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Quality of Life Indices Assessment for Disabled and Elderly People: Case Study of Tehran

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1 ABSTRACT

According to statistics published by united nation WHO, 10 percent of earth populations are consisted of people who are disabled. Irregular physical city space and lack of adaption with needs of disabled people cause huge social and economic damages in long term.

Urban planning was influenced by scientific topics (Rationalism, positivism …) in the first half of 20th century. But, in the second half of 20th century, it was affected by social, political and qualitative approaches (relativitism, democracy). These approaches were defined by concepts like quality of life, social security, consistent development…and its goal was to complete and correct the concept of development from quantitative development to qualitative development.

If we accept that the human is axis of consistent development then attention to all strata of society will be inevitable. Since the second half of 20th century the advocacy planning approach for improving the social conditions and removing the injustice and discrimination according to disabled priority has been discussed. In 1982 the united nation introduced equal opportunities for disabled as a global issue. The necessity for caring about disabled has raised across the world since WWII and in Iran after the 8 years war between Iran and Iraq (1980-1988) which the number of disabled increased because of war damages.

As experts believe, one of the characteristics of sustainable city is in "social sustainability and high quality of life" for all strata of the society. In this paper we are going to identify indices of urban quality of life assessment for disabled and elderly people and examine its relation to sustainable development, then present a model for assessing quality of life of this stratum of society. As the last step, we are going to discuss the level of quality of life of these peoples in realm of accessibility to urban spaces (inter-location and intra-location) in Tehran as a case study. For this purpose, 500 filled questionnaires in random order are reviewed for different land uses such as 1.educational 2.health 3.administrative 4.Commercial 5.Terminals 6.welfare facilities 7.public spaces (intersections, urban furniture, sidewalks ...) The result of this research determines the level of quality of life for disabled and elderly in Tehran.

2 INTRODUCTION

Human as a social creature is always trying to communicate with his environment. For this to happen one must have access to the environment and do his vital activities. A healthy city is the one that all its citizens could benefit from that society's services. This urban environment must present more services to vulnerable groups to prevent this group from being isolated and forgotten.

Researches in 55 countries show 2 to 21 percent disability ratio in these countries. More than 650 million disabled people live all over the world that consist nearly 10 percent of world's population; and the number of these stratum of society is higher in developing countries. On the other hand world's population is going toward oldness in such a way that number of elderly over 60 years old will reach 1.2 billion in 2025. According to these researches and statistics about disabled and elderly people, and also the similarity in their needs and exploitation from physical and social amenities, the necessity of attention to this group increases.[1]

After WWII and inception of reconstruction in European cities and as for the large number of disabled people, adaptation of urban environment and improving the quality of life of this stratum of society in regard of sustainable urban development in the process of urban planning became important. Importance of this subject was to the extent that adaptation with the slogan of **equalization of opportunities** took place in UN agenda in 1982 and approved that all countries especially LDCs must study and provide different aspects of

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[1] Focus of this paper is mainly on disabled needs but since elderly people and disabled – in terms of ability to access urban activities- have common needs so they are discussed here.

barrier-free environment for disabled persons. In Iran, the subject of adaptation, after 8 year war of Iran-Iraq in 1980-1988(of course not in practical manner and just academic) became important and yet apart from Genetic problems, high number of road accidents has added to the number of the disabled. On the other hand, although Iran is considered a young country in terms of age average, statistics show that in the next three decades Iran joins the old countries' group. Therefore, attention to the issues related to this stratum of society and endeavor for responding to their needs not only is of the essence but also guarantee a more healthy and convenient future for society.

World health organization differentiates between disability and impairment. Impairment is defined as any disorder or lack of structure or psychological, physiological or physical function while disability is any deficiency or lack of ability (resulting from impairment) that limits the person's activity for doing something the way normal people do or extract the scope of his activity from normal state. Factors and barriers influencing disabled and elderly people movement in urban and built environment can be divided in 2 groups of **psychological** and **physical-activity**. Psychological factors are the most basic and radical factors limiting the movement of the disabled that is caused by his interaction with society. In other words, Psychological factors are those that one handicap person is faced with citywide because of society's insufficient knowledge of disability such as reasonless financial helps to disabled, mental disabled being theft by criminals, strange and querying look to handicap people, etc. in such a way that disabled person does not consider himself ready for facing with society and on the other hand society is not prepared to accept him. Disabled movement in urban environment is influenced by various kinds of **physical-activity** barriers. These barriers are related to both physical-movement characteristic of disabled people and physical features of urban and built environment and it's because of lack of adaptation urban passages. (Daneshpour, 2006) and base of all these factors is society's insufficient knowledge of disability and their needs. More specifically, if a handicap person respect is marred or if a disabled person can't get across the street pavements, both are related to lack of knowledge, first from society and then from authorities who are responsible for urban management(urban managers, urban planners, urban designers, architects, contractors, etc.).

