Environmental, Social and Economic Challenges for Urban Development: Stakeholder's Perception in a Developing Economy

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Abstract:

Due to rapid urbanization, more than half of the world's population now live in cities. By the year 2050, the urbanized population will increase to two–thirds of the global population, which prompted increased international attention to identifying environmental, social and economic challenges of urban development encompassing diverse aspects such as energy, water, waste, infrastructure, transportation, public services, and housing. Public perception of the intrinsic indicators is essential to enhance their participation in the process, especially in the developing countries that are undergoing significant changes requiring buy-in from the stakeholders. A nationwide survey (N=620) was carried out in Iraq using a 29-item structured questionnaire to investigate environmental, social and economic challenges of urban development with reference to Iraq. The items were identified through an extensive review of the literature, which was reduced dimensionality using principal component analysis (PCA). In addition to applying statistical tests on the responses to investigate the relationship between the items and demographic characteristics. Seven principal components have been identified, namely, minimize impacts; water, materials and waste; culture and investments; natural hazards; mobility and transportation; and safety. The item *Safety of public places* was ranked as the most important factor between urban indicators, followed by *Water Conservation*, *Preservation of historic buildings*, and *Increasing housing projects*, respectively. While, the item *Earthquakes* from the natural hazard group was classified as the least important indicator between all items.

The study concluded the necessity to identify environmental, social and economic challenges of urban development in different urban environments, through the investigation of stakeholder perspectives and analysis the urban indicators by adopting computer-based assessment approach for raising the concerns and proving the validity, accuracy, and reliability of the survey data. The local priorities of urban development challenges have been identified that is represent a fundamental step to support communities in making a decision that is considered a very crucial concern for planners, designers, and policy-makers to achieve a healthy environment, social well-being, and economic prosperity toward adopting the long- term sustainability of urban development projects.

Keywords: Urban development, Environmental, social and economic challenges, Urban Sustainability.

1. INTRODUCTION

In recent years, an urgent need emerged to promote the stakeholder opinions toward evaluation of the urban development indicators. The stakeholder's perceptions pay adequate attention to the interaction between different forms of public participation in determining realistic environmental, social and economic challenges of urban development (O'Faircheallaigh 2010). Especially after becoming urban challenges a global problem due to their negative impacts on the population and urban development issues (Ameen et al. 2015; Curiel-Esparza et al. 2016). The rapid urbanization makes cities the main source of local and global urban challenges. Urban population exceeded 3.5 billion in 2010, expected to double by 2050 (UNDESA 2010; Ameen et al. 2014). Environmental, social and economic challenges such as climate change, pollution, energy, water, waste, hazard, transport, infrastructure, and housing, exacerbate to become the most critical problems. Urban development challenges are facing all countries of the world, in particular, the developing countries (Clark 2009; Clarke K. and Ramalingam 2012). Hence, several studies have indicated that many cities have been affected by unprecedented population growth as well as natural disasters, wars, financial corruption and economic recession. These cities will face massive and unpredictable urban development challenges that are uncontrollable shortly (Freire 2006; Rana 2010; Elgendy 2011). The identification of urban development challenges and their priority become essential, to detect appropriate solutions to dealing with the local challenges. In addition to suggesting new directions depending on global experience to tackle the insufficiency in urban development aspects and improve the life methods of the inhabitants. As well as increasing the capacity of developing countries to manage vital urban issues such as environmental pollution control; efficient management of energy resources; water conservation; waste recycling; Maintenance of infrastructure; hazards protection; housing provision; investments diversity; and the protection of

