QUALITATIVE EVALUATION OF THE DISABLES' TRAFFIC AT THE ENTRANCES OF FIVE CITIES OF GOLESTAN PROVINCE

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ABSTRACT

The traffic generated by citizens is often made to get access to different urban usages. Therefore, building entrances as intersection crossings and buildings as movement nodes grow in their importance. The disabled are often facing problems getting access to such entrances for different reasons. Naturally, a desired urban framework, pursuing the viewpoints dominant on its management, tries to be fair-minded in all areas including providing access for its citizens to all public spaces. Rights of low-powered people should also be highly observed as part of the citizenship community. A glance at the surroundings, however, shows that the situation is far from being desirable. To investigate this hypothesis, five cities of the Golestan Province, i.e. Gorgan, Ali Abad Katoul, Gonbad, Kordkooy, and Bandar Gaz, were selected as research subjects. Then, based on urbanization and architectural rules and regulations for the physical and motional handicapped, entrances of official buildings were visited and extracted using premade forms. This article is aimed at analyzing the data obtained from the quality of entrances at above-said buildings using standardized score method. This study is categorized under practical investigations. The results indicated that the most terrible conditions were observed in Gonbad, which is the second populated city in the Province. That is to say, the largeness of this city and quality of getting access to its official spaces are out of proportion.

Keywords: The disabled; Golestan Province; entrance of buildings; access; traffic

INTRODUCTION

Since the low-powered, physical and motional disabled confront specific limitations that perturb their relationships with the environment, there is an urgent need to establish compatibility between them and the environment. According to the UN, more than 10 percent of the world's population has a type of low-poweredness. Almost 18 percent of the disabled are living in developing countries. Overall, Iran, as a developing country, faces serious problems ensuing from disabilities like senility and disease (Mahmoudi and Fanaei, 2010, 1217). In addition, other groups like the elderly, mothers with carriages, pregnant women, and those who suffer from temporary motional limitations are subsisting in the society and lose the chance of continuous and regular engagement in the community due to existing problems and obstacles. Manmade environment can influence upon peoples' health and their level of disability through increasing or decreasing the danger factor. This environment influences on increase or decrease of disability through impacting on mobility, getting access to infrastructures, and making relationships with the social environment (Quintas et al., 2013). Urban design should head for a non-discriminatory and pluralistic method to allow inclusion of the disabled into the community. Presently, a major section of urban spaces and buildings are inaccessible for the disabled, who confront obstacles in urban spaces (Meshur, 2013, 43).

A glance at the present condition of the official buildings illustrates that presence and engagement of the physical and motional handicapped have rarely been taken into consideration. This is changed into a critical condition for the disabled who gradually find their disabilities as the most important reason for their everyday problems, while this is associated with framework problems, i.e. disability of the city (Nowrouzi, 2006). Engagement of the disabled in the social and economical life is one of the characteristics of a modern society, for which presentation of live conditions of ordinary people to the disabled is a prerequisite. Therefore, designation of a space for the disabled is a must (Maraz, 2009).

Accessibility means presentation of equal access to everybody. The disabled are unable to receive all accesses in case no presentation of access to present facilities and services is possible (UN, 2007).

Recent studies have managed to offer more comprehensive insight into behavioral patterns and cognitive needs of the people. Securing justice and observing rights of all people of the society are accentuated in these viewpoints: all people at all ages, all races, and all of levels of abilities (the motional handicapped, the blind, the deaf, etc.) must be able to have fair participation in the society with no social stratum to be subject to deprivation and discrimination. These showed that human activities are an effect of his/her needs and urban spaces should be designed in such a way to answer diverse needs of different social groups at all age ranges (Hosseini and Nowrouzian, 2008, 196).

Among the requirements of growth and development of societies is creation of suitable space and framework contexts to be used by all societal strata in order to get access to better transportations and accessibility to city centers. The physical disabled and veterans are part of the society that, like others, need to get access and make use of publics services. But, some obstacles in architecture and urban design as in urban spaces, public gangways, parks, and green areas are devoid of required conditions for fulfillment of accessibility needs of the disabled (Hanachi, 2004, 11).

