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Ideal city from the perspective of children through participatory planning – Duhok City in Kurdistan Region of Iraq

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Abstract

As urban expansion proceeds rapidly world-wide, challenges to urban planning and public participation become more conspicuous. Urbanization, and particularly rapid urban expansion, has serious implications for children. While this age group is most vulnerable to the environmental hazards of cities, their needs are rarely given a special focus. Children are seldom involved in planning and decision-making on matters that touch their lives. The focus of local governments is rather on how to provide enough employment opportunities, transport, housing and other basic services to meet the growing needs. This article aims to capture the perceptions of children from two schools in Duhok city, Kurdistan Region of Iraq (KRI) about the desired spatial environment in which they want to live. For this purpose, participatory mapping was used as a tool, whereby the children were able to express their needs and preferences through drawing/mapping their ideal cities. In preparation for the drawing exercise, the children had acquired a basic understanding of city planning and the basic elements that constitute the image of a city, based on Kevin Lynch's (1960, 1977) theory of the elements of a city image. The contents of the children's drawings were subsequently analyzed, based on Roger A. Hart's (2011) classification of eight city models. The results show that the majority of the city maps drawn by the children have the characteristics of the safe and accessible city. This study does not only explore children's perceptions of their existing and future urban environments, but also constitutes a unique initiative to encourage the involvement of school children of a Middle Eastern country in an informal city planning practice.

Zusammenfassung

Mit der weltweit raschen städtischen Expansion werden die Herausforderungen an die Stadtplanung und an die Beteiligung der Öffentlichkeit deutlich sichtbarer. Die Verstädterung und insbesondere die rasche städtische Expansion haben schwerwiegende Folgen für Kinder. Während diese Altersgruppe am stärksten von den Umweltrisiken der Städte betroffen ist, wird ihren Bedürfnissen nur selten ein besonderer Stellenwert eingeräumt. Kinder werden selten an der Planung und an Entscheidungen, die ihren Lebensbereich unmittelbar betreffen, beteiligt. Der Schwerpunkt der lokalen Gebietskörperschaften liegt vielmehr darauf, wie genügend Beschäftigungsmöglichkeiten, Verkehrsmittel, Wohnraum und andere grundlegende Dienstleistungen bereitgestellt werden können, um den wachsenden Bedürfnissen gerecht zu werden. Dieser Artikel soll die Wahrnehmung von Kindern aus zwei Schulen in der Stadt Duhok, in der Region Kurdistan im Irak (KRI), über die gewünschte räumliche Umgebung, in der sie leben wollen, erfassen. Zu diesem Zweck wurde das Mapping von den Kindern als Werkzeug verwendet, um ihre Bedürfnisse und Vorlieben durch Zeichnung/Mapping ihrer idealen Städte

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auszudrücken. Im Vorfeld wurde den Kindern ein grundlegendes Verständnis von Stadtplanung und den Grundelementen, die das Bild einer Stadt ausmachen, basierend auf *Kevin Lynchs* (1960, 1977) Theorie der Elemente eines Stadtbildes, ermittelt. Ausgehend von *Roger A. Harts* (2011) Klassifikation von acht Stadtmodellen wurden anschließend die Inhalte der Kinderzeichnungen analysiert. Die Ergebnisse zeigen, dass die meisten der von den Kindern gezeichneten Stadtpläne die Merkmale der sicheren und zugänglichen Stadt aufweisen. Diese Studie untersucht nicht nur die Wahrnehmung der Kinder in Bezug auf ihre bestehende und zukünftige städtische Umgebung, sondern dient auch als eine einzigartige Initiative, um die Beteiligung von Schulkindern an einer informellen Stadtplanungspraxis in Nahoststaaten zu fördern.