lands (Smith 2013; Böhler-Baedeker and Lindenau 2015). Urban sustainability approach has confirmed its efficiency to provide a healthy environment for population, social coherence, and economic prosperity for urban development projects (Evans and Foord 2007; Ameen et al. 2015). Nevertheless, adoption of urban sustainability should be preceded by the identification of the environmental, social and economic challenges of urban development that considered a Keystone, which can direct decision makers to address and improve the urban environment by achieving viable solutions for diverse urban development aspects. As well as to enhancing the participation of communities in making decisions, and to display the potential inherent in how to develop regions in sustainable ways (O'Faircheallaigh 2010; Wallbaum et al. 2010; Curiel-Esparza et al. 2016). Especially, in developing communities, including the Iraqi cities that suffered from destruction, degradation, unplanned urban development by successive wars and economic sanctions for more than four decades that affecting the economy and infrastructures (HRW 2013; MOE 2013). According to related studies, including The Iraq National Development Plan (2013-2017), many of urban development challenges of Iraqi cities have been identified. In particular: air pollution; lack of the use of renewable energies; lack of water resources; soil contamination; desertification; lack of waste recycling; a severe shortage of housing; inefficient infrastructure and transportation; and the absence of sustainable urban development (CSO 2013, CSO 2014). Therefore, replanning, reconstruction and rehabilitation of existing projects represent essential need for the Iraqi cities to meet the growing demand of population to improve their living standard, coincided with the oil boom and economic prosperity. This study aims to reveal the different opinions of the stakeholders for identifying urban challenges and their priorities, according to the perceptions of the community. It is a baseline step to determine appropriate solutions and processes towards urban sustainability for Iraqi cities. 29 indicators had been identified through an intensive review of previous studies and implementing the computer-based assessment approach to analyze the national survey data.

2. METHODOLOGY

To identify the indicators influencing on environmental, social and economic urban challenges in Iraq. A nationwide survey has been conducted, because the questionnaire represents the most common technique for data collection, aims to detect accurate estimates of the spread of variables (Bowling 2005; Huang 2006). The method of statistical analysis-based assessment approach for the stakeholder perceptions was selected as a main method in this study, in order to raise the concerns and prove the validity and reliability of the survey data. The study methodology has organized as follows:

2.1 Questionnaire development

The survey was developed in following stages:

Stage 1: Identification of questionnaire items based on an extensive review of previous related studies. The review aimed to identify the environmental, social and economic urban challenges of Iraqi cities, stakeholder assessment to the challenges by the city, their priorities, and the targets of urban factors to achieve sustainable development for Iraqi cities. The survey has been conducted by Sep. 2014 and Mar. 2015.

Stage 2: Site visits to some cities that were conducted by one of the authors, to meet different stakeholder. In addition to communication with the public through the phone, mobile, and multiple social networks to explore their views on the main local urban challenges in their regions.

Stage 3: By integrating the results from stage 1 and 2, a draft of an online distribution survey has been developed. The draft questionnaire was evaluated in a pilot study to analysis inclusiveness and clarity of the questionnaire items, the level of understanding of the components, also, to assessing the length of the questionnaire. The number of participants was (N = 16), and included a variety of disciplines such as city planners, urban designers, university professors, architects, civil engineers. The findings out of the pilot study were adopted to improve the validity of the content of the final questionnaire.

Stage 4: The online survey distribution was used, it is a rapid technique for distribution and receive the results compared to the traditional manual method, and it is also more economical in costs (Stanton 1998; Huang 2006).The survey was conducted with Survey Monkey (www.surveymonkey.com), using a snowball sampling technique. This web tool facilitates a widespread distribution, to enable the authors observing and monitoring the responses to get a preliminary analysis of the results in a short time (Baker et al. 2010). The final questionnaire included 15 structured questions on a 5-point on a Likert scale, ranging from 1 to 5 (1 = Unimportant; 2 = Of little importance; 3 = Moderately important; 4 = Important and 5 = Very important). As well as, it contained open-ended questions to enable participants to reflect their ideas of other factors of urban development challenges. Demographic information like age group, gender, occupation, qualification, location and type of living area, have been included in the survey.

2.2 Participants of the survey

A comprehensive national survey was conducted between diverse stakeholders of both genders and for different social sectors. Including experts in urban development, public, government and diversity in jobs and qualifications. All Iraqi regions have been selected for this study such as northern, central and southern regions depending on the ratio of population. Questionnaire respondents have been identified who are 18 years old or above, and they informed that the information and data will be confidential and will be used exclusively for the study.

