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Acknowledgement

In the Name of God

Dear Readers,

I, on behalf of the editorial board, am proud to present this issue of the *International Journal of Applied Arts Studies (IJAPAS)* under the sponsorship of the Islamic Azad University, Yazd Branch. We were driven to found the *IJAPAS* by a noticeable lack of journals, in the Islamic Republic of Iran in particular, devoted to architecture, urban design, urban planning, architectural conservation and restoration, painting, art history, graphic, digital arts, fashion design, performing art, industrial design, aesthetics and semantics. Although the academic world is increasingly driven by cross-disciplinary visions and models, we seek multi-disciplinary views, an attempt to inform researchers, graduate students, and professionals about the trends, ideas and innovations being put forward in applied arts. To this end, in addition to standard articles, in every volume of the *IJAPAS* we hope to provide a special issue related to a respective field with innovation.

We are also sending out a call for papers related to *Applied Arts* to appear in the next issue of *IJAPAS* in Feb – Mar 2020.

Finally, I should mention that we are committed to a speedy refereeing process for every article submitted to us. We effort to reply to all papers submitted within five weeks' time with a response about acceptance or rejection. We also do not require formatting for submissions in our style until *after* the paper has been accepted by us for publication.

I would like to thank our Editorial Board for their work so far in helping to establish the *IJAPAS*. And, finally, I would like to extend my deepest gratitude to Dr. Ali Boloor, the assistant editor of the *IJAPAS*, for all of his hard work to ensure the timely completion of the issue.

I am delighted to invite you to visit us at www.ijapas.org.

Sincerely,

Dr. Abolfazl Davodi Roknabadi
Editor-in-Chief
International Journal of Applied Arts Studies (IJAPAS)
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The Role of Architecture Education on Architectural Space Perception of Blind Students (Study Group: Blind Students of Tabriz Cultural Art Institute of Basir)

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Abstract

For a long time, the sense of sight has been regarded as the greatest sense of the human being and it is the most powerful transitional sense which plays a significant role in understanding other emotions. On the other hand, according to the world-wide experience of the perception process and its results, there are some differences between the normal people and the blind people. This subject has been independently investigated by many researchers, but without the full attention of the blind perception processes and their associated mechanisms, no interventions and planning can be undertaken for the improvement of the environmental quality of this group. In this regard, in the form of an experimental activity, by writing a syllabus extracted from the curriculum and topics by the Ministry of Science's Planning Supreme Council and by applying appropriate and adaptable approaches to the physical condition of the blind students, basic architectural training is considered for them. The findings of this study were analyzed by inferential analysis of T-test through comparing the analysis of pre and post-tests of the training courses and then by analyzing the results and measuring the significance level of the results. The findings showed that using basic architectural training methods can have a significant effect on the quality and quantity of blind people's perception from the architectural spaces. Also, the results showed that through architectural teaching methods, the blind people can participate in designing the public spaces specific for them.

Keywords: Blind Education; Architecture Space Perception; Blind Perception; Architecture Education

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1. Introduction

Human perception and the way of his/her interaction with the world is one of the most important issues in creating the architectural works. Since human perception of existence shapes the level of his/her interaction, in order to improve the quality of the created architectural and urban works, it is necessary to understand the level and different stages of human perception (Taghdir, 2017: 49). Architecture is one of disciplines in which discussing on the human beings is necessary. It has been widely stated that in designing or criticizing an architectural subject, one speaks of the perception of space or the emotion emanating from it (Iravani, 1992: 1). Architecture is also the first tool for human communication with space and time and gives them a human sense. Architecture dominates the endless space and time for the human companionship, residence and understanding. Due to the interdependence of space and time, the dialectics of inner and outer space, material and spiritual, physical and mental, and the priority of consciousness and subconscious in sensory perceptions such as interdependent roles and their interactions, they have a major impact on the nature of art and architecture (Levin, 2003: 205). The environment is used as the source of information by the human. In human and environment contact, the first question that arises is what information is present for a human being and the initial answer is the surrounding environment. A person's feelings convey some information about the environment, so we can review the information that the sense have revealed to us (Shafii and Sharifi Daramadi, 2006: 21). The range of diagnosing the sensory organs, individual abilities and other factors play an important and decisive role in this perception. Also, based on special conditions, some senses are more important than others. These conditions include the disability of a person sense or being in different cultures (Hatami and Rashid Kallivar, 2014: 1). On the other hand, the global changes requires people to acquire some skills to deal with the challenges ahead, and that requires us to pay attention to the people training because it is believed that most modern developments root in the knowledge and skill so that their acquisition requires learning (Feizi and Dejpasand, 2018: 150). Based on the mental model governing the learning process, the learner receives a vast variety of visual information through the experience of the works and through his or her senses in which the sense of sight plays a major role. All of the received information is stored in the sensory memory. At this point, the learner, or in other words, the observer will consider a part of this image. In such a case, the focus shifts this piece of information from the sensory phase into the perception process, in which the mind organizes and interprets the received information through the senses, in order to make sense of them (Centrack, 1991: 25).

The new approach to learning is consistent with the meaning of learning in which education means re-building or revising the experiences and reforming them for further growth (Ayat and Khoshdaman, 2012: 152). People's potential for learning is different, and people learn under different situations and different factors. Considering the individual differences of learners and the fact that everyone learns in their own way and has a different perspective for themselves is essential to make learning more effective (Feizi and Dejpasand, 2018: 150). Learning styles define the learning differences between individuals. In fact, learning styles can be considered as different ways of organizing and processing information and new experiences in mind (Khandaghi and Rajaii, 2013: 22). Blind students mainly prefer scientific, reflective, and organized styles in learning. Blind people, since they always have to make a picture of the environment and what they want to do, are reflecting on the work beforehand and act based on the small organizations that they have created in their minds. For example, when a blind student goes to university, he/she draws a map of the college and university before moving on and organizes them and then moves on (Austin, 2009: 1).

2. Research Questions

1. How can we increase the level of architectural space perception in the blind people?

2. Is there a significant difference in terms of the spatial perception level of the blind people between those who have been trained in architecture and those who have not been trained in architecture?

3. Overview

The present study was carried out at Basir the first Cultural and Art Institute for the blind students in Tabriz. The purpose of this study was to investigate the perception of the blind people from the architectural space as well as the relationship between basic architectural educations as an effective factor in the spatial perception. After examining the basic concepts in the perception and emotion process as well as analyzing new ways of teaching the blind students, the authors put forward some hypotheses and through basic architecture training based on the syllabus extracted from the curriculum and the introductory courses of architecture introduced by the High Planning Council of the Ministry of Science and also applying some techniques appropriate to the physical condition of the students, they experimentally started teaching architecture to the blind students. Through experimental tools, this study examines the results of a three-step process including pre-training, introductory training and post-training steps. During these processes, in the first stage, ten qualitative questions were asked about the spatial perception of the blind students; then in the second stage, through introductory architectural training based on the above mentioned results, scientific and practical discussions were conducted with the blind students; in the third stage, a test was conducted to determine the blind students' perception of the architectural space and analyze the results of this training. The qualitative data obtained from the first and third stages were finally collected and compared with the hypotheses of the study through statistical and inferential and comparative analysis. The research concludes with a summary of the results of the relevant analyses and validates the research hypotheses.

Given the presence of human participants in this research, we attempted to observe all research ethics in the social sciences, including informed consent, privacy, anonymity, confidentiality and being free from any harm. Also, in publishing the results of the research, some issues such as universality and honesty have been considered by the authors. In addition, according to the researches and studies carried out to achieve the aims of this research, it was clear that no research has been conducted in Iran on the basic training of architecture for the blind students.

4. Research Method

According to the qualitative-quantitative research methodologies, the data collection tools were library studies, observation, direct participatory, participatory observation and interview, focused group type, conceptual and discourse interview. The reliability was verified by parallel methods or peer tests, and for the validity was verified by construct validity (group differences and variations). Considering the quantitative-qualitative research, constant comparative analysis methods, construct-event analysis, idea design, Mapping and finally illustrating data through diagrams, charts, tables, and graphs were used, and ultimately the items were compared.

Table 1 Data collection method

Methods of data collection	Library Studies	Data literature review and theoretical framework, analysis and review of past research results
	Observation (field studies)	Direct participation
		Participatory observation
	Interview	Focused group
		Conceptual interview
		Discourse

Reference: (Hakimzadeh and Abdolmaleki, 2011)

5. Basic Concepts in Perception

Perception is a biological and psychological process of acquiring information from the environment. Environmental perception factors are categorized by psychologists and architects in different groups; Edward T. Hall divides spatial perception into intermediate receptors that include the eyes, ears, nose, as well as intermediate receptors like the skin and muscles (Amrollahi and Soltanzadeh, 2016: 3). Environmental perception factors can be broadly divided into two visual and non-visual categories:

A) *Visual factors*: For a normal person who is not blind, the sight sense has the highest share in understanding the surrounding space. Seeing is a physical phenomenon which has been made possible by the presence of light. Light is the wavelength of radiation in which each wavelength has its own color and heat. It is said that the blind people can also perceive the colors of light through the heat generated by the particular wavelength.

B) *Non-visual factors*: Among the other factor affecting the environmental perceptions are smelling, hearing, touching (physical contact) and temperature (Amrollahi and Soltanzadeh, 2016: 4).

Smell: Emission of evaporable substances in the air provides the ability to smell. Some scents are specific to one place, for example, when you go to traditional Iranian markets; each part of the market has its own smell.

Hearing: Sound is transmitted like waves through light. The sound is partially reflected in the enclosed and semi-enclosed spaces and does not pass through the vacuum. Hearing familiar voices from different people or spaces increases the intimacy and gives them a pleasant feeling.

Temperature: The temperature directly affects the skin of the body. You can detect congestion in a space by measuring the temperature. When placed in a cold environment, the human body shrinks; for example, the results of a research show that it easier to tolerate a certain number of people in a closed room at a lower temperature than the same number of people at a higher temperature.

Physical contacts: Physical contacts, including touching, is also one of the ways of perceiving the environment. It is also likely that you have withdrawn, upset, or apologized when dealing with a stranger, and that touching a hot object has forced you to quick reaction.

In sum, we can conclude that perception is a process in which the individual receives information from his/her surroundings and then analyzes and evaluates it in the mind. Three factors play a very important role in perception:

1. The spiritual state of person at the time of perception and the condition of the environment at that moment

2. The person behavior which is embodied and made up of all the past experiences and events

3. Hereditary factors and the social, psychological context that are created neither by learning nor by the experience.

The personal differences make people have different spatial perceptions. Environmental perceptions may be different from each other. Robert Gifford, on the other hand, suggests several factors to justify the perceptional differences (Amrollahi and Soltanzadeh, 2016: 4).

A) Personal factors: such as personal experiences, age, gender and education

B) Cultural factors

C) Physical factors

The emotion and perception in psychology today is referred to as "sensory perception" which is mainly based on the achievements of empirical sciences and especially physiology in empirical psychology. In these sciences, sensory perception is a process that begins with the physical and chemical stimuli of the environment and ends with the reacts of living organisms and the psychological analysis and interpretation that compromises it with their environment (Shafiei and Sharifi Darmadi, 2006: 31).

6. Perception in Blind People

Space perception of everybody depends on his/her deals with space and the extent of the use of the senses for understanding it. The main difference between the blind and non-blind people in the perception of space relates to their use of senses, and since the blind people live without the sight sense, they compensate their problem by hiring other senses (Farzin and Shebani, 2010: 62). Human perceptual stimuli with zero visual perception can be generally divided into six categories: hearing stimuli, smelling stimuli, tasting stimuli, touching stimuli, physical (skin) stimuli, natural and environmental factors (Shafii, 1999: 85). In researches based on the perception of the blind and non-blind people, the detection of space is defined by the distance. In micro-scale spaces, identification is done by touching and hand movement. In large scales, it needs movement and the self-orientation of the body is less reliable. The location of objects can also be determined in two ways: the distance of the body to the object or the distance of the object to the other object. Blind people, those who are blind from the birthday, determine the distance or location of objects through its distance with their body (Sultani Gharaii, 2017: 36).

The architectural space around the human is surrounded by various elements and components, such as the natural and artificial elements. In understanding some of the architectural components and elements, the use of echo-based orientation may emphasize on the perceptions resulting from other human perceptual systems; therefore, it does not provide a reliable answer by itself. For example, in open spaces, skin sensations and, perhaps, smelling sense can completely perceive the green space, and at this time the use of echo based orientation may signal the barriers for the blind people. However, regarding the gender and other features, if other perceptual systems are being used, the result will be far more desirable and reliable (Amrollahi and Soltanzadeh, 2016: 8).

6.1. Mental Image in the Blind People

Concerning the mental visualization, researchers have concluded that based on human perceptions of the environment; there are two main types of visualization: visual mental visualization and verbal auditory visualization. Visual mental visualization is saved in an objective form and verbal auditory visualization is saved in abstract and mysterious way. The first one is formed at once and the latter is formed gradually (Shafii and Sharifi Daramadi, 2006: 130).

Mental visualization shapes human actions. These images are made up of more detailed mental images and their combination form the simultaneous action of the human being, the planning of moving to different locations, the tasks and the way of feeling the environment. If these partial mental images overlap, they reinforce each other; otherwise one dominated another (Shafii, 1999: 134). About the sensory basis of subjective visualization for the blind and non-blind people, we can say that for non-blind people, sight and touch perception, and for the blind people, auditory perception is important. Since the mental image is a kind of cognitive information, it is very effective in improving the blind people communication with the environment. Careful attention should be paid to designing and planning the functional space for the blind people (Sultani Gharaii, 2017: 37).

6.2. Environmental and Urban Space Perceptions in the Blind People

There is also a fundamental difference in the scope of non-blind and blind people visibility due to their instrumental differences in perception of space and the confrontation with the environment, namely the lack of sight, which is considered to be a main condition in mobility and access to space. Space detection scope is a range that the blind people can understand with the help of senses. Although this range is slightly different and often lower than that of the non-blind people, it is qualitatively in higher level and includes a more extensive range of information (Farzin and Shebani, 2010: 64). Since space measurement among the non-blind people mainly depends on the sight sense and the role of other senses is low and also in this situation, a higher level of information is received, and the subject matter can be revised at any given moment, they do not require storing the information in the memory. They do not need to perceive space accurately and permanently because at any given moment they can obtain information about it. However, the blind people have to perceive their surroundings by other senses only because of their lack of sight or its severe weakness. What the blind people receive at any given moment from the environment is limited information and is completely dependent on the time and the place in which he/she is located (Nadaf fard, 2000: 129).

Although the sight sense is the most dominant one, the urban environment is not felt only in this way. Awareness from the aspects of the environmental perception, attention to it and especially perception and experience of location is one of the important aspects of urban design and has been studied since the early 1960s. Through walking, our body deeply connects with the environment. Inevitably, through using all senses, including touch, auditory, and audio senses, except sight, responds to many sensory stimuli in the urban environment. Giving these points and knowing that many blind and visually impaired people are able to recognize some colors and light, we find that the key perceptual elements for the blind and visually impaired people are choosing the right materials which are in harmony with their characteristics, the sounds in The city, urban furniture and their colors and proper lighting in urban spaces. Attention to the aforementioned cases in urban spaces is an essential factor in the orientation and not confusion in the city (Sultani Gharaii, 2017: 42).

7. Educating Architecture for the Blind Students

It is clear that the architecture of traditional contexts, instead of the visual and mental domination, is necessarily linked to the perceptual knowledge of the body. Construction in traditional cultures is driven by the body, just as the bird forms its nest by moving its body. It seems that local clay architecture is mainly a product of touch and muscle, not sight, in most parts of the

world (Bechelard, 2009: 7). Attention to individual talents and differences in processes and human affairs has been affirmed and emphasized by Islam. We can say that Islam seeks to emphasize the components so that each component locates in its own place, grows to its full potential, and attains excellence. The aim is to achieve God's favor, the growth and excellence of human being, and all things related to him as the highest Creature. This effort reaches the unity at the highest stage; a unity that is different from solidarity and enjoys from plurality. The components are different and are not generalized through their similarities, but are made clear through differences and attain unity (Eslami and Sadeghi, 2013: 87). Understanding students is one of the most important factors affecting education in architecture workshops. An architecture student cannot be trained and educated under a pre-arranged schedule without a thorough understanding of his reactions to the data and demands. One way of understanding this is paying attention to learning styles which express learning preferences and differences among individuals. Coordinating teachers' teaching methods with students learning styles will enhance learning ability and academic achievement; Hence, due to the increasing number of applications in diverse scientific and skill areas and the different characteristics of the students in understanding and processing learning contents, there is a rapid need for learning the characteristics of learners in different disciplines including architecture (Feizi and Dejpasand, 2018: 149). Learning styles have been defined as the differences between individuals in the learning. In fact, learning styles can be described as different ways in which people organize and process information and new experiences in the mind (Khandaghi and Rajaii, 2013: 22). Therefore, teachers need to create an environment in which different needs of learners and, consequently, different learning styles are taken into account in order to incorporate and use them in their teaching. It can improve academic achievement, deeper learning, and more effective education (Feizi and Dejpasand, 2018: 150).

7.1. The Process of Understanding and Processing Information

Disregarding the understanding and processing of the information that can occur in a variety of ways made the capable and creative students unaware of some of their latent potential, or they view them as contrary to the class methods that may ultimately frustrate them. Thus, it is seen that architecture students are less likely to go beyond mere and superficial learning and find education that will enable them to solve their past education, including facing real work and life issues (Frazyian and Karbassi, 2014: 89).

7.2. Experience-Based Training

The new approach in learning is consistent with the meaning and concept of learning, in which education means re-building or revising experiences and re-forming them in order to better grow. The reflection on educational psychology shows that its theories calls for objective observation, learners' practical participation, or in other words, experiencing and performing them as an important part of the learning process (Frazyian and Karbassi, 2014: 88). Referring to existing examples and works and generally objective experiences in architecture, as a strategy to increase the practical ability of architects in architectural design, although seems a familiar subject in the field of architectural education, in practice, it is accompanied by some doubts, so that in designing workshops, the scope of using this strategy varied from an effective strategy to an inconsistent creativity approach. Although accepting or rejecting each of these approaches has solely been based on rejecting or endorsing intellectual and philosophical attitudes such as modernism and

traditionalism, we cannot ignore the place and function of instances and experiences in process of designing and promoting practical knowledge of architecture (Mirjani, 2010: 4).

7.3. Teaching the Blind Students

A number of students who enter college each year have special needs. One of those groups is the blind students. Partially blinded or semi- blinded people can use their sight ability in learning and use books with bold lines or devices having enlarge lines (Kakavand, 2009: 74). Blind students are eager to use their hands in the learning process and use computer and calculators to learn. That is why the students who are visually impaired have a particular style of learning that root in their unique perception of the world. Visual information of a blind person relies on hearing symbols, verbal communication or information resulting from challenging environments, so they have difficulty in building the whole scene, while the non- blinded people incorporate the features into the concept by constructing an abstract concept of an object. For example, there are many different birds that the blind people can classify them as birds because they have an abstract concept of the bird. Blind people evaluate the objects with a sense of touch and it is difficult for them to image the pictures; In fact, their ability to use abstract concepts based on visual information depends on their sight level. Another issue that concerns the learning style of blind students is the time needed to collect and process the information. Equally, information acquisition is slower and limited than visual acquisition (Peterson et al., 2009: 520). Therefore, to teach the blind students, different styles should be considered compared with other people; it is obvious that proper education and learning can make a huge difference in their lives.

8. The Role of Education in the Blind Student's Perception of Architectural Space

Based on the above mentioned points, it can be concluded that individual characteristics and physical conditions play an important role in the education of people, so proper and appropriate education of the individual can influence his/her feelings and perceptions.

Teaching space perception to students in both theoretical and practical forms has been conducted by the architecture teachers. In the theoretical aspect, there was an emphasis on highlighting what constitutes the human (semantic) and physical (material) aspects, and in the practical form, the students experienced being in different types of space. This is done by modeling, simulating, visiting different spaces using different expressive tools. The main difference between the teaching methods was in the practical aspect of education, which has a greater impact on the formation of the student's perception (Moazami, 2011: 64). Therefore, it can be concluded that in teaching perception of space, the learner must directly interact with the spaces. This is made possible by the professors and according to the situation of the individuals, as a result of which they got a different understanding of space and this can bring much comfort to the social and individual life of the students.

9. Research Hypotheses

The research hypotheses are formulated as follows:

A) Through the basic architectural training, the level of spatial perception of the blind students can be improved.

B) In terms of the spatial perception level of the blind students, there is a significant difference between people who have been trained in architecture and those who have not been trained.

10. Testing Hypotheses

In order to test these hypotheses through experimental method, in Tabriz Basir Cultural and Art Institute, introductory classes of architectural education were held for the blind students with the informed consent of all participants. The statistical population includes the students of this institute who were 15 male students with total blindness. Initially, a pre-test with 10 questions was conducted without having any architectural background. Then, an introductory architecture course including topics coded by the Ministry of Science was held. After the course, another test similar to the pre-test was held, and the results of these two tests were evaluated and rated by the professors and reviewers selected by the authors. Finally, the results of these two tests were analyzed for the final conclusions. In the following, we examine the three main sections of the study, including pre-training, training, and post-training for the study group, and provide the results.

10.1. Pre-Training

Before starting the training of the blind students and to better examine the impact of this learning, ten questions were asked by the authors. They were explored through introductory chapters of architectural education and with a greater emphasis on the perception of architecture and urban space. Since the space measurement in the normal people is done by over-reliance on vision and the role of other senses is low, also considering this fact that the sense vision gives higher levels of information and the subject can be reassessed at any given moment, a normal person requires less information to be stored in memory. Therefore, the normal person does not need to perceive space accurately and permanently because he/she can obtain information at any given moment, while the blind students only have to perceive their surroundings by other senses only due to their lack of vision or severe weakness in this sense. Then, what the blind students can acquire at any given moment from the environment is limited information and it is completely dependent on the time and place. He/she has to perceive the space through putting together the information gathered by other senses (Nadaf fard, 2000: 129). For this reason, it was attempted to select questions considering some points like understanding the surface and volume of spatial memory of the research community in order to understand how their spatial understanding and take further measurements with regard to this function.

After collecting the answers from the respondents, they were analyzed and reviewed by the professors and referees approved by the Ministry of Science and selected by the authors, and each response were rated (very good, good, average, weak and very weak). The ten questions are as follows:

Table 2 Pre-training test of the blind students

No.	Question	Research Goals	Mean	Result
1	Drawing lines; parallel lines, symmetrical lines, two perpendicular lines	Surface Perception: Surface in the blind people is considered as the boundary between spaces and functions and can be used as an indicator of location, path and direction.	1.9	weak
2	Drawing shapes; squares, triangles, rectangles and circles	Since the fact that wall is also a distinguishing boundary in the normal people and the wall is a base in architecture, the practical value of the wall becomes	1.8	weak

		much more evident in the perception of space. Due to the lack of vision in the blind people, the wall must be equipped with some means (Farzin and Sheibani, 2010: 64).		
3	Drawing the lines of the room where you are	Understanding the edges and corners: Corners show the end of a path, a position, or an extension (D.K. Ching, 1989: 44). Due to the use of the wall as a help parameter by the blind people in understanding the location, these edges and corners are of particular importance in terms of architectural perception and design.	2.1	weak
4	Drawing the outline plan of the house in which you live		1.8	weak
5	Drawing lines of the park in which you walked		1.9	weak
6	Touching a mass and then drawing it without revising	Mass perception: The basis of architectural mass and its perception through form and its functions are: shape, size, color, texture, location, direction and visual balance (D.K. Ching, 1989: 44). However, it is possible to understand most of these items through visual skills. Of course, with a clear definition of these principles for the blind people, their understanding may be somehow better.	2.7	Medium
7	Constructing geometrical masses including pyramid, cube, etc using 3D pen and clay		1.9	Weak
8	Drawing three facets of a mass		1	Very weak
9	Drawing facade of a building	Spatial memory: Blind people emphasize on understanding space through movement and understanding time and space distances, but not by linear range, and they also emphasize on the effect of air type and ambient noise differences on sound volume and influence of airflow in space without hitting the around and without cane help (Farzin and Sheibani, 2010: 65)	1	Very weak
10	Drawing the lines of a place where you were in for the first time.		1	Very weak

As it can be seen in the table above, without any mental background and training related to architecture and space perception, level and volume of perception and edges and corners in this group are poor and the spatial memory of this group is very weak.

