

## Analysis of Land use in Ilam from the Perspective of New Urbanism

Solmaz Sanaei<sup>1</sup>, Pakzad Azadkhani<sup>\*2</sup> and Jaffar Hosein Zadeh<sup>3</sup>

<sup>1</sup>Master of Geography and urban planning, Bakhtar nonprofit institute of Ilam, Iran

<sup>2</sup>Assistant professor of Geography and urban planning, Bakhtar nonprofit institute of Ilam, Iran

<sup>3</sup>Assistant professor, Bakhtar nonprofit institute of Ilam, Iran

### Abstract

Any activity in the city requires a certain place or space and can be done through the coordinate or template of that space. Planning of urban land use as the main core of urban planning plays a significant role in the spatial-temporal organization of the cities. Evaluation of urban land use planning is more important than itself. Studying the principles of new urbanism in the planning of the urban land use, due to its effectiveness on planning at all levels of study of human societies from the block and street to the region and metropolis, has recommended principles in relation with each of them based on its development type. During last decades, Ilam city has grown up rapidly in an ugly and unbridled way and a kind of unthought and unsustainable urbanization has happened. The aim of this study was to analyze land use of Ilam city from the perspective of new urbanism by the means of qualitative and quantitative study of land uses, 12-fold principles of new urbanism theory and achieving appropriate pattern which was done by the descriptive-analytical method. Necessary information for this study was gathered by the means of library and documentary research in relation with mentioned subject. Statistical society of this research was the inhabitants of Ilam city. Based on Cochran's formula, sample size (383 individuals) had been distributed over the city. Furthermore GIS software, Hall-yen satisfaction index and SPSS software had been used for analysis. Findings of this research showed that attributed per capita level to the land uses of Ilam city was not based on the perspective of new urbanism and 12-fold factors of the district were not regarded. In the spatial distribution of land uses, the factor of compatibility of land uses and human orientation was not heeded. Moreover people were not satisfied with accessibility to land uses in Ilam city.

**Key words:** land use, land use planning, new urbanism theory, Ilam city.

### 1- Introduction

Any activity in the city requires a certain place or space and can be done through the coordinate or template of that space. The land is the most important factor of forming physical environment and Context of urban activities. It has been always considered as a base for the urban construction by the planners [31]. Studying the principles of new urbanism in the planning of the urban land use, due to its effectiveness on planning at all levels of study of human societies from the block and street to the region and metropolis, has recommended principles in relation with each of them based on its development type.

The main question is that what principles of new urbanism can apply in urban land use and how these principles can be used for urban planning and designs. In this regard it seems that studying the principle of new urbanism which has been used all over the world in an extensive scale and has achieved dramatic success is an inevitable necessity (Asgharzadeh, Yazdy, 2010:51). Investigating different kinds of urban land use, the ratio of each land use to another, and their relation with each other are among the cases which are effective on designing physical optimum land use. Studying each of land uses of Ilam in order to achieve appropriate measures and principles of urban planning is one of the most important

proceedings [31]. Distribution, space selection, and locating land uses and smooth accessibility to them are not favorable in Ilam city. There are not appropriate spaces for human activities in Ilam city from the perspective of new urbanism. Residents' collaboration in attributing necessary spaces compatible with their culture is weak. And even this issue is not considered in standard capita of multiple land use to provide an appropriate and compatible environment; also paying attention to human being and human oriented spaces in urban development plans and their distribution are not heeded. At the moment Ilam city has faced many challenges in the traffic and transportation department in regards of urban construction and transportation network.

Nowadays one of the most important issues of the urban life is the way of using the land. Observing and controlling land division is the most effective way to execute the rules of planning and dividing cities to residential, industrial, business and administrative regions and also to execute the rules of using the urban land. Evaluating division and use of these lands may reflect a clear picture of urban view and way of attributing urban space to different uses in the city over time in order to reach urban development goals [4].

Generally global experiences show that success in the field of planning the urban land use depends on cooperation and balancing between two groups of factors: A) existence of rules and macro appropriate policies in the way of using the land; B) using efficient methods in providing and executing urban designs and land use schedule [17]. Therefore in order to plan urban land use and evaluate it in the cities, appropriateness of rules and regulations and using efficient methods are considered as a critical point in planning and evaluating urban land use (Ebrahimzade et al, 2010:113).

Although new urbanism movement has occurred within residential development, it has always emphasized on developing internal

textures and reforming them. It objects to excessive spreading of the city and consequently waste of the land (Asgharzade, Yazdy, 2010:52). New urbanism, that is well-known for designing traditional and neo-traditional regions, is a set of planning principles which provides habitable and walkway districts in a favorable environment of pedestrianism. New urbanism is a reaction to urban spreading. It is an effective way against societies which are dependent on automobile in which every trip is taken by the automobile. Making complex residential land uses from the apartment to single house at each level of people's income, new urbanism tries to reside people with different levels of income. It also tries to protect natural environment and life habitations by the means of intensive development (Asgharzade, Yazdy, and 2010:51).

Thus exploiting this theory could address problems to offer solutions to revive the city, reconstruct suburbs, protect natural environment and boost life quality and its standards. Furthermore this point of view causes prevention of the excessive growth of the city and unauthorized construction, increasing width of main and side streets in the central parts of the city, providing garages to reduce the traffic, controlling legality and raising awareness of the people to collaborate for the regulations and human orientation, and providing safety, comfort and welfare of the inhabitants of Ilam city. Current study tries to contribute organizations like Ministry of Works, Housing and Urban Development, and Municipal. In this research we try to address following questions: do the level and capita attributed to land uses of Ilam correspond with the new urbanism theory and are the principles of new urbanism considered in the studied region? Is the factor of compatibility of land uses and human orientation considered in the spatial distribution of the urban land uses of Ilam city? Are people satisfied with accessibility to required land uses in Ilam city and locating places? Are considering and

paying attention to the principles of new urbanism effective on satisfaction of the inhabitants with the land uses distribution?

