefinite are described series on a continuous scale from one (full member) to zero (non-full members). Between full membership and full non-infinite range of possible values there. The membership values are combined with each other, different operators can be applied. . (Yazdani, 1384)

4- Bayesian probability model

The concepts of probability models for the composition of the audit plan Mainlb are used for multimode maps that have been classified as high levels of the audit criteria. One of the main concepts of the Bayesian approach is the idea of probability and first priority. Prior probabilities can be changed by other information sources. (Yazdani, 1384)

- Spatial and physical characteristics of the area 5

Region 5 consists of an area of land within the North West of Tehran, the limits of which are as follows:

North- (East to West), the deep Valley FARAHZAD to last beyond the existing construction (North of the residential complex constructed by the housing cooperative vocational) For the balance of 1800 to the deep valley of Hisarak - vesk. and the balance of 1600 to coincide with the point of intersection of the bridge on the river now.

West- River until crossing the line deep deep matches online with Tehran-Karaj Special Road

South -Karaj Special Road and River Road, according to the southern edge of the right to freedom(Northwest side of the field on the southern edge of the highway right-handed Muhammad Ali Jinnah, Tehran-Karaj Special Road).

East- of the eastern edge of the paved highway, Muhammad Ali Jinnah (north Field azadi) And along the eastern edge of the pavement on Ashrafi Esfahani Highway to the end of the 35 meter intersection with road matches Hisarak Since FARAHZAD To the north-east end of Deep River FARAHZAD. Referenced within an area equivalent to 35/528 acres is taken. . (Site of Tehran www.tahran.ir)

-User reviews of the area:

The vast expanse of land are in the area assigned to a series of five, including aerospace (In northern Tehran Airport Freeway Karaj special road between the KAN river and the town setting APADANA)

Koohsar Park (North West District), Azad University (North area between the villages of Moradabad Hisarak) recreational-sports complex logo (South West Region). Look for the widest range of land use is considered of facilities built in the area.

Tehran Water Treatment Plant No. 2 with an area of 22.5 acres, 2.35 acres West terminals, oil storage tanks with a total area of 20.9 hectares and 29 hectares bus Region 6 are among them. Surface occupied by power transmission lines in the region are considerable These lines were formed before the formation of the residential area and given the considerable decrease in the line of landscape form.

The area to the area and then there is a landscape of green space and gardens. In addition to this user-created levels in the region is significant. These levels were detected throughout the region that Keep it in order to use this land to balance the requirements of welfare personnel is essential. Other features that should be mentioned in Kite area and regional passenger resulting in higher

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elevations of northern SHAHRAN it is appropriate to resort to cross the engine. Tehran residents are welcome at the holidays. This activity is unique within the city of Tehran. (Site of Tehran www.tahran.ir)

- Identification of the major land uses in the area

Uses of the area are Terminal West and Freedom Park - Industrial complex Hvayy- station m and Karaj Eye Hospital prophets, commercial collections, commercial collections Bvstan- Tirajeh - Traffic Education Park Tehran - Islamic Azad University - Oil Depot – Power KAN - KUhsar- Park Association education reform - water Utilities - Eram Park recreation complex - region 6 bus.

- Identify the characteristics of the use of land

Since the beginning of the fifth decade of the 40's and starting to develop infrastructure that has The growth was very slow until the end of the decade. but then Aria formation in the East and set up factories in central Tehran - Karaj and Tehran has also adopted comprehensive plan and is building more. The main feature of the area is now home to a significant portion of the population of Tehran. It's not the immigrant population than other cities, but urban migration form. The needs of the population in its service area and takes place instead of the required services, it can be seen.

- User Authentication with the performance of regional and urban

These users are scattered across the region, but the highest concentration of land in the southern region. These users can be classified into several broad categories, which are as follows.

o Services gateway: 1 Terminal 2 West Liberty Park - 3 metro stations

o Recreational Services: 1 permanent exhibition Air Eram Park 2 3 4 Traffic Training Mountain Park and the Kite Track collections and Ski Cross Motor Game 5 of Tirajeh

o Educational Services: Islamic Azad University

o infrastructure services: (1) Water Treatment Plant No. 2 Power Station 3 now 3 4 SHAHRAN oil storage tanks 5 Water District Water Co .

o Health care: (1) Eye Hospital psychiatric hospital release Prophets 2 3 4 Collection of Free University Hospital being built in the second SquareSadeghiyeh

o Commercial Services (1) Garden (2) commercial complex, commercial complex, commercial complex Sharzyba 4 Tirajeh 3 stores wise .

o Transportation: District 6 city bus operations in the area following are the main Functional area

o Rural Travel and Transport

o Recreation and leisure

o Higher Education

o Facility

o commercial and public spaces

o Urban Transportation Terminal

o Workshop and Industry

o Military

o gardens

- The visual characteristics of the area

Geographic features of the terrain affects southern slopes of the Alborz Mountains in the middle of the end zone to finish the level in 1400. The alignment of the contours in the 130 and 1,600 parts of it also. . Eastern edge of the valley is limited FARAHZAD. Bisecting the edge of the valley to the Middle East region is rather remarkable and then by reducing the slope of the various waterways in Zone 5 and Zone 2-distributed. Finally reaches the River Tarasht gardens. Western edge of the valley KAN limited. The valley due to high water discharge in spring-autumn seasons bed is very wide and deep as 100 meters in some parts. The north slope of the mountains are high and the southern edge of the road, Karaj limited. In your area has three main condition is normal. . (Site www.ngdir.ir)

- Visual and structural characteristics of urban

Extensive construction of tall building made it so widely scattered throughout the city, which is about visual texture with just the word "sedition" which can be defined. These figures from around the ground and the sky is not confined to one section or corridor. If the side of a building, a floor, a set of 25-storey residential building or a collection of 13 stories from the heart of the gardens outside. Therefore, the region should set up a 25-story building is one storey. of course there are exceptions in the area who meets beautiful landscape and the skyline is Consistent. The conflict has also clashed almost the whole town is in the region. If we look from North to South, from East to Valley Heights Hisarak - VESK. experiencing turbulence. The western side of the area with lush gardens and its smooth texture and residential construction with a height of eye is phenomenal. If we look to the north of the road for collection Ekbatan located in dense trees to the observer gives a good perspective. And slightly in front of it (to the East) bime a coherent form, manifests itself, as the land was faced with the prospect. . (Site www.ngdir.ir)

- Evaluation of building density in the area

Existing buildings in the area due to the formation of the second floor was built mainly in the years after the Revolution. (Allowable density permitted in the area of urban land area is 12 percent.) In the decade beginning in 1370 with regulations and policies imposed on the sale of a building density and because placement of empty area on the western margin of Tehran and weave it takes more momentum building new dimensions Such as buildings 4 and 5 storey adjacent buildings, two-storey former average life of 15 years would not be quickly demolished and in their place density residential regional average, 179% of the calculated, which represents the average of three floors in this area is . (site of Tehran www.tehran.ir)

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Map of Region 5 of Tehran

Source. (Www.tehran.ir)

Conclusion and recommended strategies

From this we conclude Tehran's crisis management system is not fully responsible for the problems in times of crisis now. Comparing the Crisis Management System Crisis Management System in Tehran, several countries are leading in this area, such as Japan, showing the flaws in the system there is a crisis in Tehran. Due to the lack of urban management system referred to in these rules and regulations are not fully implemented The confusion and inconsistency even in maneuvers each year as the National Earthquake Tehran Municipality as trustee under the laws and regulations of the city's emergency management system can be seen. They say that temporary accommodation was expressed about the This stage in the cycle of crisis and crisis management in the framework of the first phase of resettlement and rehabilitation will be considered as an essential step. Considering there are many problems at the time of the accident, should be foreseen for this step already done. According to standard criteria and considering the use of GIS as temporary housing sites within the study area. and from the open areas, especially areas of green space with the user's location. According to standard criteria for temporary housing sites was expressed and given that the tendency for temporary accommodation in the nearest location to location prior to the crisis were told Were observed using a GIS system, and the use of Boolean model of the system, Temporary housing sites within the area of greenbelt land use that has all the criteria to be considered are the location and this was done in this research. Also according to the comparison made between the inhabitants of the space required for temporary housing sites and facilities, location, revealed that this region is sufficient for the interiors.

