

Evaluation of the Use of Urban Design Approach in Urban Planning Process in Iran

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Abstract

With respect to the promotion of large-scale urban design in urban development plans, this study aims to assess its function in Iran. To achieve this goal, with a comparative study and text content analysis, we first provide effective concepts of urban design development in planning and its application, and accordingly, we recognize requirements to use it. Then, status quo of urban design in urban development plans in Iran is examined based on these requirements with the descriptive-survey method. As a result, the main focus of this article is on the question that what is the role of urban design in urban development plans in Iran? Factors examined to assess the practical application of urban design approach include the existence of levels and hierarchy for design scale, the presence of urban design goals and standards, support for urban design subjects, professional interactions and public participation of urban design in urban development plans. Results indicate that the position of urban planning approach in urban development plans in Iran is not suitable in terms of five components. However, in particular, we need measures and special effort to strengthen and enhance these components.

Keywords: environmental quality, interactive approach to urban design in planning, urban planning, urban design, urban development plans

Introduction

Evaluation of urban development plans in Iran indicates that one cannot solve urban problems with the traditional view to planning and urban development and relying solely on quantitative aspects and mathematical population growth and emphasizing functional tasks, as international experiences have shown. For this reason, in recent years, several scholars studied this subject from the perspective of urban design in order to improve environmental quality. In new experiences of urban development plans (detailed and comprehensive plan), changes are made in the planning method and its content to enhance environmental quality; but the changes are not significant in the fundamental changes of urban development management system. Due to the lack of attention to environmental qualities in the process of urban planning, the formation of urban space was made in the absence of any environmental identity in a disarranged and free of content manner, and applying development plans in the existing content showed the inefficiency of these documents to better guide the spatial formation and creating an attractive urban environment for citizens (Zekavat, 2006: 5). Therefore, for efficient urban development plans and more attention of these plans to qualitative aspects of the environment, urban scholars believe that urban design mechanisms must be included in the planning process from the beginning, and urban design objectives and policies must be formulated for improving various urban systems.

Accordingly, this article discusses the practical application of urban design in urban development plans in Iran. According to the literature of urban design and its analysis, the article provides a definition of urban design practice in the planning process as the interactive approach to urban design at different levels of urban development plans. It uses survey research to introduce the

components of this approach, and provides a better understanding of its practical application by identifying the current status of urban design in Iran in relation to the explained components.

Statement of problem

The main subject of this article is to review the presence of urban design in the planning process and its achievements by examining the concepts of urban design and its practice in the planning process in order to achieve an acceptable framework and a deeper understanding of the implementation of urban design in formulating urban development plans in Iran. Based on this main assumption, the research aims to promote the position of urban design in the planning process. To achieve this goal, first the urban design approach in urban development plans and its application are provided and then, accordingly, the requirements of this approach are considered. Then the current status of urban design in Iran is studied based on these requirements. As a result, the main focus of this research refers to the question that "What is the role of urban design in urban development plans in Iran, or in other words, to what extent the management system of urban development in Iran uses the urban design approach in its urban development plans?"

The practical application of urban design depends on many variables, which are important for its success and are not separated from their original context. Thus this article uses the descriptive method to determine the status of urban design. The approach of researchers such as George Varkki, which calls it "step by step description of contemporary urban design" in his writings, pays direct attention to the urban design practice (VARKKI, 1997). This study analyzes this topic in order to achieve the urban design practice in the planning process and finally, how to include the urban design approach in Iran's urban development plans.

Methodology

This research is applied in terms of objective, and the methodology is descriptive-survey. According to the research problem, we first reviewed previous sources and effective attitudes in development and the different levels of urban design in the planning practice, and provided principal components for the practical application of urban design in the process of preparing urban development plans (Seyedolhosseini and Habib, 2012). Then, with a survey research, we described and analyzed the use of this approach in Iran. Thus data collection was done in three steps:

A. Providing principal components in adopting the urban design approach based on previous research (Seyedolhosseini, 2010; Seyedolhosseini & Habib, 2012).