## 2- Concepts, theoretical basis and literature

### 2-1- concepts

#### Land use

The way of using the ground and the use attributed to it is called Land use. This use may apply in the scale of region or in the scale of human and city inhabitants [27].

Land use shows spatial aspects of all human activities on the ground in order to meet his material and cultural needs (Shokuei, 1994:253).

#### Planning land use

In one hand, planning land use is organizing (mostly in the city scale) and spatial-temporal arranging (mostly in the regional scale) activities and performances and way and amount of attributing the land to each of these activities based on the need of inhabitant and in the other hand it is the principles and bases of sustainable urban and regional development (Mahdyzade, 2000:77).

#### New urbanism theory

New urbanism includes providing urban texture with the main feature for the inhabitants to walk and meet their demands and do their daily chores by walking. New urbanism provides a set of principles for the planning which includes ability to walk and Livability of neighborhoods and create a friendly environment for pedestrians. The necessity of meeting people face to face and emphasis on fundamental principles are considered in the new urbanism [28].

#### Satisfaction

Satisfaction of the life is possible when social indicators correspond with individual's needs subjectively and objectively. Satisfaction of life

is evaluating dominant condition or various aspects of an individual in the past. Thus if an individual receives expected condition in the life, he would be satisfied mentally [9].

### 2-2- theoretical bases and literature

Precedent of the studies of land use in the world doesn't go back to old time. For the first time Von Thunen in 1826 emphasized on the patterns of land use regarding prices of the agricultural products by publishing Solitary Government Impact in relation with agriculture and national economy. Then these kinds of studies began. Years after Von Thunen, some attempts in relation with the studies of urban land use were made by the Hemer Huit, Ernest Burges, Rodrick Mackensy, Edward Olman, Firy [18]. Planning land use was firstly raised in Europe and America with the appearance of new urbanization. The initial proceedings were mostly legal, engineering and administrative oriented. But from the beginning of the 1960 decade, the subject of using urban land in specific concept of planning land use was formed seriously based on the concepts, bases and purposeful and systematic methods. This point of view that using the urban land is not only a physical and administrative subject but also it has economic, social, environmental and cultural dimensions, was gradually enhanced in the western cities. Perspective of organizing the land which was raised by passing the public health act in 1875 in order to supply dominancy of the government and establishing property rights, considered the way of using urban and rural lands more carefully and caused some limitations in locating damaging industries and density. In the United States of America the first act of dividing land was passed in 1885 and the initial regulations in relation with zoning were executed in 1922 [20]. In the decade of 1980, large number of American architects and urban planner were unsatisfied with Corrosion and deterioration of urban centers and increasing the local communities which are scattered and dispersed, auto-dependent and far from urban centers. In the

late decade of 1980 and beginning of the 1990, this dissatisfaction led to the new urbanism movement [7].

Using the word new and combining it with the phrase urbanism indicates concepts like freshness, vitality and energy. This attitude (which was offered by the urban planners and architects in the early of 1980) tried to address problems stemmed from urban spreading and rural development after war world 2. Emphasizing on traditional physical characteristics (characteristics which formed the base of constructing units of neighborhood), new urbanism aims to learn from traditional urbanism in order to address current regional and urban concerns [11]. Accompanied by increasing urbanization and its consequent problems, several researches have been done in the field of urban management and planning land use. Seyyed Ali Hosseiny and Yousef Bahramy [13] in an article entitled “analyzing the effect of space organization of the city on urban transportation(case study from Rasht)” concluded that regarding basic variables, good form of city is the form that drives citizens to the extreme efficiency and satisfaction by the minimum time, cost and replacement. Thus organizing efficient places with good form provides satisfaction of the citizens.

According to a research which was done by the PPS institute over more than 1000 public urban spaces in different countries of the world, researchers concluded that accessibility factor is among the cases which are of the very importance in measuring quality of the condition of public spaces and urban land uses [15].

A research entitled “evaluating urban land use of Ardakan Fars” (2006) which was done by Isa Ebrahimzade and Mojir Ardakany has been published in the journal of Geography and Development. After quantitative evaluation through corresponding current capita of uses of Ardakan city by the quantitative measures, it analyzes the uses qualitatively by the means of

four matrices (compatibility, compliance, capacity, dependence). It concludes that the necessity of planning and balancing education, health and environment uses should be considered correspondent with density in order to balance uses and urban constructions.

Soyoung, P et al [37] in a research entitled “Prediction and comparison of urban growth by land suitability index mapping using GIS and RS in South Korea” investigated land suitability index for the urban development. In this research they investigated suitable land of urban development by the means of RL (Logistic regression) method and analytical hierarchy process; and finally it has been showed that LR and AHP methods respectively produce similar maps for the land suitability index in South Korea.

Tims Willem in [36] studied the Land Use and Development Master Plan in Rwanda by the means of GIS and AHP model.

Demir et al in a research about Evaluating Sustainable Land Use for the De Irmendere Valley: A Case Study from Northeastern Turkey concluded that the issue of developing urban and rural regions in the watershed system of studied river necessitates determining optimum land use due to population loads and industrial development.