3 QUALITATIVE DEVELOPMENT OF URBAN PLANNING APPROACHES

If we consider contemporary era, age of technological and economic hegemony worldwide, materialistic goals and purposes of human is the most important symbol of it. This crisis (Being one dimensional and the universality of human needs) in most parts of the world had been so that Lewis Mumford in International Style ceremony mentioned it as the deepest urban crisis that may not be worth saving anymore. Urban planning as a practical knowledge influenced by this crisis has also encountered dramatic changes so that two different eras has emerged. If urban planning was influenced by scientific topics (Rationalism, positivism …) in the first half of the 20th century, it was affected by social, political and qualitative solution (relativitism, democracy…) in the second half. Accordingly it faced with basic and fundamental developments in its own methods, concepts, goals and ideas. (kokabi,2003)

In other words, before the 1960s urban plans were conducted in the form of "Master plan" and every urban development focused on physical solutions. This type of planning was under dominance of professions like architecture and surveying. Lack of attention to social and qualitative goals and values was the most important feature of urban planning until 1960 that was eventually followed by decrease in social and economic environment quality. Since urban problems are multi-dimensional, lack of attention to this multi-dimensional entity of city and emphasis on physical planning caused neglecting social, environmental and economic goals in cities. (Naghizadeh, 2002)

Until human society and in particular urban planning after its experiences of rational-comprehensive planning approach turned to review its actions that brought on the revision of earlier beliefs, values and practices and led to new trends in urban planning field.

One of these new trends that had dramatic influence on urban planning process is dual approach of advocacy planning and planning aid that can be related to existence and continuity of spatial and social-economic inequalities and also planning and common methods mechanism failure(especially in United States of America and Britain) in dealing with it. Thus the overall goal of this dual attitude is on one hand increase in political perception and power or capabilities of individuals and groups of society that are living in deprivation and different kinds of discrimination and on the other hand motivating them to do more positive political activities and support fair society resources.

3.1 Advocacy planning

This type of planning which took shape for the first time in 1960s in US as part of a national strategy of social reforms despite having some American features had great effects on the thought and action of planning in other countries especially Great Britain. In this approach, planning plays the role of advocate and spokesperson for people living in deprived inner urban areas or in general individuals and groups that have inadequate access to decision-making centers or have been isolated for social and cultural reasons and certain conditions of society.

This viewpoint calls for political and social equality for disadvantaged groups of society and creating foundations for a society that can present equal opportunities for all members. Followers of advocacy planning consider establishing an intelligent planning system, setting new social objectives and providing necessary tools to achieve them essential for fulfilling these kinds of demands. They consider planning perspective as a practice that invites political and social values to discussion and test in an open and transparent manner.

3.2 Planning aid

The purpose of planning aid is public participation in planning process and helping people and empowering them to participate in decision-making and in planning process and finally influencing that process. So planning aid along with advocacy planning seeks to increase political power of individuals and groups of society that are living in deprivation and discrimination. Planning aid idea (which has no counterpart in US) has been a professional response to incompetence of current planning system in fulfilling the needs of specific strata and also public participation impasses by planning mechanism.

Despite the limited and local function of two approaches of "Advocacy planning" and" planning aid", in societies in which these two approaches have been implemented, important and positive consequences (such as increased attention to people and disadvantaged groups, Influencing decisions of people that have decision-making and other kinds power and also the relative development of public participation) have happened in the planning process that have caused changes in planning profession behavior in responding to all groups of society. Overall, achievement of this form of planning was considering social and qualitative aspects of development that has emerged in the form of concepts like sustainable development, healthy cities, quality of life, social welfare, social justice and etc. that during the last three decades they've found their role in planning process. All of these approaches that considered equality of all opportunities and rights of appropriate training, good health, good jobs and etc. for all people need appropriate society for all humans -including disabled and elderly- to be practical.

4 SUSTAINABLE DEVELOPMENT BASED ON QUALITY OF LIFE

Sustainable development has been the result of deep knowledge of the surrounding environment. Modern human who has become a tool in industrialized societies, is the center of attention for sustainable development and it can be said that sustainable development has been valued for its human-oriented dimensions. It is a kind of development that considers current needs of human with regard to future generations' ability to get his needs(declaration of the world commission on environment and future development, 1987) which can be known as a result of new logical development of knowledge towards global environmental and development issues that itself is influenced by factors like environmental movements of the 60's, publishing books such as growth restriction and the first UN conference on environment and development, which had been held in Stockholm in 1972. Stability does not mean that nothing changes and also does not mean a utopia that in which nothing unpleasant happens, but a sustainable society after stabilizing and improving economic, social and environmental characteristics of an area where all of its members live a healthy and joyful life without any discrimination. This society needs to manage its capitals toward achieving sustainability indices.