B. Evaluating the status quo and the rate of use of the said approach in urban development plans in Iran.

C. Suggestions for the practical application of urban design in urban development plans.

Literature review

Concept of the interactive approach for levels and scale of urban design in the planning process

Planning developments and a change from a comprehensive look to a strategic one and at the completion of the strategic planning process since the late 1990s, the advent of environmental quality improvement and issues related to civil society, sustainable development, and various studies and theories of urban thinkers that urban design is an integral part of planning process have led to greater emphasis on the design approach in planning. In this new perspective, urban design is sometimes considered an integral part of the planning process and sometimes a dimension of urban planning. In practice, the urban design subjects are considered in many of the new urban development plans as one of the principal components in project proposals and studies, given its scale and type, and are implemented like other urban development project proposals. In the

traditional approach to urban design and planning, the primacy of planning over design is maintained according to a linear separated model. But in this view, unlike traditional attitudes, urban design and planning are implemented according to a parallel interactive model, and with the presence of quality-oriented thinking specific to urban design from the very beginning (i.e., at the largest scale), it will pave the ground to create high quality environments at the end (i.e., the smallest scale) (Golkar, 2008: 57).

This is an important step in the evolution of urban development plans in order to improve the environmental quality. Accordingly, if the urban development management system, in its new role, wants to put the improvement of environmental quality and sustainability on agenda, it certainly requires fundamental changes in the structure and organization. In recent years in Iran, due to the inefficiency of comprehensive and detailed action plans as well as recent experiences in preparing the comprehensive and detailed plans of Tehran and Mashhad, the strategic approach was proposed as an alternative to traditional comprehensive and detailed plans, and urban design issues were somehow included in the service descriptions of the new detailed plans of these cities. But the use of strategic thinking and the urban design approach requires a change in methods, organization and planning laws and also a suitable framework for this purpose. In this regard, this article uses theoretical studies, previous research and the views of other researchers to assess the implementation of the said approach in recent plans to overcome the shortcomings and failures of urban development system in Iran, especially in qualitative aspects. Therefore, as necessary, the authors in previous studies (Seyedolhosseini, 2010; and Seyedolhosseini & Habib, 2012) examined effective views in the transformation of urban design and compared the different types and trends of design in order to identify the principal components for adopting an integrated approach to urban design and planning. For this purpose, a definition of urban design practice was achieved as "interactive approach to urban design" by reviewing and analyzing a part of the literature on the urban design. By comparing the proposed definitions, it was inferred that if we consider the creation of design decision-making environment as the basic framework for the concept of pragmatic urban design, this interactive approach to urban design in the planning process at the macro and micro scale can allow the integration of multiple concepts and content areas related to the quality of physical environment. Accordingly, the authors proposed an alternative definition as follows, and considered it as a basis for other measures in this research:

"The practice of urban design in planning is an interactive approach at all levels and scales of planning through which one can direct and control the physical quality development of the city based on the goals, principles and criteria of quality-oriented urban design and the creation of appropriate partnership circles and professional, interactive links and with legal, technical and political support" (Seyedolhosseini & Habib, 2012: 18).

Principal components of practical application of interactive model of urban design in the urban planning process

Based on the definition of urban design practice, if we look at the macro-scale urban design in the current situation in Iran, the principal components of the application of this approach can be summarized in five principal components as follows: (Seyedolhosseini & Habib, 2012: 18) so that it includes the views of all the theorists and professionals and practical experiences of urban design in the world. Although the study uses the convincing Varkki analysis as a theoretical basis, the articles of Shirvani, Habe and Panter had the most important contribution to the extraction of these components (Seyedolhosseini & Habib, 2012: 18).

Presence of objectives, principles and standards of urban design in the planning scale range (interaction of planning and urban design)

In this approach, topics of interest to urban planners are indistinguishable with the topics of interest to planning. This view is based on the integration and interaction of planning and urban design. The conscious interference of urban design and its guidance for the purpose of city development requires the involvement and supervision at different levels and with different topics. Determining these levels and topics and coordination between them require unity and solidarity between planning and urban design (Mahdizade, 2001: 477). Urban design has general and specific goals and their achievement must be in an acceptable axis (Pakzad, 2007). According to Habe, the purposes and principles of urban design show a wide dimension of public welfare, and it is a basic necessity to put emphasis on the development and operation of urban design principles and concepts and clearly state its objectives in planning (Habe, 1989). It is imperative that the urban design system is fully, seamlessly integrated with planning (Punter, 1999: 195). Michael South Worth also stressed that the urban design goals must be integrated with planning initiatives (South Worth, 1990).

