Stakeholders’ perceptions of social and economic challenges in adopting sustainable urban development in post-war countries

Raed Fawzi Mohammed Ameen 1,2, Haider I Alyasari 2 and Maryam D Altaweel 2

1 BRE Institute of Sustainable Engineering, Cardiff University, School of Engineering, Cardiff, UK
2 Department of Architecture, College of Engineering, University of Kerbala, Iraq

Abstract. Due to rapid urbanization, developing countries have faced significant urban socio-economic challenges. The destruction and lack of planning are acute in countries, such as Iraq, that have suffered for several decades from wars and international sanctions, resulting in severe damage to the ecology sector, social utilities and the disruption of the economic sector. Many urban development projects are currently underway in Iraq, and labelled as a means to reform. However, most lack public participation. Hence, there is an urgent need to understand the public’s perception, especially of in urban areas with socio-economic challenges, and this represents a crucial concern for many planners, designers, and policy-makers seeking to develop effective policies. This study aims to investigate stakeholder perceptions of the urban challenges and their priorities in Iraqi cities. A nationwide survey was conducted (N = 643), using a 19-item structured questionnaire. PCA and statistical tests were applied to the collected responses, to investigate the relationships around such challenges. A high value of internal consistency and reliability was achieved (Cronbach’s alpha= 0.867) and five components were identified. The item ‘safety of public places’ was ranked as the most important. Results illustrate a link between deficiencies in the social and economic infrastructures.

1. Introduction

Urban life is now the reality for most of the Earth’s population due to the rapid urbanization, and projections indicate that about 70% of the world’s population will live in urban areas by 2030 [1]. A substantial proportion of these, especially in developing countries, will be living in informal settlements, such as slums, and suffering from many health problems, in addition to unemployment [2].

Urban areas represent a very complicated environment and the diversity of environmental, social, and economic indicators have an impact on the community's health and wellbeing [3]. Socio-economic urban factors, in particular, such as housing, safety, local culture, employment, and investments are likely to become more challenging for many developing countries in the near future [4]. Many studies have pointed out that cities, especially, in developing countries have been affected adversely by rapid urbanization and unprecedented population growth [5], in particular, the intrinsic socio-economic impacts of urbanization. The scale of the urban challenge is now such that several authors have gone as far as to label the urban development factors uncontrollable and unpredictable, both at present and in the future [6]. Hence, it is important to identify the socio-economic urban challenges, and realize their importance to stakeholders, in order to develop appropriate policies and urban solutions based on their local priorities, which are often different from the global context [7].
The determination of socio-economic challenges must understand the interaction between the society and other factors such as the economy, culture, housing, health, education, markets, moral commitments, etc. There is considerable global interest in the ways in which urbanization occurs, and that provides an opportunity to identify urban challenges in order to address and improve the urban environment [8]. Hence, the increasing interest in investigation of socio-economic challenges can have essential influences, be that on humans and the environments in which we live, or on elements that drive economic competitiveness. To suggest a development can change the lives – current and future – of a community [9].

The aspiration to understand urban challenges on a global scale can be seen in the development of sustainability assessment methods. Despite their adoption in diverse countries, well-known sustainability assessment tools have been noted as having limited application in the context of developing countries [7].

The adoption of urban sustainable strategies should be preceded by the determination of the local challenges of urban development, especially for cities with high population density in developing countries that face significant current and future challenges of different magnitudes; e.g., social problems; safety in urban areas; housing; health and education sectors, etc [10].

Iraq provides an excellent example of such a case, where cities have suffered from devastation, degradation and lack of planning due to successive wars and international sanctions spanning forty years. This has caused severe damage to infrastructure, leading to insufficient water supply systems for significant sections of the population, a dented economy and the emergence of urban problems, particularly of a socio-economic nature [11,12]. Rebuilding and rehabilitation are, therefore, fundamental, as is the establishment of new urban projects in several Iraqi cities, to meet the growing demand.

This research aims to investigate stakeholder perception of socio-economic challenges, in order to identify their priorities. It is considered a first step towards the integration of their aspirations into the country’s urban development policies and activities, and to promote their participation in a shared and sustainable future for Iraqi cities.