According to the Golestan Province statistical calendar and the data obtained from the Nov. 2006 headcount, there are 27,847 disabled persons including the blind, the deaf, those with hand and leg disabilities, disorders in speech, voice, and psyche, from whom 12,626 persons live in urban spaces. This makes up exceeding 40 percent of the total disabled of the Province. These persons have been of 10 to 34 years of age upon the headcount, which is negligibly 17 to 41 presently (refer to the Golestan Province Planning Assistance, 2010). This means that a major part of this event is centered on the workforce of the society, for member of which a direct accessibility to administrative departments is required. Naturally, village-residents are not exceptions to this rule due to concentration of many official services in the cities. This means that official buildings in the cities constitute targets of both city- and village-residents.

UN Standard Rules for the disabled stress upon ability as a human rights issue, aimed at securing accessibility to public spaces for all people specially the motional disabled (Majidi and Teimouri, 2011).

Given to the fact that entrances of official buildings serve as connection points of cities and buildings and inaccessibility to official buildings practically prevents the disabled from receiving services, this study is aimed at investigating the present conditions of five cities of the Golestan Province, i.e. Gorgan, Ali Abad Katoul, Gonbad, Kordkooy, and Bandar Gaz, evaluating the relationship among the number of floors of such buildings and getting access thereto in order to categorize the conditions of said five cities.

Hypotheses of the Research

An initial glance expresses that buildings with high number of floors are usually high-tech ones that are able to present better services, which in turn causes better servicing to the disabled.

Second hypotheses states that as Gorgan City is located at the center of the Province and more concentration is seen at central cities of the Province, better servicing is expected therein and smaller cities are of lower quality in providing access for the disabled.

Literature Review

Those scholars working on disability argue that the disabled confront social and spatial deprivations with reduction in their participation in schools, workplace, and public spaces through inaccessibility to constructed environments (Gray et al., 2003; Hahn, 1986). Making appropriate means paving the way for each individual to make use of available facilities of the society at any spiritual any physical conditions as proportionate with his/her needs including welfare, social, economical, cultural, and natural resources ones (Bedla, 2004, 4). The most important viewpoint to understand disability has

been addressed by urban researchers who have emphasized upon the human experience from spatial dimensions (Rattray, 2013, 27).

International approach pigeonholes the performance into disability and health. As a complex phenomenon, disability is a reflection of peripheral specifications in which a disabled person lives (Heylighen et. al., 2013, 8). New models of disability suppose that ability/disability processes are a repercussion of the interaction among people and social/peripheral agents (ICF, 2001; Gleeson, 1996; Steinfeld, 2010).

World Health Organization categorizes the low-powered people into six groups, as follows:

1. Individuals with motional problems. This group includes individuals who use cane, crutch, aids, or wheelchair to be able to move.
2. Individuals with vision problems who face difficulties in their navigation and motion. Problems in reading and recognizing light and color can at times be facilitated via changing the materials.
3. Individuals with hearing or speech problems who have difficulties in recognizing voices and general items in noisy environments.
4. Individuals with learning problems.
5. Individuals with anomalous behavior.
6. Individuals who are suffering from some problems (Nowrouzi, 2006).

As a final point, any type of defect and shortage of ability (ensuing from disorder) that limits an individual's capability to complete an ordinary task or drives his/her scope of activity out of the normal state is titled disability by this study (Hojjati, 2007, 1).

Literate Review

Based on the conducted researches in relation especially to the entrances of buildings and their intersection crossings with enclosures of cities, there was no literature found, the fact which endorses novelty of this research. However, in dual relationships of official buildings/the disabled and the disabled/city, there have been conferences in 2006 on how to make the urban environments appropriate. For instance, Nowrouzi (2006) has, relying on architecture, presented solutions as how to make appropriate official buildings for the physical and motional low-powered people. From among the public buildings addressed to in this conference, one may refer to the cultural and artistic buildings, to which Tavakkoli (2006) referred in his article entitled "Cultural Places: Challenges and Solutions." In this work, the author recounts characteristics of cinemas and movie theatres and tries to offer solutions for the present weaknesses.

In order to investigate the present conditions of residential spaces and environments thereof, field research method was used. To investigate field effects of problems, limitations, and demands of individuals through obtaining local observations, 74 questionnaires were distributed in Tehran, Region 8. This study tried to investigate ordinary people as well as those with either limited or complete motional disabilities, the sensory disabled, and those with other types of disabilities. Characteristics of studied spaces were analyzed using field studies. Based on the results on those with special needs aimed at getting insight into diversity of facilities and gaps, solutions were offered to make such spaces suitable for free and independent motions made by the disabled (Hosseini and Nowrouzian Maleki, 2008).