At the end of the proposed approach is recommended:

- Complete and effective legislation to improve crisis management system

- Monitoring of laws and regulations on an effort to manage the crisis. Essential principles although it is not enough besides the rules should be monitored on an addition to fully implement them if there are problems in their particular defects to be resolved in the next steps.

-Coordination in order to reduce the problems of urban management and coordination in crisis management.

- Due to the prevention, one of the stages of crisis management.

- Predict and locate temporary housing sites as an effective means to mitigate the negative effects of the earthquake in all districts of Tehran

- The potential of neighboring regions which have enough space to allocate the temporary housing sites.

- The use of prefabricated houses to expedite the temporary accommodation of people on the site

- The development of crisis management training among staff. One way to approximate the ideal crisis management system, the knowledge and training necessary to be responsible. Expansion of education among the ministers, in addition to clarifying their importance could be looking at the issue affect them. Therefore, adherence to scientific methods in the field of crisis management training can also raise awareness among managers to improve performance of a proper lead management system in crisis.

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Environmental impacts of rural tourism

Narjes Hamidi Madani

Abstract— Tourism in an environment that consists of human and natural characteristics of the human environment and the processes of economic, social and cultural. The natural environment of plants, animals and their habitat will be formed. We can distinguish between the human and natural environment. Tourism can be an important form of human activity has important effects. The effect on the target area, where tourists and the local environment, economy, culture and society interact very evident, therefore this study was to describe the environmental impacts of tourism, although tourism issues are multifaceted and often "a set of economic, social and environmental. In this set of solutions and positive and negative impacts of tourism on the environment is studied. This descriptive study included the sustainable tourism, especially rural tourism development in the region can be achieved by considering the relationship between the three components of the environment is tourism. Tourist destination and host society considered, this relationship can be complex, dynamic, constructive or destructive. Therefore the aim of establishing sustainable rural tourism moderation and balance with long-term conservation of these three components is tourism. Since there is a close relationship between economic and environmental policies aimed at achieving the goal of a social or economic impact is inevitably environment if this policy is not to comment, if the root causes of environmental degradation and economic functions, the solution is the same.

Keywords— Tourism, rural tourism, environment, environmental impact

INTRODUCTION

The natural environment is increasingly a key factor in tourism is known. In the last decade of the twentieth century, it was considered that tourism is largely dependent on the environment because the environment itself is a major tourist attraction is the and tourism activities in the context in which it occurs. (Holden, 2002). However, the relationship between tourism and the environment is complex. There is interdependence between the two is symbiotic. Williams (1998) to account for the relationship between the way in which tourism has benefited from being in a quality environment In contrast to the measures that aim to protect the environment and preserve its value as a source of profit is tourism. At the end of World War II, especially in the early development of mass tourism in the 1980s, it became clear that the relationship between tourism and the environment has lost its balance. Over the past 50 years, tourism has become more important than a force for improvement and protection, has become a major cause of environmental damage. It is considered that the word meaning beyond the normal physical characteristics of a landscape is the presence of As Figure 1 shows, according to Svarbrvk (1999) there are five environmental: the environment nature, wildlife, environment, agriculture, environment, human resources development and noted that the size of the encapsulation Natural resources should separate but linked together.

About the environmental effects of the following are important:

The "where" is important, some of the effects of tourism on the environment than others are more vulnerable.

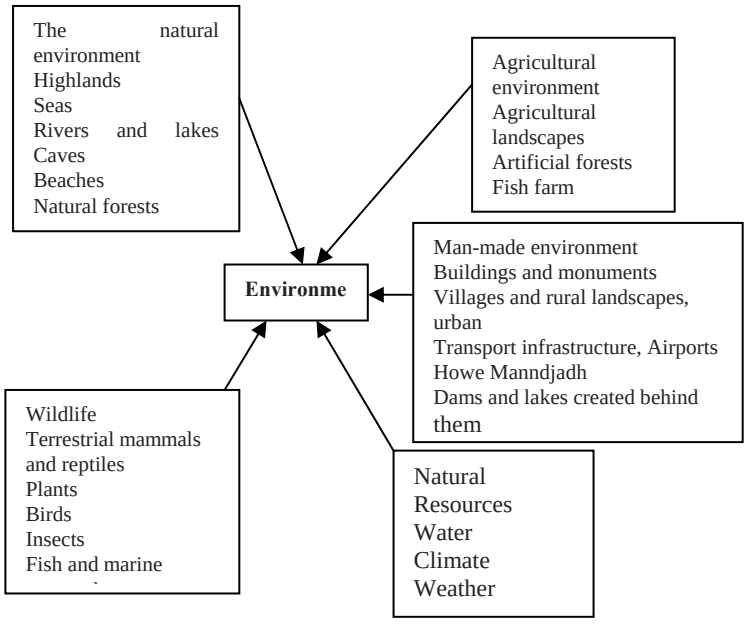

Figure 1 shows the scope and meaning of the source: Svarbrv. (1999)

In relation to the "where" an urban environment than a rural environment, affected differently. An urban environment are generally "can be viewed more degrees than a rural environment tolerate. This is not only because of a city, for example, roads or paths, but also as a result of the nature of the organizational structure of the planning process.(Williams, 1998). Yet, ironically tourists are attracted to areas such as cliffs, beaches and mountains, which are fragile and vulnerable.(Ryan, 1991; Williams, 1998). Nature tourism activity has dramatically increased the amount of affect. Some of the activities leading to minimize impacts and do not consume a lot of resources. Watch the spectacular scenery of the bus, with little effect on the environment that the trip will be made (with the bus can cause pollution and traffic). Vehicles that are used in the mountains and

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sandy environments will have more direct effects. Other types of tourism that is involved in hunting and fishing, if not carefully controlled, will lead to many sources. Mac Krchr (1993) believes that tourism has a tendency to excessive resources. The nature of the tourism infrastructure of the effects is important. This makes it clear that the effects of mass tourism on the Mediterranean coast of France and Spain, notably small groups Hymalyast hiking in the mountains. However, if the mass tourism is well planned and managed, can minimize the effects. Interestingly, a small group for a walk in a remote region of Nepal travel where there is no preparation for tourism, can cause more damage to the environment.(Holden and Evan, 2002). In many parts of the world, tourism is a seasonal activity. Under these conditions, the impact of tourism on the environment may affect only part of the year. During the other times of the year, it may be possible to restore its environment. However, in some areas, despite the seasonal impact of tourism, the effects are so severe that the environment has little chance of his recovery. For example, there are certain areas in the Alps for ski tourists during the summer they can and can be fully restored. Over time, the inability of a range of plants grown enough, which means that the area is more prone to erosion (Krippendorff, 1987).

Rural tourism and the environment. Natural and human dimensions of environmental considerations in planning the birth of the concept of sustainable tourism Tourism is very important to indicate significance. Sustainable sources estimate that the social needs of today without destroying the resources to meet future community is defined, Tourism can include the protection of tourism resources and the environment in terms of attractions to keep the tourism and achieve a level of sustainable development are considered. Sustainable development of tourism, especially rural tourism development in the region with regard to the relationship between the three components of the environment is tourism. Tourist destination and host countries considered, this relationship can be complex, dynamic, constructive or destructive. On the one hand, rural tourism can create jobs on the other hand is able to put forward the local economy and lower quality of life and environment of local communities. Therefore the aim of establishing sustainable rural tourism moderation and balance with long-term conservation of these three components is tourism. Hence it is necessary to develop a regional policy structure and composition of all final decisions on rural tourism in sustainable development be assessed. Overall, the estimated sustainable rural tourism can refer to the following guidelines.