2.3 The sampling and data collection

The snowball sampling technique as mentioned above has been employed in this study, to ensure widespread distribution of the survey (Dragan and Maniu 2013) in all Iraqi regions. As well as their economic appropriateness (Padam et al. 2007). The snowball technique works through the distribution of a questionnaire, by authors to participants. Then, the participants will forward it for others, and so forth, even reaching the required number of samples. This technique will enable authors to arrive at a large number of the participant during specific knowledge (Aldossary et al. 2015). Survey monkey was used for the distribution after survey issuance; the link was sent to potential participants by email, messages, and diverse social networks. The final distribution began and repeated between Jan. 2015 and continued to the end of March until completed the collection of the required samples. The questionnaire items were analysed statistically, depending on computer-based assessment method. Descriptive statistics was computed for the chosen items and scale frequencies, percentages of response, means, modes and standard deviations (SD). Demographic data of the respondents were analysed descriptively by computing all frequencies and percentages. Internal consistency reliability was evaluated via Cronbach's alpha coefficient (α) (Cronbach 1951). The coefficient has provided a determination of the internal consistency or average correlation of the survey items to measuring their reliability (Webb et al. 2006). Also, Principal Component Analysis (PCA) has been implemented as a mathematical technique to determine the underlying structure, through the description of a highly correlated variables group. The significant component was assessed by testing scree plots and the contribution of each component to total variance (> 5%). Variance Maximization (varimax) as an orthogonal rotational strategy was applied using the results of (PCA), leading all items to be extracted. Rotate can minimize the number of variables under investigation that have high loadings to make the interpretation of the analysis easier (Floyd and Widaman 1995). Finally, KMO and Bartlett's test of sphericity was carried out to determine the significant correlation between survey indicators. The Kaiser-Meyer-Olkin process was implemented to measure the adequacy of sampling (Cerny and Kaiser 1977).

3. THE STUDY FINDINGS

The questionnaire was distributed, and the total responses were (620). (484) of the participants, which are a percentage (78%), who completed answering all the questions, and this reveals the satisfactory result.

3.1 The characteristics of the respondents

Demographic and work related characteristics of the respondents have been summarizing in Fig. 1. Out of the total respondents, (64.5%) were males and (35.5%) were females. Participation was of nine different age groups. The highest rate of involvement was (19.2%) for the ages between 25- 30 years, followed by (18.1%) for age group 41- 45 years and (15.9%) for age group 18- 24 years. Age groups 18- 24 years, 31- 40 years, and 46- 50 years achieved (14.4%), (13.2%), and (8.6%) respectively. While the percentages at either end of the population were (4.2%) and (1.6%) for age groups 56- 60 and above 61 years respectively. A wide diversity of people with different occupations have been involved in the survey. More than half of respondents (56.5%) of all the respondents were a government employee, where it can access the free Internet easily (Heshmati et al. 2014). Followed by (15.9%) for other, which include different categories such as students, homemakers, and unemployed. Other positions were self-employed (14.4%), and the non-governmental employee were (13.2%).