2. Methodology

Public participation and the canvassing of diverse individual opinions is considered a fundamental approach to decision-making [13]. Therefore, a nationwide 19-item questionnaire was developed, to investigate the public perception of indicators influencing urban socio-economic development in Iraqi cities, and a method of stakeholder perceptions analysis was selected as the main approach for this study, which aims to capture the opinions of a large group of people in an efficient and consistent way. The study methodology is as follows:

2.1 Questionnaire preparation

The questionnaire was developed in five stages as follows:

**Stage 1.** An initial list of 19 socio-economic urban indicators was identified, based on a comprehensive review of the previous literature on urban environmental and sustainable development targets. Attention was given to the relevance of the identified urban indicators to the cities and regions of the Middle East, including Iraq, especially the Iraq National Development Plan (2013–2017) and Iraq National Housing Policy.

**Stage 2.** Field visits were carried out by one of the authors to Iraqi cities, including Baghdad, Karbala and Babylon, between November and December 2018. Stakeholders from public, professional, and governmental groups were contacted by phone, mobile, and through social media, and via internal
communications with relevant government departments. Governmental institutions, civil societies and NGOs were also contacted. Interviews were held with willing stakeholders, to investigate their views on the identified urban indicators, and other relevant local socio-economic urban challenges. The list of urban indicators was updated, and their definitions were revised to promote clarity – resulting in a final list of 19 items, as summarized in Table 1.

Stage 3. A draft online survey was developed in light of the two preceding stages. The survey was prepared in English and translated into Arabic, to enable wider participation of the public, who may not be well-versed in English. Two professional translators reviewed the draft to check the clarity of the content and its accuracy. The questionnaire draft was assessed in a pilot survey, which was evaluated to analyse the thoroughness and clarity of the urban items related to the psychometric features of the instrument. The pilot study participants (N= 16) included a representative sample of members of the public. This round aimed to identify any lack or ambiguity in the content, the length of the survey, and the level of understanding of the components, other potential perceptions, and the importance of the general urban items. The findings arising from the pilot questionnaire were incorporated into the amended final questionnaire, with improved validity of the content.

Stage 4. The online distribution technique was used in this study. It is a rapid method, compared with the manual questionnaire approach, and less expensive [14]. A snowball sampling technique was also used, which is considered suitable for large-scale distribution, to reach many respondents across all regions [15]. The survey was conducted via Survey Monkey. This web tool facilitates the widespread distribution of questionnaires and enables the authors to control and monitor the responses, and to get a preliminary analysis of the results in a short time [16]. The final version of the survey included 19 structured items, used to rate stakeholders’ perceptions of the importance of the dimensions of the urban development challenges.

Stage 5. Face to face interviews were conducted with some age groups; e.g., 55-60 years and 61 years and above, because these groups are the least likely to use the internet.

| Table 1. Socio-economic indicators description identified from the literature review |
|-----------------------------------|------------------------------------------|
| Item                             | Impact                                   |
| Unplanned (random) housing       | Fandom housing on urban developments can affect people, economies and the entire ecosystem. The informal settlement phenomenon constitutes about 7.3% of the total number of housing units in Iraq [17]. |
| Affordable housing               | Affordability of housing has considerable impact on urban growth management, economics, planning, real estate, land and housing markets. Affordable housing policy in Iraq is among the most urgent issues of recent decades, particularly for low-income and poor families [12] |
| Safety                           | Enhancing urban safety and security is considered a fundamental and vital issue of urban development in Iraq [18]. |
| historical buildings Preservation | There is a demand for protection, conservation, and restoration of historic cities and areas in Iraq, and potential adaptation with a contemporary urban environment is a key issue [19]. |
| Integrated urban security systems | There is an urgent need in Iraq for integrating protective security measures as part of the urban design process, to mitigate the threat from, and reduce the damage of, terrorist acts [20]. |
| Tourism sector                   | Archaeological and religious tourism attract millions of tourists every year to Iraq [17]. |
| Vernacular buildings             | The process of long-range preservation and valorisation of vernacular buildings in Iraq can promote sustainable development and preserve heritage [19]. |
Housing projects

Housing production is considered a highly productive activity and economic sector, able to generate direct and indirect employment, especially given the large deficit in the housing sector estimated at 2 million housing units in Iraq [12].

Investment in urban projects

In developing economies, investment in urban communities can encourage a wide variety of urban development projects as a part of efforts to empower local communities to control urban problems [21].