Sustainable development is a qualitative development with quality of life as center of its attention and aims to enhance quality of life for future generations. Sustainable development has deep concepts in three fields: **1- environmental sustainability 2- economic sustainability 3- social sustainability** (Kiumarsi, 2001) most views of urban sustainable development, emphasize on physical development while social and cultural aspects of urban development remained somewhat unknown. Development emerges when it is socially acceptable. Therefore, in development, human rights of all strata of society must be respected, effective

public participation in decision-making must be considered and to make possible collective quality of life enhancement with a principled viewpoint in planning, design and implementation stage. This will also increase citizenly social welfare. If the axis of development is human and because of sociality of human, urban development cannot be considered without social development so the social requirements of developments should be considered in the process of sustainable development.

The roll of quality of life in sustainable development is important for development without welfare and quality of life for its citizens will cause problems that undermine sustainability. From 1960s most advanced industrialized countries faced many problems and challenges in terms of quality of life issues. Despite the abundance of goods, products and facilities of human material life, human society has faced major problems in terms of ecology, psychology and sociology such as social harassment, inequality of life opportunities, etc. Hence many experts and scholars of development issues in various fields assessed economic growth and development objectives in advanced industrialized countries and emphasized on social objectives of development and compatibility of quality of services with needs and living condition of people.(Salmani, 2006) With existence of such mechanisms, all needs of strata of society especially disabled and elderly would be fulfilled and these people would have the ability to be actively present in all arenas and society will also accept these people.

In a qulaity of life ranking which has been conducted by International Living website in 2011, 192 countries of the world have been ranked based on nine category. According to the table 1, developed countries are better than developing countries in terms of level of quality of life.

Ranking	Country	Cost of Living	Leisure & Culture	Economy	Environment	Freedom	Health	Infrastructure	Risk & Safety	Climate	Final Score
1	United States	76	87	100	51	100	90	100	100	85	86
2	New Zealand	69	92	59	67	100	91	65	100	84	76
3	Malta	68	94	62	72	100	83	61	93	100	76
4	France	58	100	65	75	100	100	55	100	88	75
5	Monaco	47	73	96	45	92	68	90	100	90	75
6	Belgium	65	80	60	42	100	95	66	100	86	75
7	Germany	50	97	65	68	100	93	70	100	80	74
8	Austria	58	95	60	75	100	94	68	100	76	74
9	United Kingdom	60	78	72	69	100	82	71	100	84	74
10	Japan	61	81	70	66	92	100	61	100	84	74
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
144	United Arab Emirates	43	47	58	14	25	76	77	93	10	50
145	Iran	82	62	53	45	17	53	31	29	65	50
146	Tanzania	71	`63	57	26	58	31	6	64	52	50

Table 1:World countries ranking based on quality of life indices (Source: www.internationalliving.com)

4.1 Quality of life

History of quality of life concept returns to the time of Aristotle, 385 BC.at that time Aristotle considered "good life" or "doing thing in the good way" as happiness. Yet, he examined concept of happiness in different people and stated that happiness which is the cause of happiness for an ill person is not the same as wealth that makes a poor person happy and specifically expressed that not only does happiness have different meanings for different people, but also it does not have the same meaning for one person in different circumstances. However, at that time happiness or living a happy life was equivalent to what today is called quality of life but the term "quality of life" has not been used until the twentieth century. Over time researchers found that quality of life can be one of the important consequences in assessing mental and

physical health, as World Health Organization emphasized. (Fayers, 2000) So it can be inferred that quality of life is in line with sustainable development because both of them target human growth and development and in this growth and development, human (and its needs) is the main axis.