Also, Taghvaei et al. investigated the conditions of Isfahan City's parks for the disabled, which showed that 2.8 percent of them are of good conditions, 30.5 percent relatively good, and 66.7 percent bad conditions (Taghvaei et al., 2009).

Finally, there was a field study conducted on the Chahar-bagh Abbasi Street as one of the heavily trafficked streets in Isfahan. This indicated that most of the problems and obstacles of the disabled in said street is associated with urban passageway network. Such obstacles at urban pedestrian network and discontinuation of easily-done traffics at pedestrians can cause problems for different people, especially those disabled who need aids for their movements (Majidi and Teimouri, 2011).

METHODOLOGY

In this study, five cities of Ali Abad Katoul, Gonbad, Kordkooy, and Bandar Gaz were taken into account as the cities at the western side of the Golestan Province. Then, based on urbanization and architectural rules and regulations for the physical and motional handicapped, entrances of official buildings including private offices, governmental departments, post offices, municipalities, etc., were investigated (refer to the Building and Housing Research Center, 1999). Due to their commercial applications in urban usages, branches of banks were excluded from the assembly of such buildings.

Field data collection-based quantitative methods were used in this study, in which a list of the buildings existing in different cities was developed and locationally specified. Afterwards, based on the urbanization and architectural rules and regulations for the physical and motional handicapped, two-member groups started to collect data from the buildings existing in the list in order to develop a questionnaire. To specify creditability of the questionnaire, data of some Gorgan-located buildings was collected and questionnaires were corrected. Questionnaires included positive/negative options as well as the ones for measuring numbers (in quantitative forms). To control the data, it was again collected by different groups and the results were compared: data was accepted with an error of 5 percent. Data was entered into Excel software for official buildings of the Province. Average of each city was calculated and the five cities were ranked in terms of their access to entrances of the buildings.

Next, data of each city was calculated using standardized score method, whose structure is as follows: (refer to Hekmatnia and Mousavi, 2006, 216)

$$Z_i = \frac{x_i - \bar{x}}{\sigma_i}$$

Where,

Z_i :standardized score

x_i :index of i_n

$\bar{x}$:average of indices

σ_i :SD of indices

Afterwards, the relationship between number of floors and standardized score was calculated using Pearson coefficient. It was revealed that there is a relationship between the number of floors and standardized score calculated out of field surveys on entrances of buildings.

Research Findings

Entrance of building constitutes a space through which one gets access to the inside. Location of this space at the building sketch is of paramount importance and it should be properly designed in order to avoid confusion. Entrance of a public building should be receptive of all people, but many official buildings are inaccessible for the disabled due to many reasons. To stamp out obstacles for the disabled, one of the main entrances should be made appropriate rather than to consider constructing a secondary entrance. Allocation of entrance for parking or other services to the disabled may provoke the impression that they are second-class citizens (Nowrouzi, 2006). Table 1 illustrates different cities of Golestan Province as ranked by their scores. As seen, Bandar Gaz and Gonbad have the highest and lowest scores, respectively.

Table 1: Ranking of five cities of Golestan Province respecting accessibility of the disabled to entrances of official buildings (author)

Score	City
Bandar Gaz	7.580645
Kordkooy	6.3125
Gorgan	5.333333
Ali Abad	4.967742
Gonbad	4.953488

Pearson coefficient is calculated for different floors using standardized score that makes possible comparing entrances of the buildings in different cities. This coefficient is calculated to be 0.0482, which is rejected with a possibility of 95 percent.

CONCLUSIONS

Based on the data collected via rankings, while Gorgan as the largest city of Golestan Province was expected to come up with the highest score in accessibility to entrances of the buildings for the disabled, this went to Bandar Gaz. Gonbad, moreover, as the second populous city of Golestan Province, is ranked last. This means that no direct relationship can be found between population and largeness of the cities, on the one hand, and accessibility of them to the entrances, on the other, as one of the indices for respecting rights of the disabled.

With regard to the fact that the relationship between number of floors (as an index of high-tech buildings) and the disabled-appropriate entrances is also rejected, it seems that the problem lies in the glance the designers cast on urban official buildings in order to respect rights of the disabled as part of the urban passengers. Since a number of buildings in this Province have been designed for official purposes, movements of the disabled are basically disregarded, which necessitates steps taken aimed at obligating design standards for the disabled.

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