Olga Tsvetkova [35] in his master thesis about Spatial and Temporal Dynamics of Land Use Impacts on Water Quality in Watershed System of Black Stone River in America and 115 other subsystem by the means of GIS and SWAT model showed that land use changes have long term and short term effects on water sources, environment and human societies. He considered studying land use changes and evaluating erosion and deposition in the watershed system as a guarantee for water quality standards in order to contribute reducing erosion and deposition of the system.

In analyzing land use with the spatial justice approach, Emily Thalen investigated spatial

reciprocal relation between public land use distribution and economic and social features of the places. In this article locating land uses has been analyzed according to distributed standards based on the need.

### 3- Research methodology

The methodology is based on analytical-descriptive and surveying method due to the work nature. The research main orientation is applicable. Theoretical bases and research recommendations have been gathered by the means of library and documentary sources. Statistical society of this research includes citizens of Ilam city. The sample size is 383 individuals based on Cochran's formula. Sampling method in this study is simple

random sampling. Validity of designed questionnaires was examined by the Cronbach's alpha which was 91%. In order to analyze data in this research, GIS software and Hall yen's satisfaction index and SPSS software have been used.

### 5- Analyzing data

According to data of diagram (1), among all respondents, 7.8% of them were 20 years old or less, 71% were between 21-40 years old, 18.3% were between 41-60 years old and 2.9% were more than 60 years old, as a result the majority of respondents were between 21-40 years old.

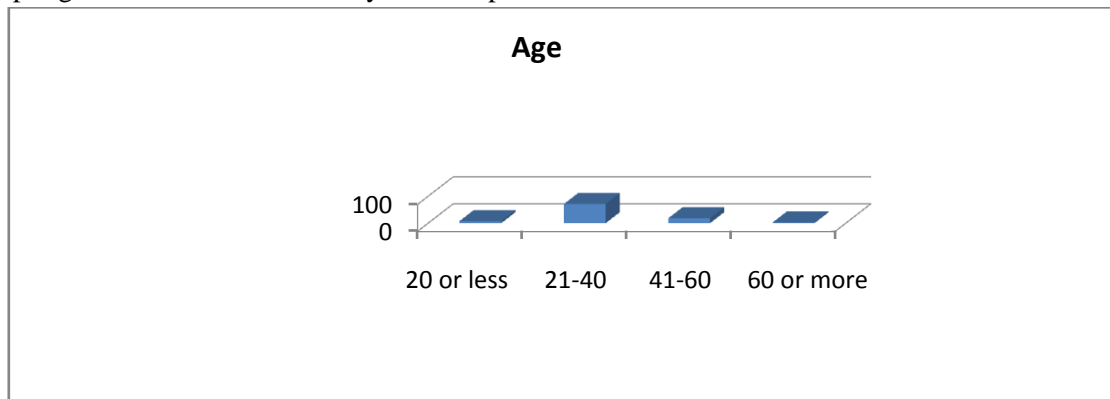


Diagram (1): Age distribution of respondents

According to data of diagram (2), among all respondents, 49.3% of them were male and 50.7% of them were female, as a result the majority of them were female.

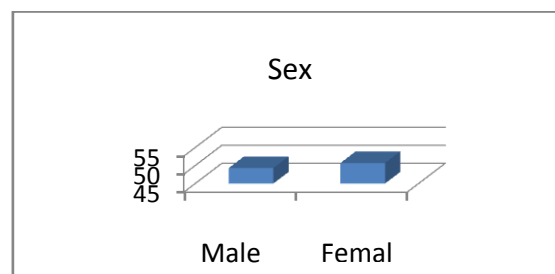


Diagram (2): sex distribution of respondents

According to data of diagram (3), 2.9% of respondents were illiterate, 7.8% were educated in primary schools, 7.6% were educated in guidance school, 27.7% were educated in high school and 54% of respondents had academic education.

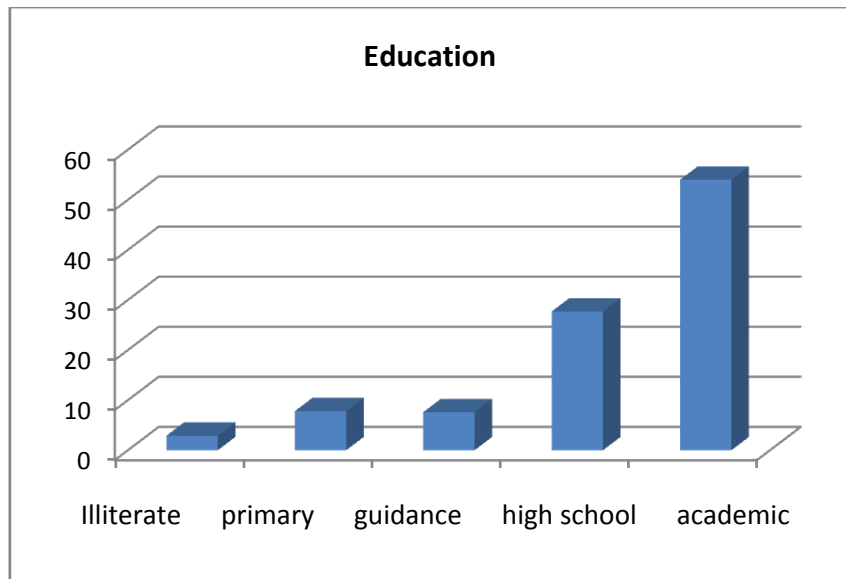


Diagram (3): education distribution of respondents

### 5-1- pedestrian-oriented

Developing walking and cycling routes especially in the district scale is emphasized which is of very importance particularly in historical texture of the districts. In fact enhancing pedestrian-orientation is the main principle of new urbanism which is emphasized in Islamic –Iranian cities by making indoor routs which provide climatic comfort for pedestrians. Another feature of pedestrian-orientation is locating most uses in accessible walking distance and nearby of the home and work place. We can approach this principle by defining active district centers and appropriate locating of required uses [24].