Process of quality of life is complex. There is no doubt that quality of life has demanded policy makers' attention but lack of a clear concept has been preventing its use in decision makings. (Rogerson, 1995) Relation between human and environment is multidimensional and complex that a field of study or vision cannot explain these relations in a comprehensive process. So the most important issues and uncertainties about quality of life are its definitions and indices. Quality of life is a term that does not have a certain definition although it can be understood by instinct. There are different definitions for quality of life, for example Foo considers quality of life as the overall life satisfaction. (Foo, 2000) Costanza defines quality of life as the amount of targeted needs of human answered and in relation with perceptions of people about mental well-being. (Costanza, 2007) or Dos that considers quality of life as how bad or good is the condition of people and the environment they live in. (Dos, 2008) Thus, it can be inferred that this concept is one of the new approaches in the field of reform and evolution of concept of development under whose influence, a new approach has been shaped in urban planning and believes that in addition to physical and functional goals, urban planning should also answer quantitative and psychological needs of people in urban environment such as: social identity, security and social welfare, sustainable employment, psychological comfort, sense of beauty, social solidarity and etc. (Mehdizadeh, 2003)

4.1.1 Quality of life indices

In general quality of life indices is divided into two general categories of subjective and objective. Objective indices of quality of life assessment, considers observable environmental conditions such as housing condition, urban facilities and amenities and etc. and subjective indices are obtained by questions that researchers ask people via questionnaires about feelings of satisfaction, happiness or similar. Subjective indices of quality of life is a subject that has a long history in psychology and social psychology but current problems in quality of life researches return to discrepancies in indices and assessment methods and also lack of a consistent method for assessing the quality of life. Overall, it seems that quality of life indices should have the following characteristics:

- Help public policy makers to develop and assess programs at all levels of individual, family, social, provincial, national and international

- Based on time series, it could be monitored and controlled in different time periods; this issue is very important for assessing what situation is improving for target group and also for predicting the future.

- To have stability, validity and sensitivity

- Be provided and edited based on appropriate theories

- Be understandable and help to simplify complex information

- Have flexibility in changing society (Malkina-Pykh, 2007)

5 PROPOSING A MODEL FOR ASSESSING QUALITY OF LIFE FOR DISABLED AND ELDERLY

Maslow's "theory of human motivation" was a goal-based conceptualization. Maslow argued that the basic needs of humans are physiologically-based — the need for food, water, sleep and sex. If the physiological needs are "relatively well satiated", then physical safety needs become the focus of attention. If both physiological and safety needs are relatively well satisfied, then the need for love, affection and belongingness become a focus. The next set of needs in Maslow's hierarchy is the need for esteem from others. The ultimate need is that of self- actualization —the desire for self-fulfillment and the desire to know and understand. (Maslow, 1943)

Human intends to meet different levels of his needs and over time these needs evolve and as society is successful in meeting their needs, the level of quality of life rises in that society.

Basically in sociology issues, right is recognized when role be defined, it means that we must first define a social role and know its characteristics and needs and in the second step, see what rights this role has. Today,

many words can be found that are used frequently but rarely anyone actually knows their fact. One of these words is citizenship rights, when we say citizenship rights it means that we must know citizen not as a cliché, but according to its characteristic and specific needs, and consistent with this knowledge, assign rights to him, however, we must accept that citizens are different from each other and consequently have different needs. We must accept that having disabled and elderly citizens does not mean that they are only in the statistics of a city which shows how many disabled and elderly people live there; but we must accept that a disabled citizen needs education, employment, recreation, access and etc.

5.1 Structural models of quality of life

Because of the necessity, recognizing life realms and relations between them-which can be used to predict people's feeling toward quality of life- must be done in the context of an intellectual model. In order to explain how to combine different realms of people satisfaction for presenting their overall feelings toward their quality of life, various structural models proposed that based on the simplest model, overall quality of life is a total weighted level of satisfaction in different realms and aspects of life.(Figure 1)(Pacione, 2003)
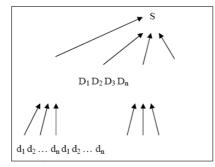

Figure 1: the simplest structural model of quality of life S= Overall quality of life   D=Satisfaction in desired realm d= Satisfaction in desired sub-realm Source: Pacione, 2003

In this method, desired number and characteristics of different realms of life is the fundamental problem. This means that for assessing quality of life what indices in which realms should be used?

5.2 Proposed model for assessing quality of life for disabled and elderly

In the present research, for assessing quality of life in urban areas, we used one of the most sophisticated formulas of quality of life that is associated with human basic needs his citizenship rights. Thus, a list containing human needs of disabled as a basis for collecting a set of quality of life indices is proposed. These needs have been taken from Maslow hierarchy of needs; Max-Neef human needs matrix, quality of life questionnaires, need assessment studies and also use of Delphi technique in identifying and classifying disabled needs. However, there may be some overlap in the proposed needs but in general we tried to identify a set of minimum needs of disabled and elderly that exist in most times, places and cultures to be a beginning for further researches in the field of quality of life for this stratum of society. Then, human needs are classified in two categories that each one has descriptors:

- Basic and general need
- Well-being needs of disabled and elderly

These needs and their different descriptor for disabled and elderly are in table 2. Basic needs that can be related to all citizens of a city, present all indices that a citizen requires throughout his life thus before disabled and elderly people find their social role, in the first place they are considered a citizen so their basic needs must be fulfilled. In the next category which involves well-being needs of disabled and elderly, we've tried to find more specific needs of this stratum of society which includes two categories of subjective and objective needs. In objective needs criteria of access to urban spaces without barrier for disabled and elderly has been intended.