To provide adequate services to meet the needs of the physical infrastructure and socio-economic factors in the region, assignment plans in accordance with the views of local communities, erosion and sediment control plan, determine the capacity range. And tourist population that can be sustained without any negative impact on the use of infrastructure and resources .Promote the empowerment of local people joined to monitor and enforce laws and regulations relating to pollution, To minimize access issues through a comprehensive and integrated plan to reduce traffic congestion and pollution, Enlisting manpower, facilities and financial resources they including the training of human resources to improve outcomes and continuous monitoring of the environment .

In addition, governments are seeking to achieve goals such as generating income for farmers and other rural households, Meet people with experience in personal life, Reduce outward migration by providing employment opportunities in rural areas, The idea of connecting the city to the rural areas and the provision of infrastructure in the rural tourism to achieve.

Environmental perspective, the first in the Western world with the incidence increasing environmental problems arose And rooted in confusion and industrial communities to environmental imbalances.

But with the spread of Western culture of underdevelopment, environmental concepts as part of the culture, and later extended in the wake of the World Summit and subsequently, due to environmental considerations in the development strategies eclipsed. However, poverty and rapid population growth in developing countries, inappropriate and excessive exploitation of natural resources and destruction, neglect to the ecosystems and habitats and population and industrial activity .. all and simultaneously leads to the cast ecological balance and suitable for the formation of the pro vision of rural development based on environmental values provided.

Sustainable development, the basic idea is that all areas of development in the field of rural development in the covers. The idea that the pursuit of international institutions in recent decades has become a global convention on the grounds that it should not be shaped by the needs of the current generation, the next generation needs in the future development of the risk falls.

By definition the World Food Organization (FAO), Sustainable development, management and conservation of the resource base, using appropriate organizational structure to underpin the achievements of technology and human needs of current and future generations to continually ensure optimal. In other words, sustainable development, conservation of land, water, plant and animal genetic resources cheek is not damaging the environment and also technically appropriate, economically valuable and socially acceptable, and acceptance.

Now, more than ever accepted that sustainable rural development perspective and attention in recent years has undergone a major change And beyond the scope of the environmental balance and the balance of economic, social surround. Tourism as well as other economic activities on the natural environment affects human life. These influences are very diverse, During the preparation of the destination for tourists and take advantage of them when they occur, And no doubt after the visit, the results on the remains.

Tourism industry wide and diverse set of activities that are interconnected. Transportation, nutrition services tour guides, souvenirs and gifts, Marketing, Marketing, engineering, health and environmental activities that tourists do. Such as hiking, climbing, surfing, construction camp and the infrastructure for tourism development, each in turn, have undesired effects on the target environment.

The relationship between environment and tourism activities so that:

• Many forms of environmental phenomena, are attractions for tourists.
• Tourism facilities and infrastructure on the environment can be created.
• Development of tourism and tourists from the region could have effects on the environment.

In this section the importance and potential positive environmental impacts of tourism include:

1) renovation of existing buildings and monuments and historical sites.
2) the use of old buildings according to new requirement.

3) motivate action for environmental planning and management.

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4) continuous environmental protection.

5) Improve the protection of archaeological sites and monuments of payments and the value of architecture.

6) Tourism makes better use of the land, in terms of agricultural land were marginal And not be able to run for cover.

7) increase residents' awareness about the natural and cultural environment, Nature and environmental advocates increased promotion of ideas that ultimately helps prevent pollution and environmental destruction.

8) contribute to the conservation of natural resources, such as for the protection of vegetation and wildlife, Protected areas, national and regional parks are.

9) Encourage conservation measures based on convincing the public authorities of the importance of the natural environment in order to earn income from tourism And pushing investment in infrastructure and effective management of protected areas.

10) The rational use of resources, tourism potential in areas where there are few facilities for the development of a more tolerant and create income among Aboriginal provides.

11) improvement of the regional environment that attracts tourists from the targets.To achieve this objective seeks to improve the environment free from pollution and exposed to tourists .Clean streets, painted walls and flower fields and aesthetics in general has a major role in attracting tourists.

12) the development of tourism in the region and of its income for the people,To inform local residents about the environment in areas where residents do not care about the environment, Followed by And people are more determined to preserve.

All tourism activities on the environment has occurred or is somehow related to the human environment Are. The tourism activity and the two are inseparable phenomena, which naturally will have reciprocal effects on each other, It was kind of a big organization, depending on the severity and extent of tourism activities on the environment and the capacity of the environment.
According to experts, the environment, tourism Tourism is desirable that kind of negative impacts on the environment in which the minimum and maximum possible positive consequence, This type of tourism related not only harm the environment but not the benefits and positive effects on the environment and to protect the environment from further damage leads.

Positive environmental impacts of rural tourism:

The main motivation of tourists in rural areas, the rural charm of rural tourism success is dependent on an attractive environment. Therefore, rural tourism can be beneficial to rural as follows.

• the financing, the incentive to conserve, protect and improve the natural environment is rural.
• Protect and enhance the historic environment including historic houses, gardens and meadows.
• Improving the environment in rural villages and small towns to improve waste disposal, traffic and environmental improvements to buildings and monuments.
• Conservation of natural landscapes and wildlife.
•Increase understanding of the importance of protecting the rural landscape and the wildlife and natural heritage.
• Greater participation of community members in conservation programs as a result of contact of the tourists visit.
• Improved behavior and respect for the natural environment.

Negative environmental impacts of rural tourism:

• damage to the natural environment and human made.
• Increase the level of pollution in rural areas.
• Clear and beautiful scenery loss due to inappropriate and awkward constructions.
• Reduce water pollution due to improper method of sewage disposal and removal of scarce water resources, and also due to improper positioning of a roadside restaurant, picnic area, residential units, sewage tanks.
• Improper disposal of waste and pollution and soil erosion due to poor construction and physical construction.
• Air pollution caused by heavy traffic, where unsanitary waste incineration. Waste disposal.
• Noise pollution from traffic, crowds, trade activities.
• destruction of animals and plants due to the invasion of their habitat, pollution, uncontrolled hunting, illegal logging and cutting small trees for fuel.
• condensation and accumulation of garbage and waste.
• reduction of deforestation and the loss of some species of plants and trees.
• Excessive consumption of resources (Rezavani S89-100)

CONCLUSION

The important contribution of the rationalization of environmental issues in order to form a general policy,It is human nature to be able to recognize systematically, what devastating consequences in the future will know.Today, with the introduction of sustainable development as the main axis of the environmental debate,The world will be able to avail themselves of the current through the extreme selfishness and human dimensions of global issues by themselves. If humans can learn of the work on sustainable development and an honest attempt to meet their application, in the opinion of many scholars, including Michel Foucault and Seiyun Gavamr- Ralby etc., the largest in the world has discovered and patented, The global economy is inseparably linked with the environment because they have natural resources extraction, processing and exploit. Based on the principle of conservation of matter and energy in all of its resources should eventually become waste. But the correlation coefficient is less pressure on the environment can be considerably reduced. For this reason, the environmental impact of economic activity, even if it is provided that allows the development can be reduced.Since there is a close relationship between the economy and the environment.
Policies aimed at achieving a social or economic purpose will inevitably affect the environment,
If this policy is not to comment, if the root causes of environmental degradation economic functions, the solution is the same. We are of the opinion that the quality of the environment is important in all countries.
But in poor countries is more important .We make it clear that environmental degradation caused by low-income economy, the decline of GDP, Insist that we believe that maintaining the quality of

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the environment and save natural resources as a foundation for the health and welfare of all human beings. Thus there is no doubt that low water quality will lead to disease.