Map (1): urban streets

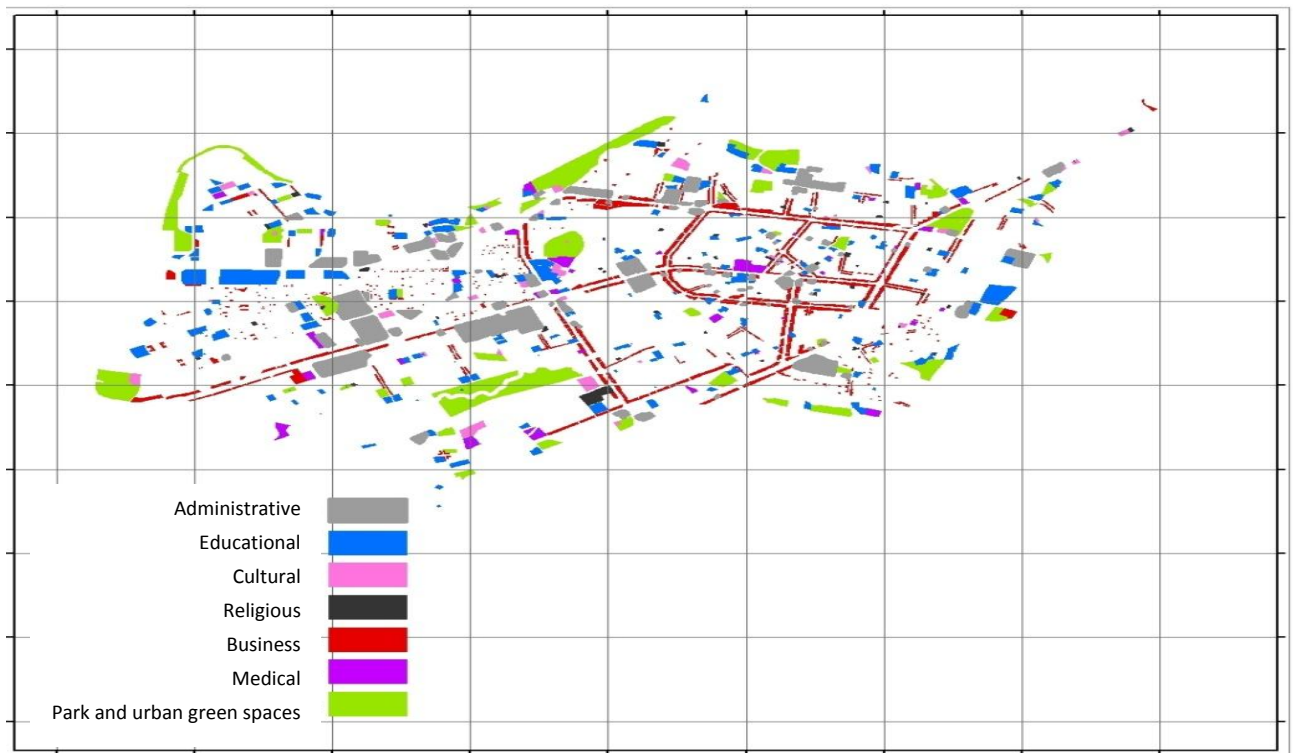
### 5-2- connectivity

Connectivity means that physical units and spaces are located beside each other connectedly and finally an integrated texture is appeared. It can come true by locating centers in multiple main and (DOI: [dx.doi.org/14.9831/1444-8939.2014/2-SI/MAGNT-96](https://doi.org/10.29253/1444-8939.2014/2-SI/MAGNT-96))

side routes junction, integrating squares with active elements like bazaar, Mosque and districts centers, close relation of mosque with other elements of city center and making a congruent combination between city complexes and districts in the city center physically and spatially [24].

### 3-5- Mixed use

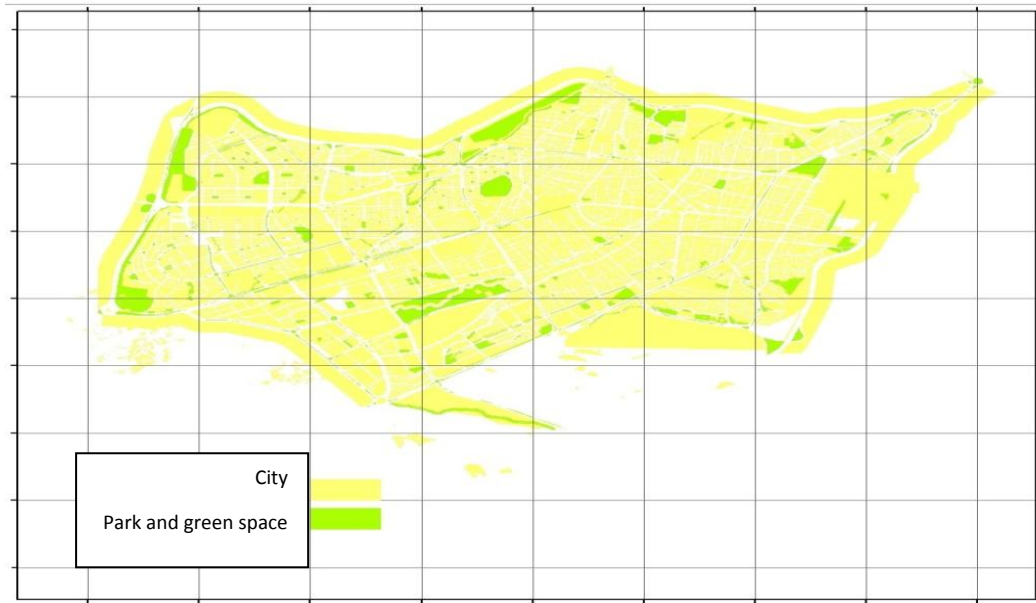
In designing new districts, combination of elements and urban performances is planned in a way that an individual reaches his destination without thinking of taking a car. “An appropriate district is the one that could balance between Employment, housing and utilities”. Furthermore combination of uses reduces trips outside the neighborhood and increases walking trips within the neighborhood [1].