The extensive knowledge base was commenced of the respondents who have various levels of qualifications to determine the output of the questionnaire more objective manner (OPM 1990). More than half of the respondents (54.7%) were undergraduate degree holders, followed by about one- third of the participants (39.9%) of post-graduate degrees holders. While just (0.4%) of the respondents does not have any academic qualifications, because they were unable to fill out the questionnaire on their own. The survey sought for a broad spectrum of stakeholder perceptions for all Iraqi regions, according to population ratio (OCHA 2014). The study focused heavily on the southern and central regions, which they represent the study area while the north of the country is subject to self-governance and laws differ from the central authority the State (UNHSP 2007). The highest participation rate was (62.4%) in the southern region followed by (35.1%) for the central region. While the lowest percentage was (2.5%) in the northern area. The diversity of occupations, qualifications, and locations, to ensure a broad range of participants, were represented in this study. (62.4%) in the southern region followed by (35.1%) for the central region. While the lowest percentage was (2.5%) in the northern area. The diversity of occupations, qualifications, and locations, to ensure a broad range of participants, were represented in this study.
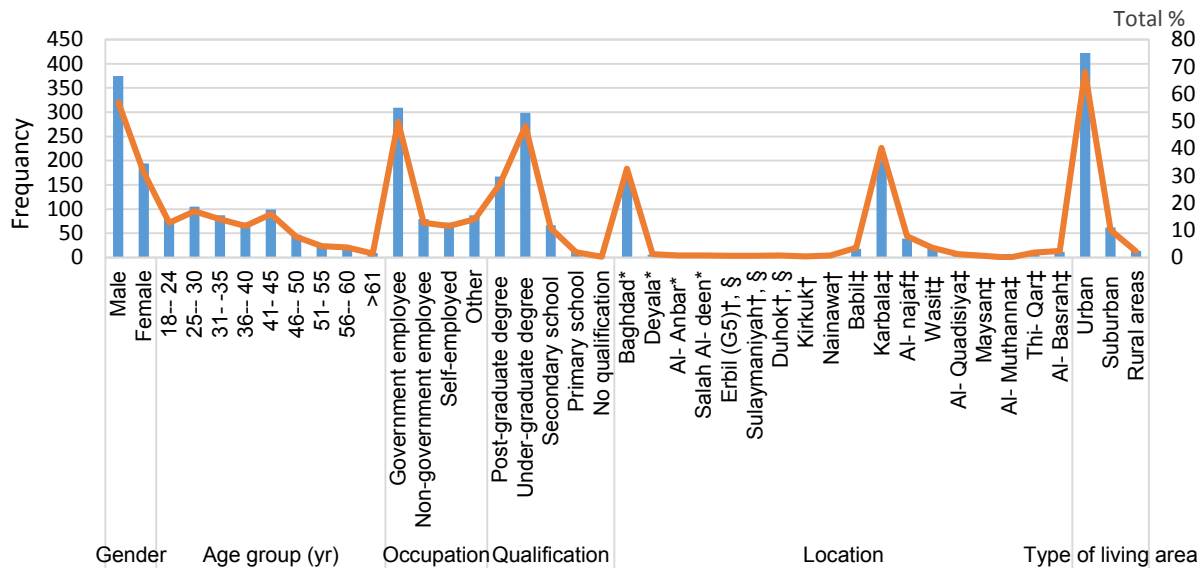
Notes: Regions of the cities: *Central, †Northern, ‡Southern, §Kurdistan Region

Fig.1: Demographic factors of the respondents

A descriptive analysis of the urban challenges items has been clarified in Table 1, which represented the ratio of response to each item in the 5-point scale. Also, Mean, Mode and standard deviations (SD) of responses were computed for each factor. The environmental, social and economic indicators of urban challenges have been arranged in descending order, based on the mean value.

3.2 Principal component analysis (PCA)

Statistical processes have been implemented, principal component analysis (PCA) was conducted on 29 survey items, followed by Variance Maximization (varimax) an orthogonal rotational solution. An initial analysis was carried out to get eigenvalues for each component. Six components were summated from the 29 items had eigenvalues over Kaiser's criterion greater than (1.0). The eigenvalues for the components have ranged from (10.333) and (1.045) for the less value. Principal component analysis (PCA) has been clarified in Table 2, as well as the values of the items scale (loading) after rotation, eigenvalues for each indicator, and percentages of variance. The six components that resulted from the analysis are: minimize impacts; water, materials and waste; culture and investment; natural hazard; mobility and transport; and safety respectively. Analysis of the appropriateness of the measurement matrix is revealed that all items concerned from the scale, and each item had an essential factor in the range of (0.4) to (0.8).

Bartlett's test of sphericity also showed a significant correlation value between the selected items (p<0.000), suggesting that all selected variables related to each other and suitable for further analysis. The Kaiser Meyer Olkin (KMO) measure verified that the sampling adequacy KMO= .898 indicates that the survey variables are appropriate for factor analysis, and the value can be considered high (Zhao and Mourshed 2012), and the matrix was suitable for (PCA).

The total variance extracted was (62.934%). Component 1 was clustered by nine items representing the largest percentage of explained variance (35.630%). Component 2 contained eight items accounting for (8.464%) of the variance. Component 3 had five items accounting (5.645%) of the variance. Component 4 had four items. Component 5 had two items, accounting for (5.294%), (4.298%) of the variance respectively. Lastly, Component 6 contained two items accounting for (3.603%) of the variance. Given the large sample size, the convergence of the scree plot and Kaiser's criterion on six components were retained in the final analysis.