M1: Intra-location accessibility
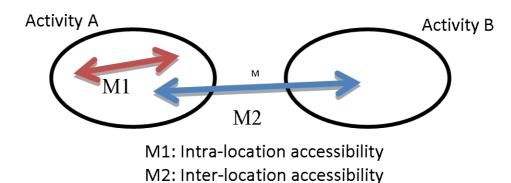M2: Inter-location accessibility

Figure 2: Different kinds of accessibility

In subjective needs of disabled issues and measures related to culturalization, level of satisfaction of the facilities provided, mutual readiness of society and disabled person for mutual acceptance of each other has been intended.

Class	Realms		Description pointer
Basic needs	Objective	• Housing • Nutrition • Resources (energy, capital, facilities and equipment ...) • Communications • Education	• Housing quality / number of rooms to the number of household persons / residential land use per capita • Calorie consumption per person • Consumption per capita / accessibility / consumption / sanitation facilities • Communication density / Connection mode • Educational land use per capita
	Subjective	• Security • Health • freedom, democracy, participation • Satisfaction levels	• Crime rate / being in police service range / / employment and job security • Access to health facilities / distance to the nearest medical center/physical and psychological health • Willingness to participate in the society, the level of freedom of press and opposing ideas • Quality of urban services and facilities including: health, security, education
Well-being needs of disabled and elderly	Objective	• Accessibility to intra-location communicative spaces and channels	• Intra-location accessibility for disabled and elderly to different types of land uses: 1 – educational land use, 2 health land use 3 – Administrative land use, 4 – welfare land use: Sport and Recreation 5 - commercial land use, 6 - Terminals....
		• Accessibility to inter-location communicative spaces and channels	Pedestrian movement	• Integrated and continuous movement of disabled and elderly person in sidewalks and intersections / Urban furniture condition for disabled and elderly use
			Motorist movement	• Easy access to transportation stations for disabled and elderly (terminals) / how disabled and elderly sit in vehicle/the number of parking for disabled
	Subjective	• Individual development • Social Development	• Disabled preparation to have presence in society • Society's preparation to accept disabled person

Table 2: Human needs of disabled and elderly (Source: The author studies)

To assess the disabled and elderly quality of life and also to determine indicators that are representatives of each group of needs become operational, various methods can be used that the simplest one is cumulative linear model. This method shows that the disabled and elderly combine satisfaction and dissatisfaction in different realm of life, to achieve to an overall feeling of quality of life. In this model, quality of life consists of two distinct values for assessing each indicator related to the human needs of disabled people that one of them considers the level of fulfilling the need and the other one the relative importance of need, and

important point is how to weigh the needs, whether according to experts (using the Delphi technique) or the people or according to both groups. But it is unlikely that all needs have the same effect on people's quality of life; Therefore, this model assumes that each need has a different impact on these people's quality of life.

$$DQOL = [\left\{\sum_{i=1}^{9} \alpha_i (DBn)_i\right\} \times \beta] + [\left\{\sum_{i=1}^{4} \alpha_i (DWBn)_i\right\} \times \beta]$$

DQOL= Disabled quality of life

α_i = Realm weight in desired class

β = desired class weight

(DBn)i = desired realm Score in basic needs class (the level of fulfillment of desired need)
(DWBni)i = desired realm Score in well-being needs class of the disabled and elderly (the level of fulfillment of desired need)