Map (2): Mixed use

### 5-4- keeping and enhancing public and green open spaces

New urbanism believes that public spaces and parks could provide attractive spaces and flourish districts and make a unique concept of the space. Keeping and enhancing public spaces like pavements, squares, parks, public buildings and gathering spaces in order to provide informal meetings and social contacts with other people makes districts look like balanced and live environments. An ideal traditional neighborhood somehow guarantees contacts with a park, a square or a rural green space which is within 5 to 10 minutes from center and accessible by walking [6].



Map (3): Parks and public green spaces

Hypothesis (1): the level of capita attributed to the uses of Ilam city is not based on new urbanism perspective and 12-fold factors of studied area are not considered.

Table (1): the results of not considering the level of capita attributed to the uses of Ilam city and 12-fold factors

variable	Average	Standard deviation	DF	T Value	Sig	Lower bound	Upper bound
Per capita attributed to the uses of the city of Ilam	2/379	./601	382	-20/219	./000	-./681	-./560

Data of table (1) shows that the average of respondents' opinions in relation with not considering per capita attributed to uses of Ilam city and 12-fold factors of studied district in Ilam city is  $m=2.379$  which is less than value of exam 3. Furthermore regarding estimated significance level of 0.0000 and certainty level of 0.95, it can be claimed that considering attributed per capita to land uses of Ilam city and 12-fold factors of studied district is less than average. In the other hand regarding one way test and negativity of upper and lower bound, the average value is less than tested value; as a result  $h_0$  is failed. In fact since the obtained critical value of the table is equal to 1.64 and calculated t with the value of -20.219 is less than T of the table, the zero hypotheses is failed and hypothesis of the research is confirmed. Finally we conclude that capita attributed to land uses of Ilam city is not based on new urbanism perspective and 12-fold factors are not considered.

Hypothesis (2): the factor of uses compatibility is not considered in spatial distribution.



Table (2): results of not considering the factor of uses compatibility in spatial distribution of uses

Variable	Average	Standard deviation	DF	T Value	Sig	Lower bound	Upper bound
Not considering the factor of uses compatibility	2/532	.567	382	-16/131	.000	-.524	-.410

Data of table (2) shows that average of respondents' opinions in relation with not considering the factor of uses compatibility in spatial distribution of uses in Ilam city is  $m=2.532$  which is less than the value of exam 3. Furthermore regarding estimated significance level of 0.000 and certainty level of 0.95, it can be claimed that considering the factor of uses compatibility in spatial distribution of uses is less than average. As a result  $h_0$  is failed. In fact since obtained critical amount of table is equal to 1.64 and evaluated  $t$  with the value of -16.131 is less than  $T$  of the table, the zero hypotheses is failed and the research hypothesis is confirmed. Finally we conclude that the factor of uses compatibility is not considered in spatial distribution of uses.

Hypothesis (3): people are unsatisfied with accessibility to uses in Ilam city.

Table (3): satisfaction index of different variables of satisfaction with accessibility to the uses in Ilam city

Satisfaction index	Total respondents	Groups			Variables
		Satisfied respondents	acceptable respondents	Unsatisfied respondents	
-.100	383	0	0	383	Designing passages network in a way which provides accessibility to the uses easily
-.92	383	0	29	354	People's satisfaction with way of accessing the uses
-.78	383	0	82	301	Easy accessibility to districts and urban regions
-.92	383	0	30	353	Easy accessibility to the uses
-.91	383	0	33	350	Suitable accessibility to the urban uses
-.90	383	0	35	348	Satisfaction with locating the uses
-.89	383	0	42	341	Suitability of accessible distance to the uses in the urban regions
-.79	383	0	79	304	Suitability of business use in the terms of distribution and accessibility over the city

-.64	383	57	23	303	Satisfaction with accessibility to the uses in Ilam city
------	-----	----	----	-----	--

Data of Table (3) indicates that regarding the range of satisfaction index (-1 to +1) and negative obtained indexes in this research, respondents are quite unsatisfied with accessibility to the uses in Ilam city.