3.3 Internal Consistency Reliability (α)

The seven components were examined for internal reliability by using Cronbach's alpha coefficient estimate as set out in Table 2.The values of all components obtained from the reliability estimates were greater than (0.67). That refers that the questionnaire items have the same attributes (Cerny and Kaiser 1977; Mourshed and Zhao 2012). The internal consistency reliability, which represented by Cronbach's Alpha coefficient (α) of the overall scale was (0.921). It considered a high level of reliability (Ahmad and Ahlan 2015).

Table 1: Descriptive analysis of urban development factors

Items	Response* (%)					Mean	Mode	SD
	1	2	3	4	5			
Safety of public places	.6	1.0	3.5	11.5	40.8	4.58	5.00	.777
Water conservation	.6	1.0	3.4	14.8	42.7	4.56	5.00	.756
Preservation of historical buildings	.5	1.0	4.5	11.6	39.8	4.55	5.00	.779
Increasing housing projects	.2	1.0	4.5	17.4	34.4	4.47	5.00	.736
Preservation of vernacular buildings	.6	.6	6.8	13.4	36.0	4.45	5.00	.829
Securing in buildings	.6	.5	5.6	16.0	34.7	4.45	5.00	.794
Improve infrastructure and utilities	1.0	1.3	11.1	11.3	50.2	4.44	5.00	.897
Increase vegetation cover	1.3	1.6	12.3	8.7	51.0	4.42	5.00	.953
Encourage investment	0.3	1.6	5.7	26.4	65.7	4.41	5.00	.801
Promote using of public transport	.6	.8	6.6	21.8	32.7	4.36	5.00	.802
Effective management of energy resources	1.5	1.9	6.6	16.9	35.6	4.33	5.00	.948
Sewage treatment	1.9	2.6	5.8	15.2	37.1	4.32	5.00	1.012
Desertification of lands	1.3	2.1	8.5	15.2	35.5	4.30	5.00	.966
Reduce environmental pollution	1.6	2.6	12.4	13.7	44.5	4.29	5.00	1.003
Promote identity and local culture	.5	1.6	7.1	20.6	27.6	4.27	5.00	.847
Waste separation and recycling	1.8	2.3	7.3	18.4	32.9	4.25	5.00	.989
Sandstorms	1.0	2.6	9.8	18.1	31.1	4.21	5.00	.957
Maximize the use of renewable energy	1.6	4.4	9.5	13.9	33.2	4.16	5.00	1.081
Minimize water consumption	1.5	4.0	15.0	15.8	38.5	4.14	5.00	1.042
Minimize GHG emissions	2.7	4.2	13.5	15.2	39.2	4.12	5.00	1.116
Drought	1.6	4.4	10.0	16.5	30.2	4.10	5.00	1.069
Water recycling	2.1	3.1	9.2	21.6	26.6	4.07	5.00	1.032
Minimize energy consumption	1.1	3.5	18.4	17.1	34.7	4.07	5.00	1.015
Increase waste recycling	2.6	3.2	15.3	20.5	33.2	4.04	5.00	1.063
Use of grey water	1.8	2.9	14.5	20.5	22.9	3.95	5.00	1.019
Encourage walking as a mean of mobility	2.4	5.0	12.7	16.5	26.0	3.93	5.00	1.133
Materials reuse	1.8	4.4	12.6	22.4	21.5	3.91	5.00	1.035
Promote and provide for the use of the bicycle	5.3	11.1	15.5	15.0	15.6	3.39	5.00	1.268
Earthquakes	11.0	17.1	14.0	9.7	10.8	2.87	2.00	1.344

Notes:
*Response scale is as follows:
 1- Unimportant; 2- Of little importance; 3- Moderately important; 4- Important; 5- Very important

3.4 Relationship between demographic information and perceptions of urban challenges

Before investigating the relationship between participant's characteristics and their perception of urban development challenges, the participants were reassembled for simplifying of data analysis and interpretation. The variable 'Age group' has been reclassified to indicate the ranges: young adult (18- 25 years), adults (25-35), middle aged (36- 50 years) and senior citizens (older than 50 years). To investigate the effect of 'occupation', the respondents were classified into four categories: Governmental employee, non- governmental employee, self-employed and other. as well as 'qualification' also, was classified into five categories in order to identify their role; Post graduate degree, undergraduate degree, secondary school, primary school and no qualification. The data distribution was not normal. Therefore, non-parametric tests were carried out on the 29 survey item by applying a non-normal distribution.