Provision of employment opportunities

Urban development projects represent a nexus for needs and opportunities. They offer possibilities for economic development, social inclusion, and wellbeing [22].

Identity and local culture

The employment of diverse local culture elements in urban development gives robust features and suggests that cities are viable, by providing fertile ground for future generations to develop urban projects with the local characteristics [19].

Promote quality housing

The improvement of housing unit quality aims to enhance social well-being of the Iraqi citizens [12].

Provide job opportunities

This is a significant indicator, especially for developing countries, which contributes to the stability of cities, urban safety and security, survival and growth for long periods [22].

Securing buildings

This indicator reflects an urgent need to rebuild urban development in Iraq context [18].

Promote individual housing units

There is substantial demand for individual houses and low-rise residential units, which respond to the Iraqi family’s needs more appropriately than high-rise units [12].

Traditional building methods

The global drive to decrease GHG has stimulated a return to traditional buildings, which represent the best design-led response to climate in the local Arabic environment [7].

Standards of household size

Many Iraqi families live together in one house due to the housing crisis facing the country [12].

Hierarchy in public and private places

This gives an opportunity to create pedestrian zones as in traditional Arab cities [1].

Using sustainable local materials in construction

A sustainable building is constructed using local materials that can be used without any undesirable effect on the environment, and produced locally [7].

2.2 Survey respondents

The study was conducted as a thorough questionnaire for both genders from diverse social sectors. All Iraqi regions were selected for this research, which covers the northern, central and southern regions that house the eighteen cities. The only requirement to participate in the survey was that the participants were over the age of eighteen. The participants were informed in writing that participation was voluntary, and the authors’ commitment to maintain the privacy and confidentiality of all the data was provided.

2.3 Sampling and data collection

The snowball sampling technique was utilized in this study, to ensure large-scale distribution of the questionnaire [15]. After issuing the survey, and by using SurveyMonkey, the link was sent to a group of potential respondents in all Iraqi cities by email, text messages, and messaging in social networks. The same procedure was repeated several times during the survey period, until the required number of stratified samples were collected. The statistical analysis of the questionnaire data was completed with IBM SPSS.
Descriptive statistics on the urban indicators and scale frequencies, response percentages, means, modes and standard deviations (SD) were computed. Then, the demographic data was analyzed descriptively by computing frequencies and percentages. Internal consistency reliability was assessed via Cronbach’s alpha coefficient (α). The alfa coefficient provided a single estimate to determine internal consistency or average correlation of questionnaire items, in order to measure its reliability [1], enabling the assessment of the overall correlation between questionnaire items within scale reliability. Several social studies have suggested that the average coefficient of internal consistency (α = 0.70) is considered to be acceptable reliability [23]. In this study, the average coefficient of all extracted components was 0.867. This is considered good and indicates a very high internal consistency or reliability [1].

Principal Component Analysis (PCA) was carried out as a mathematical technique on all 19 items in this study, to determine the underlying structure characterizing a group of correlated variables. The importance of a component was evaluated 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 the (PCA), directing all factors to be extracted. Rotation can reduce the number of factors on which the variables under investigation have high loadings and make the interpretation of the analysis easier [1]. Items that were included had factor loadings above 0.40. Five components were extracted as follows: economic; cultural aspects; safety and security; design context; and housing demands. Then, internal consistency and validity were established for the items of the questionnaire. Kaiser-Meyer-Olkin (KMO) and Bartlett’s test of sphericity were to identify significant correlation between survey items. Sampling adequacy was measured with KMO, the level was 0.892. KMO values > 0.8 can be considered good [1] and indicates that PCA is useful for these variables.

3. Results and analysis

3.1 Demographic characteristics of the respondents

A total of 643 final responses were received, of which 411 were valid. Demographic and work-related characteristics of the participants are summarized in Table 2, across all Iraqi cities. Of the respondents, 64.4% were male and 35.6% were female. With regards to age, 18.4% were aged between 25 and 30 years, representing the highest rate of participation. The age group above 61 years represented the lowest participation, at 3.9%.

To ensure that a broad range of people with diverse occupations were involved in the survey, more than half of the respondents (54.9%) were selected as government employees. This was because the rate of government employment constitutes more than 40% of the labour force in the country [25]. In addition, many of these employees would have had internet access, which is provided for free in most Iraqi government departments [1, 26].