Table (4): the results of dissatisfaction with accessibility to the uses in Ilam city

Variable	Average	Standard deviation	DF	T value	Sig	Lower bound	Upper bound
Dissatisfaction with accessibility to the uses in Ilam city	2/453	.560	382	-19/078	.000	-.602	-.490

Data of Table (4) shows that average of respondent's opinions in relation with dissatisfaction with accessibility to the uses in Ilam city is  $m=2.453$  which is less than the value of exam 3. Furthermore regarding calculated significance level of 0.000 and certainty level of 0.95, it can be claimed that satisfaction with accessibility to the uses in Ilam city is less than average. At the other hand, regarding one way test and negativity of upper and lower bound, the average is less than tested value. As a result hypothesis of  $h_0$  is failed. In fact since obtained critical value of the table is equal to 1.64 and calculated t with the value of -19.078 is less than T of the table, the zero hypotheses is failed and the research hypothesis is confirmed. Finally we conclude that people are unsatisfied with accessibility to the uses in Ilam city.

Hypothesis (4): considering principles of new urbanism can be effective on satisfaction with distributing the uses.

Regarding obtained data of questionnaires, the fourth hypothesis is confirmed.

Analyzing data of questionnaires regarding principles of new urbanism, we can conclude that satisfaction index among inhabitants of Ilam city increases by considering these principles. One of these principles is connectivity. According to respondents' opinion, satisfaction index is in the medium level. Since connectivity is effective on integrating activities and their clearness, there should be homogeneity and connection between urban elements like streets, pavements, and outdoor spaces. But citizens are unsatisfied with connectivity of elements in the studied region. Mixed use is another principle of new urbanism. Some cases of mixed use have been seen in Ilam city like Aftab complex which is a business-entertainment complex. Thus the number of these kinds of mixed use should be increased that finally leads to satisfaction of citizens.

Keeping and enhancing green and public spaces is another principle of new urbanism. Green space influences mental health and pollution reduction of the city positively, thus capita of green space should be increased. Unfortunately there have been no significant initiatives for enhancing and expanding the green space use of the city. Inhabitants of Ilam city are not satisfied with green space capita and accessibility to these kinds of spaces and regarding population density, these spaces have not been provided. Public transportation is another existing challenge in Ilam city. Public

transportation in this city is not in the favorable level qualitatively and quantitatively and responsible organizations have no planning and specific goal in order to improve the condition of transportation. Residential uses are in a bad condition since the number of existing houses doesn't correspond with the population of the city. People, especially with low income, are not able to pay for the residential costs and their satisfaction index is very low. The condition of medical-healthy use in this city is not favorable. This use is not distributed over the city and citizens don't have proper access to this use. In the terms of spatial distribution of uses, there is no compatibility with the principle of human orientation in the 12-fold principles of new urbanism. Human oriented space should be able to induce good atmosphere and increase citizens' loyalty towards the environment. In this way public peace is formed and social and spiritual collaboration between citizens is increased. But in this city, people's needs are not considered and even the citizens don't have easy access to the uses. They sometimes have to walk long distance. Finally they are not satisfied.

Table (5): satisfaction index of Hall, Yen, Ten

Satisfaction index	Unsatisfied respondents	Acceptable respondents	Satisfied respondents	Total respondents	row
-0.42	185	176	22	383	1
-0.37	199	128	56	383	2
-0.53	232	122	29	383	3
-0.20	158	147	78	383	4
-0.55	239	116	28	383	5
-0.36	210	101	72	383	6
-0.55	244	107	32	383	7
-0.14	129	182	72	383	8
-0.12	149	133	101	383	9
-0.59	252	108	23	383	10
-0.52	231	122	30	383	11
-0.50	222	132	29	383	12
-0.46	212	138	33	383	13
-0.52	237	111	35	383	14
-0.62	269	85	29	383	15
-0.31	154	196	33	383	16
-0.48	229	112	42	383	17
-0.61	266	85	32	383	18
-0.53	153	202	28	383	19

-0.17	234	113	36	383	20
-0.06	103	201	79	383	21
-0.23	177	118	88	383	22

Regarding data of table (5), in order to obtain satisfaction index among inhabitants of Ilam city, we subtract the number of satisfied individual from the number of unsatisfied individuals and divide it to the total respondents. By the means of mentioned formula and regarding this issue that obtained number of this index for all questions of the questionnaire is negative, we can conclude that satisfaction level of inhabitants of Ilam city with land uses is very low.

## 6- Discussion and conclusion

Regarding obtained data from questionnaires and GIS maps, we conclude that comprehensive plan of Ilam city has faced many problems and obstacles which include unauthorized construction, low width of main and side passages in the city center, omitted parking uses, traffic density and lack of proper and sufficient WC. Comparing current uses (1390) with the recommended level of uses approved in 1380 indicates that although 13 years has passed since recommended level of 1380, still many of the uses have not reached the recommended level of 1380. This indicates lack of right prediction of population, needs and facilities; and consultants has started to plan without awareness and familiarity with the region which was based on wrong and dispersed information. After several years, we are far from those intellectual planning. Moreover, comparing current condition (1390) with recommended level of 1394 and regarding the percentage of implementation till now, it can be indicated that the lowest amount of implementation of uses is related to the uses of green space, education, military and sport and the most amount of implementation is related to the uses of housing, culture-religion, business and health. However the uses of housing, green space, health and sport are not in a favorable condition.

Results of researches show that paying more and precise attention to human being and considering him in the context of urban plans

and uses is among the priorities of new urbanism. New urbanism tries to provide a circumstance in which human being could live peacefully and with higher quality. In this regard, inhabitants should have access to housing and walking, transportation should be advanced, they should feel reduction of costs, traffic and accident risk; and the city should be effective on improving public health.

The main purpose of new urbanism is to provide an environment in which urban inhabitants are of the most effectiveness on it. Thus it can be realized that executing 12-fold principles of new urbanism in cities accompanies satisfaction of city inhabitants. If uses distribution in Ilam city is done based on principles of new urbanism, the quality of urban environment will change and improve certainly.