The result was reported in Table 3. A Mann- Whitney U-test was implemented on the 'gender' variable, whereas Kruskal- Wallis test was implemented on the other variables 'age', 'occupation', 'qualification', 'location' and 'Type of living area'. Many significant differences among the stakeholder perceptions appeared for all six variables. The urban indicators challenges have a high level of significance of ($p < 0.05$). Results show that there is a significant difference in perception between male and female for items: Minimize energy consumption; Earthquakes; and promote and provide for the use of the bicycle.

Age has a significant effect on the perception of the following items: Minimize GHG emissions; water conservation; Promote identity and local culture; increasing housing projects; and securing in buildings. The perception of the factors: water recycling; waste separation and Recycling; and use of greywater is significantly influenced by occupation. Also, 3 out of 5 items in components 3 (Culture & investments), demonstrating the importance of location on the perceptions of the local culture and investments factors. Finally, type of living area has only a significant effect on the perception of the safety of public places items.

Table 2: Rotated component matrix of the survey items

Items	Component					
	Minimise impacts	Water, material & waste	Culture & investments	Natural Hazards	Mobility & transport	Safety
Reduce environmental pollution	.811	.121	.168	.205	.052	.153
Increase vegetation cover	.791	.105	.193	.143	.054	.028
Improve infrastructure	.781	.161	.178	.075	.020	.021
Minimise greenhouse gas emissions	.776	.045	.065	.174	.079	.200
Minimise water consumption	.767	.202	.009	.014	.026	.163
Minimise energy consumption	.735	.100	.069	.105	.106	-.006
Increase waste recycling	.699	.369	.092	.007	.066	.167
Effective management of energy resources	.547	.350	.309	.190	.178	-.013
Maximize the use of renewable energy	.510	.374	.190	.115	.210	-.006
Water recycling	.180	.715	.079	.121	.150	-.101
Materials reuse	.108	.687	.139	.165	.120	.172
Waste separation and recycling	.215	.669	.218	.126	.168	.264
Sewage treatment	.184	.669	.059	.104	.002	.228
Use of grey water	.177	.639	.201	.130	.223	.001
Water conservation	.372	.460	.258	.254	.073	.190
Preservation of historical buildings	.124	.163	.865	.122	.019	.144
Preservation of vernacular buildings	.163	.112	.864	.142	.076	.053
Promote identity and local culture	.146	.126	.644	.173	.129	.214
Increasing housing projects	.175	.389	.471	.184	.068	.233
Encourage investment in urban projects	.198	.382	.421	-.078	-.015	.131
Desertification of lands	.098	.267	.209	.766	.010	.042
Drought	.149	.221	.077	.766	-.021	.138
Earthquakes	.142	-.032	.026	.704	.144	.037
Sandstorms	.238	.235	.310	.543	.142	.029
Encourage walking as a mean of mobility	.102	.194	.114	.048	.824	.083
Promote and provide for the use of the bicycle	.096	.134	.002	.100	.820	.116
Promote and provide for the use of public transport	.214	.310	.348	.116	.423	-.038
Safety of public places	.210	.203	.224	.080	.089	.815
Securing in buildings	.210	.223	.322	.164	.150	.698
Cronbach's Alpha (0.921)	0.912	0.836	0.818	0.732	0.672	0.795
Eigenvalues	10.333	2.455	1.637	1.535	1.246	1.045
Percentage of explained variance (62.934)	35.630	8.464	5.645	5.294	4.298	3.603