A broad knowledge base was initialized depending on different academic qualifications of the participants, which was deemed helpful to achieving the goals of the study [27, 28]. The rate of participation exceeded expectations. The highest response rate was in the southern region, which was 62.9% of the respondents. At the same time, participation varied by location. Most of the respondents lived in urban areas (84.5%). A diversity of occupations and qualifications, for all Iraqi governorates, was included in this study. There was an emphasis on urban areas, because it represents the study area. A descriptive analysis of the socio-economic factors is given in Table 3.

Table 3 represents the percentage of response for each option, expressed on the 5-point Likert-type scale. Mean, mode and standard deviations (SD) of responses were computed for each item. The socio-economic items were listed in a descending order, based on the mean response score (e.g., safety of public places; mean = 4.598, mode = 5, SD = 0.764) and relatively greater for lower mean scores (e.g., promote high-rise housing; mean = 3.56, mode = 5, SD = 1.312).
Table 2. Background factors of the respondents

| Variable             | Scale                  | Frequency | Total % |
|----------------------|------------------------|-----------|---------|
| Gender               | Male                   | 264       | 64.4    |
|                      | Female                 | 147       | 35.6    |
| Age group (yrs.)     | 18-24                  | 58        | 14      |
|                      | 25-30                  | 76        | 18.4    |
|                      | 31-35                  | 61        | 14.9    |
|                      | 36-40                  | 54        | 13.2    |
|                      | 41-45                  | 71        | 17.1    |
|                      | 46-50                  | 33        | 8.1     |
|                      | 51-55                  | 22        | 5.4     |
|                      | >61                    | 16        | 3.9     |
| Occupation           | Government employee    | 223       | 54.2    |
|                      | Non-government employee| 59        | 14.4    |
|                      | Self-employed          | 63        | 15.1    |
|                      | Other                  | 67        | 16.3    |
| Qualification        | Post-graduate degree   | 121       | 29.5    |
|                      | Undergraduate degree   | 217       | 52.8    |
|                      | Up to secondary school | 73        | 17.8    |
| Location             | Central Region         | 143       | 34.8    |
|                      | Southern Region        | 258       | 62.9    |
|                      | Northern Region        | 10        | 2.3     |
| Location type        | Urban                  | 347       | 84.5    |
|                      | Suburban               | 53        | 12.9    |
|                      | Rural areas            | 11        | 2.7     |

Table 3. Descriptive analysis of the socio-economic factors

| Items                                             | Response* (%) | Mean   | Mode | SD    |
|--------------------------------------------------|---------------|--------|------|-------|
|                                                  | 1  | 2  | 3  | 4  | 5  |      |      |
| Safety of public places                          | 1.1 | 1.6 | 6.1 | 19.0 | 72.3 | 4.598 | 5 | .764 |
| Minimize unplanned (random) housing              | 2.9 | 1.8 | 5.5 | 12.4 | 77.3 | 4.593 | 5 | .901 |
| Provision of affordable housing                   | 1.3 | 2.1 | 5.9 | 20.6 | 70.0 | 4.557 | 5 | .809 |
| Develop the tourism sector                        | .8  | 1.9 | 8.3 | 19.3 | 69.7 | 4.552 | 5 | .790 |
| Preservation of historical buildings              | .8  | 2.1 | 7.9 | 21.1 | 68.1 | 4.53  | 5 | .793 |
| Promote and provide integrated urban security systems | .8  | 2.4 | 7.9 | 22.4 | 66.5 | 4.51  | 5 | .804 |
| Development of traditional building methods       | 1.8 | 2.1 | 16.6| 34.3 | 45.1 | 4.51  | 5 | .804 |
| Increasing housing projects                       | .3  | 1.8 | 7.9 | 29.3 | 60.7 | 4.48  | 5 | .742 |
| Securing buildings                                | 1.1 | 1.1 | 9.5 | 27.4 | 60.9 | 4.46  | 5 | .793 |
| Encourage investment in urban projects            | .3  | 3.2 | 10.2| 23.6 | 62.7 | 4.45  | 5 | .823 |
| Preservation of vernacular buildings              | 2.1 | 1.1 | 12.1| 24.3 | 60.4 | 4.39  | 5 | .895 |
| Provision of employment opportunities             | .8  | 3.5 | 12.6| 27.3 | 55.8 | 4.33  | 5 | .885 |
| Promote identity and local culture                | .8  | 2.9 | 12.4| 35.4 | 48.5 | 4.27  | 5 | .848 |
| Promote qualitative housing                       | 1.4 | 4.9 | 20.3| 27.9 | 45.5 | 4.11  | 5 | .986 |
| Preservation of the hierarchy in public and private places | 1.8 | 3.4 | 20.3| 38.0 | 36.4 | 4.03  | 4 | .933 |
| Provide minimum standards based on household size | 2.9 | 5.8 | 16.4| 37.2 | 37.7 | 4.01  | 5 | 1.01 |
| Promote individual housing units                  | 4.2 | 13.2| 25.3| 28.0 | 29.3 | 3.64  | 5 | 1.15 |
Using sustainable local materials in construction 5.3 10.6 30.6 25.6 28.0 3.60 3 1.15
Promote high-rise housing 9.5 12.9 21.4 24.0 32.2 3.56 5 1.31

