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Assessing the Sustainability of Ilam City's Areas from the Social Justice Perspective

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ABSTRACT

Sustainable development of urban areas as one of the main objectives of geography seeks to reinforce economic, social, cultural, environmental, and physical-fabric aspects of cities. The subject of sustainable city is based on this general agreement that the city which we know and live in creates unstable environmental tensions, has social classes, does not have a good performance, and is expensive to manage. Ilam City as the metropolitan of Ilam Province has undergone demographic and spatial changes in the previous decades for three major reasons: 1. provincial centralization, 2. centralization of government facilities and services due to the policy of growth pole, 3. the war imposed on Iran by Iraq. Allocating a high percentage of the income, facilities, and services to Ilam City has attracted a large population of the province. Consequently, 48 percent of the urban population of Ilam Province live in Ilam City. This study aims to identify sustainable and unsustainable areas of the city, and analyze social inequalities and levels of the development of the areas. The study is a descriptive-analytic one that uses quantitative models like factor analysis in SPSS to rank areas and levels of development. The research is applied and the statistical population includes the 14 areas of Ilam City. Data analysis and index assessment confirm the unsustainablity (i.e. instability) in the studied areas. More specifically, in the central area of the city (District One) as the only sustainable area of the city there is higher sustainability and access to basic needs of life while Banbarz is the most unsustainable area of the city regarding access to the urban facilities and resources.

KEY WORDS: Sustainable development; Social justice; Factor analysis; Areas of Ilam City.

INTRODUCTION

Today in the sustainable urban development approach social justice and identifying inequalities is the focus of urban studies. The pioneers of modern urban geography seriously study the internal structure of cities with regard to social justice, which is affected by policies of the system of government and social conditions of the society, because the social issues of today's cities cannot be just solved by street construction and urban zoning, but reconsideration of the economic and social situation of urban and district population, more than physical planning, can promote people's social welfare and make the expansion of social justice possible [1]. Achieving spatial balance in distributing urban services and social facilities paves the way for social justice, distributive justice, and sustainable urban development. Urban social justice means the equal spatial distribution of facilities and resources to different urban areas and people' equal access to them; unequal distribution of resources causes social crises and complicated spatial problems [2].

In the present era the main factor of human societies' crises is rooted in social inequalities and lack of justice. One of the urban planners' concerns in urban spaces, especially the country's metropolises is planning and locating good and adequate service sector places [3]. In this regard, urban planning in general and sustainable urban development planning in specific seek to organize and regulate urban spaces in terms of access to urban facilities and services and proper distribution of different uses of the city. In other words, they aim to create the best living conditions and appropriate relations among different urban uses for the residents. Reducing poverty and inequality and relying on the principle of social justice and geographic equality is among the key measures of sustainable urban development [4]. The concentration of development in cities and taking account of physical-fabric concepts while ignoring social objectives in urban development plans has made cities face an undesirable cycle of environmental, social, and economic imbalance; it also has posed unprecedented problems and challenges such as poverty, informal settlements, cultural conflicts, declining quality of life, income gaps, social disintegrations, decline of the family as a

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social institution, and inequality in the distribution of urban services which not only have resulted in urban inequality and have endangered the social health of the city and its residents but also have weakened the concept of sustainable development because of its close connection with social justice. Since planning is a tool for management and then it requires analysis and understanding, it should be said that studying and understanding urban areas and analyzing their potentials and challenges in the process of urban planning is extremely important, and thus today it is necessary to be aware of facilities, capabilities, weaknesses and shortcomings in order to present informed managerial plans and programs. This awareness is so significant that UMP (i.e. United Nation Urban Management Program) considers the legitimacy of urban management dependent on it. Therefore, informed actions of urban management for the spatial distribution of social benefits to decrease spatial inequalities, to promote the quality of physical-fabric environment and thus that of life, and to reach urban sustainability entail an analytic understanding and perception of the current situation [5]. Nowadays, the way urban services are distributed is one of the necessities of urban life [6]. To attain sustainable urban development there should be conditions that allow establishing infrastructures for sustainable development in which efficient distribution of uses and facilities, and creating social justice in cities could be mentioned. Inefficient distribution of uses in different social, cultural, and economic contexts interferes with the spatial order of cities [7]. The balanced distribution of facilities through maximizing their radius of action which results in the maximum utilization of resources leads to improvements in traffic and effectiveness of urban transportation system while the concentration of facilities and services in one area makes the customers go to that area to use them and thus causes traffic congestion. Moreover, the concentration of facilities and services in one area leads to quick rises in land prices and in turn profits for the owners. Consequently, the way resources are allotted widens social class gap. The imbalanced distribution of facilities and services causes the formation of both affluent and non-affluent communities (in the north and south of the city, respectively); as the latter have a low income and do not have access to the minimum standards, the closed cycle of poverty is intensified [8]. Environmental degradation and social instability, therefore, are consequences of poverty because poverty is indicative of very complicated social-economic and political relations that cause inequality in access to resources and in turn inappropriate use of resources which leads to environmental degradation. The continuation of social inequality and instability and then environmental degradation may be irreversible [9]. But the balanced distribution of facilities and services leads to the wider allocation of the added value and thus more people benefit from it. Generally, urban development is sustainable when it can provide clear and specific solutions for ideally meeting the service needs of residents, that because of partial attitude, structural weakness of urban management, and lack of people's cooperation, urban service-providing organizations could not do the equal spatial allocation of services effectively.