This model compares disabled and elderly's level of quality of life with quality of life of other citizens and is based on this assumption that the higher the level of general quality of life is (that is related to development of society), the more the disabled and elderly's quality of life raises. Proof of this claim is state of disabled and elderly's quality of life in more developed countries compared with less developed countries. In addition, some models can be used, for example, the researcher can assess dependence level of various needs with each other which with this method the model obtained would be nonlinear.
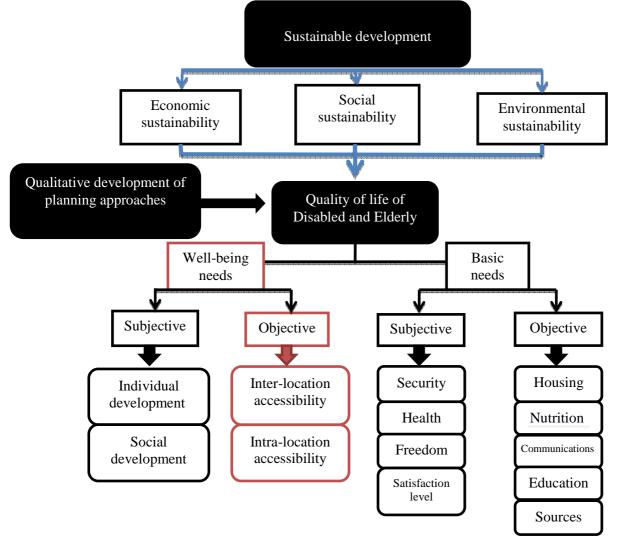

Figure 2: Theoretical, conceptual and functional framework for improving quality of life of disabled (Source: The author studies)

6 LEVEL OF QUALITY OF LIFE ASSESSMENT IN TEHRAN

Certainly, moving toward compliance with the components of sustainable development and specifically human development in cities undoubtedly would influence increase in quality of life and social satisfaction and this will not be achieved unless need recognition stage be well done, and effort to meet these needs be purposeful and have theoretical, conceptual and functional framework. (Figure 2)

In the Islamic republic of Iran vision statement on the horizon in 1404 Hijri Shamsi about Iran's prospects as "sustainable human habitat" is written: Iran's society in the horizon of this vision will have such features: developed, social justice, dignity and human rights, benefiting from social and judicial security and having health, social security, equal opportunities and far from corruption, discrimination and inequality and etc.. Now the question raised here is that to what extent Iranian society (institutions of management, planning, design and etc.) has been successful in achieving these goals and fulfilled different strata of society needs especially for the disabled and the elderly. For this purpose assessed part of quality of life criteria of disabled people in Tehran.Tehran as the capital and the most populous metropolitan city (with a population of 7,872,280 people), and has area over 621 square kilometers including 22 regions. This city is political, economic, scientific and etc. center in terms of functional role at the regional level and even in national level.

6.1 Reaserch society

In other words, in this part we have studied state of adaptation and access to different land uses for disabled and elderly in a descriptive- analytical (sectional) approach. (Table 3) Statistical population[2] of this study include all public places and urban and physical environment of Tehran based on the statistics announced by the Tehran Municipality which consisted of total of 35417 places and passages.

6.2 Sample size and sampling method

In a real research, members and subjects of the sample must be selected from entire population in a random manner so that represent the entire society. In this research according to vastness of Tehran regions, we have selected regions that represent the entire city of Tehran. For this purpose, regions 1, 12, 15 with the following features were selected: (map 1)
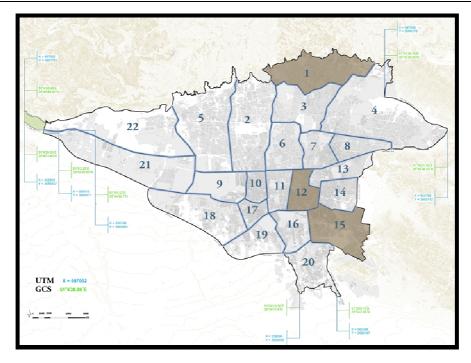
- Region 1: this region at Tehran heights with about 210 square kilometers area has population of over 433500. With half built and near ready buildings the region population will reach 500000 in near future. Physical structure of this region has low density and high quality building and it can be called "garden city". Due to being in semi-mountain topography and special structure that is mixture of traditional and modern urbanism, residents of this region have great economic power. (Source: development pattern and detailed plan of region 1 of Tehran)

- Region 12: is considered as one of the old regions, central core and historical context of Tehran. One of the most important features of this region is that Tehran bazaar and many government institutions and centers, ministries and embassies are placed in this region. In terms of population is categorized in two parts: resident's population3and floating population4 that are respectively about 361500 and 1400000. This region has physical structure with organic texture and high percentage of erosion. Residents of this region economically are on average level.(Source: development pattern and detailed plan of region 12 of Tehran)

- Region 15:is one of the high-density regions of Tehran in terms of population density. Residents of this region are mostly consisted of families in low income strata and labor jobs. This region of Tehran has been created as a consequence of influx of immigrants and their settlement in urban suburbs. In terms of physical structure it has compact texture, small lots, high residential density and physical and functional erosion; as a result residents of this region have low economic power. (Source: development pattern and detailed plan of region 15 of Tehran)

