

INVESTIGATING THE ROLE OF HIGHER EDUCATION INSTITUTIONS ON SUSTAINABLE DEVELOPMENT WITH EMPHASIS ON SOCIAL AND ECONOMIC INDICES (CASE STUDY: SISTAN REGION)

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Abstract. Educational services in cities have a significant relationship with the health and development of urban communities. Educational centers play an important role in sustainable urban development by providing services to the citizens. Therefore, educational services are essential in a variety of quantitative and qualitative dimensions of sustainable urban development. The purpose of this research is an investigation of the role of higher education institutions in sustainable development, with emphasis on social and economic indices of Sistan province. The research method is descriptive and analytical based on library, documentary, and field studies. SPSS software was used for data analysis. The results of the descriptive findings revealed that the Higher education institutes have an impact on sustainable development. The result of single sample T-test showed that the mean of all indices is higher than average of 3 and it shows the effect of higher education institutions on sustainable development, with emphasis on the social and economic indices of Sistan province. The results of the hypothesis test showed that there is a significant relationship between the higher education and sustainable development [$p < 0.05$] with emphasis on social and economic indices of Sistan province.

Keywords: Higher education, Sustainable development, Social and economic indices, Sistan province.

Introduction. Today, Human capital is the main pillars of development and it provides the basis for the sustainable development of societies. In the past, economic strength was largely dependent on tangible physical assets such as land, factories, and equipment. Labor was a necessary component, but increases in the value of the business came from investment in capital equipment. Modern economists seem to concur that education and healthcare are the keys to improving human capital and ultimately increasing the economic outputs of the nation (Saraf, 2000: 73).

Today, educational Land use is one of the most important urban land use and has an important role in the human development (Siasar, 2013). Education is the foundation of the growth and development of any society (Hajipour, 2007: 37). Undoubtedly, one of the main pillars of economic-social development is education. Implementation of development plans required trained human resources. Therefore, education improves the quality of human resources. Enhancing the quality of human resources because increasing of productivity and urban development.

Higher education has an important role in all dimension of development. According to the human capital theory, higher education and training create a capacity and ability in individuals and can generate more income in the future. Therefore, education and increasing the ability and skill of individuals has an economic efficiency. Based on the Human capital theory by American economists Theodore Schultz (1902-1998) and Gary Becker (1930), achieving development in advanced countries is due to education and in particular to higher education (Ghalei & Seyed Alavi, 2014). One of the major services with widespread demand in cities is the space allocation of educational centers especially universities. Universities are practically effected in the physical development of the city by establishment on the city and formation of the related physical spaces such as construction and expansion of scientific, educational, cultural centers, construction of residential centers (such as student dormitories and boarding house), development of public, administrative, financial centers, providing the transportation facilities around the universities, etc. Research on the effects of educational institutions growth in the cities is required because of increasing the number of higher education institutions in cities. After confirming the role of higher education institution such as universities in the physical development of cities, examining the dimensions of this role and identifying more effective institutions is an important issue (Esfandiari Mahani, 2017). Over the twenty years, a good infrastructure has provided for higher education in the Sistan region which it has led to the growth and development of the region.

The growth of Zahedan city is helping to improve the livelihood and economy of its people. Higher education in the Sistan region has also effective in the social and economic indices.

In this regard, the purpose of this study is to an investigation of the role of higher education institutions in sustainable development, with emphasis on economic and social indices of Sistan province.

Review of Literature. Esfandiari Mahani et al. (2017) studied the role of higher education institutions in the physical development of Zahedan city using the WASPS model. The result of this research showed the physical expansion of Zahedan city around the University of Sistan and Baluchistan, Azad University and University of Medical Sciences.

Hasanzadeh (2006) conducted a research titled "the role of higher education in the social and economic progress of women. The result of the research revealed that the higher education has a significant impact on women's social, economic, educational, and cultural development but the consequences of higher education are different in the educational, cultural, social and economic affairs of women.

Qalei and Seyed Alavi (2014), in a research, investigated "the role of Islamic Azad University in the sustainable development of cities in the suburbs of Tehran [case study: Islamshahr city]". The results revealed that the Islamic Azad University of Islamshahr has an effect on the sustainable development of the city.

Ghalei and Seyed Alavi (2014), also explored the role of the universities in a various dimension of development of Islamshahr. The result of their research showed that the University has an important effect on social, environmental, economic and cultural dimension respectively.

Bagheri and Bagheri (2005), in a research titled "Higher Education and the transition to a knowledge-based society", have investigated the role of higher education on the development of Iran. In this paper, knowledge management in the knowledge-based society is described as an important index in reciprocal information guidance of the society. Communication infrastructure has been considered as an important factor in the development of knowledge-based communities.