Keywords children, planning, mental maps, drawing, Duhok, Kurdistan Region

1. Introduction

Mapping or hand drawing is one of the important and efficient tools used for involving children in the planning process and encouraging them to voice their needs. But how to do planning with children? This seems to be something unrealistic, as children are considered to be unable to plan because they lack knowledge. Therefore, planning should be left to the experts. This view is reflected in most planning systems where the voice of children remains unheard and Kurdistan Region of Iraq (KRI) is no exception. The urban planning system in this region is largely characterized by a centralized, top-down approach, where the views of the wider population are totally neglected during plan elaboration. In addition, KRI is facing many other challenges which also have a negative impact on urban planning, such as armed conflicts and the existence of a large number of internally displaced persons (IDPs).

2. Literature review

2.1 Children's right and needs

The UN Convention on the Rights of the Child (UNCRC), which was promulgated in 1989, gives children below the age of 18 the same rights as adults including the right to:

- Participation in all matters that affect children through free expression of their views and giving them "due weight in accordance with the age and maturity of the child" (Article 12) (*UNICEF Canada* 1997: 6; *Wood* 2015; *OHCHR* 1989).
- Freedom of expression, including obtaining and dissemination of information and their own ideas especially though art (Article 13) (*UNICEF Canada* 1997; *Wood* 2015; *OHCHR* 1989.
- Freedom of association, including gathering in public places and doing their own activities (Article 15) (*UNICEF Canada* 1997; *Wood* 2015; *OHCHR* 1989.
- Play, rest, leisure, recreation and cultural activities (Article 31) (*UNICEF Canada* 1997; *Wood* 2015; *OHCHR* 1989).

The four articles implicitly emphasize safety and well-being of children by having a happy childhood and enjoying the same rights and freedoms of all other individuals. They advocate the children's rights to recreation, freedom of speech and movement, a clean environment, and involvement in (participatory) decision-making on matters that touch upon their daily life and future. These regulations are important for children because how a community is planned affects the quality of life of its citizens, particularly children (*UNICEF Canada* 1997; *Miller* and *Bishop* 2007).

Considering the fact that by 2050 around 70% of the world population, with the majority under age of 18, will live in cities (*ARUP* 2017), children´s needs should be given special attention. We often hear that 'children are our future', but the children's opinions and needs are rarely considered by those who plan and manage cities, particularly in the developing countries. In practice, the focus is much more on how to provide enough employment opportunities, transport, traffic, parking, and housing to meet the growing demands without having children in mind (*Wood* 2018).

Actually children´s needs are very simple and beneficial for all citizens. It is necessary that children have the ability to get around independently (*ARUP* 2017) with less supervision from parents and others and have physical and emotional contact with nature (*Hart* 2011; *ARUP* 2017). They should also have access to a safe and clean environment (*ARUP* 2017), enjoyable places to play (*Klopp* 2016; *Hart* 2011), and the oppor-

tunity to explore their neighborhood and dream up their next adventure. However, children's needs often clash with the wishes of the grown-ups in a city and the obstructive regulation 'DO NOT ENTER'. Children are entitled to find public space for their needs, with play and exercise as absolutely necessary for them. A good city should provide an environment where children can, for example, easily play everywhere. Children need playgrounds with a range of equipment that is suitable for their ages and abilities which they can reach safely on their own. Well-established bodies of research argue that urban environments are best planned if a successful city can be built for children (*ARUP* 2017). Therefore, the city will be better for everyone if children's needs are taken care of.

2.2 Dimensions of children's needs in cities

Children's engagement with a city is based on a range of dimensions of essential needs that should be satisfied. In his article 'Planning Cities with Children in Mind: A background paper for the State of the World's Children Report', *Hart* (2011) classified what children need to find in cities into eight non-exclusive dimensions: Secure and adequate housing, an equitable and inclusive city, a healthy city, a safe and accessible city, a caring city, a playful city, a city for learning, and a green city. Often a city could have more than one dimension to qualify for being an ideal city. A good city is the one in which children can grow and develop themselves in accordance with their powers, build their confidence, become autonomous and capable of managing their own affairs and actively engaging in the public life (*Lynch* 1977).