Interactive and professional link of urban design as an interdisciplinary approach (professional interaction)

Complex urban issues have internal, ambiguous and multi-dimensional relationships, and professionals must look more precisely at the subject and aggregate their specialties. Urban design is more an interdisciplinary field than a specified discipline. The responsibility for the creation of overall quality of urban environment often rests with different specialties in the built environment (Carmona, 2003). With the belief that urban design is a task shared between various specialties, not just planners, but also lawyers, engineers, administrative officials and economic experts and especially city managers, they should know the role and impact of their careers on the quality of urban environment and stay consistent (Pakzad, 1998: 34).

Urban design has a continuous method and is inherently participatory and related to various disciplines and requires skills and expertise from a wide range of professions (Carmona, 2003). In other words, responsibility for the creation of overall quality of urban environment rests with different specialties.

Hierarchical levels and scales of urban design in urban development plans

Sources available since the beginning of 2000 consider the urban design coverage in three macro scales including urban area and city, middle scale including urban areas and micro scale including a group of urban space or single-space. However, ambiguity in scale may be a source of confusion. If we simultaneously consider the definitions of urban design at these scales, it leads to ambiguity. According to Madanipur, a part of these conflicts and confrontations is related to the conflict between modernists and postmodernists. Modernists considered abstract, yet integrated space design. The postmodernist reaction to such abstraction was to consider micro-scale urban spaces and their meaning. These severe reactions against the inclusive approach to micro-scale planning imposed individual and group differences (Madanipur, 2005: 141-146).

Therefore, according to Madanipur, the interaction and sharing between these two scales of urban design can be included in a single definition in an acceptable manner. For this purpose, the interactive approach to urban design must first provide possible innovative solutions and methods to find proper decision frameworks at different levels of urban development plans. These plans should be defined and explained in different scales.

Public participation in design

Basically planning is judged and evaluated based on what happens in practice and qualities available. Accordingly, the planning system needs extensive social support in the planning process for appropriate guidance and control for development. Citizen participation (Shirvani, 1981: 193) is to involve more people in the design process of the city (Habe, 1989) based on democratic development policies (Punter, 1999: 195). Moreover, to include the public interest in design verification is a must for practical application of urban design in the planning process of urban development.

Similarly, it is essential that executive management, decision makers, manufacturers and other stakeholders know the concepts, facts, values and importance of the qualitative characteristics of the external environment in the social development and growth in all aspects and participate in all stages of the process.

Support of the presence of urban design

This view supports a consistent collection of design policies in the formulation process of urban design development plans, instructions, frameworks, reports and rules. It provides quality and consistency to translate the general, acceptable goals of urban design into policies and procedures at all scale from city to numerous urban areas. There fore, the political and legal support of the presence of urban design in urban planning is one of the most important components of the practical application of urban design. In his studies on the review process of urban design, Shirvani shows that political support (of course, at moderate level) is important (Shirvani, 1981: 193).

Data collection tool

To collect data, the questionnaire for examining urban design in Iran was used. This questionnaire was developed by the authors based on the principal components of the application of urban design with regard to the analytical and theoretical discussions. The questionnaire was first sent for 8 experts and managers of urban development plans in Iran. The main question was about the relationship between statements and the principal components of urban design approach. Thus the experts were asked to identify the proportion of each statement in conjunction with principal components. After preliminary analysis and revisions of the questionnaire, the final questionnaire was prepared. This questionnaire contained questions or statements in connection with the five principal components of research, and the urban design situation in Iran was studied based on these components.

Validity and reliability of data collection tool

A. Validity: Structure validity was used to determine the questionnaire validity. Therefore, based on five main structures forming the practical realization of urban design, the factor analysis with (orthogonal) varimax rotation was used.

In this analysis, it was shown that using a varimax rotation, the questionnaire statements titled five factors as the cut-off points, the special value of 1 was obtained for each subset of the five main factors.

B. Reliability: Cronbach's alpha was used to test reliability, which was obtained 0.84.

Case Study

According to discussions provided on the definition of interactive approach to urban design and the components introduced for the use of this approach, this section uses the survey research to determine the status of urban design and its position in the urban development process and plans in Iran.

Research questions

Q1. From the perspective of managers and experts who formulate urban development plans and researchers, academics and experts, what is the status of urban design in urban development plans (comprehensive and detailed) in Iran?

Q2 . To what extent the principles and aspects of urban design are respected in urban development plans in Iran?

Q3. What is the status of professional interactive links in urban development plans of Iran based on the urban design approach?

Q4. What is the public participation quality of design in preparing urban development plans in Iran?

Q5. How is the level and scale of urban design component performed in urban development plans in Iran?

Q6. To what extent urban design issues are supported in urban development plans in Iran?