After presenting the questions and assessing the answers and examining the results, the following chart was obtained by analyzing the average score of each question from 15 students:
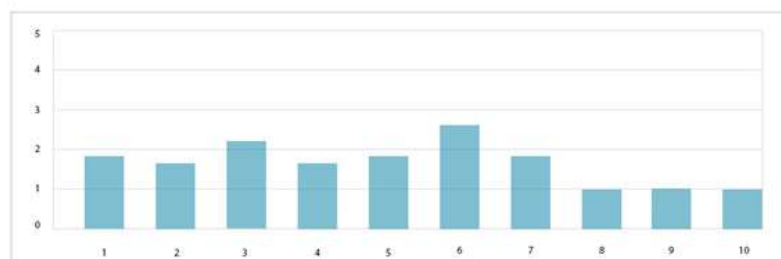
Fig 1 Average test scores before training the blind students

10.2. Basic Architecture Training for the Blind Students

After selecting the statistical population among the students of Tabriz Basir Institute and taking a basic test of them, the basic topics in architecture were taught. These topics were selected by reviewing the introductory courses of the Ministry of Science and approved by the professors of Islamic Azad University of Tabriz. The authors tried the trained subjects have conceptual relationship with spatial perception. Before training, some tools and supplies needed to teach the blind students were provided for the classes.

The discussed trainings included the following methods:

A) Training through physical representation of the topics and practical exercises: This method enhances the practical skills of the learners by representing the topics in practical forms and their repetition by the trainer. It is mostly used after theoretical trainings and for preparing trainees to practice (Saghafi et al., 2015: 381).

B) Training through academic expression: In this method, the educator describes the practical application of a scientific topic to the learner. Because of dealing with the power of imagination and visualization, it is more widely used in the architecture and its advantages can be used to train these powers in the architecture learners (Ramaswami, 2001: 165).

C) Training through Professor and Student method: learning the needed skills by observing, imitating, and approaching a master; trying to create the appropriate situation for the emergence of innate talents and human evolution, and consequently the acquisition of crafts (Mahdavipour, 2012: 25).

The topics presented during the training sessions, goals and results are summarized in Table 3:

Table 3 Basic architecture training for the blind students

Session	Subject	Goals	Topic reference
First	Introducing the topic, being familiar with tools, general familiarity with architecture and environmental perception	Being familiar with the art students and introducing architecture and its role in the perception of space	Basics of Architecture Design (1), BSc of Architecture Course: Since the topics discussed in Architectural Design include both the material (skill) and conceptual (intellectual) fields, and given that familiarity with the material areas (skill and practical aspects) is the basis for dealing with the conceptual fields of architecture, the introductory course in architectural design further develops skills and techniques that provides context for rich conceptual arenas.
Second	Being Familiar with understanding and expression of architecture, acquaintance with regular and irregular masses, acquaintance with point concept, acquaintance with line and surface	Familiarity with the basics of the present forms found in the nature or human environment	
Third	Increased spatial perception of the architectural environment	Increased spatial perception of the architectural environment	
Fourth	Being Familiar with the physical elements of a building, outdoor and indoor, private, semi-private and public areas	Increase spatial perception and actual visualization of buildings with different functions	
Fifth	Repeating and expanding the masses and spatial understanding of the resulting masses, and visualizing and perceiving the	Increasing the perception through touching sense	

	masses through touching		
Sixth	Being familiar with the scale, Drawing Similar Shapes with Different Scales, Drawing Shapes and Transitions and their rotation	Basic introduction to the simple concepts of visualizing and drawing space from an architectural perspective	
Seventh	Practical introduction to some of the most commonly used materials, familiarity with modeling tools	Increasing real understanding and visualization of the living place	
Eighth	Practical and experimental construction with building materials	Understanding the basics of building architecture	
Ninth	Training the way of drawing their room or space with a point, line and page	Getting a perceptive response from students about the space in which they are located	Basics of Architecture Design (2), BSc of Architecture Course: In this course, the students are introduced to the conceptual problem of architecture and its understanding, expression, criticism, and application in design.
Tenth	Acquiring the intrinsic ability to perceive, visualize, and capture the masses	Increasing the ability to visualize and imagine	

(Reference: Ministry of Culture and Higher Education Planning Board Index; Announced to the universities and professors)
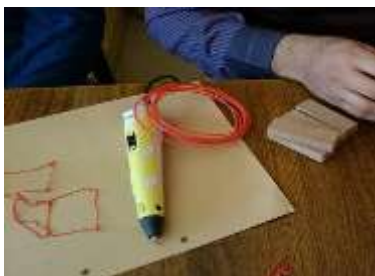
10.3. Tools used for Education

To teach the blind students, as mentioned above, attention to the physical condition and abilities of the blind person is one of the most important things. To do this, recognition of required tools seems crucial. In this study, the authors also examined the necessary tools and then provided them. The tools used in this study can be categorized into three sections: Educational tools for the blind students, Architectural training tools and tools for architectural space perception; these three sections will be discussed in the following.

a) Educational Tools for the Blind Students

There are a variety of special tools available for teaching the blind students that are more concerned with touch sense; For example, the 3D pen is used to draw 3D lines. This pen works using a light source and element and makes the liquid through heating polymeric material and after drawing being in the open air; It quickly dries and creates lines. Account Tablet is another tool used by the blind students for teaching the mathematics. Braille paper is a tool for the blind students to read and write. The Table 4 summarizes the basic tools used for teaching the blind people along with educational goals and their associated images.

Table 4 Educational tools for the blind students

No.	Training tools	Goals	Photo
1	3-D Pen	Understanding the space and mass through touching	
2	Game cubes	Designing and understanding space in three dimensions	
3	Clay	Drawing and understanding drawings through touch sense	
4	Account Tablet	Understanding the Scale and drawing through the scale	
5	Braille paper	Use training tool for the blind students for drawing and understanding the lines	

(Reference: Based on Special Education Organization Index; Announced to special education schools)

b) Architectural Training Tools

The primary tools for architectural training that were implemented by the study group after using the specific blind student's tools, were pencils, rapids, markers, rulers and various templates. Putting away the basic tools required especially for the blind students need the leaning of other tools before. After learning the way of using these tools, the study groups were able to use them and like other students they could understand the architectural environment.
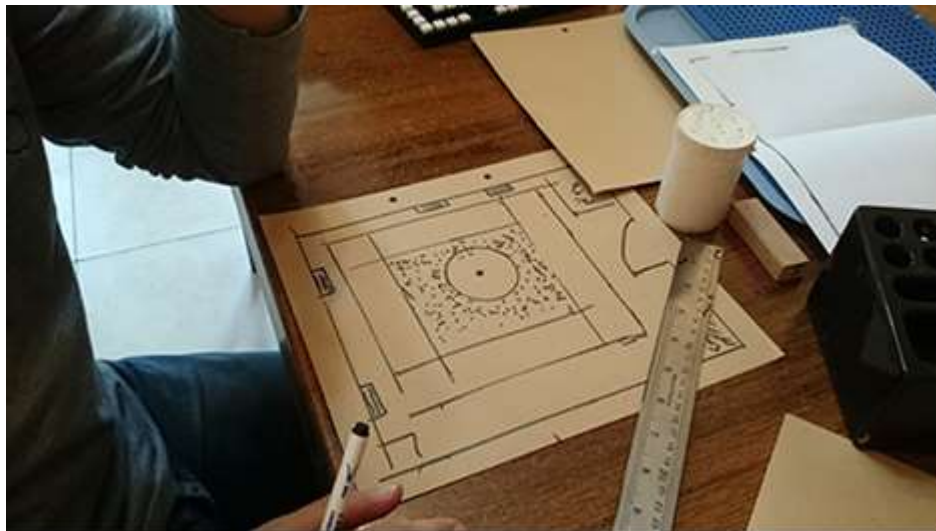
Fig 2 Blind students using architectural training tools such as ruler and marker

c) Tools for Architectural Space Perception

The training tools were prepared based on the syllabus of the curriculum and designed by the authors and provided through techniques such as laser cutting and 3D printing. In designing these tools, aimed to that the study group identify the various architectural spatial elements through touch sense and finally they can also design and build them by themselves.

Fig 3 Arch training in architecture to students through the tools provided by laser cutting

10.4. After Training

After examining the subjects and following the educational process and examining the results and comparing them with the results of the previous test and the final conclusion, another test was carried out.

Spatial indices for the blind people appear to be similar to those with normal people, but they differ in functional form (Amrollahi and Soltanzadeh, 2016: 9). In this section, the authors attempt to analyze these spatial indices and the role of architectural education on their perceptions. The grades given to the questions were used by the professors in the pre-test exam and it was attempted to consider the grades listed in the index of the Ministry of Culture and Higher Education Planning Board.

This test had ten questions like the first test. The selected questions were slightly more advanced and we attempted to measure the spatial perception of the study group. The ten selected questions included:

Table 5 Testing after the primary training of the Study Group

No	Question	Research Goals	Score mean	Result
1	Drawing the address of the institution and identifying neighboring uses	Mobility and Orientation in the Blind People: Mobility is the ability to move safely through space without having to know where the blind is and what purpose he/she has.	3.7	Good
2	Drawing communication paths from urban centers close to the institution and identifying existing barriers	That is why mobility is considered as aimless activity. But if the topic of orientation is added, mobility will become a useful and purposeful activity. Spatial orientation is defined by John Lang in his book "Romedi Pasini" as "The ability to express the position in the environment through cognitive roles" (Amrollahi and Soltanzadeh, 2016: 10).	3.3	Medium
3	Analysis of a selected site; Including wind analysis, sun movement, annoying noises and views of the site		3.7	Good
4	Designing and drawing 3D masses by specifying at least one user for per mass	Mental Imagination: In general, imagination is the mental representation of an absent object or approach; this is a general definition that includes both visual mental images and images formed through other senses (Sharifi Daramadi, 2000: 25).	3	Medium
5	Making the masses designed with tools like 3D pen and clay		3.2	Medium
6	Identify the private, semi-private and public spaces at the site of the institution	Relationship Between Architectural Space and the Blind People: Non-visual communication with space requires attention to other senses including sense of touch, hearing, smell, taste, sense of balance and sense of gravity; Therefore, in relation to the spatial perception of the blind one should use the relationship between these senses and the architectural space (Amrollahi and Soltanzadeh, 2016: 15).	3.4	Medium
7	A visual description of a hospital or medical center that was used before		3.3	Medium

8	Designing and drawing plans for a study room through determining the openings and skylights	Blind People's Perception of the Basic Elements of Space: The basic elements of space in the perceptual and emotional structure of the blind include surface, volume, edges, and the paths (Farzin and Sheibani, 2010: 65).	2.7	Medium
9	Designing and drawing the plan of a guard room through locating the required spaces		2.3	Weak
10	Designing the shadows for windows in different places of the institute by examining the skylights		3	Medium

As can be seen in the table above, after the basic training of architecture to the subjects, good mobility and orientation was in acceptable level and the mental imagination, spatial communication, and perception of key elements of space increased to a moderate level.

After presenting the designed questions and measuring the answers and results, the following chart was obtained through the analysis of the mean score of each question.
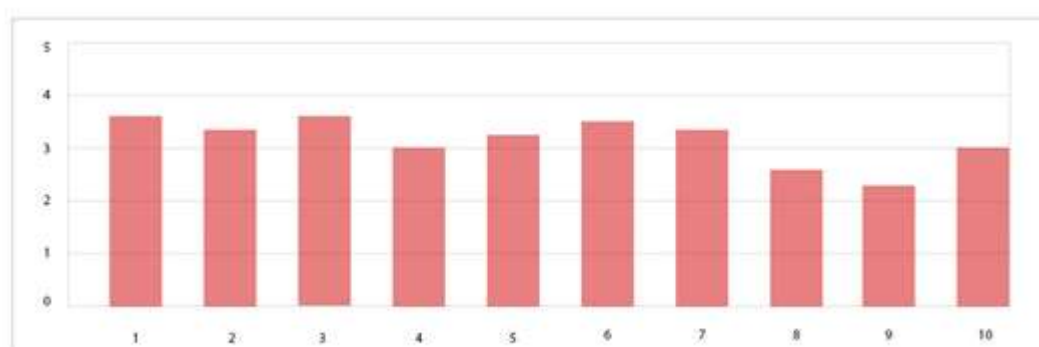
Fig 4 Average test scores after training the blind students

In examining this test and comparing it with the pre-training test, significant improvements in spatial and architectural perceptions of the research community were observed. Following the qualitative analysis, we will continue to analyze the statistics obtained from quantitative method.

11. Assessing the Normality of the Distribution of Variables

Shapiro-Wilk[†] test was used to check the normality of the variables. The null hypothesis in this test is that the distribution is normal. If the significance level of the test is more than 0.05, the null hypothesis is verified and we conclude that the distribution of the desired variable is normal. Considering the significant levels of the variables, it is concluded that the variables have a normal distribution (significance level greater than 0.05).

[†] The Shapiro–Wilk test is a test of normality in frequentist statistics.

Table 6 Testing normality of variables

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Before training	.159	15	.200[*]	.958	15	.657
After training	.139	15	.200[*]	.958	15	.652

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

11.1. Comparing the Scores Before and After Training

Here, paired t-test was used. In this test, the null hypothesis says that the mean of pre-training is equal with post-training mean. If the significance level of the test is less than 0.05, the null hypothesis will be rejected. Mean scores of pre training was 16.93 and mean of post training was 32.13. The significant level was 0.001. Given the significance level of the t-test which is less than 0.05, the null hypothesis is rejected. As a result, the scores of post-training were significantly higher than the pre-training scores.

Table 7 Comparing the scores before and after training by T-test

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Before training	16.93	15	3.327	.859
	After training	32.13	15	8.026	2.072

Paired samples test

		Paired Differences							Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	
Pair 1	Before training After training	-15.200	5.634	1.455	-18.320	-12.080	-10.449	14	.000
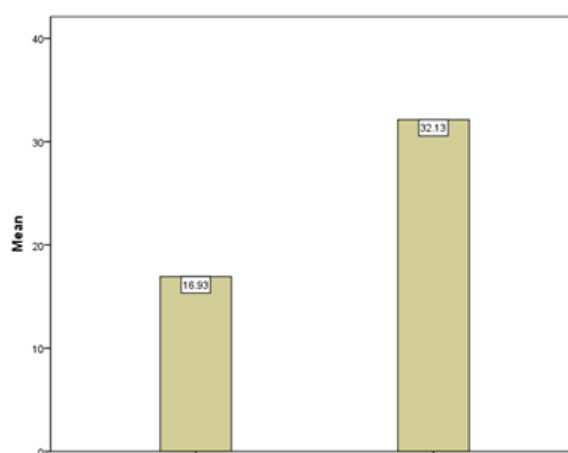
Fig 5 Comparison of pre- and post-test scores based on T-test

12. Research Results

Based on the presented research and examining pre- and post-test scores, and by analyzing the comparative chart below, it can first be assumed that basic architecture training has a significant impact on spatial and environmental perception of the blind students.
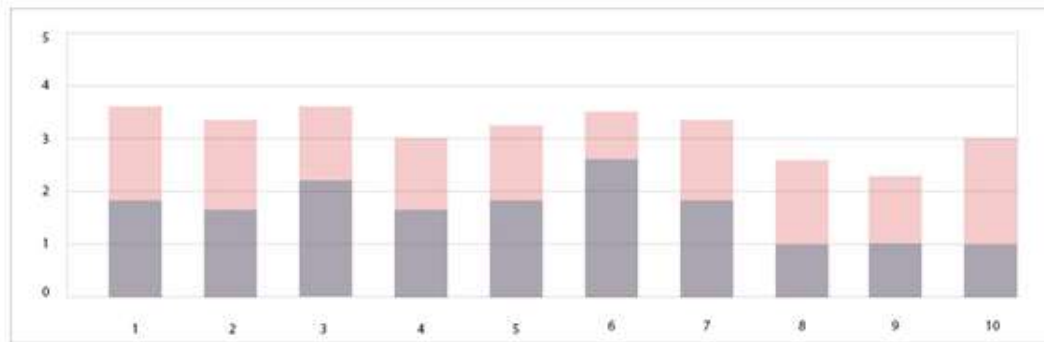
Fig 6 Comparison of pre- training (dark colors) and post training (light colors) mean scores

Theoretically and practically and for enhancing the quality of life of the subjects, and also for appropriate understanding of the environment, one can first use the abilities of individuals for their participation in designing and creating space. The quantitative and qualitative results of research can lead to the development of methods for better understanding of the universe and creating the architectural spaces for all classes of society. They can be formulated based on the new and emerging standards in this regard. The findings of the research can be used in various fields such as architectural education, blind education, architectural design and urban design.

The results of this study can also be examined from several perspectives:

Cultural dimension: By educating and enhancing the architectural perception of the blind people, the presence and impact of this group on society can be enhanced in cultural affairs.

Social dimension: The presence and effective role of the blind people in society and a better understanding of the world and the creation of appropriate social spaces for all groups of society.

Psychological dimension: Increasing the self-confidence and utilizing people's abilities for their participation in appropriate designing in order to achieve comfort and prosperity in life.

Artistic dimension: Revealing other horizons of perceptual and creative aspects that are based on senses other than the sense of vision.

Humanistic dimension: Improving the life quality of blind people in society.

Based on this research, the following points can also be explained directly or indirectly as part of the results:

1. The results of pre- and post-training tests, both by examining the mean scores (qualitative) by the teachers and also by examining the t- test (quantitative) results, show that teaching architecture to the blind students increases their space perception.

2. Recognizing the student's physical abilities and disabilities, exploring the tools needed for better learning and trying to use the tools appropriate for the physical conditions, improves the teaching process and enhances the quality of learning.

3. Education, regardless of physical condition, can lead a person to a new understanding, which in many cases can improve their living conditions and reduce the problems.

4. By educating the blind students, not only they can understand their surroundings better, but also it helps us to understand the problems of this group and seek to improve their life quality.

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Study the Challenges in the Water Section of the Sixth Development Plan from a Portfolio Management Perspective

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Abstract

In recent years and with the intensification of international sanctions against Iran, the supreme leader of the Islamic Revolution has proposed a new approach to economics called resistance economy with the aim of overcoming the country's economic problems and improving the livelihood of the people. Now, after a few years of this plan, we have evaluated, in this study, the results of this plan in the Water Section of the Sixth 5-Years Economic, Social and Cultural Development Plan of the Islamic Republic of Iran using the portfolio management theory to address and examine the challenges of this perspective. The findings of the study indicated that Iran has faced lots of problems and difficulties since the sanctions and on the other hand, weak management in agriculture, water and production resources in this section can be clearly seen. Accordingly, application of modern management methods in irrigation and the exploitation of Iran's water resources as well as the formation of a specialized water commission in the parliament along with the public participation are suggested.

Keywords: Water; Resistance Economy; Sixth Development Plan; Portfolio Management

1. Introduction

Nowadays, the political power and the effect every country has on the world can be partially related to the country's economy; the more dynamic and efficient economic system has a country, the more and better financial and political interactions with other countries around the world it will have. The Chinese economy in the two last decades, as an obvious example, can be mentioned in

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this regard by which China has managed to capture the economic pulse of many commodities around the world. In the term economics, the economy is used as the knowledge to study economic events in the field of production, distribution and consumption. In other words, the purpose of economics is to investigate the methods of using the scarce resources in order to produce goods and services to be distributed among needy people and social groups for their consumption (Agha Nazari, 2006). We can examine this science from different perspectives. Accordingly, the resistance economy is one of these perspectives that Iran has been tangibly faced with it in recent years. The nature of the resistance economy, which has also been emphasized by the supreme leader of the revolution, is a combination of parallel, regenerative, defense and model economy; and in practice, putting these aspects together, the explanation of the resistance economy can be properly possible (Peyghami, 2012). The goal of this approach is therefore an ideal economy, which is both Islamic and cause the country to be the first economy of the region. In other words, a resistance economy should be an economy that is inspirational and effective in the Muslim world on one hand and forms the basis of the great Islamic civilization, on the other hand.

Since, the term "resistance economy" is not in the academic economics literature, it can perhaps be said that such an interpretation has been for the first time introduced in economic terms in recent years and of course, there are many definitions of the resistance economy as well. Looking at the different interpretations have been proposed toward the resistance economy, we can attribute the most comprehensive definition of it to the supreme leader who has said: "Resistance economy is an economy which provides the basis of growth and prosperity for a nation even under the pressures and sanctions". The supreme leader has also stated the meaning of the resistance economy as follows: "Resistance economy means the economy, which is resistant and will not be changed or disturbed with the global provocations and motivations or US and non-US policies and it is strongly dependent on people"(Supreme Leader speech, 2014). Therefore, the resistance economy means strengthening and tightening the foundations of the economy in both sanctions and non-sanctions. It is obvious that to succeed in this economic plan more and more, a set of related factors and institutions should be jointly coordinated with each other and provide appropriate solutions for the production to be implemented. Among some useful solutions that can act as the motive force of this plan in both resistance economy and sanctions are: Economic planning, Optimal utilization of natural resources, Quality-focused and high-quality goods, Discipline in work and economic activities, Meeting economic priorities and needs, People's attention to work and effort and their participation in production, Creating productive activities and employment by government, Supporting domestic producers, Optimal use of oil, Remove unnecessary intermediaries as well as monitoring and controlling economic activities.

On the basis of the above-mentioned materials, we have to evaluate the success in any economic plan, including the resistance economy, to identify its strengths and weaknesses and solve related problems by providing appropriate ideas and solutions in this area. The portfolio theory is one of the theories has been recently used, which is a set of projects, plans and other tasks that are put together in order to facilitate their effective management and estimate the strategic goals of the business. The portfolio exists within the organization and includes a set of current, planned components as well as initiatives for the future. The portfolio isn't then temporary like projects or plans and any organization may have one or more portfolios that each is specific to a particular type of business or purpose. When the suggested initiatives are identified, selected or verified then they become a part of the portfolio. The portfolio will any time provide a view of the selected components and reflect the strategic goals of the organization. However, special projects or plans within the portfolio are not necessarily interdependent and there is no need to be directly related to

each other. Reflecting the investments made or planned by the organization, the portfolio management consists of the processes to identify organizational priorities, investment-related decisions and resource allocation. Based on the PMI† standard at a higher level, a set of projects (to create a product, service or result) or plans (a set of related projects that are managed in a coordinated manner) as well as other related tasks in an organization which are grouped together to facilitate the effective management and achieve the strategic goals will form a portfolio (Farahani, and Mahdilooyi Taze Kandi, 2012). So, it can be briefly said that the portfolio management will start by providing careful consideration and sensitivity to the strategic plans and will end up with the right selection of projects and in the meantime, proper project portfolio management will evaluate, select, prioritize, budget and plan for the projects. Therefore, we have attempted in this study to examine the weaknesses and strengths of the Sixth Development Plan of Iran from the perspective of this theory in order to see that to what extent is this development plan in coordination and harmony with or against the portfolio theory?

2. Materials and Methods

The law of the Sixth 5-Years Economic, Social and Cultural Development Plan of the Islamic Republic of Iran, which is designed and planned to be implemented in 2017-2021 has obliged the government to apply the related-projects and plans as well as the Regulations of the General Headquarters of the Resistance Economy only in different areas in the annual budget; in the following a brief introduction of these areas is mentioned.

a) Specific strategic issues in the water and environment

b) Specific location-based issues on the development of Makran coast, Arvand and the regeneration of dysfunctional urban texture (outskirts and worn-out textures), historical textures and rural areas

c) Specific issues which the economy will be faced with on mine, the mining industry, agriculture, tourism, transit, rail transportation, new technology, development and application of science, technology and energy

d) Specific macro-household sector issues on improving the business environment, employment, cyberspace, financing efficiency for the e country's economy, fair payment system and discrimination removal, empowering the poor and needy people (bread-winning women are in priority), social insurances, organizing and sustainability of the insurance and pension funds, preventing and reducing social harms, implementing the Fundamental Evolution Document of Ministry of Education, public culture and the Iranian-Islamic lifestyle

e) Developing Defense Readiness and Security

This plan is divided into different sections, including macroeconomics, monetary and banking system and financial, business environment, privatization, free zones, regional balance along with rural development and empowering vulnerable groups, agriculture, natural resources, energy & industry & mine as well as transportation and housing; the plan will specifically deal with each of these sections and their dimensions in terms of different Articles and Paragraphs. Given the vast extent of these sections and the many factors involved in each, we have specifically examined, in this study, the water section in the Sixth Economic, Social and Cultural Development Plan of the Islamic Republic of Iran; because the problem of water scarcity and drought in the country, especially in the recent years, is very important and paying much more attention to this is worthy;

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in the case of not addressing seriously, it can have severe and irreparable consequences for the country in the field of environmental risk, the desertification, the agriculture, the quality of people's livelihood, the economy and etc. Based on the Article 35 of the law of the Sixth Economic, Social and Cultural Development Plan of the Islamic Republic of Iran, the government is obliged to take the following actions in order to solve the water scarcity crisis, release the environmental water rights for the lands' sustainability, agricultural sustainability and increase production in agriculture, balancing the underground aquifers and improving the water productivity and compensating the water balance to the extent that in the final year of law enforcement this amount reach to eleven billion cubic meters:

a) Increase the performance per unit area and productivity increase in agricultural production, the products with comparative advantage and high export value and cultivars with less water need and compatible with salinity, drought resistant and meet the appropriate cropping pattern with the area are prioritized.

b) Developing the new irrigation methods, perform soil and water operations (structural and non-structural), development of sealants and catchment systems at least 600,000 hectares per year

Note- At least 85% of costs to develop new irrigation methods are supplied and financed yearly by the government as a grant.

c) Support the development of the greenhouses and transfer the cultivation from open space to the controlled space as well as wastewater recycling, managing the unconventional and virtual water.

d) Design and implement the cropping pattern with emphasize on the strategic products and improving the water productivity within the framework of the general policies of the Resistance Economy, as well as supplying the necessary resources and requirements in the form of annual budget and providing appropriate support and incentives only within the cropping pattern

e) Restoration and dredging the Qanats up to 5% of the status quo during the law enforcement of this plan with an emphasize on watershed activities and aquifer Management to restore the Qanats

f) Establishing the necessary infrastructures to raise 200,000 tons of fish in the cage until the end of the law enforcement and develop the fisheries activities and creating the infrastructures on the country's coast

g) Energizing the agricultural wells which have the operating licenses (Note: the resources required to implement this clause are supplied from the fossil fuel saving of the Subject of Article 12 of the Act (Approved 2015/04/21) of removing the barriers of the competitive production and improving the country's financial system

h) Install the smart and volumetric water meter by granting facilities from funds operated on wells with operating licenses until the end of the Law enforcement

i) The use of water extracted from the dams with supplying the needed drinking water priority in the catchment area of the dam

j) Providing the farmers with the water rights from the rivers, springs and Qanats from the water of the dams constructed in these places

k) Restructuring the water consumption of steel, alloying and mining companies and refining the cooling and washing systems of the raw materials until the end of the fourth year of the Law enforcement

l) The government is obliged to define the cropping pattern design for all regions of the country until the end of the first year of the Law enforcement and execute this cropping pattern during the years of enforcing this Law. The Ministry of Energy is required to provide the farmers with water allocation according to the cropping pattern design.