2.3 City planning with children

Participation of children in city planning and design has become increasingly popular, but when it comes to planning it is still viewed as an innovative thing to do. Researches prove that involvement of young people including children in urban planning gives them the opportunity to demonstrate their ability to evaluate their environment and create new ideas (*Horelli* 1997; *Bartlett* 2002), and improve their "environmental awareness, knowledge and skills" (*Wilks* and *Rudner* 2013: 6). Available researches also indicate that involvement of children leads to better planning of urban environments (*Francis* and *Ray* 2002). It is considered as the best way to make cities more friendly and sustainable (*UNICEF* 2000) and is seen as the key for successful city planning.

Involving children in the early process of city planning is an important way to introduce their needs and desires. However, current planning approaches are generally based on authoritarian top-down approaches and community-led planning initiatives, while the voice of children remains unheard in the decision-making process. Often children are not considered as (future) citizens (*Miller* and *Bishop* 2007; *Sturgis* 2015). Whereas planners can "see the city through children's eyes" (*Gray* 1998: 1) if the children are given the right opportunity to learn about urban planning and their participation in public planning projects. They can also stake out what is needed through the eyes of children (*Sturgis* 2015).

Children have the ability to voice their concerns about public spaces and services, identify urban gaps and community needs that are not observed by adults, and use their sketching and mapping skills to recommend and make urban changes (*Sturgis* 2015). They might have detailed information on what is wrong or right in their neighborhoods, and they may know about the places they cannot access on foot or bike because of physical barriers. In addition, "children are more likely [than adults] to offer solutions to problems they identify" (*Wood* 2015: 152).

Children's involvement in the planning process can also help the planners learn the skills needed to facilitate and promote public participation, and make the participants feel as part of their contribution to community building. However, it is rare to find communities that involve children in the planning process although children's voices and participation in public planning processes can help solving many urban problems (*Gray* 1998).

2.4 Children and mapping

Considerable research has been conducted on the relationship between children and their immediate environment, including neighborhood and city. Among researchers in this field are *Lynch* (1977), *Walmsley* (1988), *Fowler* (1993), *Aitken* (1994), *McKendrick* (1999), *Chawla* and *Malone* (2003). Different data collection methods have been used for working with children to describe their physical environment including cities and neighborhoods, as well as their perceptions

about their favorite places and those places which occupy their concerns.

Spatial representations of children come in various graphical forms, such as drawings or sketches, maps and other pictorial forms, recall mapping or mental mapping, occasionally also as photos or 3D models. Available research and literature point to children's ability to benefit from maps to see their environment and interact with it, and learn and apply basic mapping concepts, such as direction, scale, shape, and use of symbols. It is believed that when children reach age of eleven to 13, their geographic skills mature, and they start to move into a stage of social consciousness and are more able to make and understand maps (*Sobel* 1998). Maps and drawings are generally used to bridge the gap between the real world and the abstract world, and to represent or express emotionally important things for children. They are also used to understand children's experiences of beauty, comfort, secrecy and adventure, and how children perceive an environment or a place, and also examine their understanding of physical activity, play, and sports (*UNICEF Canada* 1997; *MacDougall* et al. 2004; *Hutchison* 2007).

Drawing is useful for collecting views of children who cannot express themselves in oral or written form. It is important to reflect the inner world of the children. Mapping is also useful for children to discover neighborhood issues, such as lack of safe and playing grounds, better reflect on their thoughts on the elements of the physical environment, interpret their sensory experiences into a visual format, and develop their understanding of physical and human geography. Child-led mapping has a great value, which is not restricted to envisioning a public utility only, but also to wider community needs. Sketches made by children express not merely perception of the physical setting, but also their ideal perceptions and values using both drawings and semantic values and labeling (*El-Husseiny* 1960; *Lynch* 1960; *Gould* and *White* 1974; *Sobel* 1998; *Sturgis* 2015).

Mental mapping is used to draw a map of a location from memory and relate individual images of the physical environment with certain clues. It is useful for developing a sense of place and can provide rich information concerning daily lives of people, which could affect policy and planning (*El-Husseiny* 1960; *Lynch* 1960; *Gray* 1998; *Sobel* 1998; *Gieseking* 2013). It is also used as a means to access children's perspectives of their neighborhoods, and their expression of the physical environment.