4. DISCUSSION

The stakeholder's perceptions and their opinions are vital and quite important to identify the local urban development challenges. The perceptions are based on the daily life of population, workplaces, study, and engaging in social activities. Which makes stakeholders qualified to monitor existing problems that occur in the urban context and affecting the life of inhabitants. In this study, 29 of the urban challenges of the Iraqi cities have been investigated. The importance and priorities of these challenges were ranked by the mean value of high scores ranging from 4.85 to 2.87, top down, on 5 degrees of Likert scale of (1- 5). Among the urban indicators that shown in Table 1, *'Safety of public places*' (mean = 4.58) has been ranked as the most important urban challenge for Iraqi cities, followed by *'Water conservation*' (mean= 4.56) and *'Preservation of historical buildings'* (mean = 4.55). The indicator '*Increasing housing projects*' (mean= 4.47) was ranked fourth, followed by '*Preservation of vernacular buildings*' (mean= 4.45), '*Securing in buildings*' (mean= 4.59), and '*Improve infrastructure and utilities*.' (mean= 4.44). At the same time, the item '*Earthquakes*' (mean= 2.87) was considered to be the less important of the analyzed aspects, whereas the items '*Promote and provide the use of the bicycle*' (mean=3.39) and '*Materials reuse*'(mean=3.91) were second and third less important indicators. The findings indicate that Iraqi stakeholders have increasingly concerned about environmental, social and economic urban challenges such as urban security, cultural aspects, water, housing, investments, waste recycling, transport modes, energy management, improve infrastructure, increase vegetation covers, and land conservation. In regard other indicators

Table 3: Non-parametric test result

Items	p-value*					
	Gender†	Age group‡	Occupation‡	Qualification‡	Location‡	Type of living area‡
Minimise impacts						
Reduce environmental pollution	.399	.167	.335	.091	.258	.946
Increase vegetation cover	.940	.039	.845	.153	.312	.516
Improve infrastructure and utilities	.361	.058	.932	.281	.492	.544
Minimise GHG emissions	.774	**.019**	.335	.656	.179	.753
Minimise water consumption	.079	.079	.960	.173	.340	.311
Minimise energy consumption	**.000**	.512	.933	.060	.886	.526
Increase waste recycling	.051	.063	.265	.053	.579	.792
Effective management of energy resources	.357	.077	.357	.585	.616	.623
Maximize use of renewable energy	.997	.316	.194	.186	.930	.923
Water, material and waste						
Water recycling	.954	.244	**.015**	.329	.689	.614
Materials reuse	.865	.771	.164	.184	.721	.473
Waste separation and recycling	.071	.098	**.021**	.179	.280	.940
Sewage treatment	.906	.957	.224	.233	.331	.123
Use of grey water	.546	.188	**.040**	.225	**.004**	.454
Water conservation	.496	**.049**	.498	.358	.785	.654
Culture & investments						
Preservation of historical buildings	.899	**.008**	.524	.124	**.009**	.878
Preservation of vernacular buildings	.418	**.027**	.484	**.038**	**.015**	.946
Promote identity and local culture	.457	**.024**	.889	.812	**.032**	.913
Increasing housing projects	.815	**.009**	.450	.457	.093	.853
Encourage investment in urban projects	.248	.238	.378	.621	.933	.852
Natural Hazards						
Desertification of lands	.385	.145	.642	.785	.602	.737
Drought	.697	.151	.298	.743	.168	.930
Earthquakes	**.028**	.177	.491	.218	.823	.753
Sandstorms	.163	.330	.183	.135	.105	.174
Mobility & transport						
Encourage walking as a mean of mobility	.078	.177	.374	.825	.484	.596
Promote and provide for the use of the bicycle	**.017**	.765	.849	.259	.322	.861
Promote and provide for the use of public transport	.355	.593	.551	.676	.073	.833
Sefety						
Safety of public places	.158	**.033**	.334	.871	.696	**.024**
Securing in buildings	.299	**.034**	.798	.061	.611	.780
Notes: * p < 0.05, † Mann-Whitney U-test, ‡ Kruskal-Wallis test						