Farajzadeh and Rostami (2004) in a research entitled "evaluating the site selection of educational centers using Geographic Information Systems [case study: Moallem town of Kermanshah city]. They introduced the appropriate sites for establishment of the educational institutions in Moallem town of Kermanshah city.

Khorasani and Zamani (2012), in an article entitled "Effective Strategies for the Internationalization of Universities and Institutes of Higher Education in Iran" resulted that there was no significant difference between the perspective of male and female faculty members about effective strategies for the internationalization of universities and higher education institutions, as well as there was no significant difference between the perspectives of faculty members with different academic degrees about the impact of political strategy on internationalization of universities, but there was a significant difference between the perspectives of faculty members with different academic degrees about the impact of communication, service, and university strategies on the internationalization of universities.

3- Theoretical basis

3-1- The role of higher education in development

Higher education plays an important role in all aspects of development. One of the important roles of higher education in development is the impact on economic development. Education is considered more effective in the economic development from the various dimension. According to the human capital theory, more education in individuals make the ability and capacity for economic development and generate more income in the future. There is widespread agreement among social scientists that development is a multidimensional phenomenon, with economic, political, and social aspects, and that the different dimensions of development are interconnected with one another in complex ways. Therefore, Economic development is not independent of social, technical, scientific and cultural development. Economic development refers to a process that its purpose is an improvement of social welfare by increasing production, optimal use of natural resources, enhancing the level of employment and income, distribution of income and providing better conditions for using goods and services. Economic development is a broader concept than economic growth. The development reflects social and economic progress with change and requires economic growth (Shaikh Alizadeh, 2004: 165).

Today, higher education represents an important type of investment in the human resource which contributes to economic development by altering employee behavior and attitudes in a way that increases their probability of goal attainment. It involves changing the skill, knowledge, and attitude of employees. Economic development requires a move toward science and technology, and higher education can play an effective economic role if focuses on professional skills and talents, instead of paying great attention to pure ability and knowledge, (Mokhtaripur, 2003, 16).

University is effective in economic development in two ways: first in terms of providing efficient human resources by increasing the efficiency and productivity of individuals, second in terms of the development of knowledge and technology. The university has a fundamental role in economic development because universities are responsible for training human resources at the high level of expertise and increase of productivity and efficiency. Human resource shortages in terms of quantity and quality are the most important problem in economic development. Also, the development of education, especially the development of academic education, requires financial and material resources and financial resources are the product of economic development. Therefore, economic development and the development of higher education are recognized as mutually interconnected approaches (Foucault, 2003: 20).

4- Area of study

Sistan region with an area of 15,197 sq km in the geographic range between 30° and 5 minutes to 31 degrees 28 minutes' latitude and 60 degrees 15 minutes to 61 degrees 50 minutes' longitude in southeastern Iran and the northern part of the province Sistan and Baluchestan by about one eighth of the total area allocated to the province. Average annual rainfall in the region 6/59 mm, mean annual temperature of 22°C and the average annual relative humidity is 38. Sistan

region includes the cities of Zabul, Zahak, Doost Mohammad, Mohammad Abad Adimi has an area of 15917 square kilometers.



Figure 1: Map of the study area

5- Research Methodology

The research method is descriptive and analytical based on library, documentary, and field studies. SPSS software was used for data analysis.

5-1- The economic and social indices

Table 1: The economic and social indices

Indices	Type
Increase of public and private investment in the region of Sistan	Economic indices
Increase of production	
Improvement of productivity indices	
Job Security	
Distribution of income with respect to social justice	Social indices
Increasing the level of culture in the region	
Improvement in lifestyle	
Increasing the quality of environmental health in the region	
Increasing educational and welfare facilities	

Source: Research findings

6- Analysis

We used of 10 indices for investigating the role of higher education institutions on sustainable development with emphasis on economic and social indices [case study: Sistan region]. The prepared indices were adjusted in a framework of a questionnaire. The questionnaires were distributed among 385 people as the statistical sample of the present research. The questionnaires were analyzed based on respondents' response type.