3. Study area and the planning process

Duhok city functions as one of the major urban centers and is the capital of one of the four provinces of KRI. Located along the border with Turkey, Syria, and northern parts of Iraq, Duhok enjoys a strategic and an important role in the economy of this region. Much of Duhok's cityscape is dominated by mountains; the city is situated in a wide valley extended between two opposing mountain ranges. It includes a diversity of cultural and ethno-religious groups; the majority being Muslim Kurds, while Yeziddies (Kurds), Christians and (Muslim) Arabs constitute sizable minorities (*Omer* 2015). Over the past few decades, Duhok city has experienced an unprecedented urban expansion, which has resulted in an urban agglomeration encompassing the old, already congested city and the villages at the periphery. The expansion took several leaps with the major one occurring after 2006. The city's expansion has been rather irregular, which is evident in the traditional and informal neighborhoods developed in radiation from the core historic city center prior to 1990. Duhok city in general has become highly congested and overcrowded with the population increase and heavy traffic. The population of Duhok city increased rapidly by about 69% after 1998 to reach approximately 360,000 with the influx of a huge number of IDPs and Syrian refugees (personal communication, *Directorate of Statistics in Duhok Province*, 2019). This situation is an indication of the inefficient role of the urban planning system and the lack of public participation in planning and decision-making (*Omer* 2015; *Abdullah* 2016; *Ismael* 2015). As the car is the predominant mode of transportation in this area, currently there are about 121,000 registered private small cars in Duhok province (personal communication, *Directorate of Statistics in Duhok Province*, 2019).

The planning process in Iraq in general is a top-down, expert-led practice where no consideration is given to the involvement of children, even at lower levels of the ladder of participation developed by *Hart* (1992) or *Arnstein* (1969)[1]. Urban planning in Duhok city is governed by the urban planning system in KRI, which is highly centralized and follows a top-down approach encompassing three spatial levels (*Ministry of Planning* KRG 2012). At KRI level, the Ministry of Municipalities and Tourism (MoMT) holds the leading role in urban planning in this region, including the four provinces; it provides standards and regulations, and has the mandate of giving approvals, as well as the competence of monitoring implementation of the

urban plans. At provincial level, the MoMT's General Directorate of Urban Planning in each province has the mandate of developing master plans and directly monitoring their implementation (*Omer* 2015). Participation of citizens in public affairs and decision-making in KRI is generally very limited, and if available it is at the nominal level and usually does not involve children (*Durable Solutions Platform* 2019). Local children are not given any voice to assess and decide on their urban environments, and are largely excluded from public spaces due to a variety of factors, such as hazardous traffic and environmental conditions. There is also a general lack of interest in children's access, security and inclusion in public spaces.

4. Methodology

This study, conducted in January 2018 with a grant from the Fulbright Program – U.S. Department of State, used a drawing-based approach to explore the perceptions of 30 children, aged nine to 14 years, from two schools – Ishik, a private international elementary school and Havend, a public middle school – about their current urban environment and the ideal city, where they want to live. Initially, the approval of the education authorities was obtained for the selection of the two participant schools and children. Written media consent releases of the children's parents were also obtained for allowing their children to be photographed and videotaped, and for publishing their pictures. Subsequently, the participants from each school were involved for three days in activities including: (i) an introductory session to basic children rights, urban planning concepts, city's image elements, as well as the major urban shortcomings in Duhok city; (ii) a drawing session where the students drew their ideal city maps; and (iii) an exhibition of the children's works at the respective schools.