- **The following points should be noted:**

A) the environment is important to the economy and welfare of all beings.
B) the causes of environmental degradation, especially on economic management is rooted primarily in functions.
C) Environmental problems require correction of irregularities and provide economic incentives for conservation and resource consumption will be reduced.

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Analyzing role of agriculture in food safety and using natural sources in world countries (international approach)

B. DadnamA. Mehraban

***Abstract*—**Food safety determined human's history. The world population will increase to 9 billion people until four decades later and the predicted required food will increase to two times more than this. This increase will have more pressure on natural resources such as water, soil nutrients materials. The gap in our science about world capacity for production of inputs from one hand and the need to sustainable production of crops and food safety from the other hand explains special paying attention to producing food inputs with optimal production. Limitation of soil, water, food and energy suggest that we need a new predicted solution in local and global. Growing requested of food material, combined feed for animal shows that for changing potency of power in earth management we need to improving productivity of crops and better using of resources. Therefore agricultural engineering has a major duty to these projects.

***Keywords*—**the role of agronomy, food safety, natural resources, nutrition

I. INTRODUCTION

AGRICULRURE in Iran has a long history and the first civilizations were based on agriculture in Middle East. Evolution of agricultural sciences has 8000 years of history. Using rented soil in other countries and globalization of economy has mixed in. Growth Population and urbanity has led to more using of land and changed local natural ecosystems to global system (Elis and co-workers, 2010).

In the global level lack of fertile lands has imposed serious limitations to production. Requesting more food material and fuel leads to use more marginal land and Semi-natural land. Although the pressure on fertile lands is various in several sections of earth .This issue is more common in Europe than southeast of Asia where there are more fertile lands (Tang and co-workers, 2003). This problem has been seen in the Middle East and Iran and the growth in population in the past decades on one hand and lack of water supplies in period drought in other handhas led to more pressure on natural resource of land.

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The total trend in food safety of world is changing from lack of demand to excess of supplied food in the world. This issue is more common in developing world. In west of Europe the representations price for essential goods has created more problems for food material. But on the other hand lack of food inputs in dry parts of the world is increased. These areas are faced with lack of food inputs and political instability (Herdt, 2006).

The number of hungry and poverty people has decreased to 800 during 1985-2005. But it increased back years later due to price instability and lack of food and this poor and hungry population reach to 1.2 billion. For some crops like rice the limited world market and more requests lead to food insecurity. Price bubble of strategic food productions shows more risks of food safety in the world more than before 2008. In long term because of unreliability conditions poor people are in danger of Malnutrition(Lam, 2001). This role is important because of two reasons first because of financial of production and second because of financial support of production part. Role of natural resources as production institution: natural asset is one of production factor along with physical investment, human labor and science. Especially energy which has been one of the important factors in this century (TAHERI and HOSSEINI, 1390).

The most important discussion is to produce more of agricultural production for planning in future years. Agricultural functions and production cycle is the first step of producing, distribution and selling of process and using natural resources for improvement of production and food safety are basically important. This study is analyzing of agricultural production and their place in producing and the way of using natural resource in the global level.

II. GLOBAL, LOCAL AND NATIONAL CHALLENGES OF FOOD SAFETY

Role of agriculture in food safety is because of increasing day by day request for food material and for-living production increasing is completely necessary.

Production increasing in every unit of land is very necessary

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in order to save land from of jungle extinctions and natural resources (Parry and Hawkes ford, 2010).Food safety is only possible if we increase the output comparing to scale and keep the request on balance in time and place. This issue is illustrated completely in Simelton's study (2001).

This study about food self sufficiency and natural and environmental risks like flood and drought is done in China.

The worst possible prediction is that all experience that are related to agricultural productions leads to fail and all of events of a 10 year period happens in one year's time. For example if production of grains in China decrease to 140 million tons. The total effects of natural risks in producing food materials among different areas are completely different. In order to prevent these from happenings General Agreement on Tariffs and Trade in Uruguay is written for World Trade Organization. According to this agreement free trade should be in form of present and request.

Because vast scale production is economical, Areas like south of America have very desirable lands to produce agricultural productions that nowadays used for producing animal nutrition (Anonymous, 2010).

Free trade with purpose of increasing profit for countries that produce grain (the united states of America , Australia, Argentina, Brazil ,Russia ,France and etc.), dairy products, meat and fish (Argentina, Denmark, Ireland, Netherlands ,Vietnam and etc.) has become an important exportation and with value of production of seed, vegetables and flowers (China, Netherlands), during the last five decades of world trade in grain and cereals (especially corn and wheat) soybean, meat, dairy products and vegetables is formed and increased significantly in the world scale (Anonymous 2010).

Note that this process is not stable, because Energy expenses, lack of equilibrium in materials that exist in the soil, using of waters superfluity, environmental concerns and depending to political stability are factor of lack of confidence that affects the stability of this system. On the other hand in order to create world's stability on food safety we need to maintain balance in offering and requesting. Region stability is strongly rejected by economists (Oladi and Beladi) but the same theory is supported by ecologists and sociologists.

About protection of environment and correct exploitation from natural resources there are different points of views between the North and the West. For example Europe continent have too much potential for growing agricultural production that is a kind of saving of Energy and waste of food material. With related regional approach there is no need to import too much of animal nutrition from the south of America. On the other hand in Europe low and even negative growing population of countries leads to decrease of requests for food materials so politics transfer from food security to health and welfare. In addition to that decreasing cultural activities in little village scales from 1950 and the next years brought up this questions that can mixed cultivation or parallel activities with agriculture production compensate the lost incomes? (Potter and Tilzey, 2007).In poor countries from rural areas immigrate to rural areas to industrial areas to earn more money. (Socks and Co-Corkers, 2010)

In the discussed issues the scale of function is important. In discussed cases the scale of the operation is very important without support of government from farmers, production companies and sailors of production can only stay alive for in the first degree by biophysical factors, economical competition in world scale and environmental rules and food material safety. For example increasing the expense of human being sources and land in the Netherlands encourage agricultural parts to expand in high value goods. International growing competition eliminated many of lands with small and medium sizes.

Small lands can only be alive when they do production for special bazaar (organic production with special trade name). On the other hand supplement activities is also effective. It must be mentioned that in the two previous decades earning of primary agricultural activities decreased. The issue of efficiency of farms in villages led to encourage for mixed cultivation. Ni compost from 1960 decade in wheat and rice cultivation systems is increasing (Doberman&Cassman,2002). Many studies mentioned the outcomes of industrial system of chemical compost(Gomerio, 2011).It was showed in one analyzing that growing productivity in the land unit were accompanied by increasing the use of chemical compost along with it. On the other hand this growing had some negative outcomes and it increases environmental expenses. For example this issue led to loss of difference of environment, losing organic material of soil and decreasing sources of sweet water. Nowadays global issues related to conservation of environment and natural resources are very important so that analyzing economic, political (and even security) in the international terms, without pay attention to this issues is meaningless. In fact we can say that in the present decade (1990-2000) the effects of the mentioned issues is the determining factor of forming economic, political and security in international levels. But it may seem exaggerating but the factors of the past decades all show this point (Economics, 1369). It is clear that without doing scientific researches, precise planning, gathering suitable and effective data, equipment and advanced tools of relieffacility, gathering of scientific data about effective way of confronting (Amirani, 1379) is not possible with these negative outcomes. Lack of these studies leads to agricultural systems of very productive, present without existence of quantified foundation. But on the

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other hand unstable solutions also exist like organic production of corn and soybean in America without use of Nicompost, soil erosion, pest ejection poison, insects and reducing Energy consuming up to 30 percent.