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[2] The meaning of research population is the main society from which a sample that is representative is obtained.
[3] The population that live in the region permanently
[4] Population that come to the region due to regions position or intra-city travels

Map1: map of tehran regions (source:strategic – structural plan of tehran development , 2007)

In this study, 355 sample public place and passage was selected from regions 1,12,15 of Tehran that are representatives of 22 regions of Tehran in a random manner (that is equal to 0.1 percent of total population of society) which in this sample, 15 percent to educational centers, 15 percent to health centers, 10 percent to administrative centers, 15 percent to commercial centers, 5 percent to terminals and 10 percent to welfare centers: cultural, sport and recreational and 30 percent to physical environment of the city (Streets and intersections) has been allocated. (Table 4)
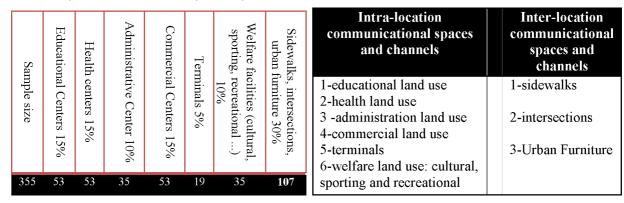
Sample size	Educational Centers 15%	Health centers 15%	Administrative Center 10%	Commercial Centers 15%	Terminals 5%	Welfare facilities (cultural, sporting, recreational ...) 10%	Sidewalks, intersections, urban furniture 30%	Intra-location communicational spaces and channels	Inter-location communicational spaces and channels
355	53	53	35	53	19	35	**107**	1-educational land use 2-health land use 3 -administration land use 4-commercial land use 5-terminals 6-welfare land use: cultural, sporting and recreational	1-sidewalks 2-intersections 3-Urban Furniture

Table 4: Allocation of samples among various urban land uses; Table 3: Different types of surveyed land use

6.3 Research location

In this research, data gathering tool is mainly a check list in form of questionnaire that is filled by the author (in data collection place that includes: parking, stairs, inclined surfaces, main entrances of buildings, toilets, corridors and routes, elevators, openings (doors and windows), educational sections, administrative sections, city hall, libraries and urban furniture in public places and streets and intersections).

6.4 Findings from analysis of data

After collecting data and the required information, all questionnaires were reviewed and after ensuring their authenticity, based on the measuring level of variables, some codes were assigned to them. After coding the information obtained from questionnaires, they were inputted into the computer using statistical software SPSS and in computer each one of the variables and their related codes were defined and analyzed. That all the above items have been examined according to global standards in terms of adaptation.After analyzing questionnaire data, level of adaptation of spaces and communication channels of Tehran for the disabled and

the elderly to determine quality of life of this stratum of society in terms of physical accessibility to various urban land uses is specified in table 5.

Communicati-onal spaces and channels	Intra-location communicational spaces and channels												Inter-location communicatio-nal spaces and channels
Discussed Criteria	Parking	main entrance	Inclined surfaces	Corridors and crossing routes	Openings(doors, windows…)	Stairs	Toilets	Elevators	Public Furniture	Educational parts	Auditorium	Library	Streets, intersections, urban furniture
Adaptation percentage	21%	35%	%20	35%	33%	21%	11%	22%	16%	7%			3%
Average	24%									7%			3%

Table 5: Level of adaptation of communicative spaces and channels of Tehran for disabled and elderly

According to the table above it can be seen that building and urban environment adaptation in Tehran is in low condition. Result of this research show that despite the great emphasis of international communities on integrated society and accessibility for all, due to physical and architectural barriers in Tehran disabled presence and participation is very limited in practice. By comparing the results of research in building and urban environment adaptation in Tehran, region 12 has relatively better condition than other regions. It can be inferred that due to central, historical and economic role of this region and also its high traffic, region 12 have this good condition although it is also far from urban environment adaptation standards. Region 15 has the worst condition among examined regions in terms of adaptation and that is because of municipality weakness in providing appropriate services, having marginalized structure and etc. In general, major issues in terms of physical environment that disabled are faced with in Tehran are:

- Narrow sidewalks and unsuitable floor .
- Discontinuity crossing streets and buildings to have a safe and dynamic move for disabled, elderly and even children.
- In some cases however buildings and urban environment adaptation, necessary standards was not considered (e.g. ramps steep were over 8%).
- The condition of urban furniture and inaccessibility for disabled and elderlies.
- Inappropriate structure of public transportation for the presence of disabled and elderlies.
- Unsuitable dimensions and characteristics of urban furniture and facilities.
- unsuitable height of urban equipment.
- Lack of stability and sustainability.