The theoretical session was supported with illustrative pictures of a city's key elements to facilitate children's learning. The participants were encouraged to express their opinions and voice their concerns concerning the urban design and environment in the study area through interactive discussions, facilitated by a team of female spatial planning lecturers and assistants. This arrangement was made in order to allow for maximum interaction and comfort among the children, taking into consideration the local cultural norms and sensitivity. Based on the mental mapping concept, individual or teams of two to three children worked together to draw their ideal cities. They were given white paper of two sizes – A2 (42.0 x 59.4 cm) and A3 (29.7 x 42.0 cm) – lead pencils, pens, and assortment of crayons and color pens. Rulers were not provided, as the researchers wanted more naturalistic, freehand maps. A second sheet was provided, in case the children wanted to draw more detailed maps. The participants were also provided with a handout including extractions from Metropolis, an internationally-developed urban form curriculum relevant for children (*Martoni* 2010). The participants were taken through an organized process in which they received coaching and guidelines (*Photo 1*). They were also given the opportunity to complete the work at home if more time was needed. This free recall mental mapping exercise helped the children to describe the local places/elements which did not come to their minds during the session time.

Photo 1 *Children in the drawing session, Ishik School. Photo credit: Abubaker Hussein @Fulbright*

At the exhibition, the children were encouraged to describe their ideal cities for the viewers and through interviews conducted with them by the research team (cf. *Photo 2* in Section 5). The interviewed children were asked questions like "Why did you include this element in your city?", "What is the glass tower?" and "What is the transportation system in your [ideal] city?" The interviews helped understanding the maps with some incomprehensible items which were difficult to interpret, an approach used by *El-Husseiny* (1960) and *Lynch* (1960).

The children's graphic and discursive representations on the drawn maps and the interviews' findings were then analyzed and matched, by the two authors separately, to the aforementioned city's eight dimensions developed by *Hart* (2011). *Hart's* topology was found most useful for organizing and categorizing the children's drawings, as it clearly describes what children

need from cities. However, this method entails a number of limitations; for example, inability to physically represent abstract/intangible ideas like poverty and social interaction on the maps.

On each map, the top four matching dimensions were identified. For example, a city with high density of trees, shrubs or plants; green strips, yards or areas; or pasturelands was characterized as a green city. Then, the frequency of the dimensions was calculated to identify the most desirable dimensions of the study area.

5. Results and discussion

A comparative analysis of the children's work across the eight dimensions of the city reveals that a safe and accessible city is the most frequently reported dimension. This finding is in line with the children's concerns raised during the introductory session about the safety risks in certain parts of Duhok city. Most study participants did not consider the local urban environment as child friendly; they believe it generally lacks spatial and social facilities, and poses environmental, health and safety risks for the children. Among the significant quotes expressed by the children during the plenary session as well as interviews are: "The parks in this city are not safe and lack play equipment for children", "The playgrounds are in very bad conditions and not easily accessible by children", "Playing there is not safe or enjoyable", and "The city lacks children sports and recreational facilities". Hence this research focuses more on identifying the spatial environment in which the children want to live. A more detailed description of each dimension characterized by the children's drawings is described below along with relevant literature outlined by *Hart* (2011).

Photo 2 *A student explaining her drawing work (city map) to the school colleagues and teachers. Photo credit: Abubaker Hussein @Fulbright Program*

Secure and adequate housing: Children's access to a stable and a secure home is important for their physical and mental wellbeing. They should live comfortably, not in "crowded neighborhoods and high-density homes" (*Hart* 2011: 4). They should also be less exposed to the effects detrimental to their wellbeing (e.g., stress, fear of crimes, aggression, expulsion from their homes). Children's free access to public play spaces in proximity to their homes is essential for their unrestricted or unsupervised physical mobility to provide them with the opportunity to have social interaction and enjoy a personal space and a sense of privacy (*Zeegers* et al. 1994; *Nallari* 2010).

Study results (12 maps/total 20): Almost half of the ideal cities drawn by the study participants appear to provide secure, adequate and diverse housing (e.g., single-family houses, low-rise and high-rise buildings). In addition, abundant open or green spaces are made around the residences. Play spaces for children (e.g., playgrounds, parks) are considered in almost all the cities and in close proximity to children's homes, albeit for half of them. Meanwhile, the cities seem not to be overcrowded or widely scattered but represented in small housing agglomerations. The houses are generally detached, and can together with the apartments provide the children with the options to walk and/or play in the surrounding vacant spaces and playgrounds (*Fig. 1*).