Based on the above, we have assessed the mentioned materials in the water section of the Sixth Economic, Social and Cultural Development Plan of the Islamic Republic of Iran using the Portfolio Theory. The portfolio management system with control and direct the resources in the optimal path and in order to achieve the strategic goals and plan is used as a tool for the financial management of the organization. Therefore, the function and importance of the portfolio management system in the resistance economy will be twofold, because using this system will help the managers achieve greater effectiveness in management by controlling the resources and aligning the projects and activities with the organization's strategic goals. In other words, the strategic management practices and focus on macroeconomic axes will be facilitated and improved by establishing and using the portfolio management system and accordingly, the fulfillment of the indicators and objectives in the field of resistance economy will be developed and strengthened (Akhondi and Saadati, 2017). In order to do this significant task, the implementation steps of the portfolio management process in an organization must include evaluating the current status of the desired portfolio management process, defining the vision and perspectives and portfolio management plan as well as implementing and improving the processes. Additionally, creation and establishment of the portfolio management system in an organization in three parts: designing and implementing the basic principles, software support and finally, the continuous implementation of processes can be tracked which all of the tasks must be tracked and done in all of the steps, by the project management team members who have a wide and full understanding of the philosophy and principles of the processes and necessary tools (Javidi Kermani Nejad and Hosseini, 2016). Generally speaking, among the establishment-related challenges and difficulties the portfolio management system is faced with, the following van be noted: decentralization of management, incoordination of the design, support and implementation issues in establishing the management system, lack of specialized knowledge and expertise, lack of high-level documents or a clear strategic plan appropriate to the level of management, separate the portfolio management from the project management and overcoming the facilitation of portfolio reporting to the facilitation of the effective management (Javidi Kermani Nejad and Hosseini, 2016). Among the variables that can be studied in the investigation of the sections related to the Economic, Social and Cultural Development Plan of the Islamic Republic of Iran, the following can be mentioned: subsidy reform, the effects of economic sanctions, investments, inflation rate, world recession, oil revenues and etc. About the topics discussed in this study, we have investigated having an effective manager and an authority able to increase the efficiency of operation under these conditions in this study using the portfolio theory, in addition to having a robust economy and the necessary financial resources that can largely address the problems caused by the water section and its negative consequences.

3. Results and Discussion

Economic Growth implies an increase in the national production or the Per capita income (PCI). Economic Growth can be considered as the increase of production of goods and services by any means in a country. Examining the historical trend of the Per capita output and the economic growth rate in Iran as well as comparing it to other countries will illustrate important problems in the Iranian economy. The findings from the researches indicate that a variety of external and internal factors will influence on a country's economic growth. Examining the historical trend of the Per capita output and the economic growth rate in Iran as well as comparing it to other countries will illustrate important problems in the Iranian economy. The first one is the Iranian low per capita output given the country's potential capabilities, which suggests the Iranian low level of economic welfare. The second one is that the production growth rate and consequently the economic welfare

are increasing slowly as a result of the low level of production. The third is the economic growth rate is very volatile and unstable. Of course it should be noted that the Iranian low per capita output at present is mostly because of the low economic growth rate in the past decades, especially the sixties in which the economic growth rates were even negative. If the Iranian economy, indeed, experiences the high and stable economic growth rate over a relatively long period, it can be expected that the per capita output and consequently the economic welfare will significantly increase (Akhondi and Saadati, 2017).

In many countries worldwide, whether developed or developing, the current methods of the water consumption are mostly unstable. The world is faced with a set of increasing quantitative and qualitative problems in the field of water at local and regional levels. The limitation of water resources and discharge very large amount of pollutants into the water resources is weakening one of the fundamental resources on which human society is based. Fresh water is not only a global resource, but also a regional one, which is available in certain catchment areas of the world and there is no proportionality between water resources and population distribution [6]. In some the catchment areas, these limitations are seasonal, which depend on the ability to store the water in drought periods. In other regions, the limitations are influenced by the amount of the re-feeding of the groundwater table, snow thaw or the forest soil capacity to store the water. Since water is the only source of life, then its consumption may be limited depending on the extent the upstream lands are contaminated as well as groundwater (Javidi Kermani Nejad and Hosseini, 2016).

There are two types of important solutions based on which the government can adopt to compensate for the water scarcity and manage the water resources: technical-engineering (structural) and managerial-structural and governing solutions (non- structural); it seems that both must be done in parallel. Executive measures in the technical-engineering (structural) solutions are mostly technical solutions which require field management. These solutions are well known, but their implementation needs a tight cooperation between various ministries and departments as well as active participation of citizens. The necessity of implementing these strategies in Iran should be considered as emergency coefficient, which the most important of them can be listed as follows:

1. Changing the irrigation methods in agriculture to the drip irrigation or the pressurized irrigation.

2. Changing the cropping pattern and directing the farmers to cultivate the species which need less water consumption

3. Desalination from the high seas and moving it to the dry-lands

4. Changing the water storage methods

5. Expansion and completion of sewage systems in all cities and villages

6. Sewage treatment and the recirculation of recycled water to the water supply network or flooding it into the underground beds

7. Reconstruction of the outdated and old drinking water piping networks

8. Stop granting the well drilling licenses throughout the country

9. Shutting the illegal wells even at the expense of reducing the agricultural productions

10. Using meters for the authorized water wells

11. Revision of dam construction policies

12. Expanding watershed to strengthen underground resources

13. Promoting greenhouse cultivation and the like

14. Prohibition of granting licenses for the industries that use water in unsuitable areas and establish these industries on the south coast.

The technical-engineering solutions are those that most of the officials are familiar with them and some steps, even very few, are taken every now and then in order to use them; but the main issue which has been neglected for many years, is the managing and governing mechanisms or in other words, non-structural mechanisms which plays a far more important role in the water management in the country. Accordingly, these can be said as the most important water management-structural and governance solutions.

Laws and regulations for water governance and management have been legislated over the last 70-80 years, which has today caused this tragedy. Government and Parliament are required to revise all the laws which are any way related to the water, such as agriculture, industrial development, urban development, spatial planning, increase or decrease of population and the like. Some of the laws legislated in the years after the revolution were only due to the emotions of that time and were just concerned with self-sufficiency in the agriculture and didn't pay any attention to this that at what cost should this self-sufficiency be achieved?

There are currently three different committees in the parliament; each has some responsibility for the water of the country. The Agriculture-Water and Natural resources Commission will deal with the agricultural water needs and the development of agriculture; the Civil Commission will deal with the construction of production networks and systems, water treatment, water storage and distribution; the Energy Commission will also deal with the issue of water for power generation.

There are Ministry of Agriculture Jihad, Ministry of Roads and Urban Development and Ministry of Energy in parallel to these commissions; each Ministry is responsible for each of these commissions and the minister of energy will sometimes go from one commission to the other and will answer to the same questions from the interests and duties of the concerned commission. There is totally a kind of chaos and confusion about the issue of water in the parliament and this confusion as well as not having a single policy will show itself in the society.

The issue of water is so vital, so that it needs to establish and form an independent commission and ministry of the same name; and also all of the activities which deal somehow with water should be united. Accordingly, on one hand, the self-sufficiency policy in agriculture cannot be promoted and on the other hand, no attention be paid to its environmental consequences, the development of the industries that use water in the dry-lands cannot be continued and then, force the Ministry of Energy to supply the water to those industries and the developing the cities and the towns cannot be done without any consideration of water resources. Therefore, it can be unfortunately said that lack of coordination in the main activities had caused chaos in the water section. "Tooba Plan" is one of those regulations that need to be revised, reviewed and evaluated. In this plan, the document of a waste land will be granted to anyone who makes it cultivable and fertile. This plan has led everyone, without any study and knowledge, to drill a well and develop agriculture in places not suitable for cultivation at all and the overall estimation is that this plan results in devastating the Iranian resources in exchange for non-economic production. Maybe it is now the time to investigate the results of these documenting and probably many of those lands which have not enough efficiency and are still working, to be gotten out of farming or so called being retired. Finally, apart from the natural factors and global warming, the current drought in Iran is caused due to the mismanagement of water resources, lack of citizen participation and supervision in this vital issue and another indicator of widespread corruption in the Iranian administrative system. Therefore, the followings can be briefly said in order to improve and solve the problems of the Iranian water sector:

Decentralization of water resources management and governance, reviewing and changing the governing laws and water resources management, providing citizens participation in governance

and management of water resources, forming and establishing a specialized water commission in the parliament, forming and establishing the Ministry of Water and changing the role and position of the Supreme Water Council.

4. Conclusion

The followings can be the areas of an economic epic: creating a profound change in the national economy with a Jihadi spirit, the courageous arrival and struggle of the people and authorities, an evolutionary and self-sacrificing mass movement to solve the problems of livelihood, a fundamental change in the main categories of economics, such as production, consumption, work and effort, growth and development in agricultural-industrial-service sectors and supplying the necessary facilities within the orientations s specified in the Iranian system. The Resistance Economy has the potential to become an academic theory and can serve as a roadmap and be novel phenomenon with the essence of resistance as well as a great manager in the conventional literature. Since almost the vast majority of the economic plans will be faced with lots of challenges, by reviewing this plan from a portfolio management perspective, it can be said that we will still have a long way ahead until reaching to its prominent goal; we can expect to reach the supreme goals of the Supreme Leader of the Revolution in a near future by solving the problems of mismanagement and using the elites in various sectors especially in the water sector.

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Investigating the Affected Factors on the Design of Display Case for Paper Work

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Abstract

Museum display cases are usually one of the most expensive parts in museum interior design and furniture; museum display cases are very special and have a lot of limitations in the selection of used materials. Usually, even the micrometer environment in museum shelves and display cases should be valuable in the primary control of a collection (1). The protected manuscripts in museums are particularly vulnerable in terms of vulnerability and difficulty in maintaining. The mechanisms of damage and preventive protection of these works and their changes over time depend entirely on environmental conditions (2). Display cases, as a means of protection, protect the works by increasing the security of the objects and confining them in an appropriate, stable and secure environment (3 and 4). In general, four main groups of factors cause damage to the manuscripts: 1- Physical factors 2- Chemical factors 3- Biological factors 4- Unexpected factors (5), each of which imposes specific requirements in the design and manufacture of display cases for protection. Due to the specific circumstances of these works, these requirements need to be collected and formulated in a purposeful way for the design of the display cases. This article has attempted to clarify what features each display case must have in order to be stable and to protect a manuscript by reviewing specialized texts, authoritative articles, and library resources. Finally, an example of an appropriate design based on the stated conditions is examined.

Keywords: Manuscript; Protection; Preventive Protection; Display Case Design; Museum; Display Case

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1. Introduction

Among the types of works preserved in museums, manuscripts are of particular importance because they directly represent the thoughts and ideas of people and nation. Since the language and the emergence of the script are formed for communication between humans and the transmission of messages, manuscripts contain great meanings and signs of ancestors' identity, so more attention and a deeper examination of how to preserve the manuscripts that are the link of the past and future are essential.

2. Literature Review

Manuscripts are referred to as old books that are handwritten and not printed. At the same time, in librarianship literature; manuscripts are also referred to as single-copy writings produced by the author, such as the text of a work; whether literary, scholarly, or historical work, which is prepared by a writer to be given in print. The preservation of such manuscripts in large collections of research and academic libraries is usually due to their research importance or archival value (Mahawar, 2013).

But what is called "manuscript" in Persian literature is a book generally produced in the pre-circulation printing period in Iran and Islamic countries, and the preparation of a critical editing and so-called "correction" and production of their catalog are the important areas of literary research in Iran and other Islamic countries. Similar efforts have been made in the West over the classical and medieval versions of the past centuries.

2.1. Production of Ancient Manuscripts

In the early Middle Ages (500 to 1000 AD), monasteries and abbey were the main centers of book production. Priests and monks spread Christianity through their network of churches and abbey, by keeping the Latin language and remnants of classical knowledge alive. Abbeys were literary and written centers, and writers worked in its writing rooms and wrote religious and non-religious works.

At the pinnacle of the Middle Ages (1000 to 1200 AD) we are seeing an increase in the number of churches and abbeys and, consequently, manuscripts. The monks worked in the writing rooms and made books for two major markets: non-religious books for the nobles and kings, and religious books for the clergy. During periods of increasing demand for manuscripts, monks invited non-clerical writers to work alongside them. With the gradual disappearance of church monopoly on education and the increasing demand for non-religious books, many non-clerical writers set up workshops near universities and business centers. In the early Renaissance (1400-1300 AD) humanists in Italy copied ancient manuscripts of popular authors. Although the production of religious books continued after 1300, the demand for educational books increased by the middle of the thirteenth century and also new and innovative ways of producing books emerged. The result was an increase in the production of uniform manuscripts which are consistent with the original text.

In Islamic civilization, manuscripts were originally devoted to the Holy Quran, but it gradually developed. From the first period of Abbasid rule, the government customs and the establishment of a political system flourished in the Muslim world following the Sassanian or Greek-Roman governments. So, some local governments, as well as some princes and officials, created copy

centers. These centers employed copywriters and librarians. The scribes and copywriters were virtuous and calligraphic, and served as minister, courtier, and secretary in the court in the first AH century. At the Samani, Ghaznavid, and Seljuk governments, there were many writing centers.

Other centers of transcription were the hermitage and shrines of the mystics, each has a library. The tradition in the hermitage was that the mystical works were transcribed and compared with each other. There was another group involved in transcribing and book publishing. They were called "voraghan", many of whom were learned people and scholars, and they have been copied many books. The other group was calligraphers, who were originally in the same class with the scribes, but later formed independent centers, especially in the eighth century.

In the early 8th century AH, One of the most active transcription centers in Tabriz, the Mughal Throne, was founded by Rashid al-Din Fazlolah (618-718 AH) and transcription rituals of the pre-Mughal Divine transcription Center were applied. In the 9th century, another center was established in Herat, on the request of the Minister, Amir Alishir Nawaei (906-864). Arabic, Persian, and Turkish manuscripts continued to be produced and reproduced under the Safavid and Qajar rule, some of which were masterpieces of writing and book-editing.

2.2. How to Maintain and Preserve Manuscripts

The factors that cause damage to the manuscripts are divided into four groups: 1- Physical Factors 2- Chemical Factors 3- Biological Factors 4- Unexpected Factors .Each of these factors has divisions and combating each of them needs the necessary knowledge and expertise. And a manuscript library should be aware of all the factors and always be ready to fight those factors. Preservation of manuscripts is very sensitive, managing the selection and using a variety of disinfection methods and restoration of works are not an easy task. Collection management in addition to the expertise of librarianship and knowledge and familiarity with manuscripts should be familiar with chemistry and related areas (Fadaee, 2007). It is therefore necessary, first, that the manuscripts keep in an appropriate conditions such as free from contamination, temperature, and humidity. And secondly, manuscripts that have been damaged in any way are protected by helpful measures (Azimi, 2010).

In some manuscripts ,there are some points which are important for their introduction, for example in addition to the beautiful appearance, the manuscript might have other elements, such as script, volume, paper, illumination, etc., that is privileged in terms of a quality or antiquity. Therefore these elements should be mentioned in the description section.

The written description is:

1. The copy is the author's handwriting or quotation from the author's handwriting.

2. The copy is one of the great scholars' handwriting.

3. At the margin of the book, there are descriptions and corrections with the author or scientists handwriting.

4. It belongs to one of the grandee and scholars' library.

5. It is dedicated to a particular mosque or place.

In all these cases, the notes should be written down clearly and precisely and the same should be written if the copy is short. If there is an incomplete copy, this defect should be noted and if the manuscript is completed later, the new information should be written and the date of the transcription should be noted (Bayani, 1974).

3. Display Case

The Display case is a case that, in addition to the aesthetic role of precious historical, cultural and artistic works, also plays a role in protecting the works. We also look at the display case function by examining types of light sources needed to illuminate stand space, as well as the protective measures required to create a standard display case.

3.1. Main Nature of the Display Case

To preserve all the objects that represent the history and culture of a nation, manuscripts are part of these works, so it is natural to need a place designed for this purpose (Cassar and Martin, 1994; Cassar, 1995), because if these objects, exposed to destruction over time, are kept in an inappropriate place, they are affected easily by any external factor and they are deformed from its original form and may even be completely destroyed (Watts and Crombie, 2007). Many factors influence the preservation of manuscripts as an important work in introducing a nation's cultural history, such as the environment, light, air, temperature, as previously mentioned. If any of these do not meet the required standards, the works are easily damaged and can be destroyed. Therefore, in order to preserve this cultural authenticity, we need to build and design well-proportioned and strong cases visually. If Manuscripts display cases build beautifully and based on their features as well as their identities, they will enhance our visual acumen and they are by themselves cultural, display and protection tools.

3.2. Typology of Museum Display Cases

The display cases are divided into four major groups based on their standing and location:
a. Standing or floor display cases
b. Flat display cases
c. Wall Hanging display cases
d. Built-in display cases
Each of the mentioned types is subdivided into other subgroups based on their capabilities, structure, used materials and type of lighting, air conditioning and air circulation. In the following, they will be described briefly.

Display cases are divided into two major groups according to the type of access:
A. In standing or wall hanging display cases, the access is made from the lid so several lid-opening mechanisms are available:
i. Movement of the sliding, in different directions
ii. Hinged lid, at different levels and sides of the hypothetical cube volume.
B. In some standing, access to the object can be achieved by completely removing the case around the object with the help of various issues such as vacuum fastener, handle and special small cranes.
C. Flat display cases also allow access to the various modes that is the combination of the two movements mentioned above.
D. In some built-in or false-walled windows, access is made from behind the wall.
Access selection should provide ease of access to objects for replacement, restoration and cleaning, and also be designed to increase the safety factor against theft.

Display cases can be divided into two categories in terms of light usage:

A. No-light display case inside the display cases; in this case, objects can be seen by natural light or artificial light sources located on the ceiling above the display case.

B. Lighting display cases inside the display case should be checked to see if objects are visible through the various sources of artificial light inside the display case or not.

In type A display cases, there is no problem about damage caused by artificial light for objects. The technical and construction issues are simpler. The cost of making the display case is lower and there is no problem in maintaining the electrical equipment inside the display case. The issue of light reflection should also be considered. Conversely, the possibility to move display cases is limited depending on the location of light on the ceiling or walls. It is not possible to use light capabilities for showing and emphasizing objects and so on. In Type B display cases, although they are more attractive and beautiful than type A, the problems with light source placement such as air circulation, the quality and quantity of light, access to maintenance, etc. must be taken into account.

Display cases are divided into two main categories according to the type of production:

A. Commercial or mass-produced; these display cases are manufactured and marketed by specific manufacturers in different dimensions and types of wall hanging, standing, and so on.

B. Custom-made or limited-production; in these cases, designers considered particular location, object-type, and so forth and applied to the design.

Type A display cases are cost-effective and time-saving, while Type B display cases are time-consuming and costly, but they also have the advantage of custom-made items and, if they are properly designed, they are more compatible with object and environment features and require the necessary coordination with the architectural space of the location and even in some cases fix the existing architectural defects. Whereas display cases of type A are boxes that need to be arranged in the space to express their movement against the available space.

3.3. Standard Materials for Making Display Cases

Key materials for the construction of the display enclosure include steel, aluminum, stone and glass. These substances are connected by neutral inert materials (Watts and Crombie, 2007; Sharif-Askari and Abu-Hijleh, 2018).

3.4. Standard Structure of Display Cases

A) ***Internal Panels***: They include horizontal or vertical display screens inside the environment or space of internal panels of display case. The material can be coated and selected and final polishing or various buffers can be used.

B) ***Multi-Bay***: This is a term used for large display case made with multiple accesses; these display cases are fixed or have multiple structural panels along at least one view.

C) ***Locks***: All display cases are equipped with Abloy locks and some have additional mechanical locks for added security.

D) ***Soffit***: Sometimes it refers to the player frame or the diffuser or the lighting hood. In fact, soffit is the visible underside at the top of the system channel. Generally, soffit connects the lighting joints and separated shelving channels.

E) **Structural Panels**: These panels are made instead of glass and can be used for further reinforcement of large display cases; they provide a higher level of security for fixed components or support additional components such as shelves or lighting systems.

F) **Baseboard**: The baseboard is a physical barrier to the underside of the display case and provides high security and sealing.

G) **Glass Joints**: The connecting points between the glass components of a display case can make a significant difference to the aesthetics of a display case; these joints are also critical to the performance of sealing and structural.

H) **Shelving**: There are several optional choices for shelves inside the display case. The most common of these are adjustable shelving systems. The lever / arm shelves are mounted on the rear structural panel and the type of pendants uses a separated channel in the soffit.

I) **Lighting**: Display cases equipped with illuminated lid can be used to coordinate all types of lighting systems, whether on top of a player or inside the panel (soffit). Certain types of lighting systems can also be mounted on interior panels.

J) **Access**: A range of solutions can be provided proportional to the displayed objects and access. These include tensile hinged door, lifting and electric elevator.

K) **System Channels and Security**: This section of display cases includes functional components such as locks and alarms, access mechanisms and lighting. System channels are also used for glass mounting and structural panels in display case construction.

L) **Frameless / All-Glass**: In most display cases, the frameless or all glass without vertical framing or vertical preserver is considered.

M) **Sealing**: Many exhibitions require high levels of sealing in order to achieve optimal air exchange and environmental control. For access panels of display case, we use insulator or silicone sealants between the glass joints of fixed panels and molded dense silicone sealants.

N) **Wall Mounted**: We can design display cases wall mountable, especially wall type . These display cases can be screwed to the surrounding wall panels so that the back is completely enclosed or mounted on the wall surface and can even be pulled out by the lever.

O) **Environmental Control**: This usually refers to the active or passive humidity tool inside the display case. These systems are generally stabilized by the plinth and attached to it through the display plates.

P) **Plinth**: These display cases can be standing (independent) or mounted on a plinth. The plinth can be fixed by lock or in separated shelves and can also be used to control the environment or lighting equipment of homes. We can also design display cases based on existing plinth, desks and shelves or ledges (in the desired space).

3.5. Standard for Designing Museum Display Cases

Display case safety: *Glass*: The glass in a display case must protect the objects inside, without reducing the aesthetic of the display case. But which one is better? Natural glass or plastic glass, Table 1 shows the comparisons between silicate glass and acrylic glass.

Table 1 Comparison between silicate glass and acrylic glass

Organic glass	Ordinary glass	Properties
Almost yes	No	Safety glass
No	Yes	Non-flammable

No	Yes	Drill-Proof
No	Yes	Scratch proof
Yes	No	Colorless
No	Yes	Antistatic
Yes	No	Light weight

There are also laminated glasses which are not completely safe from impact. But they don't break with a hammer blow. Double glass with a thickness of 9 to 8 mm with a plastic layer provides good safety. This type of glass should be used in places where display cases are not visible at a glance and are located in hidden corners of the building.

Generally, glass with a thickness of at least 6 mm is also suitable. The same thickness is required for organic glass. In terms of protection, ordinary glass, multilayer glass and organic glass are the same.

We prefer ordinary glass generally than organic glass, especially for permanent exhibitions, because it is scratch proof and easy to clean. This type of glass can also be made anti reflex and the anti-UV properties can be added for multilayers.