such as views to '*Earthquakes*' or '*Promote and provide the use of the bicycle*'. They are less important than the previous items to the Iraqi context. Responses formed the three groups according to their importance for stakeholders. The largest group consisted of 24 of the 29 indicators, which has mean scores higher than 4 (= important). The middle group consisted of 4 items and has mean scores higher than 3 (= moderately important). While, the remaining one item has a mean score higher than 2 (= of little importance) is noteworthy, overall survey results coincided with the findings that have been identified through the intensive review of the previous researchers, official and academic, of urban challenges for Iraqi cities. The priorities of urban challenges showed an essential need to understand the nature of threats that facing many of Iraqi regions and secure integrated protection compatible with environmental and social threats. Terrorist acts and has become one of the main threat to the urban environment in some cities and regions of Iraqi Hence. It should occupies an important aspect of the urban design process, in order to mitigate and limit the damage, whether in individual buildings or urban context. It is significant to add security measures designed to protect human beings and material possessions that are proportional to the potential threats such as explosives detection devices of terrorist bombs, explosive belts, and vehicle-borne. At the same time, ensure that the desired level of protection should be employed efficiently in urban design, without affecting on the creation of the aesthetic and functional urban spaces (UNHSP 2007).

Meanwhile, the history of Iraqi cities is the most diverse in the world, being the birthplace of history and the first

civilization of the ancient world. The Iraqi culture presents a rich mixture of traditions from many civilizations that passed on Iraqi history (Tripp 2002). Despite the ancient Iraqi civilization was rich of architectural heritage elements; it can clearly note the absence of local style in current architecture. In particular in developing a new architectural form that can be more sustainable (Al-Thahab 2013).

The survey of Iraqi stakeholder perceptions contributed to highlighting the importance of restoring the historical legacy and local architectural attention to the Iraqi cities. The questionnaire findings pointed out a high awareness of the respondents towards an emphasis on the cultural heritage for the development of new urban design projects in the Iraqi context.

Also, water conservation and water scarcity considered in the previous literature one of the most significant issues, generally for Middle East countries (Elgendy 2011), and Iraq in particular. Iraq has suffered from a lack of water supply from the neighbouring countries, which threatens water crisis shortly. That requires the provision of alternative solutions to preserve water resources (UNESCO 2010). Making the water preservation the second indicator regarding importance in the Iraqi context according to the results of the questionnaire. The housing also occupied an importance of the questionnaire items. It represents an productive activity in the economic sector, capable of generating employment opportunities and increase income As well as being one of the social factors that have direct relevance to people's lives And respond to their basic needs (UNHABITAT 2010) on a global and local level. The survey results indicate as shown in Table 3, that the housing challenges in Iraq, occupy the priority of the urban challenges as a socio- economic indicator. Due to the urgent need for housing, 'Increase housing projects' represented the most significant urban challenge, with the need to propose solutions. It was compatible with Iraqi official reports and expert opinions (CSO 2013, CSO 2014).

Other urban factors were ranked with mean scores less than (4.00), which indicates moderate importance. They are also important, but not as important as the indicators that proceeded. The 'Earthquakes' indicators that are related to various environmental challenges was the lowest score (mean= 2.87) and highest standard deviation (1.344). It was considered to be 'Of little importance' in this study. Because the earthquakes are rare to occur, and therefore, it has a little influence on Iraqi cities. The results of the principal component analysis highlighted that the five constructed indicators, in general, had a high internal consistency, even when some factors contained only two items. This complicated structure matches the findings from previous studies on the importance of identifying urban development challenges in the local context that are considered a keystone to steer decision makers to achieve sustainability of urban development (O'Faircheallaigh 2010).

5. CONCLUSIONS

At present, there is an agreement on a massive scale that urban challenges issues are of the utmost importance for communities in the present and future. Stakeholder engagement in determining environmental, social and economic challenges is essential for decision-making. This study provides an interactive experience between the public and the urban challenges that may face their cities and regions, as well as, to compensate for the severe shortage of comprehensive urban development researchers of Iraqi cities. Through conducting a nationwide survey, many of urban challenges were identified. A 29-item was developed on a 5-point Likert scale. The study findings can consider a fundamental step to support Iraqi community in making a decision. As well as they represent a very crucial concern for planners, designers and policy-makers, to achieve a healthy environment, social well-being, and economic prosperity toward adopting the long- term sustainability of urban development projects.

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