An equitable and inclusive city: This city meets the international children rights requirement that children be treated equally and in a non-discriminatory manner regardless of their physical abilities in the rights, aspirations and access to resources and opportunities (e.g., play, recreation, leisure) (*Werner* 1943; *Gibbons* et al. 1997). This also includes protection and participation of children "regardless of race, ethnicity, language, religion, gender, or any other distinction" (*Hart* 2011: 5). Hence, it is important that a city design considers the needs of children with disabilities and provides free access to physical settings including inclusive play spaces and "free play or unstructured leisure" (*Hart* 2011: 6). In such a city, spatial, social and economic marginalization and segregation of children should be minimized (*Hart* 2011).

Study results (7/20): In most of the drawn cities, children's play and recreational spaces are abundant, diverse, inclusive, and placed close to the residences. They also do not present any signs or physical barriers that could indicate spatial or social segregation of the population. This design can provide the children with equal opportunities to play and interact (*Fig. 2* and *3*).

Fig. 1 *Ideal city titled 'Modern City', drawn by a 12-year girl, Level 7, Ishik School. Source: schoolchild, January 2018 @ Fulbright Program*

Fig. 2 *Ideal city titled 'Fun World', drawn by a 9-year girl, Level 5, Ishik School. Source: schoolchild, January 2018 @ Fulbright Program*

Fig. 3 *Ideal city titled 'Fun Build', drawn by an 11-year girl, Level 6, Ishik School. Source: schoolchild, January 2018 @ Fulbright Program*

A healthy city: This city offers mixed land uses and a healthy environment with less risks (e.g., garbage, poor living/sanitation infrastructure) to the physical and psychological survival of people, particularly children. It generally contributes to improved health conditions of children, especially through promoted active and child-friendly transportation modes. Decreased physical activities and increased sedentary lifestyles caused by "changes in recreational opportunities, transportation, and urbanization" (*Hart* 2011: 7) are detrimental for children's health and wellbeing, considering overweight and obesity problems. To have healthy lifestyles, it is necessary that cities "create better affordances for physical activities of children through policies on transportation, recreation, and zoning of types of eating places for children in cities" (*Hart* 2011: 7). Active design can encourage physical activity (e.g., stairs, sidewalks, plazas, walkways, active transport systems) (*City of New York* 2010).

Study results (7/20): The drawn cities grouped under this classification provide diverse, safe, attractive, and/or easily accessible places for children's outdoor physical activities and opportunities for playing. Recreational and sports facilities (e.g., parks, playgrounds) are abundantly available and generally provided with play equipment, other supportive elements (e.g., furniture, landscape features, swimming pools), in addition to health facilities. The cities also offer diverse transport facilities including pedestrian paths, bike roads/lanes, vehicular green roads, minibus roads, waterways, and railways. Active design can be found in the structural elements such as landmarks, parks, color gardens, and water bodies. Such cities will be helpful for motivating the children to play and/or walk outdoors on a daily basis (*Fig. 1*).

A safe and accessible city: This city affords safe access and diverse opportunities for children to comfortably play outdoors, interact with others, and have leisure/recreation through family events, picnics, etc. It poses less life-threatening risks like automobile traffic (*Hart* 2011). A safe city is where preventable hazards to children at home, in neighborhoods and play spaces are minimized through appropriate physical designs. There, children's safety can be enhanced by segregating pedestrians from traffic or by closing off streets to through traffic at one end like 'woonerf' in the Netherlands, thus reclaiming the streets for children *(Nalmpantis* et al. 2017*).* Children's safety can also be promoted through making the street a shared space to meet the needs of pedestrians and cyclists, and to decrease the dominance of the car like the "home zones" in the UK (*Department for Transport in London* 2001: 1) and "complete streets" in United States (*Ritter* 2007: n.p.).