(D Pointand co-workers, 2012) shows 80 percent output of organic productions. This study was done by using 362 comparing sample from expanded view of agricultural productions. The differences in producing organic and usual production shows 20 percent gap of output between these two products.

But still outcomes of using organic systems of economical persistent and cultivation based on conserving the environmental in the long period is not proved yet. But the gap in human being science about local, national and international permanent producing agricultural production is completely clear according to economics based on clean environment for saving food safety (Burgessand co-workers, 2012; Lingeredand co-workers 2010).

Growing requested of food material, animal nutrition and fuel show that time management, water and productivity of agricultural production should change and lead to their improvement. About changing the use of land in developing countries like China, Vietnam, Cost Arica and Salvador shows that the policy of globalization can be an interaction among preserving natural sources like jungle and food material production (Lambim&Meyfroidtm, 2010).

Growing request of food material, food, bioenergy and etc… do not only leads to more land and higher productivity but also leads to more nutrient materials. Many cultivation areas are looking to predict and analyze for using less water and become more efficient (Fader et al and coworkers, 2010). Using groundwater is an important part in compensating lack of water for rice systems is analyzed widely (Bouman and Tuong,2001). These studies show that water saving in growing rice from 5 to 40 percent is possible without too much effect in function level. Water management is improved according by little understanding of evaporation and unnecessary water cultivation can lead to expanding in water saving and in productivity of using water. Studies about increasing water productivity and using of Nitrogen compost shows that in rice systems difference of function from 0 to 28 percent and with deficiency of Ni and water is between 35 to 63 percent. But with all of these researches about water cultivation still the large amount of Ni compost is used. (BELDER and co-workers,2005; Liu and co-workers, 2011). But in stable condition by decreasing use of Ni averagely the agricultural output is 50 percent. Of course an area gap of 20 to 80 is created. This issue in rice systems, wheat with interchange of aerobic and non-aerobic poor soil is meaningful (Timsina and Connor,2001). Farmers should try in any condition with least amount that is available to reach to maximum output. (D BAZLEGOOEE, 1992)tells us that farmers should with minimum income of every production resources prepare needs to maximum use of all other sources of goal. After Ni the next nutrition material is Pb that has less factory production comparing to nitrogen. This material is necessary for growing corn and grains. (SHRODER and coworkers, 2011) suggested a harmonized set of functions for decreasing requests for Pb and preserving exploitation of goods. many of the functions like use of land and management of nutritive materials needs persistent and seamless approach in farm level .Nowadays deficiency to use nutrient material and water in agriculture because of lack of effective politics and governmental Clean motivation and needed rules for encouraging of permanent use of scarce resources and preserving of environment and rules are needed to encourage saving of water and food material represent based on decision tools and to support represented ways to optimize output of resources that are used in the limitation for determined systems by political bazaar and government.

III. IMPROVING THE WAYS OF MANAGING PRODUCT

Agricultural management and plant improvement is a strong tool for better using of natural resources and foreign investment. The success of the best ways of management in short time can with controlling on productivity of qualified product and also increasing output of used resources is analyzed. In long periods, stability, pest control, diseases, waste grasses, preserving soil fertility and soil healthy is a useful index. One sample of this way of studying is the study of (Chen and et al, 2011).this study states that one developing system of soil management is consistent product for corn that without increasing use of chemical compost the amount of harvesting of corn reached to 13 tons in hectare. In result Ni's output in agricultural using increases significantly. Such experimental ways and combined modeling of doing of quantified qualified views in management ways of functions are different.

In modern techniques and productivity in Australia's agriculture the following developing priorities of future for 10,20 and 30 periods were determined:

- Elimination of non-effective systems that related to weak management and soil function
- Increasing use of sources by risks of weather management, precise agriculture, data technology and communication and agricultural consistent cultivation and production of animals.
- Developing technology for changing agricultural products from one year to couple of years and improvement of diversity of functions and services.

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Often the reasons of non-homogeneity of product of productivity and effective utility of sources are not obvious.

(Tattnalland coworkers, 2007) shows that in the small farms of Kenya the interaction between soil prolific and management decision should be considered. In fact these functions for improving precise agriculture of small and large farms should be realized. Wider analyzing by (D VARIZ and coworkers, 2012). This study was done for analyzing output of using of sources of functions of environment from the first and second generation systems of cultivation environmental fuel based on function of production index and environment that related to output of using sources, soil quality, pure production of Energy and spread of gases. They showed that contradictory stability and productivity cultivation systems should be compared. This kind of evaluation can be done for different food systems and production nutrition.

IV. CONCLUSION

Growing speed of request for food material, animal nutrition and combined fuels needs more improvement of earth and water management, product productivity and sources output. Adoption from cultivation system include of live and non-alive stress by genetic improvement and different cultivation system management as stable forms are really important. System should done integrated evaluation about output of using of sources, environmental services and economical profit in order to guidance to choose agricultural specious and needed

There are some suggestions:

-Improve the safety function and decreasing gap between soil management ways and product based on knowledge support by using soil and weather conditions.

-Building cultivation systems based on weather changes and other conditions of creatures and genetic improvement of cultivation productions and increasing cultivation and variation and unified evaluation of limitations and bio-physical, social and economic opportunities for increasing productivity and stable of cultivation system.

_ the final goal in producing agricultural production is accessing to food safety, stable development and ecosystem services in national and international scale by affordable cost.

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Education effect by using problem-solving techniques to inventive method (TRIZ) to increase self-efficacy and empowerment among trainees of Technical and Vocational Training Organization

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Abstract— New approaches to learning and using them to improve and enhance the training effectiveness are as development requirement in skill training. The purpose of this study is to determine the education effects by using problem solving techniques by using innovative methods to increase efficacy and potency among trainees of skill centers, the research method is a quasi-experimental research and by considering the experimental and control group which was done among technical and professional training centers in Kurdistan province. Information gathering tool was using of Schere self-efficacy and Spritiz empowerment questionnaire and at the end, data were entered into the SPSS software and they were analyzed in two sections of descriptive and inferential approaches. The results showed that education with two methods by using inventive method has a positive and significant effect on potency and efficacy of trainers of Technical and Professional Training Centers.

Keywords—: problem solving by using inventive method, self-efficacy, empowerment, trainer, skills training.

I. INTRODUCTION

One of the necessary in today life is education. Education or training is necessary for human and without it, we cannot provide an appropriate background for our life. Among them, teaching and learning are important elements in education. Technology growth and acceleration in education providing to achieve a proper understanding is a major activity of specialists in the education field. And their main idea is to achieve the best way to providing best educations. What is important for them is that many experts agree that they cannot provide an effective method to education providing and they should proceed by using hybrid approaches and based on this, an education is effective which can absorb all trainers' scenes in content appeal. Modern teaching methods and using educational designs appropriate to today's activities and professional training is one of the tasks which should be considered in training process. Today, using education theoretical approaches does not lead to result and we can use them for skillful and specialized training. Professional training as associated education with skills is cases which should be run for effectiveness and functional and operational approaches should be used in order to determine effectiveness for these training. One of the educational goals is increasing empowerment and efficacy among learners that enable them to start appropriate activities in labor market according to the skills that they achieve. Several studies have been done in sill education and they show lack of effectiveness between these training and their mismatch among labor market and provided skills. And also employers do not welcome these peoples who have trained (2). It is necessary to spend massive costs in the field of skill education which are done every year to develop training in the country. And it leads to this issue that new teaching methods are used to take step in development of learner's situation. And run effective planning to enhance learner's skills. Problem solving with an innovative method is a new way of thinking that learning it, takes time and patience. (3) Altshuler effort to improve the innovation process has led to the creation of Therese. Harganhan et al (1387) believed that creativity are abilities that person be able to offer new and useful ideas and understand new and clear relations and represent unprecedented but important questions. Azboren (1963) believes that creativity should be known as the highest level of human learning, the highest thinking capability and the final product of human's brain and thought. (4) so the educational process should reflect the creativity process. Creativity as a turning to innovation, manifest itself in various ways. (5) what is observed in skills training is providing information directly to trainees. However, they do not face with a challenging position to receive their goals. And this led

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to this issue that they don't have time for thinking, innovation, searching and problem-solving skills to enhance their skills. On this basis, according to what was said to determine the most effective way to skill training in this study by using the inventive problem solving method (TRIZ) to increase efficacy and potency among learners of professional technical skills training.