Table 2: Social and Economic Dimensions Questionnaire Responses

Very much	Much	Average	Little	Very little	Indices
Percent	Percent	Percent	Percent	Percent	
35.0	12.4	28.4	9.5	14.7	Increase of public and private investment in the region of Sistan
42.8	12.4	22.7	11.1	11.0	Increase of production
25.0	12.0	34.5	15.2	12.3	Improvement of productivity indices
26.2	20.1	25.1	10.1	18.5	Job Security
31.8	11.2	30.5	12.2	14.3	Distribution of income with respect to social justice
42.8	16.3	15.5	10.2	15.2	Increasing the level of culture in the region
26.4	17.3	35.3	10.6	11.4	Increasing the life satisfaction
37.5	12.5	20.0	15.5	15.5	Improvement in lifestyle

35.8	15.0	21.4	12.3	15.5	Increasing the quality of environmental health in the region
35.5	12.8	31.5	10.5	8.7	Increasing educational and welfare facilities

Source: Research findings

According to the findings of the present research, about 80% of respondents have chosen moderate, high and very high options. Therefore, according to the results, higher education institutions have a significant role in the sustainable development of socio-economic indices in the Sistan region.

A Single Sample T-Test was used to investigate the role of higher education institutions on sustainable development, with emphasis on social and economic indices of Sistan region.

Table 3: single-sample T-test

The difference 0.95		Significant (second range)	T	Mean	Indices
Down	Top				
2.68	3.32	0.000	41.256	3.61	Increase of public and private investment in the region of Sistan
2.47	3.24	0.000	32.111	3.89	Increase of production
2.39	3.38	0.000	48.243	3.14	Improvement of productivity indices
2.56	3.61	0.000	47.345	3.32	Job Security
2.24	3.35	0.000	39.564	3.46	Distribution of income with respect to social justice
2.11	3.64	0.000	46.389	4.00	Increasing the level of culture in the region
2.32	3.54	0.000	51.032	3.21	Increasing the life satisfaction
2.65	3.42	0.000	39.864	3.79	Improvement in lifestyle
2.75	3.15	0.000	49.325	3.62	Increasing the quality of environmental health in the region
2.35	3.48	0.000	52.795	3.60	Increasing educational and welfare facilities

Source: Research findings

As can be seen from the above table, if the mean value of the positive indices is greater than 3, the role of higher education institutions in sustainable development is high with emphasis on social and economic indicators of Sistan, but if the mean value of positive indices is lower than the average of 3, the role of higher education institution in sustainable development is low.

As it can be seen from the above table, the mean of all indices is greater than 3 which indicates the high impact of higher education institution on the sustainable development with emphasis on economic and social indices of Sistan region.

Hypothesis test

The Spearman correlation test was used to test the hypothesis of the research.

Table 4: Measure the correlation between the indices studied

Indices	Type of analysis	SIG
Increase of public and private investment in the region of Sistan	Sperman s rho correlation	0.817
	Sig.(2-tailed)	0.000
	N	385
Increase of production	Sperman s rho correlation	0.681
	Sig.(2-tailed)	0.000
	N	385
Improvement of productivity indices	Sperman s rho correlation	0.658
	Sig.(2-tailed)	0.000
	N	385
Job Security	Sperman s rho correlation	0.756
	Sig.(2-tailed)	0.000
	N	385
Distribution of income with respect to social justice	Sperman s rho correlation	0.548
	Sig.(2-tailed)	0.000
	N	385
Increasing the level of culture in the region	Sperman s rho correlation	0.719
	Sig.(2-tailed)	0.000

	N	385
Increasing the life satisfaction	Sperman s rho correlation	0.625
	Sig.(2-tailed)	0.000
	N	385
Improvement in lifestyle	Sperman s rho correlation	0.712
	Sig.(2-tailed)	0.000
	N	385
Increasing the quality of environmental health in the region	Sperman s rho correlation	0.590
	Sig.(2-tailed)	0.000
	N	385
Increasing educational and welfare facilities	Sperman s rho correlation	0.589
	Sig.(2-tailed)	0.000
	N	385

Source: Research findings

As it can be seen in the above table, in all indices, the significant level is less than 0.5 which shows a significant relationship between higher education and sustainable development with emphasis on economic and social indices.

Conclusion. Higher education institutions, as a part of the administrative system, can be used as the platforms for the training of efficient human resources. The higher education institutions especially universities can play an important role in the social and economic development of Sistan region.

The results of the descriptive findings revealed that the Higher education institutes have an impact on sustainable development. The result of single sample T-test showed that the mean of all indices is higher than average of 3 and it shows the effect of higher education institutions on sustainable development, with emphasis on the social and economic indices of Sistan province. The results of the hypothesis test showed that there is a significant relationship between the higher education and sustainable development [$p < 0.05$] with emphasis on social and economic indices of Sistan province.

Suggestions

- Increasing the efficiency of manufacturing sectors by Using the university's ability in Youth employment and reducing the economic problems;
- use of a systematic strategy in the universities of Sistan to create an integrated growth and development;
- Designing a long-term vision document for the development of universities centers of Sistan region;
- Functional-structural integration of all institutions in the region for the promotion of the educational centers.

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