Study results (14/20): With abundant playgrounds and play spaces, the study cities within this classification offer many opportunities for the children to safely play outdoors and do other physical activities within the neighborhoods. They offer spaces for diverse entertainment and recreational activities including physical plays and sports (e.g., music and reading areas, swimming pools, parks, picnic areas). Connectivity of inner city areas through pedestrian networks is evident and makes access to play and recreational areas easier. Pedestrian paths function as buffers from vehicular traffic, thus helping pedestrians to freely move around. In a few cities, recreational and children-specific areas are enclosed by peripheral roads to minimize direct contact with vehicular traffic. Such spaces are also buffered in partial by green belts, water paths, etc. Almost one third of the cities are protected at the perimeter with walls and waterways indicating children's obsession about safety from external risks and opportunities for free movement, play and socialization (*Fig. 1, 2* and *4*).

A caring city: Children need to have the opportunity to "extend their social world", have "free access to outdoor public spaces", and not be confined within "segregated and supervised spaces" like schools or playgrounds (*Hart* 2011: 9). They usually prefer to be "in a closer, interactive relationship with others, including family, friends, and neighbours" (*Hart* 2011: 9). Hence, they need safe streets and spaces within neighborhoods or close to their homes (*Jacobs* 1961). Such urban environments are available in low-rise, small and less crowded buildings (*Van* 1983), which contributes to enhanced social security of a city. Safe, culturally appropriate spaces with recreational and artistic opportunities are important for children's social and health wellbeing as they help them explore, play, meet those who care about their concerns, etc. (*Hart* 2011).

Study results (4/20): The study cities classified as caring generally offer safe spaces for children's play including playgrounds and specific purpose areas. They also allow the children free access to outdoor public spaces and the opportunity to interact with other people, and expand their social relationships. In a few cities, many recreational and sport facilities are

Fig. 4 *Ideal city with no title, drawn by a 12-year girl, Level 6, Ishik School. Source: schoolchild, January 2018 @ Fulbright Program*

not placed close to the children's dwellings. This indicates the parents' need not to worry about their children as they explore the urban environments beyond the house/neighborhood settings. In a few other cities such spaces are located close to children's homes which is also an advantage for the children's social wellbeing (*Fig. 4*).

A playful city: Availability of adequate space and play equipment near children's homes is important to enable them to play spontaneously. Play is "fundamental to children's physical, intellectual, social, and emotional development" (*Hart* 2011: 10f.; *Bruner* et al. 1986; *Ginsburg* 2006). The more the cities are developed, the less the children expand their outside competence as their "lives become increasingly contained and controlled" (*Hart* 2011: 11). However, children from poor neighborhoods enjoy more access to the outside environment than those "trapped behind the high fences and secured gates of their upper class homes" (*Hart* 2011: 11). Therefore, the city design should provide physically diverse settings to enable children enjoy diverse activities. Such settings can be transitional play space in a neighborhood - parochial space (*Hunter* 1985; *Lofland* 1989).

Study results (12/20): Adequate and safe play spaces are evident in the playful cities drawn under this study. Although generally located away from children's homes, they can still offer them the opportunity to play traditional activities (e.g., swinging, rocking), as well as appropriate sports (e.g., skating, biking). Picnic areas, available in a few cities, will provide the children with an outlet to outdoor activities particularly walking and jogging. Playgrounds in nearly a quarter of the cities are located within or nearby neighborhoods, an indicative of the existence of parochial spaces. Meanwhile in majority of the cities, they stand alone, while in the others, they are integrated within parks, etc. Designation of play spaces by children, for example, as 'Fun Pack Mall' and 'Dream City' does not only entail the meaning of structural or functional diversity of the facilities, but also opportunities for engagements in diverse activities (*Fig. 2, 3* and *4*).

A city for learning: This city provides a healthy and appropriate learning environment for children especially through school buildings that meet environmental/health conditions and contain supportive facilities for age-appropriate extra-curricular activities including play and sports. It also supports "children's learning beyond the building of schools" in order to "participate freely in cultural life and the arts" (*Hart* 2011: 13). Children's exposure to cultural diversity through public events help them learn about different cultures as they mingle with different peers and people. The modern city's requirement for enhancing children's rights encompasses existence of institutions such as 'mobile' libraries to promote participation of children outside schools (*Hart* 2011).