II. Materials and Methods

The present research is quasi experimental and it considers control and experiment groups. Control and experiment group include trainees of technical and professional training centers in Kurdistan province. Pretest- posttest design with control group is formed with two subject group. Both groups are tested twice. First measure is done by pretest and second is done by posttest. Statistical population is trainees of technical and professional training centers in Kurdistan province among them 4 centers and 2 educational professionals were selected to conduct training method by using TRIZ and conventional method and according to the number of trainees per workshop, 14 people of 114 people were selected as a statistical sample that 56 person were trained with TRIZ method and 56 person had received skills training with an usual way. For information gathering, two questionnaires were used such as standard self-efficacy by Scherrer et al (1982) and Spritiz empowerment questionnaire (1995). Self-efficacy scherrer questionnaire is included 17 articles. The scoring method is that to any article a score between1 to 5 is awarded. Articles number 1, 13, 8, 9, 3, 15 are increased in scores and other articles are increased, inversely. This scale has maximum score 87 and minimum score 17. This scale has been translated and validated by Barati (1996). This scale reliability in the Barati research (1996) is 79% and abdi-nia (1998) , 85% and in the research of Erabian et al, it was obtained 91% (8-9). Standardized questionnaires of Spirits psychological empowerment include assessing 5 sense dimensions such as significant, efficacy, effectiveness, confidence and autonomy. The questionnaire consists of 15 items and they are set by using Likert 5 option scale that minimum score is 15 and maximum is 75 and whenever the person's score is higher, indicated more empowerment (10). The reliability of questionnaire is calculated in Sprits research as 0.85. in Hassan zadeh research (2014), the reliability of questionnaire is calculated 0.84 by using Cronbach's alpha. Finally, by using SPSS software, data were analyzed in two sections descriptive and inferential.

III. Findings

In descriptive section of participated trainees situation in research process was according to table 1.

Table1: Trainees Demographic situation of skills training based on descriptive statistic

variable	Training carrer		Age status				Education status			
title	electronic	mechnic	16-20	21-25	26-30	Higher than 31	Under-diploma	diploma	Associate degree	BA
frequency	56	56	53	45	9	5	60	21	11	20
percent	50	50	48	40	8	4	53	19	10	18

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As the findings show, for each career, 50% of trainees are involved in research process and based on age status, 48% are in 16 to 25 age status that their mean age was 21 years old and based on education status, the highest level of education was associated to under- Diploma with 53%.

Table 2: t-test of correlated groups about efficacy and empowerment before and after training in traditional sector

variables				Confidence level to 95%		T	DF	Sig
	M	SD	Variability index	lower	higher			
Self-efficacy before and after training	0.08929	2.21792	0.29638	0.50468	0.68325	0.301	55	0.764
Empowerment before and after training	0.67857	1.69660	0.22665	1.13278	0.22436	2.994	55	0.004

About the education effect on self-efficacy and empowerment in a usual way, before and after training, findings show that in self-efficacy section, there was not a difference but in empowerment section after training, empowerment was high and training period can effect on trainees empowerment.

Table 3: t-test of correlated groups about efficacy and empowerment before and after training in innovation sector by using solving method

Variables				Confidence level to 95%		T	DF	Sig
	M	SD	Variability index	lower	higher			
Self-efficacy before and after training	9.87500	13.42733	1.79430	13.47086	6.27914	5.504	55	0.000
Empowerment before and after training	8.53571	13.11483	1.75254	12.04789	5.02354	4.870	55	0.000

About the education effect by innovative method by using problem solving method (TRIZ) on self-efficacy and trainees empowerment before and after training indicated that in two sections of self-efficacy and empowerment, there was a significant difference after and before training by using TRIZ method on self-efficacy and empowerment of trainees.

I. Conclusion

TRIZ is a new method which has a significant role in innovation and patent and it can be an appropriate method for innovative activities. TRIZ method is a method which can be effective in improvement creativity, thinking and empowerment increasing and this method can be effective in training situation. Recent research outside the country show that TRIZ leads to application development in non-technical fields, in addition to technical applications. Contradiction matrix and 40 TRIZ principles in several areas such as business and management systems (Damb an Mann, 1999), social systems such as education (Waters, Mann and Maresht, 2002), planning systems and thinking systems have many application (Sachko, 2009). And if we can use this method, appropriately, we will see effectiveness of this approach in training activities.

The findings of this research indicate the positive effect of education plan by using TRIZ method on self-efficacy and empowerment among trainees of skill learning. According to compare education in a usual way and education by using TRIZ method, findings show in self-efficacy section in traditional method, it was observed a significant difference after and before education but in education method by using problem solving- innovative method and between sample group before and after education, there was a significant relation about self-efficacy. Motari et al (2005) concluded in a study which was done on nursing students by problem solving that education cause the self-concept increasing. The results of Jafari sani et al (2012) concluded about the effectiveness of probe model on self-efficacy of students. And there is a significant relation between mean scores of pretest and

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posttest in experiment group, so the mean scores of self-efficacy and other components in posttest was higher than mean scores in pretest. In fact, students who were trained by using probe method, have higher self-efficacy. Pour ghaz et al (2012) found that self-efficacy level influence on the problem solving performance and if self-efficacy education level is higher, the problem solving level will be higher. As bandvora (2001) believes that self-efficacy influences on thought pattern and it has a positive role to overcome the complex process. On this basis, using modern teaching and learning method can have a positive effect on trainee's self-efficacy. And this finding is consistent with findings of other research. (12-18). Due to the education effect with conventional method and TRIZ on trainees empowerment of skills training indicates that there is a significant difference in two sections of education and traditional with an innovative method and this difference was higher among trainees who was trained with TRIZ method. The role of problem solving education with inventive method influence on skill training and it can empower the trainees of skills course. So it is suggested that by using educational design method, a training design such as TRIZ should be created and we should use it for all education careers. Due to this issue that effective education requires hybrid methods. So this method can be used as a main method and practical skills methods should be taught to trainees. Also, due to this that only a few TRIZ principles were evaluated, it is proposed that other TRIZ principles are also investigated to provide education and by using TRIZ forty-fold principles, it provides a proportional transformation with skills education in the country level..

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The need to achieve sustainable development and utilization of renewable energy in hot and dry regions of Iran

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Abstract: According to the importance of optimization and effective utilization of renewable energy, and the environmental pollution originated from fossil fuels in the manufacturing energy sector use renewable energy to produce electrical energy is felt. Solar energy, wind energy, geothermal, hydropower and marine are part of the renewable energy that have many applications in supply needed energy along with the industrial development, and have been a good substitute for fossil fuels. renewable energy are necessity for diversification energy portfolio in each country in order to improve energy security, given the dramatic increase in energy demand is expected in the coming years .energy security will be considered as one of the priorities of each country's energy sector. Problems Fossil fuel supply for many areas of the country, especially rural areas(There are 60 thousand villages scattered across the country) Includes savings of fossil fuels, growing population and rising demand for different types of energy and environmental issues. One of the methods can named for save natural resource is energy management and replacement renewable energy instead of fossil energy that as two function for achieve to sustainable development approach to save natural resources that is the birth right of future generations preservation of it is the plants current citizens responsibility Thus need to replace energy sources renewable energy achieve sustainable development in the country is felt every day over the past Hot and dry regions of Iran because of the long hours of sunshine and windy in some areas could use these resources to get targets of sustainable development.