It can be seen that the majority of spatial-physical problems of the region stem from lack of integrated land use system and also lack of considering local principles and measures in locating the uses. Therefore it seems that paying attention to problems, issues, lacks and limitations of spatial structure of studied region is necessary in any planning for this city.

Results of a research done by Saeed Maleky prove the first hypothesis of this research. They have concluded that land use of Ilam city doesn't have standard capita. So this research aims to investigate standard and required capita for all of uses.

Results of a research done by Ebrahimzade prove the second hypothesis of this research. He concluded that planning and balancing the uses of education, green space and health correspondent to density should be more considered in order to balance the uses and reconstruct the city. The findings of current research also indicate that lack of compatibility between uses causes dissatisfaction among citizens of Ilam city. Lack of correspondence of uses with population density in many regions of this city causes some problems among the people.

The results of a research done by Khodaei [15] prove the third hypothesis of this research. According to this research it can be concluded that accessibility factor is of very importance in measuring qualitative compliance of public space condition and urban land use. Findings of this research also indicate that quality of urban environment includes social, cultural, economic and spatial-temporal condition of the urban environment which determines the level of satisfaction and dissatisfaction of citizens. Proper accessibilities and increasing physical quality are effective in satisfaction of citizens with urban spaces.

Physical role theory is correspondent with third hypothesis. According to the theory of Stuart Chapin, land use in the scale of city depends on factors like ground limitation, form and position of the land, kinds of activities, density, concentration, way of distributing lands between uses and comparing uses.

Results of a research done by Seyed Ali Hosseiny and Yousef Bahramy [13] prove the fourth hypothesis. In his research, good form of city is the form that regarding basic variables provides the highest efficiency and satisfaction with minimum time, cost and replacement. Thus organizations in efficient places and with good form provide satisfaction of the citizens. According to current research land uses should be distributed in a way that citizens don't have difficulty with accessing these uses without

waste of time and cost. In other word we can't provide favorable condition in cities for citizens without planning land use. This can be done by the help of specialist and their expert in all issues related to city.

### Recommendations

We can realize problems and limitations of a city by detailed understanding of it and consequently we can make long term and feasible plan. It seems that regarding strategic location of Ilam city in the pilgrimage route of Holy Shrines, it requires an applicable plan similar to Strategic Urban Development Plan. Therefore we can consider following recommendations:

One of the gravest problems is lack of present consultants in small cities especially the cities which are far from the capital. Thus providing a local office by the project advisor and direct relation of employees of local office with organizations and local management of city and also continuous relation with people are necessary in order to reform the process of preparing comprehensive plans; and unauthorized construction should be avoided.

- Green space should be increased in the studied region.
- Professional software of GIS should be applied in locating recommended land use.
- Servicing centers like fire stations and medical centers should be distributed all over the city.
- Preventing concentration in the city center which reduces traffic in the downtown core.
- Due to high density of population during the day, parking places should be established at the city center.
- Some predictions should be considered in future plans of studied land use in order to transfer unnecessary and military places to out of city gradually.

- Constructing storey buildings in the lands existing in high ground water level should be prevented.
- The principle of connectivity and urban spaces connection in the district centers through streets or main passages should be considered.
- Current passages network should be modified and narrow passages should be widened.
- Regarding social, economic, physical and cultural condition of the region and also distribution and dispersion of population, activities and position of uses, Current physical divisions of the city should be revised and its boundaries should be reformed.
- Compatibility should be considered in studies related to understanding current condition and field work of studied land use. Related information should be applied in making plan for future land use and determining type of recommended uses of the city which is not considered usually in urban plans of the country. Therefore it is necessary to balance uses and imbalance should be removed.
- A district of the city should be considered as the center of public services of the region and by constructing storey building with different type of function between floors, public demands of inhabitants should be met and free space should be provided.
- Crucial uses should be separated in order to reduce risk of widespread fires in case of earthquake. Pavements should be separated from vehicle roads with green space bars.
- Appropriate and special spaces should be allocated for public transportation in order to accelerate the movement and speed of public transport.
- The number of public vehicles should be increased which causes pollution

reduction and traffic prevention. Extra open spaces should be considered in order to provide public entertainment centers and future development of the city.

### References

- 1- Azar, Ali; Hossein zade Dalir, Karim; organizing and reconstructing districts by the means of new urbanism approach “case study from Sorkhab district in Tabriz” geography and regional development journal, No.11, fall and winter of 2008.
- 2- Asayesh, Hossein; Moshiry, Rahim; methodology and techniques of scientific research in human sciences with emphasize on geography, Tehran, Ghoms publication, 2002- Ebrahim zade , Isa; Mojir Ardakany , Abdorreza; evaluating urban land use of Ardakan Fars, journal of Geography and development, term 4, No.7, spring and summer of 2006.
- 4- Ebrahim zade, Isa; Bazrafshan, Javad & Kazem Habibzade; analyzing and evaluating rural and small town land use in Iran by the means of GIS ( case study from Khoshrudpey Babol), urban and regional researches, second year, No.5, summer 2010.
- 5- Arendt, Randall, New Urbanism Charter, translation of Alireza Danesh and Reza Basiry Mojdehy, publication of urban planning and process, Tehran, 1999.
- 6- Asgharzade Yazdy, Sara; recommended principles of new urbanism in planning urban districts, journal of Housing and village environment, 29<sup>th</sup> year, No.130, pages 50-63, Summer 2010.
- 7- Aghmashe, Maryam; Tabibian, Manuchehr; localization of new urbanism theory in Qazvin city( case study from Punak town), Proceedings of the National Conference on Architecture, urbanization and sustainable development from native architecture to sustainable city,

institution of higher education of Khavaran Mashad, 2013.