Organic glass has also been used repeatedly in contemporary exhibitions, as it enables display cases of varying sizes and shapes to be set up quickly. However, the type of used glass is important for assembling the sturdy and stable parts of the display case.

Electronic Protection Systems

An advanced specialized system includes warning devices (sensors and pressure mechanisms), a central unit with an unrelated power source and a communication system which is capable of recording the fastest reactions.

The selected system must act quickly and alert before thieves can accomplish their goal. Unfortunately, there is not always the necessary coordination between museums and police centers, so museums must have their own security personnel.

Alarms

A thief looks first to make sure the display case is really locked or not.

Alarms alert when the lock is open with the "Opening Detector", so it reassures the curator that the display case are lock.

Another type of alarms "Glass Breaking Detector" warns breaking the glass window. There is a microphone that is sensitive to specific frequencies depending on the type of glass cup, but unfortunately their sensitivity is to the extent that they operate with the slightest noise. There is no previous defect in a system that uses a glass called a warning glass, the electrical circuits are located between the two layers with weak current in the sandwich cups; when they break, the current cuts off immediately, and the alarm system alerts.

Although the diameter of the wires in electrical circuit is only 0.1 mm and the wires are 5 cm apart, this system is rarely used due to visual disturbances.

In another type of double-glazed glass, electric apparatus is located only in one corner of the secure glass. As we know, these glasses are crushed into very small pieces and immediately electrical current cut off and a warning system alert.

"Motion Detectors" are the next type of alarms that work with infrared radiation and are sensitive to any movement within the display case, such as the movement of a burglar's hand inside the display case.

"Removal detectors" are types of alarms that are produced in two types: first, they start sending signals when something comes close to the object, and second, it starts working when the object is moved inside the case.

Installation of these models is quick and inexpensive, but their major disadvantage is that they start sending signals when the valuable item is fully available to the burglar!

The valuable things in the display case are to be protected against theft and vandalism. the display case must first be equipped with secure locks and all parts of the display case securely fastened together, and monitoring is always necessary (as a guard or an alert system); Because if the burglar has the "time", even the best physical obstacles as misleading as possible will be eliminated.

In a good security system, the alarm signs should be activated as soon as the burglar tries to eliminate the physical barrier. During the museum's closing hours, the announcers must be surrounded not only on the windows, but on all entrances to the gallery as well.

3.6. Role of Support in the Health of Manuscripts

Careful design of the supports can prevent all kinds of damage. Two basic issues need to be carefully considered when designing these supports.
  1. Structure of object
  2. The material of object

3.7. Role of Materials used in the Health of Manuscripts

Most of the display cases are made of glass, which fortunately have no sustainability problem. The frame and other components of the display cases are another matter. All timbers, recently dried, and some woods have the potential to disperse significant amounts of organic acids in the air even after careful drying. Oak is one of the most prominent of these, and in fact any wood used for tannin production can be hazardous, so by using these woods, lead objects quickly become corroded.

The multilayer timber itself may not have a problem, but the adhesives used in its manufacture can be problematic. This is especially true for cheap plywood, chipboard and block board. Stuffs that are used to attach these woods have the same problem.

Traditional carpentry adhesives which are made of horny skin materials such as horns, skins and fish skin pose another risk.

When they are fresh or decaying, they may produce sulfur compounds that can damage silver objects. Another group of organic acids commonly seen in display cases is linseed oil which is used in paint and putty compounds. Common putty, a combination of linseed oil and bleach, which is used in glass mounting, can disperse acidic steams for a long time before it is completely dry. Similarly, any color made from linseed oil and natural oils.

The third one is the steam from the combination of materials that are used for tightening the seams.

Synthetic and natural tires produce large quantities of sulfur gas due to their use of large quantities of sulfur in their production and during decay or when recently set. In addition, the foam sealing tapes, when made from low-grade polymers, are shredded over time and provide another source for acidifying the environment.

Currently a metal structure covered with a coating or hard glaze of good quality, and the body materials which are used in the manufacturing of motors or home appliances solve these problems.

However, if it is necessary to use wood for aesthetic or other reasons, wood should be covered with a transparent varnish or color. Lacquers, coatings and colors based on polyurethane have been shown to be very effective, and there should be time to dry completely between dyeing and using.

There are no problems with Polyethylene or polybutadiene for sealant than other materials.

The materials of paper, cards and other equipment used for decoration inside the display case should be noted so as not to produce harmful steams. Cheap papers quickly rot and produce acidic materials.

Acid-free paper and paperboard are recommended. Adhesive materials can cause many problems Rubber-based adhesives such as rubber sealants should not be used. Animal-based adhesives provide a good environment for mold growth in humid weather, except for those that have been stabilized by biocides of life-prevention. Adhesive tape and putty should be used carefully when mounting and installing objects in the display case. Some adhesive tapes on both sides are suitable for mounting objects, while some of them not only corrode the metals, but also after a while removing them completely from the artwork is impossible.

We should also be careful about the brighteners. The best ingredients for this work are micro-crystalline waxes that should not be used on high-holes surfaces.

The textiles used inside the display case must be carefully selected. Operations during fabric production may be harmful in some instances, but unfortunately they are not known for every single piece of fabric. Cotton in solid synthetic fabrics should be carefully washed to eliminate any starch they have. Fabrics such as velvet, silk, braid should be tested.

Pins and other metal fasteners may corrode if they are selected from inferior materials. Common types have this defect, and only those made of stainless steel or nickel, copper, manganese alloys. If using chrome plating fixtures, they should be carefully checked to prevent scratches or cracks on their chrome coatings and to be completely safe. Even the use of supports such as Plexi glass and pyrex are not without their own problems. These materials have no problems by themselves, but the adhesives used to form them often contain acetic acid. Supports that are made in this form will quickly have a devastating effect on the display case.

Using certain substances that protect certain types of objects may have a devastating effect on other objects within the same display case. So the objects that are located in a display case should also be controlled in this respect.

4. Display Case Protection against Earth Shocks

The earthquake produces two types of vertical and horizontal motions that can be combined in complex ways. These ground movements start shaking the display case and shaking the objects inside it, and intense movement cause the objects in the display case to overturn and eventually overturn the display case.

What follows is a detailed review of the dimensional details that the display case should have in this regard. But the important point is the volume center of gravity that will be chosen for the display case. The display case should not be too high and should have a sufficiently large plinth. Experience about free standing display cases has shown that if the height is three times more than the smallest dimension of the floor, the display case will be non-stationary.

The display cases used to display art objects usually have three to five glass faces. It is evident that the larger the glass, the weight of the upper part of the display case will be heavier and will be added to the weight if there is a lighting system.

Plexi glass has less specific weight than ordinary glass, but it is easy to scratch and also absorbs dust (due to static electricity) so it is not recommended. One way to reduce the weight of the upper part of the display case is to add weight to the lower part of the display case, for example by placing sandbags behind the plinth plates.

Recently, display cases have been pushed to the use of plinth that is more eye-catching, but this standing will decrease when the plinths become worn out over time (moving). Visitors may accidentally strike and shake them. To prevent vibration, it is best to fasten them to the ground, and the most common way to do this is to use a corner metal fastener mounted on four corners. The display cases that are behind each other can both be tightened to the ground or to each other by T-shaped or U-shaped joints and these results in a more stable surface. Wall-mounted display cases can also be fixed in the same way.

Recently, frame-free standing display cases are made of 4 sheets of glass stuck with silicone resin and a plexi glass ceiling attached to a polymer resin. The use of such display cases should be banned in an earthquake-prone country. Earthquakes aren't the only danger, but first objects must be placed in these Cloche Types and then Cloche Types display case covers them. This has dangers and accidents.

Materials such as wood, metal, or synthetic resins may be used for the exterior frame of the display case, but metal is the best in terms of strength and safety. The single plinths use for displaying contemporary sculptures such as protome and bust. Their bottoms are usually 30 cm wide and have a height of about one meter, which has a high center of gravity and this is bad for standing. In this case, the plinth should be filled with sandbag and attached to the ground.

5. Aesthetic of Display Cases

Communication equipment s such as printed images are only able to transmit copies of objects to the viewer while the museum is capable of displaying the object itself, so designers must emphasize this unique sense of presence and immediacy to cause direct confrontation between the viewer and the object. To this end, display cases should draw attention to the objects inside them purely with the least amount of time. So it is not logical to apply visual decorations and intricacies that take the attention from objects to the display case. The display cases identify with the objects inside them and the surroundings, so they must eventually move in harmony with them.

6. How to Access Objects Inside the Display Cases

Choosing the right way to access the object inside the display case, or How to get an object into it, is one of the issues that have always been overlooked despite its importance. Today in most museums, the display cases impose themselves on the works and the works are not selected based on a display case. It should be noted, however, that each museum object has its own physical and appropriateness needs with different spatial and environmental requirements that is determinant of the type of display case.

In fact, when ordering any display case for the objects, one must pay attention to the specific features and personality of a work. Primarily, the object should be located into or out of the display case as easy as possible. This minimizes the probable amount of physical damage to objects during movement or alignment and facilitates the alignment and access process. On the other hand, by making the right choice, the safety factor of an object can be raised against unforeseen events such as falling or even stealing.

In general, different display cases have five different types in terms of access and the degree of safety of objects.

Display case with Entry or Side Panel

The degree of access to these types of display cases on the entry side is always greater than the opposite. It is advisable not to use these for multiple scattered objects because of the difficulty of aligning and accessing the objects on the opposite side of the entrance, as the alignment and positioning of end-objects will always be difficult and may cause physical damage to other contents of display case.

Also, the type of entry in this type of display case makes it impossible or difficult to move and transport objects directionally during the alignment, so as far as possible for greater safety, avoid locating the unified and inflexible works in them. Many excavated objects with low strength must be transported with both hands when moving, as they may be fractured in such display cases. In Figure 1 you will see a sample of a display case with an entry or side panel.

Fig 1 Display case with an entry or side panel

Display case with panel or sliding entry

Due to the large amount of access space, these display cases are among the most suitable types of display cases for different types of objects. It is easy to arrange a variety of works in different dimensions, as well as small objects such as small books in large numbers. In addition, the excavated objects are well located into these display cases. Of course, to use this type of display case, there should be always enough space for panels to move around. The use of these display cases that the panel moves upwards is not recommended due to the numerous dangers and the probable panel collapsing unless full safety principles are met or automatic door opener are used.
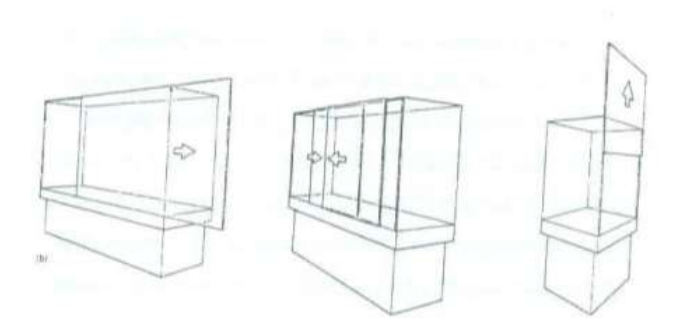
Fig 2 Display case with panel or slider entry

Display case with detachable case

Using this model, which is more for displaying and maintenance of large, high-altitude objects, requires a great deal of care when moving the input panel. Application of this model is not very common due to the strength issues of the panel and its dangers.
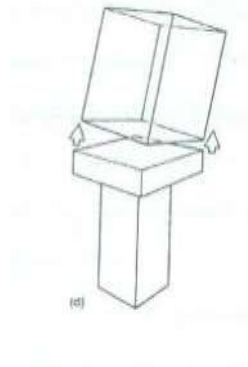
Fig 3 Display case with detachable case

Display cases powered from behind or safety display cases

As mentioned earlier, this display case can be used for optimal protection of valuable items that are generally part of museum special treasures. Placing the main panel behind and no access for irresponsible people, as well as a good level of column or wall support make these display cases safe against various pressures to a high degree of reliability. In addition to the benefits, the underside of these display cases is a good place to store humid-absorbing materials or safety devices.
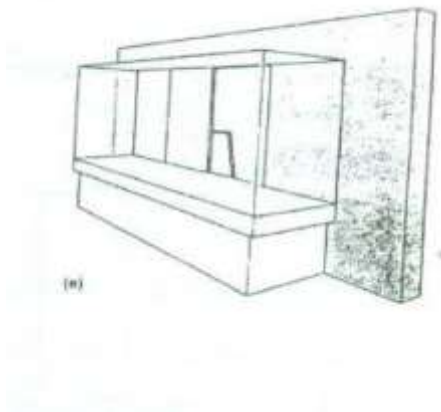
Fig 4 Display cases powered from behind

7. Light in Display Case

There are a few things to consider when designing light in display case:

A) It is necessary to maintain the necessary distance between the light source and the objects. If possible, it is better to use the external lighting for objects inside the display case. The light inside the display case should be reduced to the necessary minimum and the use of high-power bulbs and

projectors should be avoided. For highly sensitive and valuable objects, automatic illumination systems can only be used because these systems start to work when a visitor arrives.

B) Unauthorized fluorescent lamps shall not be used unless the UV absorption filter is applied against it or at least the reflective system is used. It is better that display case glass absorb UV.

C) Regularly monitor wiring inside the display case and the status of the lamps to avoid the risk of fire.

Temperature and humidity control in display case

The temperature in the display case is directly related to the overall temperature of the galleries. If there is proper ventilation system, the temperature and humidity will usually be acceptable. Just in case, a special case for humectant materials such as silica gel crystals and the like is embedded to lower the moisture content in display case. This case is connected to the interior space of the display case by the holes. Silica gel is a material that is regenerated by heat and restores its dehumidification property, so it must be regularly controlled and recycled. Humidity control is especially important for display cases for discovered items from excavated operations.

8. Design Process for New Display Cases on Museum Display Needs

The display case of a work in a museum is part of the show, and in addition to, it is also important to preserve the work and prevent it from being destroyed and worn out. In the case of the appearance and overall form of the display case, the condition of preserving the works must be positive and useful to the viewer. In this study of design and selection of ideas for preventive protection of artworks, structure of display cases were selected according to the protective principles of metal and glass.

In general, the display case as a case and small environment for the work should be designed to be equipped with an absolute light system, protected against dust and with temperature and humidity control. Display case lighting is done with small lamps mounted inside a display case containing object-focused light. Therefore, the object's proximity and non-proximity to the light should be taken into account, following by lighting and installation of the lamps. The lamps should not be annoying to the viewer either. Therefore, all object protection as well as visiting the objects should be taken into account for the light of the display case. The size of the display case must be appropriate with the size of the work, especially in terms of height. Also disregarding this, the visual problem will cause problems in maintaining the work. Consideration of general standards, such as the side of the opening and closing, the placement of silicon, is one of the issues that should be considered when designing a protective display case.

Regarding the showcase protection measures it can be said that based on the environmental monitoring information and the selection of the effect with the environment as well as the control of the potential environmental damages, it creates favorable conditions for the effect which can more precisely reduce the damaging factors. In addition to the exterior elements of the display case environment, the small interior environment of the display case must also be controlled and the lighting system should not damage the work, as objects are directly exposed to temperature, relative humidity, material reactivity and pest problems and the likelihood of exacerbations will be more in these environments. The case or display case is usually closed with a system, and despite the illumination inside it causes heat, and the temperature inside the display case with the closed system greatly increases the likelihood of damage and leads to problems.

A high temperature makes most molecules active and allows any chemical interactions. On the other hand, relative humidity has a direct relationship with temperature, which together creates unfavorable conditions for objects. Two approaches are commonly used to control display case environments:

A) Keep energy sources away from the display cases as much as possible

B) Reduce the energy impact by installing a barrier inside the display show to reduce oscillations

After introducing and defining the necessary standards of protection for the design of new display cases, the items are considered as a list of essential requirements for preventive protection of the works with the help of display cases, as follows:

1. There is a great need to use slip sensors because of the earthquake-prone country and the age of many museum buildings as well as the movement of visitors around the display cases.

2. The use of a humidity meter due to the placement of the manuscript in a glass case that will spontaneously evaporate, in addition to the climatic features of each geographical area in which the museum is located.

3. Using a thermometer to control the temperature results in chemical changes in the work.

4. Air purifier

5. Gas importing machine

6. Anti-reflective glass that prevents the light of mobile phone cameras on the works and it is also for the protection and security of the works.

7. Secure glass and bulletproof glass to prevent intentional injuries like theft.

8. Light that produces the least heat and it does not cause changes in environmental conditions and exhibits works well and is free of UV and infrared.

9. The book-rack for the protection of spine of book

10. Mirrors to illustrate the manuscript cover along with the text, illuminations and other arrays in the books which are of great value and are both visually and aesthetically valuable.

11. Using adjustable wheels, these wheels will greatly help curators in moving display cases for probable displacements. When the security guards do not need the wheels, the wheels go into the plinth and lock.

9. Conclusion

According to the studies by observing the 11 factors mentioned in the findings of this article, the most optimal design for the protection of works within museums can be achieved. It should be noted that all of these factors have been extracted according to the climatic conditions and characteristics, type and specifications of the manuscript and the type of display required in the manuscript section of museums in the country and can be used as a guide for museum designers.

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Application of Comedy and Satire in the Epic Theater: The Analysis of the Caucasian Chalk Circle by Bertolt Brecht

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Abstract

Comedy, satire, ridicule, and humor, in general, stem from a tragedy. Wherever weeping does not suffice for the tragic fate of mankind, humor or comedy takes on this task by making people laugh. It is not in vain that typical theatrical emotions are displayed as two smiling and weeping faces. Tragedy and comedy are two opposing but interconnected aspects that have defined theater since the beginning of history. In this article, we will see how the epic theater, like the modern theater that crashed down the Aristotelian criterion in ancient theater, has used comical elements of comics (satire and comedy) in its structure to transcend features such as catharsis and the strong Aristotelian plot and turn the play into a means for making the audience aware of their position in the modern world. The main tool of epic theater for the realization of anti-Aristotelian theater is an interruption to keep the audience from being trapped and submissive to the plot and to make him/her contemplate. Comedy is an element can distance the audience from identifying himself/herself with tragedy.

1. Introduction and Definitions

Comedy is the temporary victory of man over fate. Comedy, without tragedy, is not able to make people laugh. In presenting his theory of the alienation effect, Bertolt Brecht was influenced by two comedians of his time: Carl Falentin and Charlie Chaplin (Bye, 2008: 234). If we consider Charlie Chaplin the best comedian, then we come to this central definition of comedy: Clowns cannot make

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audiences laugh if they do not look miserable. Charlie Chaplin is a connecting link between comedy and tragedy and serves as an action guide for epic theater. Walter Benjamin refers to Charlie Chaplin as the leading representative of art for the people in his discussion with Horkheimer about art for art or art for people, and for this reason, he is the main authority in this discussion.

"For Plato, imitations, and mimesis are equivalent to the creation of a mental image that has no external manifestation, but only the virtual form of the truth of the thing" (Steel, 2004: 2-3).

The epic theater is an allegory, and if we refer to Plato's definitions of the parable, each epic theater has an Aristotelian equivalent that, when breaking down, leads to the creation of the parable. In the process of breaking Aristotelian rules, the epic theater uses a mirror that disrupts the proportion of elements and unity of time and place of the Aristotelian play, instead of imitations and mimesis, thus creating a tragedy. In other words, comedy is mixed with tragedy. The origin of comedy is this disruption. Therefore, if the epic theater wants to reverse or at least disrupt Aristotelian laws of mimesis in tragedy and be an allegory of Aristotelian play rather than a parable, it has no choice but to use comedy.

2. Literature Review

In his doctoral dissertation entitled "Standup comedy: One of the most popular forms of entertainment in America today a tool for social change", François Manwell (2018) investigated how a performance can be both entertaining and instructive at the same time. Manwell argues that Brecht believes that theater should illuminate the social dynamics of society by acting on a daily interaction on stage (Manwell, 2018: 29).

Daniel Bai (2008) in his doctoral dissertation entitled "Tomfoolery in St. Bertolt Brecht" seeks to explore the effectiveness of Tomfoolery and comedy in reinforcing the aims and effects of Bertolt Brecht's epic theater. According to him, Bertolt Brecht was influenced by two comedians of his time in presenting the theory of alienation and gesture: Carl Falentin and Charlie Chaplin.

3. Epic Theater

The term epic (episches in German[2]) is an old word. In the Aristotelian term, the word epic refers to a kind of tale that is not confined to Aristotelian unions of space and time, such as Homer's Odyssey[3] or Enigel Virgil. This kind of story has a random quality[4] and a series of loosely-connected events typical of Picardy tales[5] such as Joseph Andrews by the English author Henry Fielding. The word epic in English is reminiscent of the wide-ranging dimensions of Hollywood films. In France, Roman Roland refers to his revolutionary plays like a completely epic theater to emphasize the uniqueness of the plays. Epic in Persian refers to the stories of extraordinary men and women who deal with the gods or other superhuman forces such as heroic stories in Ferdowsi's Shahname. However, in German - Brecht's native language - the original and primitive meaning of

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[2] Episches

[3] Homer: Odyssey alongside Iliad is the second epic work of Homer, a Greek storyteller. Written in the late 8th century BC, it is one of the most influential works of western literature. The story of this book is about the adventures of King Odysseus of Ithaca and his companions after the Trojan War and return to home. In many languages, "odyssey" means wandering and displacement.

[4] Episodic

[5] Picardy tales: It is a kind of story that originated in Spain in the sixteenth century and tells the story of a cunning, thief, and eloquent individual who is involved with all kinds of adversities.

the epic is a particular narrative format that is not dissimilar to Charlie Chaplin's cinematic expression technique. The epic term in literature is used for purely Picardy novels such as Schweik[6], and for any disruption in the contractual arrangement of the plot of the story, whether in the form of the modern reporting technique or the novels by Joyce[7], Dos Passos[8], Alfred Dublin[9], and one or two stories from Sadegh Hedayat (Ta'aavoni, 2005: 28). Table 1 summarizes the differences between the epic theater and Aristotelian theater:

Table 1 The differences between Aristotelian and Brechtian theaters

Play	Dramatic elements	Aristotelian and dramatic theater	Brechtian and epic theater
Playscript	Language	Noble and aristocratic	Language of ordinary people
	Catharsis	Yes	None
	Gesture	None	Yes
	Myths	Reproducing myths	Breaking myths
	Allegory	None	Yes
	Media	None	Yes
	Politics	Serving the ruling power	Exposing power
	Court of justice	None	The audience serving as a jury
	Ethics	Serving the power	Against the power
	Personality transformation	None	Yes
	Plot	Yes	None
	Education	Through emotions	Through judgment and rationality
	Incidents	Within the incidents and trapped in the emotions	Standing against the incidents and contemplating on their causes
	Genre	Tragedy	Tragedy and comedy
	Time	A direct and connected line	Disconnected and multi-temporal
	Storyline	Straight	Spiral
	Ending	Surrender to reality	Surprise
	Worldview	Accepting the world as it is	Disclosing the accepted world
	Narration	None	Yes
Performance	Acting	Immersed in the role	Detached from the role
	Stage	The actor/actress does not see the audience	The actor/actress sees the audience
	Music	Fitting the play	Staccato and underscoring
	Chorus	Predictor and advisor	Alienating and revealing
	Decoration	As true as possible	With the minimal props
	Film	None	None

"Brecht wanted to see the audience contemplating - and if possible smoking. However, the act of smoking must have meant his detached relaxation and not the display of a common space-time.

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[6] Schweik: A satirically dark comedy novel by Jaroslav Hašek from the Czech Republic.
[7] James Joyce: James Augustine Aloysius Joyce (February 7; Dublin - January 1; Zurich) an Irish whose Ulysses' is regarded by some as the greatest novel of the twentieth century.
[8] John Roderigo Dos Passos (1970-1896) is an American writer.
[9] Alfred Dublin: Bruno Alfred Döblin (10 August 1878 – 26 June 1957) a German novelist best known for his novel Berlin Alexanderplatz (1929).

Brechtian audience detached and relaxed is smoking at his own time" (Lehmann, 2006: 286). However, the need to leave the dramatic theater, in Brecht's view, is simply due to the inability of emotions to produce consciousness. He likes to see people in situations that are not immediately clear, and he does not need the logical justification and psychological motives of the old theater. The theater must find a form that allows it to display this lack of clarity in the most classical way possible, namely through an epic relaxation (Lehmann, 2006: 291).

Interruption/detachment is one of the most important features of the epic theater. "Detachment makes the audience confront a situation that has been usual and has become unusual now leading him to criticism. Any interruption in the actor's dramatic action and alienation with his role will induce this thinking.