Keywords: renewable energy, hot and dry areas, sustainable development, Iran

1- Introduction:

Need gratification of current generations without compromising the ability of future generations to meet their needs is sustainable development. In order to realize sustainable development should use natural resource conservation and protection of human resource the most important ways to protect natural resources, can be named is energy management and replace renewable energy instead of fossil energy. The overall energy is divided to fossil energy sector, like oil, gas and coal and renewable energy such as water, wind, solar, geothermal and biomass among the problems to supply fossil fuel, growing population and rising demand for different types of energy and environmental issues can be mentioned. Thus the need for alternative renewable energies are increasingly felt more than past, according to multiply energy intensity of the country also the position of energy management is important . Among renewable energy, biomass (the biomass), is an important resource and it refers to any living organism that can grow and divide, based on natural law refers. Forest, parts of plants, leaves, ocean creatures, animal wastes, municipal wastes, and food are placed in this group that had the ability to store energy in theirs after fossil fuels (coal, oil and natural gas) Biomass (biomass) is the fourth largest energy source in the word that used for heat production wood heaters in home and hit and hot water in industries) cooking (especially in developing countries) Transportation (bio-ethanol biofuels diesel) and electric energy biomass have ability to power generation, heat, liquid fuels, gaseous fuels and has a variety of useful chemicals applications, and has a large piece of new energy sources. Although renewables energy is move less environmental contaminants and given that fossil fuel consumption has caused in the world, increasing temperature, weather conditions such as flooding - Storms, droughts in some countries, and extensive destruction of the ozone layer is growing, Many industrialized countries have to use this type of energy and have been tried to reduce the cost of production and consumption with various methods . In countries such as Germany, China, Spain has been a lot of efforts in the development of this production type of energy and consumption it over the years and goes on for example In Germany, they used a combined cycle, renewable energy which is often used And in some cases that is no possibility of using this type energy energy fossil fuels used .But the interesting point here is that due to favorable geographic and climatic conditions in

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Iran why these methods are used less In this research, we will discuss this issue in details.

2 -expression is:

Development goals of economic, social and environmental state of the most important factors in achieving sustainable development in any country, such as the use of new energies including nuclear energy, solar, wind and energy reform model (energy management) named, use of these two solutions reduce dependence on fossil fuels, reduce emissions from the production and consumption of energy resources and also reduce greenhouse gas emissions, which have a substantial impact on global warming.

3- The necessity and importance of the research:

Renewable energy have different energy structure than conventional energy technologies, , because the developments of renewable energy have a high initial investment costs and the maintenance costs are low, but in some energy conventional sources, initial investment costs low. Several advantages for the development potential of renewable energy in the country can be expected to depend largely on local conditions, alternative sources and social concerns. The advantages of using renewable energy can be attributed to the increased security of energy supply, reduction of global warming, stimulate economic growth, create jobs, increase per capita income, increased social justice and environmental protection in all fields utilization of renewable energy are in creased sustainable energy for rural and less developed regions therefore, the development of renewable energy, should be more attend to a developmental perspective, and not purely economic views. Renewable energy, clean (clean), abundant, reliable, and if they are properly developed, they can be play an important role as sustainable energy sources in achieving the goals of sustainable development of countries our country lacks the integrated management of energy and if the trend continues, the damage to the country in the near future It will be very severe and irreparable. Therefore, it is necessary to take action as soon as possible to create a framework in our country it's reveals the need for energy management. Since the beginning of the 1990s, a system of ideas was impressive on sustainable development and the interplay of economic, social and environmental aspects were considered and in this view of sustainable development is the long term that unclouded future generations too And it seeks to provide strategies and tools that can respond to the following five essential. 1) Integrated conservation and development 2)supply basic needs of human life 3) Achieving social justice 4) Autonomy and Cultural Diversity Ecological unity

4) Renewable energy and its types:

Renewable energies are those who use it no pollution is generated produce ,in a short time and The utilization of renewable energy, there are two main approaches. The combined approach where all types of this energy is converted to electricity and the second approach with special equipment, such as immediate energy on heating, cooling and mechanical rotary axes all types of renewable energies can be seen in Figure 1.

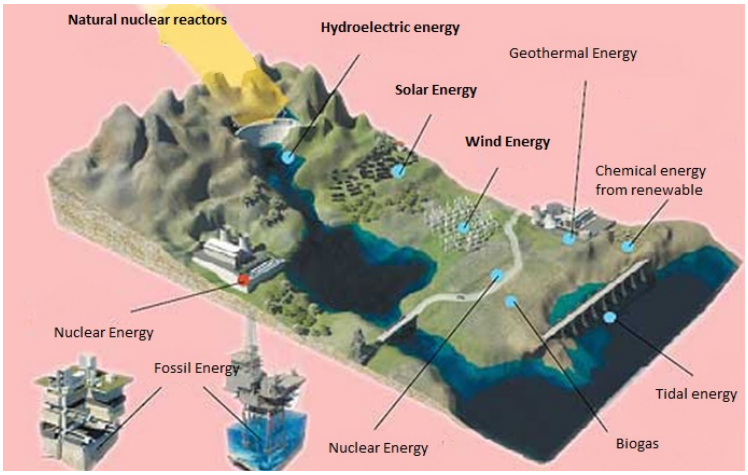

Figure (1-1) Types of Energy

http://3raj.com

4-1 Reasons for develop renewable energy:

- ✓ Increase production and reduce reliance on sparse grid
- ✓ Enhance Iran's standing in the international strategic environment.
- ✓ Creating new business opportunities
- ✓ employment in remote areas of the country
- ✓ solve the problems of municipal waste, especially in the northern cities by using standard of biomass power plants
- ✓ Promotion of National Security of energy supply

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✓ exploit the potential of renewable energy sources: 15,000 MW, wind power plants , 60,000 MW solar power plant just below in 2,000 km ²

✓ protection of the environment: reduce 860 tons of CO2 per year by a 660-kilowatt wind turbine that generate 1500 MV /h electricity per year

✓ Preservation of national resources and the possibility of storing it for future generations: protection of 100 million barrels of oil over 20 years, by 1000 MW renewable power plant

4-2 Challenges of Using Renewable Energy:

❖ Distribution Time and Randomness
❖ The spatial distribution
❖ Advantages of Country in fossil resources
❖ Low willingness to use the technology associated
❖ expensive technology currently

4-3 reasons of replacing fossil fuels with renewable Energy :

At least two major reasons must be new energy sources replace with traditional sources. These reasons include:

(1) Limitations (not reversible), and yet the quality of fossil energy, because this fuel is type of concentrated chemical energy is certainly have better uses than combustion.

(2) Protecting environmental problems so that today atmosphere health is the most important precondition for the words sustainable economic development therefor the coming decades will be as a joint effort years between human society to control carbon emissions , Environmental control and actually trying to sustain human presence on the planet.