8-Tholen, Emily; GIS and visualization of justices in urban planning, translation of Mahmud Rezaei, Shahrnegar Journal, No.17, 2001.

9- Jafary Nia, Gholamreza; Bazr Afshan, Mohamad; investigating the role of cultural factors in satisfaction with immigration, case study of Ilam city, journal of social science, Faculty of Literature and Humanities Ferdowsy University of Mashhad, pages 29-54, fall and winter 2011.

10- Hatamy, Parisa; investigating effective factors on social health of students with emphasize on social networks, master thesis of social work, 2009-2010.

11- Habiby, Mohsen; Tahsildar, Mahdy & Navid PourMohammadreza; a description on principles and rules of native urbanization in relation with contemporary theories of urbanization, journal of Housing and village environment, No.135, fall 2011.

12- Hasan Beigy, Mohsen; offering the model of success key factors of science management in order to increase creativity and organizational learning in the company of country's airports, master thesis, Payame Noor University, engineering faculty, Shahrivar 2010.

13- Hosseiny, Seyed Ali, Bahramy, Yousef, analyzing the effects of spatial organization of the city on transportation system within city (case study from Rasht city), engineering journal of transportation, term 5, No.1, fall 2013.

14- Khaky, Gholamreza; research method with dissertation approach, Tehran, Baztab publication, second edition, 2005.

15- Khodaei, Zahra; PourKheiry, Ali; quality of urban environment and its role on promoting

satisfaction of citizens, Journal of social science, No.36, Spring 2009.

16- Rafeian, Mojtaba; Askary zade, Zahra & Mahnaz Farzad, Suitability assessment of urban environments, analytical approach in measuring the quality of urban environment, approaches, indicators, methods, Tehran, Publication of Tehran city related to Tehran Municipality Cultural Organization, 2013.

17- Ziary, Keramatollah, urban land use planning, Yazd, Publication of Yazd University, first edition, 1999.

18- Ziary, Keramatollah, urban land use planning, Tehran, Publication of Tehran university, 2009.

19- Ziary, Keramatollah, Besharaty Far, Sadegh & seyed Nematollah Rashidy Fard, evaluating land use of Dehdasht city ( province of Kohkiluye and Buyer Ahmad), 2010.

20- Saeedy Rezvany, Navid, Moshref Dehkordy, Hossein, applying the model of What if? In planning urban and regional land use, Tehran, Ayandegan, 2012.

21-Seifoddiny, Faranak, specialized language of urban planning, Tehran, Ayeej, fourth edition, 2009.

22- Shokoei, Hossein; new prospective in urban geography, Volume 1, Samt publication, Tehran, 1994.

23- Shohany, Mohammad; physical expansion of Ilam city and its environmental consequences, master thesis of Shahid Beheshty University, 1999.

24- Safary Shaly, Reza, the guide to provide research plan (proposal writing), Tehran, publication of society and culture, 2011.

25- Ezaty, Morteza, research method in social science: applying in economic issues, Tehran, Tarbiate Modarres University, institute of economic researches, first edition, 1997.

- 26- Askary, Maryam, Mahmudzade, Amir, pathology of comprehensive plan of Ilam city and evaluating implementation of land use prediction in comprehensive plan, 2011.
- 27- Asgary, Ali; Razany, Omid and Pedram Rakhshany; urban land use planning (systems and models), Hamedan, Noor-e Elm, 2002.
- 28- Gharaei, Azadeh; Aghaei, Zahra, strategic planning of Chizar district with combining prospective of new urbanism and Iranian traditional urbanization, fourth conference of planning and urban management, Mashad, 2012.
- 29- Kiany, Akbar; Salary Sardary, Farzali; evaluating accessibility and optimum application of public spaces in the coastal town of Assaluyeh, researches of human geography, summer 2013, term 45, No.2, 2013.
- 30- Latify, Gholamreza, Safary Chabok, Neda; recreation of the concept of neighborhood in the Iranian-Islamic cities based on new urbanism principles, Journal of social science, No.66, 58-66, 2013.
- 31- Maleky, Saeed; spatial analysis of physical development pattern of Ilam city, Master thesis, social and human science, Tabriz University, 2000.
- 32- Maleky, Saeed; Ahmady, Turan, spatial-temporal development of Ilam city, Ilam, Ilam university, first edition, 2010.
- 33- Mahdy zade, Javad, planning land use from the perspective of sustainable development, consultant engineers of Farnahad, Journal of Essays of urban planning and designing, Tehran, 2000.
- 34- Demir, Y.M., Atasoy, M., Bayrak, T., and Biyik, C Evaluating Sustainable Land Use for the De Irmendere Valley: A Case Study From Northeastern Turkey, 2008.
- 35- Olga Tsvetkova, A . Spatial and Temporal Dynamics of Land Use Impacts on Water Quality in Watershed Systems, Novgorod State University, Russia, M.Sc thesis, University of Massachusetts Amherst, 2007.
- 36- Tims, Wille .GIS model for the Land Use and Development Master Plan in Rwanda, January 2009.
- 37- Soyoung, P., Seongwoo, J., Shinyup, k., Chuluong, C Prediction and comparison of urban growth by land suitability index mapping using GIS and RS in South Korea, Journal of Landscape and Urban Planning. Issue 2.Vol. 99, 2011.