Benjamin believes that the technique of "interruption" in the epic theater is derived from the emerging "assembly" technique, which itself is the product of new artistic production tools (movie). Benjamin pointed out: "In the opinion of Brecht, the epic theater should not expand the plot, but it should portray the situation". This theater, as we see it now, creates an interruption in the dramatic plot. "Let me remind you of the songs whose main function is to create an interruption in action. Here (using the principle of interruption), the epic theater has come up with a technique you have come to know in recent years through movies, radio, photography, and the press. I speak of the assembly technique whereby an element that falls on another element creating an interruption in the context to which it is attached (Benjamin, 2015: 162).

"One of Brecht's predominant mechanisms for achieving this measurement that he uses for detachment is the technique of interruption. Walter Benjamin pointed out "this discovery of conditions" happens through detached processes. Benjamin compares the use of interruption in the epic theater to the function of quotation in written texts, waiting for sober, wise, and conscious wearing out of that difficult thing. The main function of the text in this dramatic genre is not to describe the progression of action but rather to stop the action of the text itself. The delayed nature of these interruptions and this is the episodic feature and the framing of action that allows the gesture theater to become an epic theater (Benjamin, 2015: 38).

The Socratic way of discovering the truth is the dialectic intended by Benjamin. Here, any interruption in action produces a discovery of a situation that freezes in the interruption and the resulting gesture is a produced synthesis called the situation.

3.1. Dialectical Transfer from Theater to the Audience in the Detachment Interruption

The dialectical transfer from the inaction due to detaching the audience's mind and producing "surprise" of what was previously self-evident and now a kind of real-life revelation to the audience, a kind of pleasure that can only be obtained in epic theater shows and some form of human comedy that has never been possible to be produced by meaningless comedies before.

The dam of real-life floods when the water flow is accompanied by an interruption makes it feel like a surprising reaction. This is the dialectic in the stillness (moving in the interruption) with its real object being "surprise" (Benjamin, 2015: 52).

In epic theater, interruptions and detachments at each stage of the story lead the audience to think critically about the action, and so at each stage, there is an instruction and the sum of these instructions lead to thoughtfulness. The hero of the tragedy in epic theater learns through struggle, and with his own death, provides instructions to induce resistance and change among the audience.

The creation of interruption in the actions will disrupt the audience's identification with the tragedy and give way to critical thinking.

The epic theater no longer provides the story easily, but instead forces the audience to spend some time finding reason in the interruption moment, thus giving birth to the rational audience.

The epic drama is itself a dramatic allegory. In this sense, there is the main play through which the play is narrated; a play in which the actions are deliberately interrupted and the singers interpret and interrupt them. So, behind each epic drama, one can define an Aristotelian play. With the implementation of the epic techniques, the play disappears in its Aristotelian sense. The epic drama is not an Aristotelian drama, but rather an allegory of evils and vices that replaces the purpose of catharsis with the purpose of consciousness.

Any kind of interruption along with the logic of the actions and the interconnection of the actions to produce a plot is an interruption that draws the audience's attention from a focus on actions to focus on speeches. Therefore, alienation and detachment do not have to occur by interrupting the whole play and the entrance of non-dramatic elements and can happen in this way.

4. Humor or Satire

The word "satire" means ridicule and in Persian cultures means coquetry, ridicule, talking implicitly, derogatory, lamenting, irony, slapstick, and laughing at someone (Aslani, 2008: 140). The word in literature refers to a particular type of poetic and literary prose that makes use of humor, irony, exaggeration, or ridicule to criticize stupidity or vices (Javadi, 2005: 11). The word satire was derived from the Greek root Satxyos and the Latin root Satura and Satira. This word has been used in most European languages to mean criticism that is expressed in a ridiculous manner (Brockettte, 1984: 71).

Satire was, in the Greeks' sense, a ridiculous imitation of myths, a grimace at the gods or heroes and their adventures as well as abnormal movements, seductive dances and bizarre accents and behaviors.

Satire, in this sense, did not exist in contemporary Persian and Arabic and was formerly used in Farsi in the form of lampoon which was mostly direct and personal criticism, lacking indirectness and satirical features, and often not informative or social.

The American Encyclopedia defines satire as a type of literary genre in the form of poetry or prose, in which evil or negative social aspects are criticized, and it is a word of Latin origin and was first used by ancient Roman poets.

Satire is an art that human beings arrive at it when striving to transform the world, and always appear in the form of actions and reactions, and this is manifested in their view of the environment and reality in particular. True satire, originating from real-life events and based on the realities of life, reflects a ridiculous depiction of the negative aspects of life and exaggeratedly shows individual and social evils, that is, uglier and worse than their reality, and thus, displays the deep contradictions of the status quo with the ideals of a perfect and fulfilling life.

However, currently, satire is often referred to as any jokes and slapstick, and in many cases, it is equated with humor, clownish behaviors, laughter, ridicule, humiliation, and ridiculous sarcasm, and satire is the fastest way to get the audience to laugh. This definition of satire differs from the concept of authentic satire intended in this study (Sadr, 2002: 7).

Eric Bentley divides humor into two main parts: Slapstick and comedy (Bentley, 1997: pp. 140 & 155) as shown in the following Table 2:

Table 2 Slapstick and comedy properties

Slapstick												Comedy				
Character		Textual features				Power imposition			Atrocity				Comedy	Tragic comedy	Comedy tragedy	Atrocity	Theft
Fool	Real	Suppressed desires	A final quick shock	Destined accidents	Childish actions	Scoundrel	Fool	Scoundrel-Fool	Abstract	Imaginary	Scoundrel	Fool	Happy script and happy ending	Happy script and sad ending	Sad script and sad ending	Logical support	Ownership

5. Research Methodology

To determine the role of comedy in the epic theater and Brecht's dialectical theatre, a comparative analysis of the play "The Caucasian Chalk Circle" was performed. Besides, using Table 2, the relationship of power and influence of touches of humor and its subcategories (slapstick or comedy) with the power and frequency of the epic elements in the theater was examined. For Brecht, the dialectical criticism was involved in creating a view of the "crisis" using their outcomes (Haug, 2005: 28).

"The Caucasian Chalk Circle" is a promotional-educational play composed of two completely different Aristotelian and Epic sections and is unique in this respect. "Grusha" is an Aristotelian and tragic play and "Azdak" is epic and comedy.

6. Research Questions

The following questions are addressed in this study:

1. Is there a direct relationship between the frequency of comedy and satire – as two elements of humor - in "The Caucasian Chalk Circle" with the frequency of Aristotelian and epic elements?

2. Do the power and weakness of the senses of humor have a direct relationship with the Aristotelian and epic elements of the play?

7. Plot Summary

Amongst the rubble of a bombed-out village in the Caucasus Mountains, in the Soviet Republic of Georgia, an expert from the State Reconstruction Committee has come to meet with the members of two kolaches, (sometimes translated kolkhoz) or collective farms. At stake is the fate of a valley in the aftermath of World War II. The Galinsky kolaches villagers, who raise goats and used the valley before the war, wish to reclaim the land for grazing, while the Rosa Luxemburg kolaches villagers are fruit growers and want to plant an orchard. The Rosa Luxemburg farmers have proposed a plan to irrigate the valley and exponentially increase the productivity of the land. To support their claim, the fruit farmers have hired a famous local singer and prepared a play with music, The Chalk Circle, based on a Chinese parable. After this frame is established, Brecht never fully returns us to the meeting of the kolaches, instead, he focuses on the play within the play for the remaining five scenes; a classic five-act epic structure. The story begins amid a revolution, the Governor is executed, and his wife must flee. In the chaos, their infant son Michael is left behind. When no one else will take responsibility for the child, a servant named Grusha takes him up and goes on the run. The next three years unfold in a series of episodes showing how Grusha and Michael survive. As always, Brecht explores contradictions in his work, prying open the two sides to every transaction and probing the reasons people act against their own self-interest, while others

blindly pursue it. Grusha nearly leaves the baby with a peasant couple, but cannot, against her better judgment. As Brecht wrote in his notes, "The more Grusha does to save the child's life, the more she endangers her own," (Brecht, Collected Plays: Seven 304). She takes refuge with her brother for a time but is not welcomed by her sister-in-law, and though she had promised to wait for her true love Simon Chachava, she must marry someone else so she and Michael can survive. The story shifts gears and we learn how Azdak, a clever but corrupt judge, has used his wits to keep his position during the years of revolution and war, and finally after the restoration of the old regime. Ultimately it is he who will hear the suit of the Governor's wife, who has returned from exile and wants her son back. If she can prove Michael is hers, he is the key to power and will be heir to the dead Governor's estate. With a habit of drinking on the job, a propensity for taking bribes, and a reputation for ruling in favor of the underdog, Azdak must decide which mother has a better claim to the child's custody, or rather he must determine, "the child's claim to the better mother." He devises the chalk circle test, a circle is drawn on the floor around Michael, and the two contestant mothers must each take a hand and try to pull the boy out. When Grusha lets go, it is clear that she is the better mother. Azdak confiscates Michael's estates and makes them into public gardens. His last act is to divorce Grusha, thereby allowing her to marry Simon. During the dancing that follows, Azdak disappears forever.

8. Analysis of the Play the Caucasian Chalk Circle

One of Brecht's dominant mechanisms to achieve this measure that is used for detachment is the technique of interruption: Benjamin believes that "the discovery of the condition happens through interrupted processes. Benjamin compares the use of interruption in the epic theater with the function of quotations in written texts; a method he himself had mastery over it" (Wolin, 1994: 151).

8.1. Comic Interruptions in "Grusha" part

Comic interruption #1 (two hypocrites trying to pull the rug from under the other's feet by using ridiculous arguments)
Two doctors who are children of the ruler act the role of a fool and hypocrite and change their roles alternately. They are both stupid (because they dispense stupid prescriptions) and hypocritical (because each tries to pull the rug from under the other's feet). However, the main fool is the ruler's wife and the two doctors are both hypocritical and vicious.

Comic interruption #2 (stupid and childish comic indolence at times of danger)
Not receiving a courier with breaking news for indolence. Here the adjutant acts in the role of the hypocrite and the ruler in the role of a fool.

Comic interruption # 3 (slapstick and stupid arguments)
The behavior of two doctors in escape from the coup against the ruler: A silly argument over whose turn is to remain as the king's child when the king was killed and everyone is fleeing. Instead of fleeing, each doctor tries to kill the other with reasoning and conscientiousness and this leads to a silly quarrel in which the second doctor hits the first one on the head and makes him unconscious and runs away. The two doctors are both stupid and hypocritical with childish brutality due to foolishness while no one needs to stay.

Comic interruption # 4 (Changing slapstick into humanity)

Simon may refuse the ousted adjutant's order charging him with assisting the executed ruler's wife to run away and not bother himself, but he listens stupidly to the orders of a resigned powerless superior to execute his duty while it is redefined in the form of a new hierarchy, not the disrupted order. On the other hand, Grusha accepts the responsibility of the child of a queen who has evaded her own responsibility as a mother. So he is also doing a job that no one has ever done and that he has neither the power to do it nor to be blamed for not doing it. They may think of their love as the first task in this critical situation as the basis for survival, but they foolishly follow their raw emotions. This silly situation is a slapstick slowly turning into an epic. A magnificent epic of human duty against humanity (Grusha vs. the queen's child) and human duty against the orders issued by a superior (even ousted), representing a mix of stupidity and human duty. Simon's behavior looks stupid and Grusha's behavior seems humane. So we are faced with a solo slapstick in which the vicious person is the ousted adjutant or the fleeing queen.

Comic interruption # 5 (love for one's luxury vs. love for one's child)

The queen's life is at risk but she kills the time by picking up the clothes instead of protecting her baby. A completely childish move that is associated with threats from chambermaids who are no longer under her control. Here, too, the chambermaids are playing the role of the fool and the queen the role of a villain, who is herself a fool. Her orders are stupid because they are issued against her life and the chambermaids' obedience is stupid because the queen no longer has power and being afraid of her is pointless. Leaving the baby and taking away the suitcase is the peak of the stupidity that imposes shocks. The confrontation of a fool is with a villain, a fool, and a child.

Comic interruption # 6 (Selecting the right place to hang the ruler's head)

The evil governor attaches great importance to the choice of where to hang the ruler's head, while it does not matter, but he is obsessed with it and it seems a foolish act in this disastrous situation. He is a stupid person because there is no relevance between the obsession of finding the gate center to hang the cut head and the shock resulting from the appearance of the head, so this type of treatment is childish and silly in the context in question.

Comic interruption # 7 (doing a stupid duty where one has to perform a commanding role)

Recognize that a chambermaid is not a noble person from the roughness of his hands while his tongue is aristocratic, baby clothes are expensive, and the chambermaid has money: This is a comedy of social position. The elders rule over others because they know nothing and the subordinates do everything. This is a stupid contradiction because it should be the other way round, but class society is a stupid way of governing society. So the villain here is a class society and the stupid is a chambermaid who remembers the requirement for being a noble person is the lack of knowledge of doing a job, not the skill to do it.

Comic interruption # 8 (Mixing the tragic hero and the comedy villain)

Arguments raised by Grusha's sister-in-law and bother for getting him out of the house and finding an almost-dead husband while having a baby: Here there are two wicked persons (his brother and brother's wife) and a fool (the husband's mother) and the main villain is the husband who pretends to be dead lest to be recruited as a soldier. On the one hand, it is playing a prank with a hermit who has replaced the priest because he takes less money and does the ritual with a baby and a dead groom. Besides, the mother of the husband tries to hide the child from the public eye

while the child is exposed to the public. But the main mockery is the groom who presents to be dead so that he will not go to war, and after a year sleeping in the bed, he gets up when the war is over. The husband's mother plays the role of a fool and the husband plays the role of the villain, but Grusha retains her tragic role in the comedy. She is fired from her brother's house and forced to marry and lose Simon to keep the baby. So comedy-tragedy is formed in the form of three-sided shape; a fool, a villain, and a tragic hero. The tragic hero does not allow the villain to approach himself. Among the other stupid persons in this comedy are villager women who believed in the illness and a husband who is dying. The entanglement of this funny situation is later released by a stupid-evil person out of this comedy - Judge Azdak - as a result of an accident (which is intentional), and the tragic hero reaches his love and defeats the comedy fate.

Comic Interruption "Azdak" part

1. All the stories in this part are ridiculous and comical. This scene itself is also slapstick because Azdak has been appointed as a judge in a popular uprising and by accident.

1(a) The main element of slapsticks: Reverse balance of power

Concerning the relationship between the villain's power and the pretended power of the fool, we are facing the construction of the villain and the temporary removal of power by the fool and the temporary acquisition of power. The temporality and the heterogeneity of the amount of the power of the fool and the villain is one of the reasons for the emergence of this funny situation that is, of course, also the source of class consciousness of power. Azdak, like a fool, comes to a power that must belong to the villain, and all villains, from the nephew of the governor to the defendants of the upper classes, have to obey the power of Azdak, regardless of their class position. This heterogeneity of power and class position forms the basis of slapsticks.

1(b) Slapstick

Even though the wicked are to be punished, this process is done not by conventional logic but by irrational and ridiculous methods. In this way, senses of humor are not embedded in the ending but in the course and context of stories. Chaos is one of the main elements of slapsticks that flow through all interrogations and judgments. Chaos seems to have no particular reason, and so it is closer to slapsticks. In slapsticks, chaos is childish and lacks logic.

1(c) Comedy

If we look at jokes made by the kolaches' singers from their own point of view, this irrationality is nothing but the inversion of the high social class logic for the perpetual condemnation of the lower classes. The inversion of the ownership logic leads to the replacement of slapsticks by comedy because chaos is no longer childish but it has theoretical and intellectual support. Therefore jokes are internally considered as slapsticks but they are comedic in terms of the general structure.

1(d) Theft as the main theme of comedy

The collapse of the logic of ownership and its transformation into the theft is the main theme of comedy. What makes the core of the joke that makes them funny is this fundamental change. Azdak transforms the notion of bribery into a judge's wages and natural rights and delegitimizes the plaintiffs of their property by recognizing the theft committed by low-class people. The laughs followed by these jokes are all conscious and considered epic.

1(e) Atrocity

Pranked cruelties are mostly slapsticks and chaplainic in nature because they have no logical relationship. For instance, the fear associated with cruelty such as incest is removed by giving a bribe to a witness who spends it his uncle's music class and it results in laughter instead of producing fear. It creates laughter because there is no ordinary logic between the uncle's music class and the heinous act of incest and it is produced through the collision of these two mockeries.

1(f) The association of mockeries with Grusha part

In a few mockeries, the evil characters of the tragic part of Grusha are tried for being accused of another crime. They are evil here too but lack the power they had in the tragic part. In this way, the connection between the comedy (Azdak) and the tragedy (Grusha) is made through the repetition of the stories.

1(g) Anti-Aristotelian mockeries

The mockeries lack Aristotelian logic. Laughter is caused by the inversion of class logic, and superiors often have to surrender to anti-logic in the coercion of subordinate judgment. The shocking structure of mockeries like the epic theater is based on defamiliarization.

8.2. Comic Interruptions of "Azdak" part

Comic interruption # 1

An evil person lacks actual power but possesses potential power (the fleeting governor). The fool possesses the current power to rescue the villain and lacks power in the class position. The insignificant but actual power of the fool against the immense but potentially evil power that, through his mediating role releases the villain and causes him to scape, forms the basis of comedy.

Comic interruption # 2 (Teaching the customs of peasants to the feudal class for the scape of the governor)

The low-powered villain - Azdac the vagrant and the illegal hunter of the lord's rabbits- trains the fool (the fleeting governor) with no actual power but with potential power on how to eat food like the peasants to save him from death. Denial of the power rituals by the holders of potential power to save their life is the main mockery (Compare with mockery # 7 where potential power-holders, i.e., the governors' runaway women) and a powerless subject under false authoritarian cover discover their class mores but instead of teaching their class customer to rescue her, reject her with her child charging her with fraud at the class position.

Comic interruption # 3 (mixing the tragic hero, the wicked fool, and the revolutionary good-hearted fool of comedy)

Azdak is both a wicked person - by forcing Shaura the guard to hand him over to the center for the charge of sheltering and fleeing the governor-general - and a fool for demanding to punish himself while no one is aware of his crime. Her singing on the unsuccessful uprising of carpet weavers in the presence of the killers of the carpet weavers is a sign of her stupidity, and of course his role as a narrator of the revolution that could be a hero of tragedy because she faces the risk of execution, but not because of her fearlessness but because of his mistake and failure to recognize the killers of the carpet weavers.

Comic interruption # 4 (power vs. power pretention)

The appointment of Azdak as a judge stems from the power of the people's freedom of choice due to the revolution. In this situation, Azdak is a good-hearted fool seating on the judge's throne and his nephew and ruler who are competing with him for the seat of judgment are defeated villain. The important point is the source of the power of each party. Azdak lacks personal class power and relies on the support of the people, and the governor despite his apparent hierarchical power surrenders to the public choice for fear of revolution. In this situation, the good-hearted fool wins by his class consciousness and the support of the people over a wicked person that is unable to exercise his power that is seized by its people. What makes a funny situation is the clash of the villain's authoritative conduct weakened by the people and a fool's ostensible power strengthened by the people. The fool's victory is temporary because the carpet weavers' revolution has not come to fruition and the source of power that has put it on the judgment throne is threatened by the former regime. The fool's judgment leads to a class orientation in favor of the subordinates who have always been convicted in this court due to being subordinates. In other words, he is a wicked person in the face of the members of the overthrown higher class and has no mercy on them, and they have acted foolishly by following the orders of a judge who lacks class legitimacy. This is the core of mockery; the power against the pretense of power.

Comic interruption # 5

The overlap of two unrelated trials and issuing a verdict based on the overlap itself is slapstick because it lacks the court's logic and represents a childish act. Even each trial has both irrational elements and both plaintiffs and appellants and the parties' arguments against each other. In this way, the illogical connection of the two irrational trials shows childish chaos, resembling doctor and engineer games played by kids.

The first trial: A doctor did a surgical operation on the wrong foot of the patient and cripples him. The doctor's father, who has paid his educational fees, had a heat stroke when he heard the news of the doctor's treating the patient for free. Both are complaining. The doctor at the defense says his servant has forgotten to take the treatment fee. So the act is not benevolence but forgetfulness.

The second trial: A landowner filed a lawsuit against a bully. The landowner raped his brother's daughter and was caught red-handed by the bully. So he was forced to pay money to the bully to keep him silent. The bully gave the money to his uncle to pay for his music training course.

Punishment
- The act of bullying has been proven.
- The crippled man must pay a fine for the sum of 1000 piesters.
- The doctor in the first trial should ampule the crippled man in the case of a second stroke.
- The crippled man is given a glass of French wine as compensation.
- The bully shall pay half the money paid by the crippled man to him for court fees and medical education.
- The doctor is acquitted because of his unforgivable mistake.

The fool is Azdak and the villains are the doctor and the landowner. Both the plaintiffs' claim and the court's decision for the defendants in two separate cases with the same plaintiffs are ridiculous. What is being criticized is the medical profession used as a business, the benevolent act of not receiving the treatment fee due to making a mistake, the adulterer's legal action against the person demanding the blackmail without himself being punished for adultery.

Again the wealthy people pay the compensations and the poor are benefited. Here too, the criterion is not a crime but class status. The subordinates are, however, the winners of the court of law and the judge considers the bribe as part of the payment, and it is the conversion of the bribe into official payment disclosure bribery that has been defamiliarized leading to a funny situation. This is the logic of mockery, but the reality is that under ordinary circumstances, members of the high social class always win. So the comic situation is just the inversion of a fact that it is irrational and seems to make sense by inverting it, but the logic of classes and law is so tarnished that its inversion results in a funny situation. This funny situation is also a comedy if viewed from the standpoint of class oppression because the chaotic acts have their own logic. This comic situation uses a profoundly anti-logic approach and attempts to show insensible class decisions. This comedy shows us how we habitually do not notice the oppression imposed senselessly on us by the people belonging to the high social class. If we turn the situation upside down, we will notice how senseless are the decisions taken by the capitalist court. This devastating confusion caused by this funny situation following comic rules in Groucho Marx's movies.

Comic interruption # 6 (*The punishment of the guesthouse keeper in Grusha part*)

The second part narrates the story of the escape of Grusha, who tries to disguise herself as a person of noble rank, hiding in a guesthouse with runaway women. Upon the women's awareness of her social rank, she is forced to run away with the help of the janitor who is of the same social class by giving him some food. As mentioned, the guesthouse is located in a valley that is the site of the kolaches' subsequent disputes, and Brecht shows that the timing of the play is in the future, and this asynchrony of the surreal veins is, at the same time, a sign of continuing ownership disputes. The old man is the owner of the valley and a greedy person plants trees.

The funny situation is formed based on the relationship between the guesthouse keepers' bride and the janitor who confesses having a sexual relationship with her. However, tempted by the bride's erotic body, Azdak orders the janitor's acquittal and condemns the bride for committing adultery. The bride is punished by giving her husband father's horse to Azdak. Again, a funny situation is developed with an upside-down logic. The true story is that the bride and the janitor had sex with their own free will, and the bride has been punished by the guesthouse keeper who wants to lay the blame on the janitor - which is condemned from being from a lower class. Azdak rules without any reasonable evidence and based on his instinct. His witness is the bride's dancing. This time, too, we see a trial that his based on the instincts and sentiment against forged documents and evidence of capitalism. Without being mentioned in the story and without any logic, Azdak had sex with Grusha, and this relationship is non-linear and free from any plot which disrupts the general logic of the Aristotelian plot.

Comic interruption # 7

In this comedy, the bandit becomes a holy person. This conversion is not the type of changing a bandit to a saint, but it is a kind of banditry and the distribution of plundered goods among the poor. The landlords' argument based on ownership is rational, and the old woman and the bandit's argument based on ownership is false and funny because the laws protect private ownership. Azdak's actions to bypass the lows to be protected by himself add more fun to the situation. He is trying to take advantage of his position as a judge to help people who are legally deprived, and thus is attempting to evade the laws as the executor. It is the paradox that produces laughter because the arguments are all against his position and duty. As such, it is a matter of infiltrating one class into another and abusing the situation, which is funny. All the signs of the bandit's attack lead to a

change of landlords' conduct and their affection. The swollen heads of the servants are a sign of their change of heart and their refusal to take rent from the old woman under the pressure of banditry turns them into benevolent landlords. The miracle is that the landlords have strayed from their class characteristics, the old woman has eaten meat, and that the saint is a bandit who used force against the upper class and violated ownership laws and wins the court's decision under the fake title of holiness and miracles. Azdak rejects the landlords' complaint by accusing them of refusing miracles and apostasy. These charges are often raised by owners against the poor, accusing them of being anti-religion for violating class laws. Here, a funny situation occurs by inverting the class elements, and at the same time, maintaining the corresponding logic because the two have always been together. This upside-down situation is reflected in the chorus: "The life is reversed. The uppers are upset, and the poor drown in joy".