Study results (4/20): Classification of the cities that conform to the learning dimension under this study are based on the availability of cultural diversity and supportive public spaces (e.g., schools, libraries, museums, cinemas) and art facilities. The educational and cultural institutions will help children expand their mobility outside their home and school, and reach out to more diverse environments to interact with a diversity of people and learn about their cultures (*Fig. 2, 3*).

A green city: Natural environments have numerous advantages especially for children's physical activeness and psychosocial wellbeing. "The greener a child's everyday environment", the bigger the impact it will have (*Taylor* et al. 2001: 66; *Kuo* and *Taylor* 2004). However, urban congestion and high density housing reduce children's exposure to natural environments (*Howard* 1902). This necessitates more green spaces, especially in residential areas and spatially equal distribution of natural landscapes. Hence schoolyards and manufactured play areas with natural settings contribute to increased children's desire to play outdoors and to their physical activeness (*Dyment* and *Bell* 2008). Meanwhile, green spaces with "a safe, diverse landscape close to home" (*Hart* 2011: 11), green ribbons, play gardens, and diverse physical and natural environments are the global norm for city planning.

Study results (12/20): A higher percentage of the cities mapped by the study participants meet the green city dimension as a primary characteristic. Green spaces are available as vacant lands, pastures, forests, or as tree ribbons especially at the periphery. As can be seen from the children's drawings, green spaces are available around residential buildings, playgrounds and in inner city areas. Such diverse and spacious green landscapes will help the children to have a daily exposure to natural settings where they can play, enjoy green views, and expand their outer world by venturing out safely and comfortably (*Fig. 1, 3* and *4*).

6. Conclusions

Our study has been a pioneering piece of research, at least for the City of Duhok, as it involved the children of two schools in a planning practice through an informed process with clearly articulated objectives and the practical use of the expected results. The participants were made familiar with the elements constituting a good urban environment. The study also enabled them to conceptualize the basic elements of child friendly environments, which are important for the children's growth and wellbeing, particularly in the study area, a highly congested city lacking child-friendly environments and facilities.

Similar studies involving children in drawing ideal cities are rare. Most available studies are about children's involvement in the mental sketch mapping of their cities or parts of the cities like neighborhoods, a process which is based on children's experience with their physical environment. Comparing the elements and structure of those mental maps with the ideal city maps drawn by the children under this study reveal many similarities – in terms of the use of spatial labeling, street names, colors, legends, titles, north arrows. The maps also show natural and built features (e.g., districts, landmarks, paths, mountains, rivers). In drawing the ideal cities where they wish to live in the future, the participating children demonstrated their ability to draw conceivable maps, describing natural and built urban environments.

The contents of the drawn cities are in conformity with the principles of a child friendly environment-accessibility, use of the street, entertainment, socializing, security, physical environment, health, and diversity. They also conform to many normative dimensions of a child friendly environment - housing and dwelling, basic services including health, education and transport, safety and security, and urban and environmental qualities.

Following the publication of this article, the detailed results of this study will be shared with the planning agencies in charge of the study area for possible consideration of the participation, voices and concerns of the children at city and even provincial levels. Although the involvement of the children under this study is considered only nominal, as it was basically in support of a research project, this initiative could be used as an opportunity to introduce the responsible planning authorities to the potentials of children and the advantages of involving them in future urban planning and design process or at least eliciting their feedback and concerns as deemed reasonable. Children, if properly guided and adequately enabled to assess their urban environments, can work effectively with the responsible authorities to improve the urban infrastructure and services.

Note

[1] The ladder of young people participation in projects as borrowed and adapted by *Hart* (1992) from *Arnstein's* 'Ladder of Citizen Participation' (1969), includes eight levels: Manipulation; decoration; tokenism; assigned but informed; consulted and informed; adult-initiated, shared decisions with children; child-initiated and directed; and child-imitated, shared decisions with adults.

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