Q7. From the perspective of managers and experts who formulate urban development plans and researchers, academics and experts in Iran, what is the relationship between the components of interactive approach to urban design in planning?

Q8. Is there a significant difference between the views of managers and experts who formulate urban development plans and researchers, academics and experts in the use of this interactive approach?

Q9. Is there a significant difference between the views of managers and experts who formulate urban development plans and researchers, academics and experts in the use of this interactive approach based on the following three criteria? a) by type of education b) by level of education c) by work experience.

Sample of the study

Experts and managers of the public sector, experts, managers and consulting engineers, academic experts and professional groups of urban development in the Engineering Organization were studied in this research. Since access to all members was not possible, census was used instead of sampling.

Results and discussion

To analyze the data, descriptive statistics and inferential statistics such as t-test parametric tests, ANOVA, and non-parametric tests such as Kolmogorov-Smirnov test, Mann-Whitney U test and Kruskal-Wallis test were used. Prior to tests, the data were analyzed for outlier values using SPSS. Therefore, for additional precaution, cases with outlier values were excluded from the dataset and the analysis was conducted on about 95 respondents.

Analysis of research questions

Q1-Q6. From the perspective of managers and experts who formulate urban development plans and researchers, academics and experts, what is the status of urban design in urban development plans (comprehensive and detailed) in Iran?

As previously mentioned, data for 95 respondents were analyzed.

Table 1: Status of urban design in urban development plans (comprehensive and detailed) in Iran from the perspective of managers and experts

Standard deviation	Mean	Number of people
0.50	2.47	95

As shown in Table 1, the total mean of urban design components is less than mean of the range degrees described (4). With regard to the following description in Table (1) and to assess the significance of the difference between total mean of its components and the mean of range degrees described, the independent sample t-test was performed. Since the observed t (-37.33) is larger than the critical value in the table at the alpha level of 5%, it can be said that there is no significant difference between means. For summarization, the findings related to questions 1 to 6 are presented in table 2. Table 2 shows the findings for these five questions.

Table 2: Analysis of components of urban design approach in urban development plans of Mashhad

Components	Sig.	t value	SD	Mean	Number
Principles and objectives	0.0000	-38.72	0.47	2.64	95
Professional links	0.0002	-29.01	0.47	2.88	95
Participation	0.0000	-39.72	0.51	1.87	95
Scale and level hierarchy	0.0006	-29.04	0.50	2.87	95
Support	0.0000	-35.21	0.45	2.1	95

Findings in Table 2 show that the mean of respondents' views on the respect for principles and objectives component is 2.64, which is less than the mean of range degrees described in questionnaire (4) and has a standard deviation of 0.47. Thus, in preparation of urban development plans, principles and objectives of urban design are less used. The t-test was performed to analyze the generalization of the mean of this component to the total population and that whether we can consider the observed difference as an important component of the research. The observed t value was -38.72, which is lower than the critical value in the table at the alpha level of 5%, thus the difference is significant.

Table 2 also shows that the mean of respondents' views on the professional link component is 2.88 with a standard deviation of 0.50. Thus, in preparation of urban development plans, professional link of urban design is less used. The t-test was performed in order to analyze the generalization of the mean of this component to the total population and that whether we can consider the observed difference as an important component of the research. The observed t value was -29.01, which is lower than the critical value in the table at the alpha level of 5%, thus the difference is significant and greater than the mean of range degrees described.

The participation quality findings also point out that the mean viewpoint of managers and experts is 1.87 on this component with a standard deviation of 0.50. This means that in the preparation of urban development plans, public participation is used less than mean. The t-test was performed to analyze the generalization of the mean of this component to the total population and that whether we can consider the observed difference as an important component of the research. The observed t value was -39.72, which is lower than the critical value in the table at the alpha level of 5%, thus the difference is significant.

As shown in Table 2, the mean viewpoint of managers and experts on the urban design hierarchy component is 2.87 with a standard deviation of 0.51, which is less than mean the range degrees described in the questionnaire. In other words, the urban design hierarchy in plans is quite weak. In order to determine if there is a significant relationship between the mean scores for viewpoints of managers and experts on the existence of urban design hierarchy in urban development plans and mean of the range degrees described in the questionnaire, t-test was performed. The observed t was -29.04, which is greater than the critical value in the table at alpha 5%. In other words, findings suggest that the observed difference between the mean scores of

administrators and experts about the hierarchy is significantly less than the mean of range degrees described in the questionnaire.