Table 3 The funny situations in the two parts of the Caucasian chalk circle

Play parts		Grusha part: Aristotelian and tragic								Azdak part: Epic and instructional						
Mockeries		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7
Power	Members of high class: Owners of forceful power	*	*	*				*				*	*	*	*	*
	Members of low class: Powerless and reliant on incidents	*		*	*			*				*	*	*	*	*
	Members of high class: Owners of ineffective power / Members of low class: Owners of effective empty power	*				*	*			*	*	*	*	*	*	*
Senselessnes	Childish pleasure	*				*	*			*	*	*	*	*	*	*
	Proving the senselessness of all characters at the end	*	*	*	*	*	*	*	*	*	*	*	*	*		*
	Theft											*	*			*
Atrocity	Low-class people revenging high-class people	*		*			*			*	*	*	*	*	*	*
	Abstract and imaginary violence						*				*	*	*	*	*	*
	The victory of class people over high-class people									*	*	*	*	*	*	*
Mockery power (%)		67	22	44	22	44	44	33	11	56	67	89	100	100	78	100
Total mockery power (%)		36								84						
Types of mockery		Slapstick	Slapstick	Slapstick	Comedy	Comedy	Comedy	Comedy	Comedy	Comedy/ slapstick	Comedy/ slapstick	Comedy/ slapstick	Comedy/ slapstick	Comedy/ slapstick	Comedy/ slapstick	Comedy/ slapstick
Mockery power (%)	Slapstick	38								100						
	Comedy	62								100						

According to the results presented in Table 3:

1. The more comic parts in the play; their play will be more epic in terms of detachment and alienation.

2. The basic dialectic of understanding Brecht's works occurs between the two plays (one potential and one actual). It is the dialectic that occurs between the potential Aristotelian sentimental drama and the symbolic and deformed consciousness-raising Brechtian drama and turns into an informative tragedy-comedy in which laughter is part of the shocking results of consciousness rather than carelessness and ignoring the truth. For this reason, from Walter Benjamin's point of view, the shock is one of the main features of the epic theater.

3. Epic comedies reflect the absurdity of the present situation (Frankfurt comedy) or expose the legal and executive laws that give legitimacy to ownership and classes and show its inverse logic (Orthodox Marxism). It is a de-familiarization that reveals the truth of the existing situation (which is hidden under the burden of ideologies) to make us laugh at their weaknesses and absurdity.

4. Comic elements disrupt the tragic process and thus can be one of the disruptive elements of the plot, so the more comic elements the tragic plot and the catharsis will be hurt more severely, and thus there will be more room the narrative and epic comedy.

5. The characters and especially the hero of the epic comedy become alienated with their roles, so the more comedy elements are embedded in the hero, the more epic will be the play.

6. When the short stories inside the plot show more conflict with the tragedy (i.e., when they are more comic), they will interrupt the play more frequently detaching the audience from catharsis and emotional empathy, and open the room for further awareness and education.

7. Comedy in its structure would be dialectical with tragedy if the resulting synthesis is the audience's consciousness, not the propaganda and injection of the author's specific idea. So the stronger this dialectic is, the more instructive will be the play. In contrast, the weaker this dialectic is, the more promotional will be the play

8. The epic theater is extremely historical; constantly reminding the audience that they only receive a report of past events (Henderson, 1977: 12). The death or defeat of the tragic hero represents a mismatch of the character with an unhistorical and eternal fate, but the death or defeat of the epic hero reflects the hero's failure to conform to the current conditions of society and the weaknesses of society's current capabilities to win over fate, and so it is historic event that is oriented to the future. The comedy hero's triumph over fate is historical and temporal, but the author perpetuates it through non-historical endings. Therefore, comedy is an interruption in the victory of fate and represents the ultimate victory of the hero over fate, which is currently in the imagination and struggle. This interruption enhances the hero's energy and casts doubt on the legitimacy of fate, both contributing to the weakness of fate.

9. In tragedy, comedy is sedative, and in the epic, comedy plays a predictable role, yet representing the absurdity of the hegemony of fate in the present situation. Comedy type (standalone story, irony, lectures and short positions) increases the visibility of the epic nature of the drama. Comedy, on one hand, connects to the epic through the absurdity (of the current situation) and to the tragedy on the other. Brecht's comedies have a sweet covering and a bitter kernel.

10. Shock is the interface of comedy and epic. Therefore, the Aristotelian dram cannot contain comedy. Measuring the number of comic and epic shocks can be a sign of its anti-Aristotelian power.

11. One gesture, especially the actor's gesture, is readable only concerning the gesture of the other actor. Hence the importance of gesture theories (Benjamin, Brecht) is because they examine the ways in which social determinations and hierarchical relationships in apparent exchanges, relationships between body masses, differences in attitudes are engraved (Varney, 2007: 117). If comedy is the theater of the human body, a gesture is another factor that can be a comedy, not a tragedy. So the more frequent the gestures, the more epic elements are present in the drama.

12. The common point between slapstick and epic is the gesture and the common point between comedy and epic is the way they deal with tragedy. Besides, comedy and epic share the lack of the audience's identification with the tragedy.

13. Slapstick shows that the world is a world of fools, and man uses his little intelligence to make things worse. So this is a tragedy for humans and slapstick has tragic features. Because of the superiority of the logic of stupidity over the logic of benevolence, people in the epic theater are involved in a stupid situation because the system is stupid and people try to move from a stupid situation to a humane one, but they don't succeed. Therefore, it is both a slapstick and tragedy.

9. Conclusion

According to the results of this study, humor is one of the main components of the epic theater, and the greater the power of the chaplainic humor and satire, the drama is more successful in reversing the elements of the Aristotle and classical tragedy and is more expressive in creating informative interruptions. It was also shown that the type of satire including slapsticks or comedy is effective in the epic and dialectical power of the plays, and the more senses of humor resemble slapsticks, the theater is the more informative and allegorical.

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Rehabilitation and Evaluation of Chaharmahal and Bakhtiari Land Use to Centralized Tourism Attraction

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Abstract

Today, tourism as a large industry is a phenomenon highly motivated by economic, political, changes and has attractive developments in the region. Chaharmahal and Bakhtiari province has beautiful nature. With planning and investment in this area and proper utilization of this capability can improve the progress of the province. Therefore, in this study, an attempt has been made by using Dr. Makhdoom ecological model and GIS software to assess and rehabilitate the province in attracting centralized tourists and finally to identify the tourist hotspots in these areas for investment, so that in future to attract more tourism to the province. The results show that 20 hotspots among the tourist centers in the province have high capability and 5 hotspots are located on medium-level land.

1. Introduction

Based on the ancient and historical data, travelling and excursions dates back to human history and civilization, but the necessities of time and tourism expansion has brought a new knowledge and concept to the tourism industry and making it an effective tool for the service to world peace and friendship, the exchange of nations cultures, international understanding, economic, social and cultural development of countries and businesses, high income, etc. (Hashemi, 2009: 32).

In the present world tourism is a pure industry and third dynamic phenomenon, thriving and developing economic that has outpaced after the oil and automobile industries (Ghaffari, 2007: 55).

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Based on the World Tourism Organization estimates, the value of income achieved by tourism and travel in the coming decades will rise to higher level than that of world trade at a faster rate than other exported items in the economic sectors (Master Plan of Sabz Spring area, 2009: 70).

Today, Iran has considered the approach to achieve sustainable development, while the country is facing with more employment problems than ever before. On the other hand, the rising cost of oil has made the economy more relying on itself, and policymakers are seeking for solutions that are out of the way. It seems that tourism, as a complex system of large dimensions, is one of the solutions to this bottleneck. As the tourism industry develops, it will try to replace other non-sustainable sources of income by attracting tourism. Tourism development can prevent the country from being a one-product and contribute to economic development and sustainable development of the country. One of the most important approaches to achieve sustainable development is the society individual participation. But today, the pressure of living and psychological stress has reduced the uniformity and quality of life of individuals, these communities will not achieve sustainable development. It seems that in order to free oneself from tiredness of life, people need to have recreation (Ghafourian and Sadeghi, 2011: 12). One of these recreations is the presence of space with suitable amenities in the nature that causes relaxation for the individuals.

Chaharmahal and Bakhtiari province is located between Isfahan and Khuzestan provinces. Since these provinces are among the industrialized zones of the country, their inhabitants' lives are mostly based on industry and machine life, and this is increasing day by day. In addition, as per ecotourism this province does not have suitable potential, while the people of these provinces prefer to spend their leisure time in a natural environment in order to regain their energy and to gain intellectual peace. On the other hand, Chaharmahal and Bakhtiari province has unique nature in terms of its location and has rich water resources, natural condition, climate, vegetation cover, among which one is the Zardkouh highlands. Most months of the year is covered with snow and provide a suitable environment for winter sports, roaring springs such as Dime, lagoons and basins (Chaghakhor, Sulghan, etc.), wide plains like inverted tulip plain, pasture lands and forests along with diverse wildlife resources with over 294 species of 185 genera related to 90 families (Cultural Heritage Organization, 2009: 125). In this study, attempt has been made to identify areas that are suitable for tourism development and investment. Therefore, in the process of land evaluation and rehabilitation, Dr. Makhdoom's ecological model was used and with the help of GIS software the areas were identified and the tourist hotspots located in these areas were prioritized for investment.

2. Literature Review

The works done in this regard is the article by Daneshvar and Shibani. In the research they aimed to evaluate the ecotourism development of Kalat city, the research variables after hierarchical weighting in AHP, was overlaid in GIS to formulate a zone for ecotourism development in a two class zone. Then the ecological board capacity of the obtained zones and the tourist routes located in them were calculated in three forms of potential, real and effective. In another article by Atai and Hashemi-Nasab evaluated the tourism zoning of Isfahan province using PET index and GIS. To evaluate the climate they used 11 synomptic stations in the range of Isfahan province and using PET index from climatic parameters such as mean dry temperature, mean relative humidity, mean wind speed, mean vapor pressure and cloudiness over a period of fourteen year (1992-2005). To map the tourism climatic conditions of the province in GIS environment, the kriging method was used. Feng Morrison (2003) emphasizes on the application of GIS in tourism development and locating hospitals. Abdul Salam et al. (2000) in a study to protect mangrove sundarban forest resources and life of flora and fauna to develop nature tourism using geographic information

system, satellite imagery and information technology, have tried to use them as useful tools in preventing forest degradation. Gumusay et al. (2004) in their study entitled GIS design and its application in the tourism of Turkey's Ominono region concluded that the above system through the network analysis for saving time and financially could provide the shortest path for tourists to reach tourist destinations. Jamalzad et al. (2002) emphasize about the ecotourism potential along the rivers of Gilan province using native ecological model and studied the application of ecotourism potential in protected areas of Guilan. Molla'i (2004) has also mentioned the potentials and attractions of rural-nomadic tourism in the Talesh area.

One might argue that the first motivation to travel is his curiosity and adolescence. To get away from everyday life and seek for something that has never been seen before. This curiosity has infused in the various domains of human life like seeing, hearing and knowing, and has overshadowed all human ability to interact with its environment. It is curiosity and adolescence and the choice of journey to satisfy the sense that has historically evolved cultures and civilizations. However, traveling to different countries or mother land, besides gaining valuable experiences and acquainted with the customs and traditions and characteristics of the social and economic life of its people, a new attitude towards the world is created in individual. But this attitude is achieved only when one is traveling with prominent thoughts and not merely the superficial travel, recreation and entertainment (Josie et al., 2010: 34).

Tourism: In the Longman dictionary, tourism is defined as travel for leisure and entertainment, and in the dictionary and context tourism is defined as a journey in which the traveler arrives at a destination and then returns to his/her place of residence (Bamanian and Mahmoudinejad, 2010: 20).

According to the definition given by Dr. Makhdoum, tourism in Iran or world, in terms of required development to implement tourism in the environment the following category is necessary:

Extensive tourism: Includes those categories which do not require development or require little development, such as mountaineering, hunting, fishing, wilderness, horse riding and wildlife nature sightseeing (Makhdoum, 1995: 200).

What is needed in this study is to determine the suitable centralized tourism place for investment. In the centralized tourism model, three classes are considered. Class one (suitable quality), class two (medium quality) and class three (unsuitable). The class suitable areas for investment and to create the tourism hotspots are the first and second class and among these two the class one is most suitable. The features of the different classes are as follows:

2.1. Class One

- *Climate and weather*: The average temperature in summer and spring is 21-25°C. The number of sunny days per month is in spring and summer season which exceeds 15 days per month.
- *Water*: 40 to 150 liters/day/person
- *Suitable slope percentage*: 0 to 5%
- *Geographical direction*: summer it is eastern and winter it is southern
- *Soil texture*: loamy
- *Soil drainage conditions*: complete
- *Soil fertility*: medium to good
- *Soil structure*: Semi-evolved to evolved with medium-sized particles
- *Soil depth*: deep
- *Mother rock*: granite, sand dunes (in humid climate), basaltic flows, alluvial (offshore alluvium)

- *Tree density*: 40 to 80 percent
- *Species composition*: Mostly monocotyledons

2.2. Class Two

- *Climate and climate*: The average temperature in summer and spring is 21-30°C. The number of sunny days per month is in spring and summer season which exceeds 7 to 15 days per month.
- *Water*: 12 to 40 liters/day/person
- *Suitable slope percentage*: 5 to 15 percent
- *Geographical direction*: summer it is north and winter it is west
- *Soil texture*: sandy, sandy-loamy, clay, clay-loamy
- *Soil drainage conditions*: poor to moderate
- *Soil structure*: Semi-evolved with medium to coarse-grained aggregation
- *Soil depth*: medium to deep
- *Mother rock*: sandstone, limestone, cleft tuffs, inter-stellar flows, schist, capricious, floodplains, alluvial fan and valley alluviums.
- *Tree density*: 20 to 40 percent
- *Species composition*: monocotyledonous, dicotyledonous with approximately equal composition.

2.3. Unsuitable

- *Water*: Less than 5 liters/day/person
- *Slope percentage*: more than 15%
- *Geographical direction*: summer and spring (south and west) and winter (east and north)
- *Soil texture*: heavy clay and hydromorphic soils
- *Soil drainage conditions*: Incomplete
- *Soil fertility*: very poor
- *Soil structure*: Very fine particles
- *Soil depth*: low to high
- *Mother rock*: granite, sand dunes (in humid climate), basaltic flows, alluvial (offshore alluviums)
- *Tree density:* less than 20%
- *Species composition*: More percentages of two cotyledons with hardwood or thorny bushes, or slow rooting plants.

3. Research Methodology

In this study, the data used is obtained from the Planning and Management Organization of the province and according to Dr. Makhdoum's model and the definitions provide for leisure or tourism is common in Iran or the world, appropriate areas for investment in tourism field were identified. For assessment purpose the ecological potential of the environment for tourism, slope, rock and soil parameters, geographical direction, water, plant, climate and weather have been studied. The parameters mentioned in the model are not of same weights, the priority of parameter is based on importance of 1- Slope, 2- rock and soil, 3- Geographical direction, 4- Water, 5- Plant, 6- Climate and weather (Makhdoom, 1995: 121).
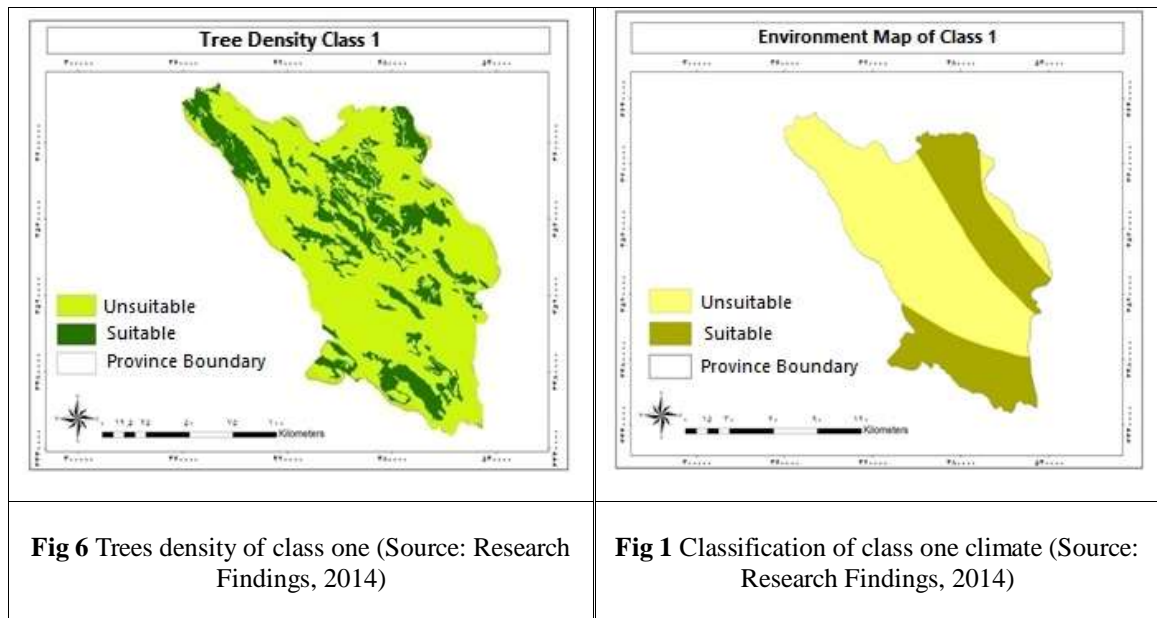
This means that if the slope of environmental unit was not suitable for tourism, it would refrain from comparing the other parameters, and basically the evaluation would be stopped. Also, if the
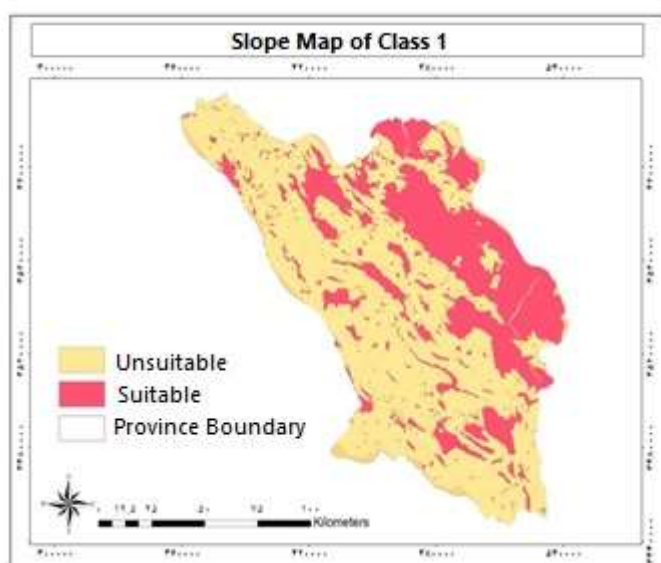
slope is suitable, and soil does not have the potential for tourism then the comparison of other parameters is avoided. The base of zoning and validation of the province for planning the tourism development is based on the first step of the mentioned model. However, limiting some of the required statistical information, such as the lack of accurate statistics from averages consumption of daily portable water or some soil maps of the province has resulted in elimination of some factors from the final evaluation. In a multi-factor evaluation with the help of available data and resources, the validation of tourism industry development has been carried out in the province. In this regard, the raster maps of these two classes have been prepared and then with overlaying of these maps the suitable area has been determined.

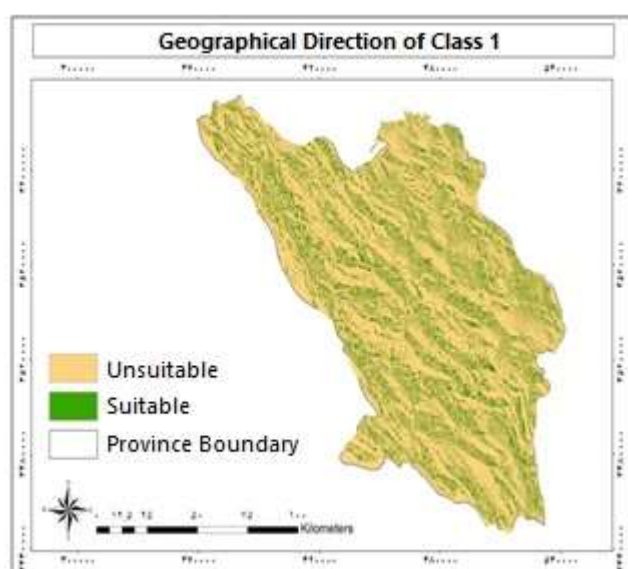## 4. Research Findings

Maps of these classes include the slope map, geographical direction, climate, tree density, soil depth, soil drainage conditions, which are separately drawn in the GIS software.

4.1. Ecological Model of Class One Tourism

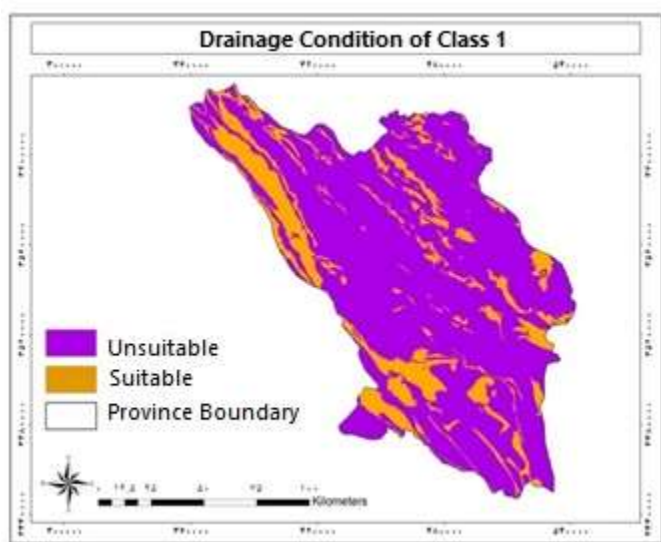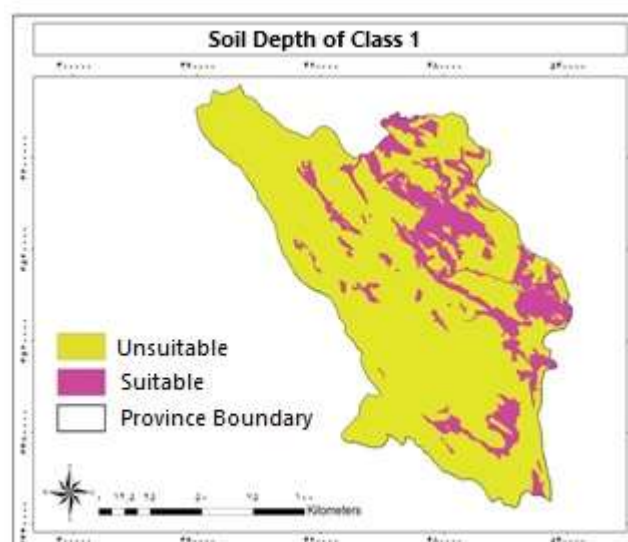| **Fig 6** Trees density of class one (Source: Research Findings, 2014) | **Fig 1** Classification of class one climate (Source: Research Findings, 2014) |

Fig 3 Suitable slope percentage of class one (Source: Research Findings, 2014)

Fig 2 Geographical direction of class one (Source: Research Findings, 2014)

Fig 5 Soil drainage conditions of class one (Source: Research Findings, 2014)

Fig 4 Soil depth of class one (Source: Research Findings, 2014)

4.2. Focused Ecological Model of Class Two

Fig 8 Suitable slope percentage of class two (Source: Research Findings, 2014)

Fig 7 Classification of class two climate (Source: Research Findings, 2014)

Fig 10 Soil drainage conditions of class two (Sources: Research Findings, 2014)

Fig 9 Geographical direction of class two (Source: Research Findings, 2014)