In general, research shows that the study domain of this research has critical situations and issues and many problems in the field of adaptation. The overall of these factors has created turbulent, unhealthy, unsafe and uncomfortable spaces for various social groups particularly disabled. This situation requires an accurate and polished planning in order to improve the situation and increase the safety and comfort and as a result a social, lively and happy environment with the presence of disabled and elderly.

7   CONCLUSION

Unfortunately, in many urban centers and areas of Tehran, the disabled do not have the minimum amenities. Despite the high number of this group, no appropriate welfare amenities and facilities based on their needs is considered. Streets, sidewalks, shopping centers, educational centers… still are far from global standards. This point should be noted that minimum amenities which are in Capital city, do not exist in other cities of Iran. Today, while in most European and American countries that number of their disabled and elderly are far less than Iran, attention to this stratum of society is enormous. So in general it can be said that there is direct relationship between levels of development of countries, citizenship rights and considering all strata of society especially disabled and elderly.

Due to high number of disabled in Iran, movement of Iranian society in next 3 decades toward healthy countries and also low quality of life of disabled and elderly in Tehran, urban managers are expected to solve the problems of disabled and elderly (whether psychological factors or physical-activity factors). In this regard some of these approaches can be specified:

- Examining different kinds of urban development plans (subject and action-area plans) before approval and implementation in terms of respect to adaptation principles and criteria and accessibility for all in a specialized institution in adaptation field.

- Formation of appropriate offices and headquarters for adaptation (with expert's presence) in municipalities and improving software systems of permission of construction.

- Formation of specialized NGOs of adaptation for intervention and participation of public-based agencies to pursue the topic.

- Culturalization (information, awareness and education) among people to understand the presence of disabled in society through the media, press, conferences…

- Legalizing the fulfillment of disabled needs in society and trying to make these rules applicable

- Allocating funds for municipalities for providing better services for disabled and elderly in urban environments.

Although efforts to make political, economic and social development for countries including Iran is very important, but addressing the major issues should not prevent us from paying attention to smaller issues (which is actually very important), perhaps these attentions make the society travel the path of growth and development faster in all aspects.Certainly, these efforts would be in line with development of qualitative approaches of planning and lead to disabled quality of life improvement. This process requires recognition of disabled needs, classifying them and to take measures to fulfil their needs.

8 REFERENCES

Abdi Daneshpour, Zohreh: An introduction to planning theories with special reference to urban planning theories. In: Shahid Beheshti University Publication, Tehran, 2008.
Abdi Daneshpour, Zohreh: Urban Environment Adaptation for disabaled people. In: University of Olum Behzisti va Tavanbakhshi, Tehran, 2006.
Costanza, R. et al: Quality of life: An apportunities, human needs and subjective well-being. In: Ecological Economics, Vol. 61(2-3), 2007.
Das, D.: Urban quality of life: A case study of Guwahhati. In: Social Indicator research, No. 88, 2008.
Fayers P M, Machin D.: Quality of Life Assessment, Analysis and Interpretation. In: John Willy, New York, 2000.
Foo, A.: Subject assessment of urban quality of life in Singapor (1997-1998). In: Habitat International, Vol. 24(1), 2000.
Kiomarsi, Vahid and Ahmadipour, Fariba: Smart Architecture. In: Dissertation of M.A., Shahid Beheshti University, Tehran, 2001.
Kokabi, A. et al: Planning of quality of Life in urban centers. In: Journal of Jostarhaye Shahrsazi, No. 1, Tehran, 2002.
Mahdizadeh, Javad: Strategic planning of urban development, recent world experiences and its position in Iran. In: Iran's Center of Studies and Researches of architecture and urban planning, Tehran, 2003.
Malkina-Pykh, Irina G. and Pykh, Yuri A.: Quality of life indicators at different scales: theoretical background. In: Ecological Indicators, No. 228, 2007.
Maslow, A. H.: A theory of human motivation. In: Psychological Review, No. 50, 1943.
Pacione, Michael: Urban environmental quality and human wellbeing: a social geographical perspective. In: Journal of Landscape and Urban Planning, No. 65, 2003.
Rogerson, R.: Quality of life & city competitiveness. In: Journal of Urban studies, Vol. 36 (5-6), 1999.
Salmani, Hasan et al: Quality of Life and its role in sustainable urban development. In: Journal of Urban Management, Tehran, 2006.
Statement: World Commission of the Environment and future Development. In: Oxford University, New York, 1987.
Taghizadeh, M., Planning for life situation improvement from standard to quality of life. In: Journal of Jostarhaye Shahrsazi, No. 1, Tehran, 2002.