Notes:
*Response scales are as follows:
1. Unimportant; 2. Of little importance; 3. Moderately important; 4. Important; 5. Very important

3.2 Principal component analysis (PCA)
Principal component analysis (PCA), a mathematical technique, was conducted on the 19 survey items, to identify the underlying structure that characterizes a group of highly correlated variables as shown in Table 4. The suitability analysis of the measurement matrix was detected that all survey items involved from the scale, and each item had a substantial factor in the range of 0.4 to 0.8. Variance maximization (varimax), an orthogonal rotational strategy, was chosen. Five summated components were extracted from the 19 questionnaire items represented: economic; cultural aspects; safety and security; design context; and housing demands, respectively. The eigenvalues of the five factors were ranged from 7.068, with 1.273 in the middle, and 1.033 for the lowest value. Based on Bartlett’s test of sphericity as a factor solution showed a significant correlation value among questionnaire items (p<0.000), suggesting that all selected variables were related to each other and suitable for further analysis. The Kaiser Meyer Olkin (KMO) measure verified that the sampling adequacy KMO= 0.892 indicates that the chosen of the questionnaire variables is suitable for factor analysis and can be considered high [1, 27] and the matrix was suitable for PCA.

Table 4. Rotated Component Matrix of the socio-economic items

| Item                                      | Component                  |
|-------------------------------------------|----------------------------|
|                                           | Economic | Cultural aspects | Safety and security | Design context | Housing demands |
| Encourage investment in urban projects    | .825     | .141             | .141                | .042           | .107            |
| Develop the tourism sector                | .809     | .228             | -.007               | .024           | .044            |
| Provision of affordable housing           | .765     | .126             | .275                | .209           | .090            |
| Contribution of urban projects in the provision of employment opportunities | .656     | .157             | .378                | .089           | .101            |
| Minimise unplanned (random) housing      | .383     | .168             | .270                | .350           | .247            |
| Preservation of vernacular buildings      | .264     | .824             | .149                | .051           | .053            |
| Preservation of historical buildings      | .314     | .792             | .255                | -.045          | .125            |
| Preservation of the hierarchy in public and private places | .074     | .609             | .288                | .340           | -.019           |
| Promote identity and local culture        | .196     | .595             | .204                | .204           | .250            |
| Using sustainable local culture in construction | -.008   | .534             | .033                | .489           | .055            |
| Securing in buildings                     | .141     | .264             | .828                | .135           | .107            |
| Safety of public places                   | .197     | .153             | .766                | .108           | .088            |
| Promote integrated urban security systems | .207     | .280             | .692                | .170           | .063            |
| Promote individual housing units          | .103     | .112             | .134                | .754           | -.102           |
| Provide minimum standards based on household size | .186      | .023             | .143                | .536           | .524            |
| Development of traditional buildings methods | .112     | .427             | .239                | .499           | .117            |
| Promote high-rise housing                 | .020     | .148             | .001                | -.139          | .864            |
| Promote qualitative housing               | .231     | .040             | .310                | .131           | .470            |
| Increasing housing projects               | .394     | .233             | .327                | .257           | .446            |
### 3.3 Internal Consistency Reliability