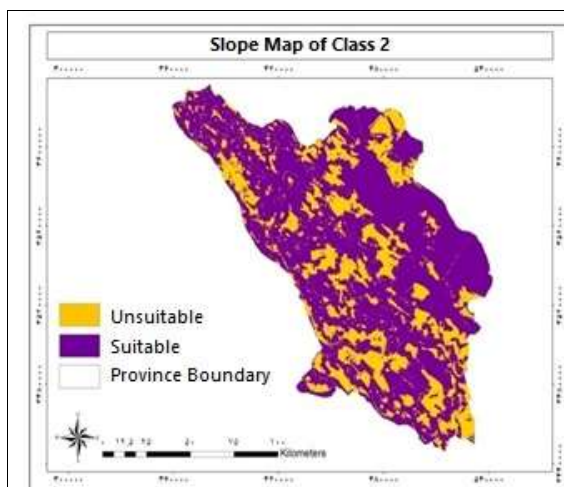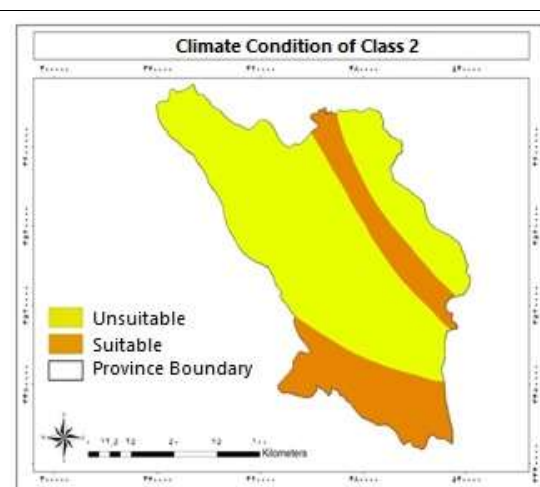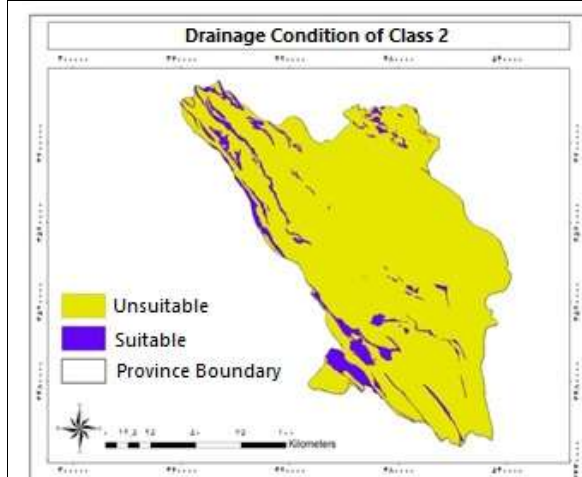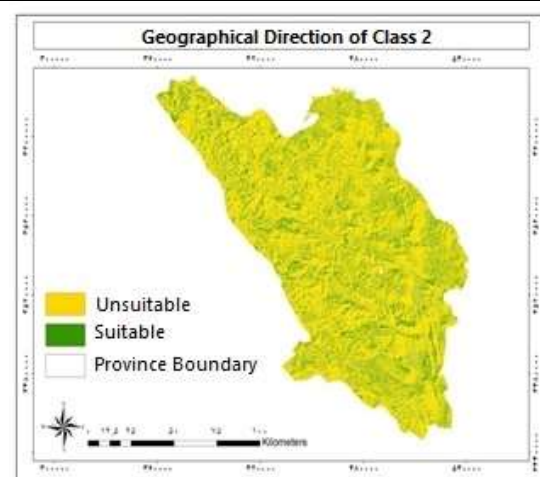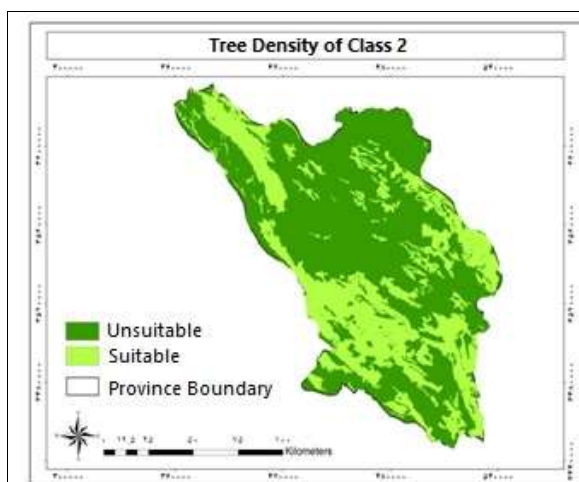| **Fig 12** Trees density of class two Source: Research findings, 2014) | **Fig 11** Soil depth of class two (Sources: Research Findings, 2014) |
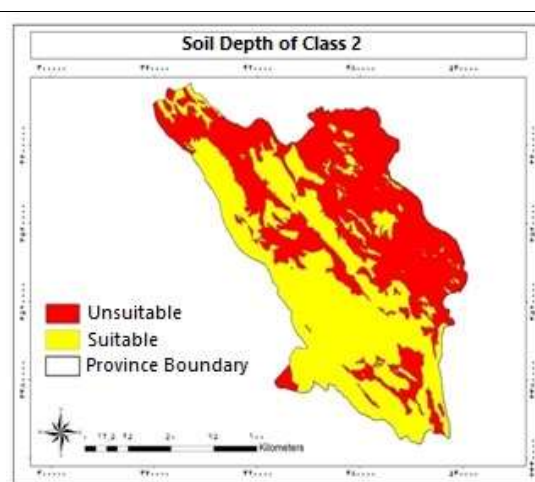
4.3. Distribution of Concentrated Tourism Zones of Class One and Two

At this stage, by overlaying of slope maps, vegetation cover, topography and field type we have obtained the final map for both ecological classes. According to the studies carried out in the process of ecological land validation of the province for the development of centralized tourism industry in order to create and develop new tourism sites and centers has been the investment as the first priority. Hence based on this, the second priority is the hotspots and zones of the class two or zones which have the moderate ecological potential. Thereafter, the last priority is the hotspots and tourism destinations located in class three or unsuitable lands. By adapting the tourist centers map of the province with the distribution map of centralized tourism zones of class one, we have achieved the hotspots that has the priority of investment. Among these, 16 hotspots with high suitability and 5 hotspots with moderate suitability and the rest are unsuitable land.
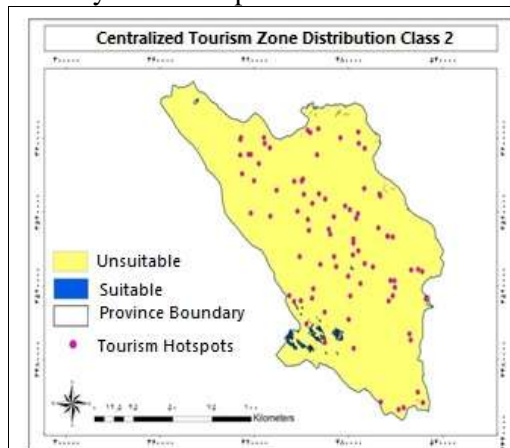
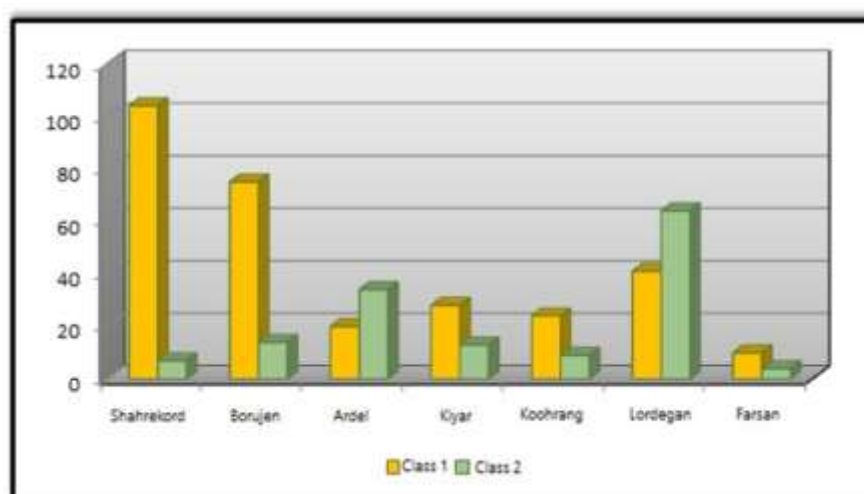| **Fig 14** Distribution of Centralized Tourism Zones (Class two) (Source: Research Findings, 2014) | **Fig 13** Distribution of Centralized Tourism Zones (Class one) (Source: Research Findings, 2014) |
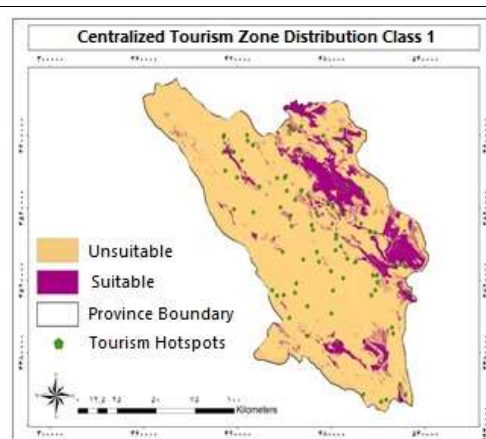
5. Conclusions and Suggestions

In general, since the use of indoor and outdoor tourism is pursued by tourists, followed by local and foreign tourist, therefore, assessing the suitable location for those tourists who travel in the indoor environment is subject to the ecological model of urban development. In other words, the criterion for selecting locations for indoor environments is related to indoor entertainment which is same as the ecological model of urban development. In outdoor environments, the tourists are entertained by numerous entertainment, all of which are referred to as leisure or sightseeing.

Recreation or tourism in terms of the amount of development required to implement tourism in the environment is divided into two groups: centralized tourism and extensive tourism. The centralized tourism is the purpose of this study. Therefore, by identifying the limitation of the class in this group according to Dr. Makhdoom's ecological model, the suitable zones were determined and by integrating the tourism centers map with the tourism lands map, the hotspots of first priority for investment were identified. Identifying these hotspots and prioritizing them in future tourism planning will ensure that the hotspots are environmentally suitable for human comfort. Thus would attract more people and increase the prosperity of tourism. The land areas of class one and two suitable for tourism development are shown in Table 1.

Table 1 Territory area validation of the province in centralized tourism development

No	City name	Land use type 1 (Suitability)					Land use type 2 (Average suitability)				
		Amount of land	Total area (Hec)	Average area (Hec)	Smallest land area (Hec)	Largest land area (Hec)	Amount of land	Total area (m2)	Average area (m2)	Smallest land area (m2)	Largest land area (m2)
1	Shahrekord	104	166	1.6	10.9	2.6	7	3316	473	282	792
2	Borujen	75	81.5	10.8	41 m2	5.5	14	4107	293	109	1678
3	Ardel	20	154	7.7	345 m2	13.9	34	9644	283	137	401
4	Kiyar	28	11.2	4000 m2	263 m2	7948	13	8763	674	18	1772
5	Koohrang	24	129	5.4	330 m2	13.9	9	4.3	244	85	401
6	Lordegan	41	7.6	1867 m2	77 m2	9015	64	1808	282	198	401
7	Farsan	10	18.2	1.8	842 m2	13.96	4	1108	277	254	345

Graph 1 Number of hotspots and tourism zones validated in Mokhaz city (Source: Research findings, 2014)

As can be seen, the area of class one is larger than the class two and this area is towards the eastern part of the province and in the cities of Shahrekord and Borujen. The most suitable hotspots for investment are class one zones which is about 20 hotspots, 5 hotspots in areas with medium suitability and the rest in unsuitable areas. Table 2, shows these hotspots in differentiate location in zone with suitable and moderate suitability.

Table 2 Distribution of tourism hotspots in centralized tourism zones (Source: Research Findings, 2014)

No	City name	Hotspots in class one area (Suitable)	Hotspots in class two area (Moderate suitability)
1	Shahrekord	Zamankhan bridge, Farokhshahr Swimming park, Baba Pir Ahmad Imamzadeh, Azizollah Kiyan Imamzadeh, Seyed Mohammad Imamzadeh, Zeneh spring, Shamsabad castle, Sking Bardeh, Tange Sayad protected zone, Sheyda protected zone	
2	Borujen	Siyah Sard spring, Ghays Imamzadeh	Ghays Imamzadeh
3	Ardel		Shelil caravanserai
4	Kiyar	Shazdeh Abdollah Imamzadeh, Surok castle	
5	Koohrang	Koohrang Sking, Koohrang waterfall	Sandegan spring, Shahsavar Imamzadeh
6	Lordegan	Barm spring	Chartagh wild forest
7	Farsan	Seyed Saeed Imamzadeh, Sardar Asad castle, castle spring	

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Planning for the Revival of Urban Entrances Using the Seaside Identity Recognition Approach (Case Study: East Entrance of Bandar Abbas City)

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Abstract

The purpose of this study was to plan the revitalization of urban entrances by identifying the identity of coastal cities at the eastern entrance of Bandar Abbas. The research method was descriptive-analytical and was of survey type and in terms of purpose. The statistical population of this study consisted of 20 experts, experts and experts in urban management and urban planning. In this study, stratified random sampling method was used. A researcher-made questionnaire designed for gathering data consisted of 26 questions covering the dimensions of environmental-ecological identity, spatial physical identity, socio-cultural identity, economic identity, historical identity that was considered. The data were analyzed by SPSS 23 software and used to prioritize the factors considered by AHP analysis and Expert choice software. The results of this study showed that according to the mean of variables which is above the theoretical average, it can be said from the viewpoint of respondents that the city's identity factors (economic indicators, historical indicators, physical-spatial, socio-cultural and environmental-ecological) can be in Bandar Abbas. The eastern entrance planning of Bandar Abbas is impressive. Also, the ranking of city identity factors is as follows: historical identity with relative weight (0.402) in the first place, physical-spatial identity factors (0.224) in the second place and economic identity factor with relative weight (0.151) in Third is the importance.

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1. Introduction

Beaches are one of the most active population areas of the country in which social interactions and public relations create a communicative identity, which is reinforced by the inter-border and out-of-town communications of the southern and northern coasts of the country. In the course of the relations between Iran and the neighboring countries of the North and South, new economic, commercial, cultural, social, and other events occur that will introduce Iran's culture and civilization to the neighboring countries on the one hand, and impose a threat on the other. The anomalies of Western civilization will follow inside the country. Commercial activities are also common in all types of legal and illegal activities along the country's border. Regularly guiding the entry and exit of goods across seas will bring about economic prosperity, employment, the growth of the export and import industry, and the creation of other small industries. But sometimes these opportunities, if not properly exploited, can become enormous threats and cause irreparable damage to the country. Accurate understanding of the different dimensions of identity and the role of beaches on one hand will clarify the impact of socio-cultural factors and on the other hand it will be a control on beach performance (Pakzad, 2014).

In this regard, the entrance to cities is one of the most important elementary spaces, which by connecting the external environment and the main structure of the city, redefines the identity and memory of that city (Urosevic, 2012). Unfortunately, these spaces in many cities of Iran have been plagued by many disruptions that have practically degenerated. This has led to the lack of proper definition of the identity and entrance features of cities, so that the task of this space is obscured. In these conditions, the entrance space on the border between the interior and exterior areas has a lot of visual disturbance, functional as well as green space and furniture. Whereas in the past, towers and gates have been a definable boundary between the city and the outside environment, today they seek to increase the speed of vehicles as well as increase in population, variety of uses and different needs of residents and entrants to the city. The entrance of cities cannot be seen as before. Rather, it should be examined as a complete corridor and space with different domains and social transitional features (Pakzad, 2014).

The rapid changes in the early years of the twentieth century surprised many nations, and societies faced new needs without the opportunity to identify and analyze new phenomena and to understand its consequences. Cities expanded in a subtle way, and the concept of entering in the emerging cities remained unknown. The texture of the city's entrances was built with ugly building figurines that were only the product of a functional need, and the concept of openness and changeability of the city was embodied in the most flawed way, giving the city subtle edges that nowhere did it make the difference to enter the new environment (Miles, 2007). The disruption of the hierarchy in the physical system of the city has caused the entrance of the city, which is one of the rings of this territory, to become obscure and anonymous, and indeed to lose its place as an important element in defining the city and connecting the city to the periphery (Dougherty, 2006).

In the past, city entrances through the gates were well defined. This space, in addition to the communication role that connected the city to the outside, was a place for business, a space for attraction and welcoming. Gradually, with the emergence of automobiles, this space lost its structure and identity. Nowadays the entrance of cities has many problems and weaknesses. In face with these problems, identity issues is one of the most important issues and challenges the developing societies faces, during the process of globalization. Perhaps the first step in understanding the complex concept, especially identity, is to research it in terms of terminology that does not represent the entrance of a particular city with its recognizable characteristics. Describing

the status of the current entrances, Pakzad said: "The only thing that alerts the driver and the passenger approaching the city is a sign announcing the start of the city and most of the time, immediately after this sign, is the narrow road. The city is widening and stretching down the boulevard. In the legal framework of the city, one suddenly is confronted with large, out-of-scale squares. The field, rather than functionally and visually, is at its most optimistic intersection between the former entrance and exit route and the new Ahmadas Belt (Pakzad, 2011).

From an identity point of view, the inbound source has been transformed into a disassembled, non-identifiable, confused space (Carmona and Steve, 2011), despite its functional, physical and aesthetic importance. The entrance of a city is always referred to as the city's entrance and it is expected that its design and planning will be tailored to the region and climatic conditions. The entrances to each city play an important part in giving value to the city, giving travelers their first glimpse. Entries play an inviting role in hosting guests (Ghadami et al., 2011).

Hormozgan province, being located in the south of Iran and adjacent to the roads of other southern provinces and also with unique economic, tourism and agricultural features, is a passage route for many individuals and groups with different socio-economic desires and different travel goals. Therefore, predicting spaces with urban landscape and identity, especially urban design of entry-level spaces to urban spaces, as well as proper linkage between them in order to establish a hierarchical system in the physical organization of cities, allows each texture to connect adjacent texture in a principled and auxiliary manner. As a result, the forces resulting from this transition (from one situation to another) are dissolved and absorbed in these spaces. The entrance craters of the cities have been such that it maintains a good connection between the city and the countryside (Ghadami et al., 2011).

Meanwhile, Bandar Abbas city, with several hundred years of history in architecture and urban design with identity, as well as one of the coastal cities and economic capital of Iran, unfortunately has no defined and efficient entrance. The entrances are by no means appropriate; the city entrances are expected to be coherent and planned, as well as reflecting the characteristics of the city's identity and the culture of its inhabitants. Bandar Abbas has three main entrances (east, west and north) and its entrances fail to meet the expectations of many challenges including spontaneous and non-programmatic, non-aesthetic, stagnation. Acceptance and legibility are left to themselves and citizens and travelers feel uneasy about it. The importance of identity at the entrance of cities is so that each entrance with its own symbols and characteristics and the factors that are specific to that city can influence the sense of belonging and identity of the newcomers to the city. Accordingly, during the rapid physical development of Bandar Abbas city, which is taking place widely, the outskirts of the city are not far from the main context of the city in the foreseeable future, which lacks the visual and physical quality at the entrance to the city, lack of amenities in the center, environmental pollution and the deployment of intrusive landmarks around the route, addresses the issue. The entrance to the city is essential in terms of identity, function and form. In this regard, the main question of the research is an attempt to plan and revitalize the eastern entrance of Bandar Abbas city by identifying the identity of coastal cities. In line with this research, Bagheri and Mansouri (1979) have shown that the entrance is a gateway to the perception of the urban landscape and an element to create an independent identity for the urban landscape. Input perception needs to pay attention to the semantic dimension of being alongside the physical dimension. The index of the city entrance, apart from its physical identity, lies more in its semantic identity because the city entrance has no independent identity, but the entrance as an element to create an independent identity for the urban landscape. In this definition, the input is not articulated because the articulation of an independent identity is independent of the inside and outside but the input of the

independent identity is not a combination of identities. Research by Cleveland et al. (2016) seeks to answer the following questions: What is the place of perceptual and functional approaches in inputs in the evolution of urban theories and what are its principles and requirements and how is it functioning? Studying the challenges after implementation the theories of urban planning, it can be concluded that the social dimensions of human life in urban spaces have been less emphasized in urban science theories, especially in the first half of the twentieth century. Consideration to social issues and attitudes to public will and demand have been more seriously incorporated in urban theories since the second half of the twentieth century, and in the mid-century, this approach was taken seriously in urban theories. The results of Vermizyar (1395) also showed that the entrance axes of cities with respect to the principles and criteria affecting the design of the entrance bases, can be transformed into index entry axes and proportional to the identity of the city. Because the observer's movement, the observer's pedestrian or cavalry, the observer's citizenship or travel, etc., have an effect on enhancing people's understanding of identity spaces. Justice (2016) showed that identity is about place characters which convey people something about the physical and social environment. It is what a place has when it is partially owned, not elsewhere. Identity is shaped by the natural environment and the reactions of individuals where they reside, and their interdependencies change. Erzewik (2012) conducted a study on "Cultural Identity and Cultural - Local and World Tourism Case Study Polo, Croatia". The results show that the key elements are destination identity, heritage tourism, creative industries, multiculturalism and local lifestyle. Carmona and Steve (2011) in their research showed that the gate of a place is primarily a gateway that allows for the presence of that environment and allows for later movement. As we enter a space, we usually quickly evaluate the symbol of the city's entrance based on the physical components of its design possibilities, options, and attractions, and thus decide on our next move to that location. Thus, perceptually, this entry reflects the inner characteristics of space and the characteristics of its inhabitants.

2. Research Method

This research is a descriptive-analytical and a survey-based research in terms of purpose. In this study, library identification studies (referring to written documents such as books, magazines, etc.) were used to identify the identity factors of Bandar Abbas. At the same time identifying the dimensions and indicators of each variable, expert interviews were conducted with relevant experts (including professors and professionals). Initial interviews were mainly semi-structured interviews. In such interviews, the interviewer obtains different facts from the interviewee during the interview.

The statistical population of this study consisted of 20 experts and professionals in urban planning and management who were asked to complete the questionnaire that seeks the east entrance of Bandar Abbas with the help of urban identity approach.

The questionnaire is devoted to reviewing and ranking each of the following criteria with respect to the criteria (identifying factors in Bandar Abbas). The scoring method is the study of points given based on the importance (priority) of each criterion over the other criterion according to the following Table 1, from 1 to 9 preference numbers. Paired numbers have intermediate value over two side values. In fact, the hierarchical analysis method is done in four main steps
  • Step One: Developing a Hierarchical Tree
  • Step Two: Calculate the weight of the main factors (level one)
  • Step Three: Calculate the weight of level two elements (local weights)
 • Step Four: Final weight of the elements

Table 1 Priority of options in the Hierarchical Analysis Method

Type of importance	Equal importance		Little more important		More important		Very important		Important
Value	1	2	3	4	5	6	7	8	9

In this study, hierarchical multivariate decision making method and Expert Choice 11 software was used to analyze the data.

3. Study Area

Hormozgan province, due to its strategic location in the country and located along the northern-southern corridor and along the Strait of Hormuz as one of the most sensitive and vital crossings in the country, today the Persian Gulf and the Oman Sea serve as the Middle East link. It is Arab and non-Arab and enjoys the 14 small and large islands with their political and security distribution and their prominent role in the Persian Gulf, especially the strategic Strait of Hormuz, due to the expansion of information and communication space at the regional level and the presence of foreign agents. Enemies in the Persian Gulf add to its importance. Bandar Abbas city is located along the seaside. It is bounded on the north by Haji Abad, on the east by Minab, on the west by Bandar Khimr, and Persian Gulf to the south. The city of Bandar Abbas, with an approximate area of 404 square kilometers and a population of 680366 is located to the southernmost part of the country. The location is shown in Fig 1.
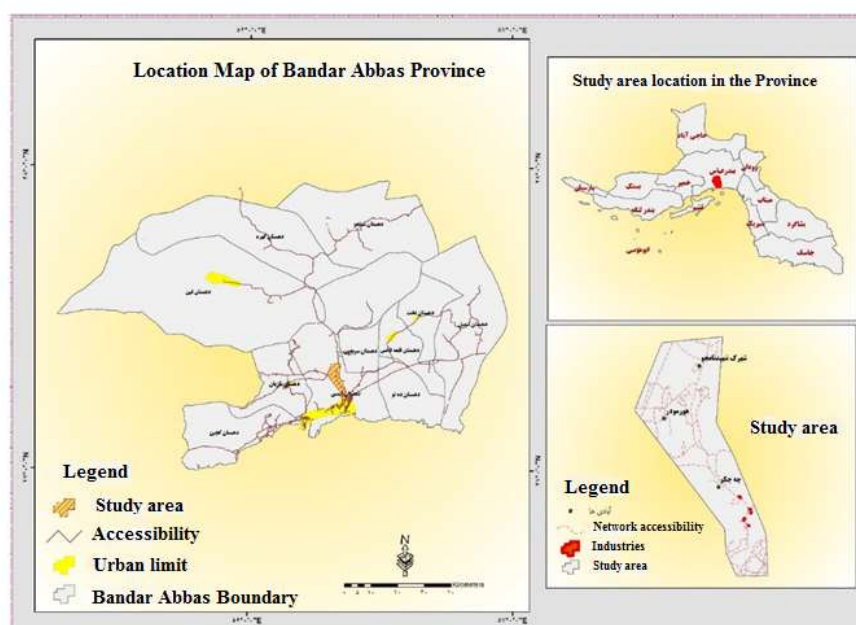
Fig 1 Location of Bandar Abbas City (Statistical Yearbook of Bandar Abbas Program Budget Office, 2019)

3.1. East Entrance of Bandar Abbas

The east entrance of Bandar Abbas has been formed with three functions: 1- defense and security, 2- economic, 3- cultural and social and as the third entrance to this city. Most of the corridors at the entrance to the city, formed from maladaptive uses, including abandoned shops, warehouses and buildings, which do not have proper environmental and physical conditions, which

renders an inappropriate city's image and identity with a negative impact on residents and tourists. The Fig 2 depicts the aerial image of the eastern entrance to the city of Bandar Abbas.