4-4 The main challenges in the development of renewable energy sources and new in Iran:

In most countries development policies, particularly in technologies and new science are supported through public advocacy and offered to the market knowledge and technology Such policies protection provide for a specified period time to community that find the ability to compete with existing technologies renewable energy development policies should seek to achieve these goals: Moving towards sustainable energy systems, To reach sustainable production and use of renewable energies in the energy market to promote public awareness and social acceptance, increase Technology proceeds and differentiated products and services, improve competitiveness in cost . Management challenges, technological, environmental and legal use of renewable energies in developing many of the world according to the specific conditions of each country. In addition to general problems in the world of renewable energy, renewable power plants in Iran are faced with certain difficulties. The worldwide public ownership of land and the licensing process can take a long time and is facing many uncertainties. With the cost of electricity generation from renewable sources over the past decade have greatly reduced but still high initial investment cost. Given that renewable resources are often located in remote areas, so in the majority of renewable power plants is need to construction of power transmission lines to increase the cost of power generation from these sources of energy. . In addition to the public record, over the past 10 years the incidence of specific problems in the development of renewable projects is decelerated in which the most important are as follows:

Lack of local and national laws for the development of renewable resources, Lack of skilled manpower trained in integrated management of organizations, even in lack of technology transfer contracts with foreign countries, Weakness in the development of higher education and academic fields related to interdisciplinary Renewable Energy, Lack of technical and professional training programs and courses in the field of renewable energies, Lack of national and local laws: to stimulate the development of renewable energy technologies and markets, National and local development policies in potential survey and identify sources of, construction, installation and operation of renewable energy is essential To develop the use of renewable energy for heating and electricity generation and thermal applications, policy and legislation for the planning, management and implementation of renewable projects is essential.

Use of renewable energy development in Iran has begun with establishment of iran renewable energy organization since 1374. Before the new energies activities were carried out in a number of organizations and did not follow any particular policy, short term or long term. With the changing nature of New Energy Organization of Iran as a fully state-owned company under the Ministry of Power, was appointed Renewable energy activities of the organization with all the new energies that might be said that the first rule to develop new energy application was approved in the country. After the enactment of this Act, all new energies activities including planning, management, funding and human resources professionals from other organizations and ministries moved to New Energy Organization of Iran, however, at present no law other than the law guaranteed purchase of electricity from renewable sources of support and guidance for the development of new energies are used. In most countries, in addition to renewable energy pricing, they have largely supportive and encouraging rules in various stages of construction and operation of the gauge potential it is necessary Renewable Energy Organization of Iran as a trustee develop the energy sector try to confiscate national and local legislation regarding property and exploitation of resources rights, In line with the principles of sustainable development and utilization of resources and technical knowledge.

4-4-1 objectives of these policies and rules may be summarized as follows:

1-legislation and regulations required transferring ownership rights and responsibility for the development of renewable energy sources and energy usage in a public organization. This causes a conflict between property rights and responsibilities of government organizations have eliminated this factor to the private sector Interested in. activity in this content for the development of energy resources only involved with a professional organization.

2- Pass legislation to provide government support for research and development of renewable energy sources.

3- Ratification and implementation of government support in the guaranteed purchase of electricity generated from renewable energy to encourage the private sector to enter the industry.

4- Social acceptance for the use of renewable energy development to maintain and further develop this energy is very important. Government should strive to do so by increasing public awareness

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of the benefits and advantages of this energy source to help develop future social acceptability. Human resource development policies: the promotion of human resource development skills, knowledge and efficiency for powerful activities to achieve specific goals by motivating and training programs organized and systematic.

5- Potential sources of renewable in dry and hot areas

1-5 wind energy potential of hot and dry:

The Islamic Republic of Iran located in western plateau and south west of Asia , with an area of 1648195 square kilometers among with44 to 99/63 degrees east longitude and 25 to 99/39 degrees north latitude and more than half of its area is covered by mountainous terrain. The country faces enormous climatic variation .Northern regions of the country has a temperate climate and rainfall is considerable, especially in the western areas of the province of Gilan .Western areas in cold seasons , cold and wet and in summer, dry and mild. In southern areas, air temperature and humidity is higher, with very hot summers and mild winters, the climate characteristics of the region and daily variations in temperature are less tangible .Eastern and south-eastern areas has a desert climate with considerable variations in temperature throughout the day. To make use of the available wind resources used to generate electricity, a reliable wind data for wind potential areas of interest It is essential for the construction of wind power plants Due to the presence in windy areas, suitable for extended operation of a wind turbine is provided. Prepared wind atlas is one of the most important projects in the field of wind energy. The project was carried out in the Renewable Energy Organization of Iran, and as one of the national projects in the wind energy industry is the wind Atlas, According prepared on the basis of data from 60 stations across the country, the promotion of nominal capacity of about 60,000 MW. Based on forecasts made, the amount of wind energy is economically recoverable is estimated over 18,000 MW. Which confirms the considerable potential of wind power plants in the country's economic wellbeing is an investment in wind power industry. The assessment of potential wind projects in the German company Lahmeyer has worked as a consultant Based on the company's wind potential and recoverable in the country is estimated at about 100 thousand megawatts.

2-5 solar energy potential in hot and dry areas:

Solar energy is one of the most important sources of renewable energy. Solar energy radiation varies in different parts of the world and the highest value is in the Sun Belt. Iran is also located in areas of high radiation, and studies show that the use of solar equipment is an appropriate and may provide part of the energy requirements of the country. According to specialists Iran is a country which, have 300days of sunshine in more than two-thirds of its area, and average radiation from 5.5 to 4.5 kilowatt-hours per square meter per day, introduced as one of the countries with high potential for solar energy. Some experts Solar step further and claim that's ideally equipped in the desert area of the radiant energy systems can a large part of the region's energy supply and export of active power .studies by DLR, Germany, in an area of 2,000 square kilometer, it is possible to fitted over the MW 60000 Powerhouse solar thermal.

6- Conclusion:

Development and expansion of renewable energy will contribute to achieving the goals of economic, social and environmental country that the key factor in achieving sustainable development in any country. Concern in recent years due to the non-renewable fuels and environmental pollution, many countries are forced to seek alternative energy sources for their fuel. A reliable energy source that would be an appropriate substitute for fossil fuels, The technologically achievable, the maximum compliance with environmental standards have yet to meet the country's domestic consumption of electrical energy, Thermal energy and transport guarantee has always been one of the major issues that are thought to have a number of different countries. In recent years affected their plants and visions in country global influence. Concern in recent years due to the non-renewable fuels and environmental pollution caused by them, Worldwide as a major research in the field of renewable energy has led to high costs. In many countries many items of using renewable energies are reported. Renewable energy can play an important role in many applications in the electric power to remote areas of developing countries many examples of successful projects implemented un successful projects with renewable energy production is observed, which indicates that If the right combination of technic, financial, the right policies and principles to be adopted it would provide areas for the rapidly growing market for renewable energy given the breadth of access to solar energy, it seems to be solar energy as a source of renewable energy would be readily available cheap in future .nowadays 150% of the energy consumed by Americans comes from the sun, and European and other industrialized countries use small amount of energy from the sun. since one of the main Governments challenges is to providing secure energy in future and also provide nearly 90% of fossil fuel energy resources world are finite. Utilization of renewable energy sources and replacing them should be done more quickly. Due to launch in competitive electricity market and export sales of electricity in the country and region The necessity of adopting the optimal cost to stay in the competition is vital And it's important to replace the fuel power plants and using renewables, which is free of charge is possible. Although the side cost of this powerhouses are low , so construction and operation of these powerhouses is inevitable , Review of the use of current energy sources and alternative energy sources that most of them are sun, water, wind, geothermal and more. Can be attended as new energy source sin the coming years the Earth receives solar energy as solar radiation and the radiation levels are over human needs .the source of the daily changes, seasonal changes are well known, and it is significantly affected by the weather. Relatively low intensity of solar radiation and the peak (above) about KW / m 21 at sea level. All countries have access to this source as different values . The use of solar energy is quite diverse and includes any direct heat (operating systems and passive), power generation and direct conversion into electricity through thermodynamic cycles using the PV systems. Storage of solar in thermal systems is relatively inexpensive and the energy source of energy by consumers falls apart.

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