Generated components were tested for internal reliability using Cronbach’s alpha coefficient estimate, as shown in Table 4. All values obtained from the reliability estimates were greater than 0.50. This indicates that the items among questionnaire items have the same attributes [1, 27]. The internal consistency reliability, which was represented by Cronbach’s coefficient of all extracted components, was 0.867, indicating a very high level of internal reliability.

| Cronbach’s alpha coefficient (0.867) | .827 | .803 | .801 | .546 | .544 |
|--------------------------------------|-----|-----|-----|-----|-----|
| Eigenvalues                          | 7.068 | 1.625 | 1.273 | 1.134 | 1.033 |
| Percentage of explained variance (63.860) | 37.199 | 8.552 | 6.702 | 5.971 | 5.436 |

### 4. Discussion

The views of stakeholders are key to the understanding and investigation of the socio-economic urban challenges in Iraqi cities. Stakeholders’ perceptions originate from their daily living, places of work and study, and monitoring of existing problems in their cities. All of the 19 socio-economic aspects investigated here were ranked according to the mean value of high scores ranging between 3.56 and 4.598, from the lowest to the highest, on a Likert scale of 1 to 5. Overall, among the urban factors that have been evaluated by the participants, 'safety of public places', was ranked as the most important socio-economic urban challenge for Iraqi cities, followed by 'minimize unplanned (random) housing'. At the same time, the item ‘promote high-rise housing’ was considered the least important item of those analysed. The items 'using sustainable local materials in construction' and ‘promote individual housing units’ were the second and the third least important items. The results indicated that Iraqi stakeholders are most concerned with socio-economic aspects such as safety, housing, healthcare, investments and tourism and cultural aspects.

It is worth mentioning that many responses agreed with previous findings, in the sense that all socio-economic urban factors, which were initially identified through a review of the literature, had high mean scores indicating their importance to the stakeholders. Sixteen of the total 19 socio-economic urban indicators had mean scores greater than 4 (= important), and only three items had mean scores greater than 3 (= moderately important). Generally, the internal consistency was high, even when some of the components included only three items. This complex structure coincides with the results of previous academic and government studies that have confirmed the importance of identifying the socio-economic urban challenges at the local level, which is considered the cornerstone for guiding decision-makers to achieve sustainable urban development.

### 5. Study Limitations

The main limitation of the questionnaire was the differences and disparities in age, occupation and educational levels, and the extent of the participants’ appreciation of the indicators. The main challenge that the study faced was its dependence on participants using a computer to access the internet to answer the questions, as internet services are considered inefficient in some regions and generally. Chronic electricity outages across most Iraqi cities added a further challenge and limited the possibility of reaching the rather marginalised sections of Iraqi society.

### 6. Conclusion

There is now a broad agreement that socio-economic issues are of paramount importance for communities in their presents and futures. Stakeholder engagement in identification of socio-economic urban challenges is essential to decision making. This study provided an interactive experience, between
the community and the urban challenges that are facing their cities and regions, and has helped to mitigate the severe shortage of comprehensive social and economic studies in the Iraqi context. Through conducting a nationwide survey, many of socio-economic challenges of urban development were investigated, according to the local stakeholders’ perceptions. Most aspects related to housing demands, cultural issues and safety and security were perceived by stakeholders to be more important than other factors that were related to local materials and considered to be of lesser impact. The study has highlighted the importance of other economic factors, which indicate that although the factors with a mean score were less than 4.0, the participants consider them to be important, but not as important as the socio-economic indicators.

A comparatively good response rate suggests that the findings of this study are suitable to propose sustainable development policies in urban planning and design for Iraqi cities. Also, they can provide urban data that is critical to finding urban solutions, to create the sustainable development of urban projects in Iraq.