Fig 2 Aerial image of the eastern entrance of Bandar Abbas

4. Findings

4.1. Ranking the Identified Factors in Bandar Abbas City

The calculated results in Table 2 indicate the weight of the main barriers: historical identity with relative weight (0.402) in the first place, physical-spatial identity factors (0.241) in the second place and economic identity factor with relative weight (0.151) ranks third.

Table 2 Integrated matrix (geometric) pairwise comparisons of level one (major barriers)

Factor	1	2	3	4	5	Weight	Rank
1. Historical identity	1	5.14	8.11	6.40	8.32	0.402	1
2. Economic identity		1	2.88	1.93	6.26	0.151	3
3. Socio-cultural identity			1	3.15	2.15	0.105	4
4. Environmental-Ecological Identity				1	2.66	0.101	5
5. Physical-spatial identity					1	0.241	2
Inconsistency rate (acceptable values: < 0.1)	0.073						
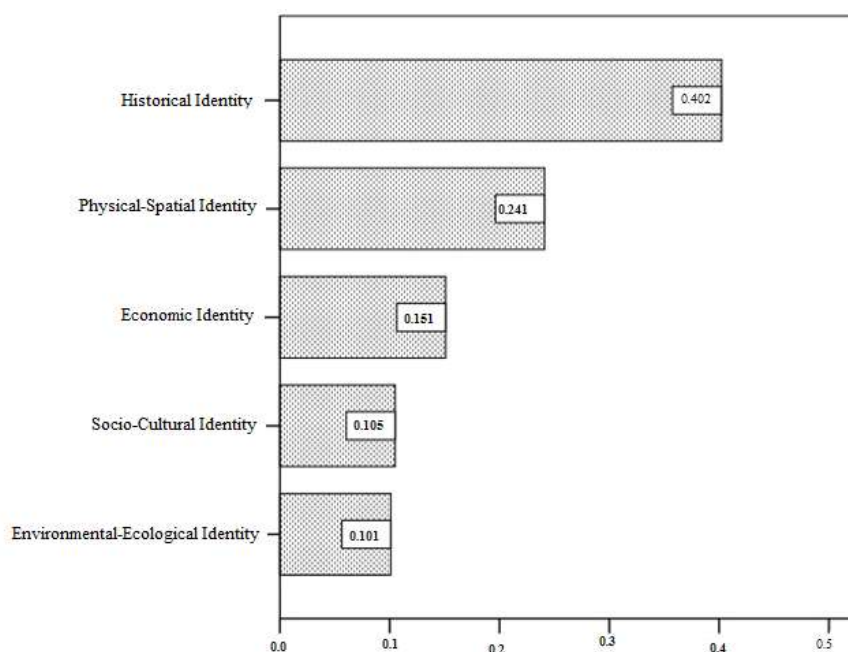
Fig 3 Ranking the identified factors in Bandar Abbas city

5. Calculate the Weight of Level Two Elements (Local Weight)

The step is to calculate the weight of the sub-factors of Bandar Abbas in each subgroup. The results are as follows:

5.1. Historical Identity Rating

The results of the analysis in Table 3 show that among the historical identities, the factor of preserving the old index points along the route in order to form a subjective image of the city is in the first place and the use of symbols commensurate with the history of the city is of second importance.

Table 3 Integrated (geometric) matrix comparisons of historical identity

Factor	1	2	Weight	Rank
1. Preserving old landmarks along the route to form a city-wide mental image	1	1.53	0.525	1
2. Use symbols appropriate to the history of the city		1	0.475	2
Inconsistency rate (acceptable values: < 0.1)	0.00			
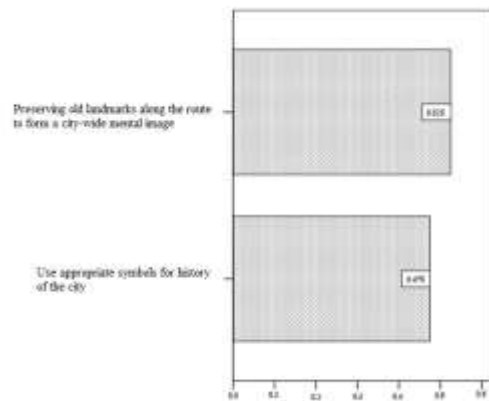
Fig 4 Historical identity ratings

5.2. Economic Identity Rating

The results of the analysis in Table 4 show that among economic identity, land use factor according to the criteria of compatibility, proximity and desirability in the first place, the placement of places for second-hand sellers, and the factor of increasing economic productivity by enhancing opportunities and applications and capabilities. Leisure is the third most important area of the entrance.

Table 4 Integrated (geometric) matrix comparisons of economic identity pairs

| Factor	1	2	3	4	Weight	Rank
1. Providing locations for sellers to attend	1	4.19	3.67	2.85	0.274	2
2. Providing locations for selling local products and establishing weekly, seasonal markets.		1	3.14	6.31	0.067	4
3. Increase economic productivity by enhancing the opportunities and leisure opportunities and capabilities of the entrance space			1	5.15	0.103	3
4. Organization of Uses according to the Criteria of Compatibility, Proximity and Utility				1	0.556	1
Inconsistency rate (acceptable values: < 0.1)	0.030					
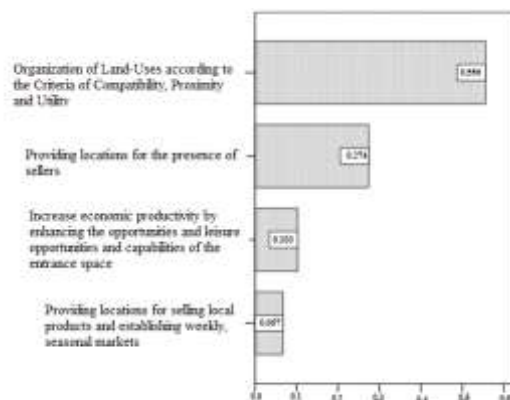
Fig 5 Economic identity rating

5.3. Socio-Cultural Identity Rating

The results of the analysis in Table 5 show that among the factors of socio-cultural identity, the factor of creating security in the first place, the factor of informal settlements in the second place and the factor of social anomalies (poverty, crime and addiction) are in the third place.

Table 5 Integrated (geometric) matrix comparisons of socio-cultural identity factor pairs

Factor	1	2	3	Weight	Rank
1. Informal settlement	1	3.01	4.41	0.311	2
2. Social anomalies (poverty, crime, and addiction)		1	7.96	0.145	3
3. Create security			1	0.544	1
Inconsistency rate (acceptable values: < 0.1)	0.064				
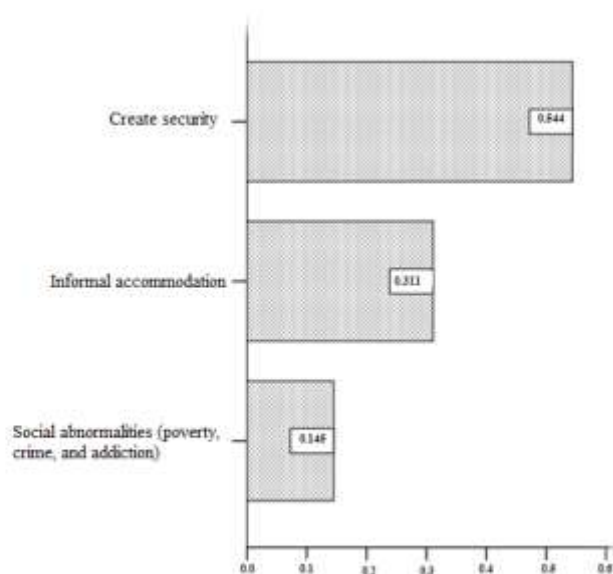
Fig 6 Ranking of socio-cultural identity factors

5.4. Environmental-Ecological Identity Rating

The results of the analysis in Table 6 show that among environmental-ecological identities, the pollutant land use is at the first place, the use of indigenous materials in construction is the second, and the dense vegetation cover is the third most important.

Table 6 Integrated (Geometric) Matrix Comparisons of Environmental-Ecological Identity

Factor	1	2	3	4	5	6	7	8	Weight	Rank
1. Use of native materials in construction	1	6.10	3.32	4.22	3.99	2.80	3.23	2.45	0.214	2
2. Adaptation of construction with region Climate		1	8.48	3.30	6.38	6.87	4.23	4.32	0.022	7
3. Locating polluting			1	8.39	6.43	2.90	8.58	2.25	0.407	1

uses at the entrance to the city									
4. Using native vegetation of the area in the design of the city entrance			1	4.71	6.50	1.37	5.32	0.037	6
5. Planting dense vegetation on both sides				1	3.48	3.86	4.21	0.112	3
6. Creating hard and fast bands for quick and easy travel and easy access					1	4.81	3.23	0.103	4
7. Prevent the destruction of habitat on the outskirts of cities						1	5.12	0.084	5
8. Low environmental quality and the existence of some uses such as car repairs							1	0.021	8
Inconsistency rate (acceptable values: < 0.1)	0.058								
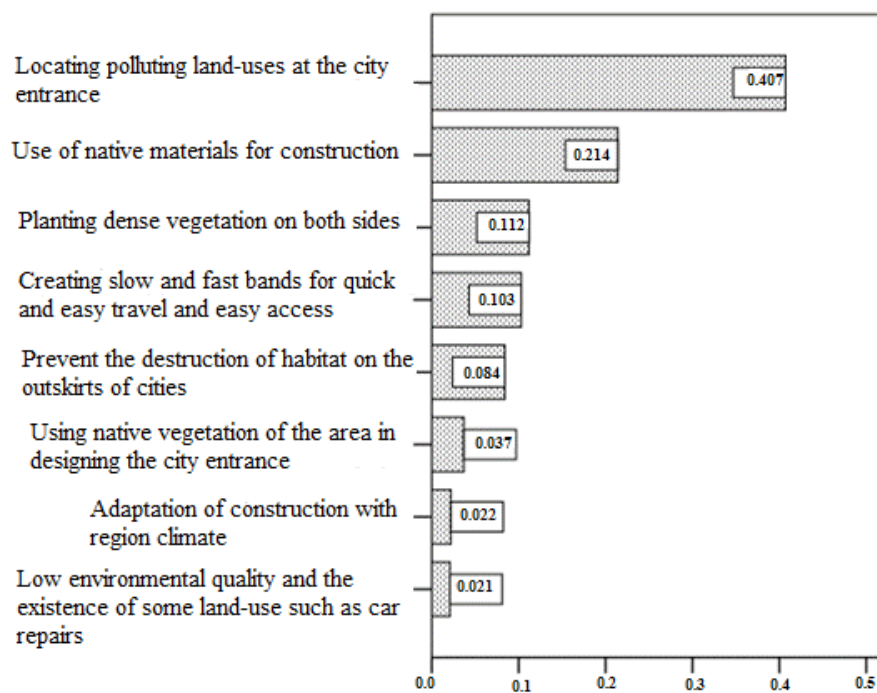
Fig 7 Ranking of environmental-ecological identity factors
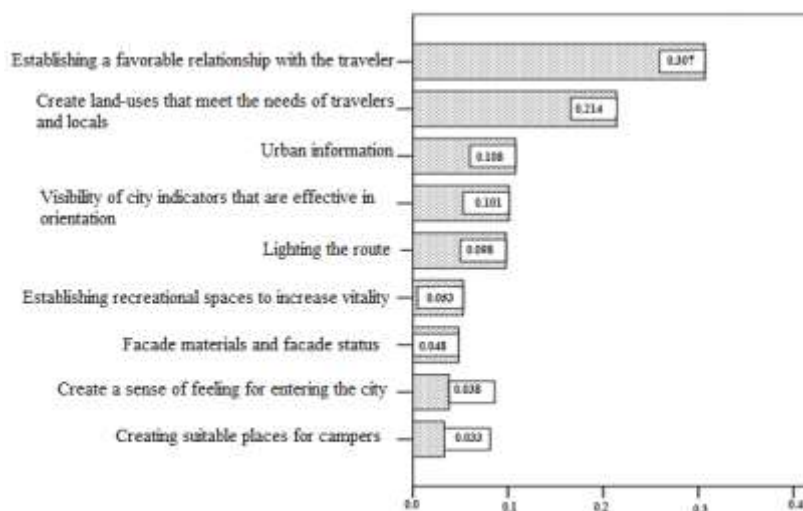
5.5. Physical-Spatial Identity Rating

The results of the analysis in Table 7 show that among the physical-spatial identities, the factor creating a favorable and appropriate relationship with the passenger in the first place, the factor creating the users that meet the needs of the passengers and the locals in the second place and the urban information factor in the third place.

Table 7 Integrated (Geometric) Matrix Comparisons of Physical-Spatial Identity Pairs

Factor	1	2	3	4	5	6	7	8	9	Weight	Rank
1. Create land-use that meets the needs of travelers and locals.	1	6.10	3.32	4.22	3.99	2.80	3.23	3.12	3.14	0.214	2
2. Create suitable places for camping travelers.		1	8.48	3.30	6.38	6.87	4.23	4.21	2.15	0.033	9
3. Establishing favorable relationship with the traveler			1	8.39	6.43	2.90	8.58	5.17	3.42	0.307	1
4. Create a sense of entering the city				1	4.71	6.50	1.37	2.23	5.23	0.038	8
5. Lighting the route					1	3.48	3.86	2.14	3.14	0.098	5
6. Urban information						1	4.81	2.17	2.16	0.108	3
7. Facade materials and facade status							1	3.12	3.42	0.048	7
8. Visibility of city indicators that are effective in orientation								1	4.16	0.101	4
9. Establishing recreational spaces to increase vitality.									1	0.053	6
Inconsistency rate (acceptable values: < 0.1)	0.078										

Fig 8 Physical-spatial identity ratings

6. Final Weight of the Elements

The final weight of the elements of each group is equal to the product of the local weight of the elements in the weight of their group (principal factors) and the final rank of each of the identifying factors of Bandar Abbas city is shown in Table 8.

The results show that among the factors studied, the factor of preserving the old index points along the route in order to form a subjective image of the city in the first place, the use of symbols commensurate with the history of the city in the second place, the factor of informal settlements in the third place The fourth most important factor is the establishment of suitable camping sites for travelers and the fifth most important is the dense vegetation cover on both sides.

Table 8 Integrated matrix (geometric) final pairwise comparisons

Main factor	Weight main factor	Sub-factor	Weighing sub-factor	Final weight	Rank
Historical identity	0.402	Preserving old landmarks along the route to form a city-wide mental image	0.525	0.211	1
		Use symbols appropriate to the history of the city	0.475	0.191	2
Economic identity	0.151	Providing locations for retailers.	0.274	0.041	6
		Providing locations for local produce sales and establishing weekly, seasonal markets	0.067	0.010	20
		Increase economic productivity by enhancing the opportunities and leisure opportunities and capabilities of the entrance space	0.103	0.016	9
		Arrangement of land uses according to criteria of compatibility, proximity and utility	0.556	0.084	18
Socio-cultural identity	0.105	Informal accommodation	0.311	0.033	3
		Existence of social anomalies (poverty, crime and addiction)	0.145	0.015	12
		Provide security	0.544	0.057	7
Environmental identity-Ecological	0.101	Use of native materials in construction.	0.214	0.022	23
		Adaptation of builders to the climate of the region.	0.022	0.002	22
		Location of pollutants at city entrance	0.407	0.041	25
		Using native vegetation of the area in the design of the city entrance	0.037	0.004	10
		Planting dense vegetation on both sides	0.112	0.011	5
		Creating hard and fast bands for quick and easy travel and easy access	0.103	0.010	8
		Preventing habitat on the outskirts of cities	0.084	0.008	26
		Low environmental quality and some uses such as car repairs	0.021	0.002	24
Physical-spatial identity	0.241	Create land-use that meets the needs of travelers and locals.	0.214	0.052	14
		Creating the right places for campers	0.033	0.008	4
		Creating a favorable relationship with the traveler	0.307	0.074	15
		Making sense of entering the city	0.038	0.009	21

		Path lighting	0.098	0.024	16
		Urban information	0.108	0.026	19
		Facade materials and facade status	0.048	0.012	13
		Visibility of city landmarks that are effective in orientation	0.101	0.024	11
		Establishment of recreational spaces to increase vitality	0.053	0.013	17
Inconsistency rate (acceptable values: < 0.1)			0.090		

7. Discussion

The results show that according to the mean variables which are above the theoretical average, it can be said from the viewpoint of the respondents that the identity factors of Bandar Abbas can be effective in planning the eastern entrance of Bandar Abbas.

In explaining these results, it can be said that the most important factor that has led development and development projects to achieve their primary goals despite the high costs and time consumed is the disregard for the realities of urban contexts and urban society. It is clear that one cannot simply think of urban development as one of the most important landscapes of urban identity, namely the entrance to the city, by simply modeling on non-native ideas formed in completely different socio-economic and historical-political conditions than the Iranian. In this regard, Bagheri and Mansouri (1979) showed in their research that the index of city entrance, regardless of its physical character, lies more in its semantic character because the city entrance has no independent identity, but the entrance as an element to create an independent identity for the urban landscape, the present-day landscape of the city, which has a modern-day expression of the city. In this definition, the input is not articulated because the articulation of an independent identity is independent of the inside and outside but the input of the independent identity is not a combination of identities. Also, the research of Kolivand et al. (2016) showed that urban planning theories can be concluded as the social dimensions of human life in urban spaces in urban science theories, especially in the first half of the twentieth century. Attention to social issues and attitudes to public will and demand have been more seriously incorporated in urban theories since the second half of the twentieth century, and in the mid-century, this approach was taken seriously in urban theories.

The results show that according to the mean of variables (3.32) which is above the theoretical average it can be said that for the respondents, economic indices can be effective in planning eastern entrance of Bandar Abbas.

In explaining these results, Varmazyar (2016) in his research showed that cities' input axes can be transformed into indexes and proportional to the city's identity by observing the principles and criteria affecting the design of input bases. Also, Aynali research (2015) shows that consideration to various factors, such as the movement or stasis of the observer, the observer walking or riding, the observer citizenship or traveler, etc., have an impact on increasing the perception of the identities.

The results of the analysis show that according to the mean of variables (4.07) which is above the theoretical average, it can be said that for the respondents, historical indicators can be effective in planning eastern entrance of Bandar Abbas.

To illustrate these results, it can be said that, in face to today's urban landscape, there is a crisis that results from the mismatch of spaces with their current performance, the combination of maladaptive uses, the uniformity and the dynamics of urban spaces. Thus cities have a form in which the texture of cities, the mismatch space appearance and its meaning, the inconsistency of the concept of body and meaning are visible in our culture, and therefore the bodies that have no

meaning. In this regard, Chamanaara's research (2012) believes that the physical, historical and socio-cultural contexts are important contexts that influence the design of the entrance spaces. On this basis, the city's desirable word principles should meet the general expectations of an input, including convertibility and permeability, and, in particular, acceptability, diagnostic readability. Also, the study by Smithson (1974) showed that the entrance spaces, both in the building and city, are of great importance and can serve as a context for a pleasurable experience and thus inform entry and exit. The dichotomy between inside and outside through this space they call as the thresholds and by means of intermediary tools becomes a meaningful and purposeful space leading to a sense of identity.

The results show that according to the mean of the variables (3.54) which is above the theoretical average, it can be said that for the respondents, physical-spatial indices can be effective in planning eastern entrance of Bandar Abbas.

In explaining these results it can be said that the entrance connecting the city with a transcendent society and nature is unlimited. This space can represent the personality of the city, so the city entrance in its overall structure is a place whose identity is defined in the three branches of interaction with nature, interaction with the community and interaction with the city. Identical elements of interacting with nature at the entrance are formed when the initial signs of the entrance and the feeling of a psychic entrance into the city are created. In this regard, Hajivand and Mesibzadeh (2015) in their research showed that in order to increase the efficiency of entrance to cities and revitalize its identity, quality criteria in spaces that have the potential to create intermediate spaces at the entrance of East Urmia; The results show the impact of each of the above mentioned spaces on the organization of the entrance of the city. In order to achieve each of the environmental quality criteria, a set of factors is needed that are useful in organizing the environmental input of the city in terms of physical, social, cultural, and so on. Also Zakizadeh and Zakizadeh (2015) in their research to find ways to increase the efficiency of urban inputs and create vitality, acceptability, readability and specificity in these spaces have studied the urban inputs and its features and qualities and factors affecting this improvement by evaluating the quality.

The results show that according to the mean of variables (3.31), which is above the theoretical average, it can be said that for respondents, socio-cultural indicators can be effective in planning eastern entrance of Bandar Abbas.

In explaining these results, it can be said that looking at the entrance of contemporary cities requires a systematic approach to the city. The entrance as a subsystem in the contemporary urban system has different social, economic and natural layers whose economic and social activities are convergent with the nature and context of their formation and these three factors cannot be separated and in combination with the nature of the landscape the entrance forms the contemporary cities. The various layers of the entrance of the contemporary city are converged with its economic, social and natural role, with preference between inside and outside of the city. In this regard, Noghsan Mohammadi and Rismanbaf's (2015) deficiency is in their research policies that help designers to have a correct definition of the role of the entrance in the city spatial organization rather than the unconscious imitation of the body and the appearance of the gate. Finally, all policies aimed at reversing the process of urban decline and the multidimensional boom of this part of the city have been summarized and presented to create a favorable atmosphere for today's city and Iranian city. Dixon and Wolf (2007) also found in their research that the input of the city plays an important role in creating an overall picture of the city in the pedestrian mind and is usually one of the variables influencing the newcomers' judgment of the city as a whole. The ugliness and

beauty of the city from a new perspective can be greatly influenced by the physical and functional features and aesthetics of the city's entrance.

The results show that according to the mean of the variables (3.27) which is above the theoretical average, it can be said that for the respondents, environmental-ecological indices can be effective in planning eastern input of Bandar Abbas.

In explaining these results, it can be said that the first step to enter the field of successful experience in identity urbanization is to delve into the concept of urban identity and the second step is to explain the spatial-temporal dimensions of a city's identity. By spatial dimension, environmental - ecological features (including climate, topographic status, water and soil resources, etc.) and by historical time are the historical features from the beginning to the present on social, economic, cultural, political and physical scales. The next steps perhaps is recognizing the present identity needs of the city and integrating past identity values with present identity needs, to produce what we can adapt to the past and produce what we do not find in the future. In this regard, Torabi and Yalda (2014) have examined the concept of city entrance as one of the types of urban spaces and then the concept of identity as one of the expectations of the city entrance as well as the concept of urban identity and its components. Finally, according to the obtained results and the extracted criteria, the eastern entrance area of Zanjan (Tehran-Zanjan freeway) was designed. Ganji and Heidarzadeh (2013) also stated that the entrance of each city should introduce the style and architectural materials of the place, indicating the industrial or tourist status of the city. The entrance furniture of each city is the entrance element and, in general, the identity of that city. After examining the main entrance of each abode, which has been studied in both descriptive and analytical ways, the survey has resulted in the following results: that there are no elements that reflect the city's history, culture and industry, and the visitor has no idea of the city at the moment of arrival.

8. Conclusion

One of the issues being addressed today is disregard for the identity of cities in urban development plans such as comprehensive plans, physical plans, land use planning. The most important reason for this was the lack of foundations and resources needed to identify these dimensions. Through extensive study, the collection can open the way for coherent, thoughtful action based on its past and urban authenticity in the development projects. In fact, the most important factor that has led development and development projects to achieve their initial goals, despite spending a great deal of time and money, is neglecting the realities in the context of cities and urban society. It is clear that urban development cannot be thought of simply by modeling on non-native ideas formed in completely different socio-economic and historical-political contexts than in Iran. It is a real development that is directly related to the realities of society and urban spaces. In other words, any rupture provides the intellectual ground for gaps in urban spaces. Its example can be clearly seen in new spaces with different urban and alien identities.

Today, the poor performance of the city's entrance space is due to inadequate design and unplanned layout, which makes the entrance unable to meet the needs for travelers and residents. Moving around the city should be rhythmic and harmonic. To create this movement and prevent integration, the two spaces inside and outside the city must be well identified, and the third space, which is the entrance to the city, act as a joint between the two, and in addition to being a converter of these two spaces, have an independent personality. The design and actions taken in these three areas should be tailored to the expectations of each area, in which the entrance space is flexible and

successful. The main purpose of this study was to extract the five dimensions of economic, historical, physical-spatial, socio-cultural and environmental-ecological components to achieve sustainable entry space. These components can be used to enhance sustainability indices in the urban entrance space. The requirements for implementing the city's entrance space based on sustainability components can be accommodated in current urban planning. Sustainable development and urban development are closely linked. However, a proper layout of the city's entrance space is not a sufficient condition for sustainability; in general, functions in other areas such as control and monitoring, environmental planning, etc. have a great impact on achieving sustainable development. Achieving a sustainable input plan is more likely when local communities take responsibility for their environment and must be given political power to do so. Finally, effective public participation can be the basis for proper design.

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