About the support component, according to Table 2, the mean viewpoint of managers and experts is 2.1, which is less than the mean of range degrees described in the questionnaire. The t-test was performed to examine the situation and determine the significance level of the difference observed. The t-test results and the observed t value (-35.21) that is greater than the critical value in the table at alpha 5%, show that there is a significant difference between viewpoints of managers and experts about the support status in these plans and the mean of the desired range degrees.

Q7. Relationship between the principal components of interactive approach to urban design, from the perspective of managers and specialists

For analysis of the data on this question, Pearson correlation coefficient was used. As shown in Table 3 and considering the viewpoints of managers and experts, there is a significant relationship between principal components of interactive approach to urban design. Thus, it is expected that improvements in each of these features will lead to improvements in other components and vice versa. If a component becomes weak, it is expected that other components are adversely affected. Despite these new development plans in the period of this research, as already mentioned, the status of components is relatively favorable. The correlation of component with each other is high and this relationship is significant at 0.01.

Table 3: Relationship between the five components

Leadership	Hierarchy	Participation	Links	Respecting principles and goals		Mean of components
				1	Person correlation	Respecting principles and goals
				0	Significance	
				95	Number	
			1	0.669(**)	Person correlation	Links
			0	0.000	Significance	
			95	95	Number	
			0.701(**)	0.683(**)	Person correlation	Participation
			0.000	0.0000	Significance	
		95	95	95	Number	
	1	0.645(**)	0.663(**)	0.774(**)	Person correlation	Hierarchy
	0.000	0.000	0.000	0.000	Significance	
	95	95	95	95	Number	
	0.583(**)	0.582(**)	0.452(**)	0.640(**)	Person correlation	Leadership
	0.000	0.000	0.000	0.000	Significance	
	95	95	95	95	Number	

Q8. Comparing the views of managers and experts about the use of urban design approach

To analyze the data on this question and in view of the size of the group studied, especially managers, the non-parametric Mann-Whitney U test was used. Although the findings show that the mean score of managers and experts in most of components is higher than the mean score of the views of experts and academics, According to the said test results, the observed difference is not significant. Therefore, one can assume that there is consistency between the views on the use of urban design.

Q9. Comparison of the viewpoints of managers, professionals and experts by level of education, field of study and work experience on the use of urban design practice in plans

Field of study: To analyze the data on this question, first the data distribution was evaluated by Kolmogorov-Smirnov test. The test results showed that data distribution is normal. Therefore, for data analysis, the parametric ANOVA test was used. Results showed that there is no significant difference between the views of managers, professionals and experts in the use of urban design approach by the field of study. In other words, managers and experts of various disciplines are unanimous on the use of urban design practice.

Level of education: To analyze the data on this question, first the data distribution was evaluated by Kolmogorov-Smirnov test. The test results showed that data distribution is not normal. Therefore, for data analysis, the parametric Kruskal-Wallis test was used. Results showed that there is no significant difference between the views of managers, professionals and experts in the use of urban design approach by level of education.

Work experience: To analyze the data on this question, first the data distribution was evaluated by Kolmogorov-Smirnov test. The test results showed that data distribution is not normal. Therefore, for data analysis, the parametric Kruskal-Wallis test was used. Results showed that there is no significant difference between the views of managers, professionals and experts in the use of urban design approach by work experience.

Conclusion

This paper examined the urban design practice in urban development plans. By providing a definition of urban design practice in the planning process and expressing principal components in the application of the approach, it investigated a survey research in the use of interactive approach to urban design in recent urban development plans in Iran. The data analysis results showed that the use of urban design approach in practice is less than mean. The lowest mean is related to the public participation in design by 1.87. The reason may be that the necessary conditions have not been provided yet and with respect to the interactions of components, it lacks legal support. Furthermore, although the urban design tools and components of this approach are less used in the practical implementation of urban design in Iran, the way this process works is vague which strengthens Varkki's claim and his theory which focuses on the scientific research on factors involved in the process of urban design.

Despite the enormous efforts of local authorities in cities such as Tehran and Mashhad, which are considered rare in the country in recent years, the components of interactive approach to urban design are weak, according to the research findings. Results also suggest that there is no significant difference between the views of managers, experts, and professionals by field of study, level of education and work experience about the use of urban design approach. Therefore, one can say that the position of urban design in Iran is not appropriate, according to the said components and one must take measures to strengthen these components. To create "the decision environment", that is considered as the actual product of urban design by George Varkki, could be one of the solutions.

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