References

[1] Ameen, R.F.M. & Mourshed, M. Urban environmental challenges in developing countries—stakeholder perspective. *Habitat International* **64** (2017): 1. (2017).
[2] Arnott, R. Housing policy in developing countries: The importance of the informal economy. *Urbanization and Growth*, **167** (2008).
[3] Cutter, S. L., Boruff, B. J., & Shirley, W. L. Social vulnerability to environmental hazards. *Social Science Quarterly*, **84** (2), 242-261. (2003).
[4] Mason, C. *Spatial Variations in Enterprise: the Geography of New Firm Formation*. Chapter 5, 33. Taylor and Frances group (2015).
[5] Molla, M. B. Urbanization process in developing countries: A review on urban ecosystem degradation and public health effect. *Research Journal of Agriculture and Environmental Management*, **4** (4), 291-298. (2015).
[6] Rana, M. M. P. Urbanization and sustainability: challenges and strategies for sustainable urban development in Bangladesh. *Environment, Development and Sustainability*, **13** (1), 237-256. (2010).
[7] Ameen, R.F.M. & Mourshed, M., & Li, H. A critical review of environmental assessment tools for sustainable urban design. *Environmental Impact Assessment Review*, **55**, 110-125. (2015).
[8] GRUNGE. *Improving Urban Health Equity Through Action on the Social and Environmental Determinants of Health*. London, England, (2010).
[9] Awosusi, O. O., & Jegede, A. O. Challenges of Sustainability and Urban Development: A Case of Ado-Ekiti, Ekiti State, Nigeria. *International Education Research*, **1** (1(2013)), 22-29. (2013).
[10] Kraas, F. Megacities and global change: key priorities. *The Geographical Journal*, **173**(1), 79-82. (2007).
[11] HRW. *World Report/ 2013- Events of 2012*. USA, (2013).
[12] UNHABITAT. (2010). *Iraq National Housing Policy*. Jordan. (2010).
[13] Rowe, G., & Frewer, L. J. Public participation methods: A framework for evaluation. *Science, Technology & Human Values*, **25** (1), 3-29. (2000).
[14] Huang, H.-M. Do print and Web surveys provide the same results? *Computers in Human Behavior*, **22** (3), 334-350. (2006).
[15] Dragan, I. M., & Maniu, A. I. Snowball Sampling Completion. *Journal of Studies in Social Sciences*, **5** (2), 160-177. (2013).
[16] Baker, H. K., Singleton, J. C., & Veit, E. T. *Survey Research in Corporate Finance: Bridging the Gap Between Theory and Practice*: Oxford University Press. UK, (2010).
[17] CSO. *The Iraq National Development Plan (2013-2017)* Central Statistical Organisation. Ministry of planning, Iraq. (2013)
[18] Rathmell, A., Oliker, O., Kelly, T. K., Brannan, D., & Crane, K. Developing Iraq's Security Sector: The Coalition Provisional Authority's Experience: Report: Rand Corporation. (2006).
[19] Tweed, C., & Sutherland, M. Built cultural heritage and sustainable urban development. Landscape and Urban Planning, 83 (1), 62-69. (2007).
[20] Coaffee, J. Protecting the urban the dangers of planning for terrorism. Theory, Culture & Society, 26 (7-8), 343-355. (2009).
[21] Wu, F. China's recent urban development in the process of land and housing marketisation and economic globalisation. Habitat International, 25 (3), 273-289. (2001).
[22] Bugliarello, G. (2006). Urban sustainability: Dilemmas, challenges and paradigms. Technology in Society, 28 (1-2), 19-26. (2006).
[23] Tavakol, M., & Dennick, R. Making sense of Cronbach's alpha. International Journal of Medical Education, 2, 53-55. (2011).
[24] Alkhattabi, M., Neagu, D., & Cullen, A. Information quality framework for e-learning systems. Knowledge Management & E-Learning: An International Journal (KM&EL), 2 (4), 340-362. (2010).
[25] Alwardi, S. Structural Corruption in the State of Iraq. Journal of University Heritage College, 13 (Baghdad, Iraq), 1-10. (2015).
[26] Ameen, R. F. M., Li, H., & Mourshed, M. Sustainability assessment methods of urban design: a review. Paper presented at: the 21st International Workshop: Intelligent Computing in Engineering 2014 (ISBN: 978-0-9930807-0-8), Cardiff, UK. (2014).
[27] Ameen, R.F.M. & Mourshed, M Environmental, Social and Economic Challenges for Urban Development: Stakeholder's Perception in a Developing Economy. Paper presented at: the 16th International Conference on Computing in Civil and Building Engineering 2016, ICCCBCE2016At: Osaka, Japan Volume: Proceedings, ISBN: 978-4-9907371-2-2. (2016).
[28] Ameen, R.F.M. & Mourshed, M. Urban sustainability assessment framework development: The ranking and weighting of sustainability indicators using analytic hierarchy process. Sustainable Cities and Society 44 (2019): 356-366. (2019).