Ilam City as the metropolitan of Ilam Province was the only urban point at the 1956 census and its population was 8346. Then the population grew by 6.5% and was 15493 in 1966 and there were three urban points. In 1976 the population increased by 7.7% and reached 32476 with the same three urban points.

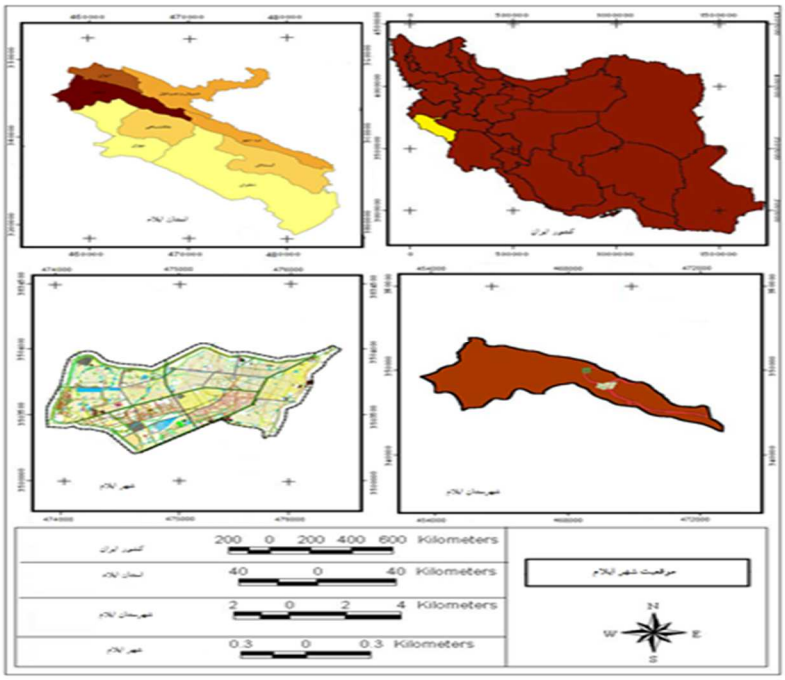

Figure 1. The location of Ilam City in Iran, Ilam Province, and Ilam County

There was an imbalance in the distribution pattern of population (population density) and the urban system as two cities of Dehloran and Mehran emptied because of the Iran-Iraq war. As a result, in 1986 the population of Ilam City rose 10.6% and reached 89035 and in 1996 it was 126346. When the war ended and the people of Dehloran and Mehran returned to their cities, the population growth of Ilam City was not continued. In 2006the population reached 155289 due to the concentration of resources and facilities of the province. Based on the six censuses conducted from 1956 to 2006 more than half of the urban population of the province live in Ilam City, and the polarization of population, resources, and facilities has happened (Ilam City's Comprehensive Plan, 2006). In recent years, as more and more people have left villages and towns to live in Ilam City, the physical development of the city has been rapid and increasing. In 1956 the city limit included 85 hectares and in 1976 the city area increased by 2.5 times and reached 189 hectares (Ilam City's Comprehensive Plan, 1981). In 1986the city area tripled and covered 689 hectares, in 1996 the city area was 950 hectares, and in 2011the city area doubled and reached 1800 hectares. Some reasons behind this development include the concentration of more than 50% percent of the budget, urban resources and facilities of the province in Ilam City, the migration of people from the other cities, towns, and villages of the province to Ilam City to use the resources, and the labor market ofservice sector jobs.Thus, the most important purpose of this study is to identify sustainable and unsustainable areas of the city with regard to the indexes of sustainable development, and to recognize current social inequalities as well as the benefits of different urban areas of Ilam.

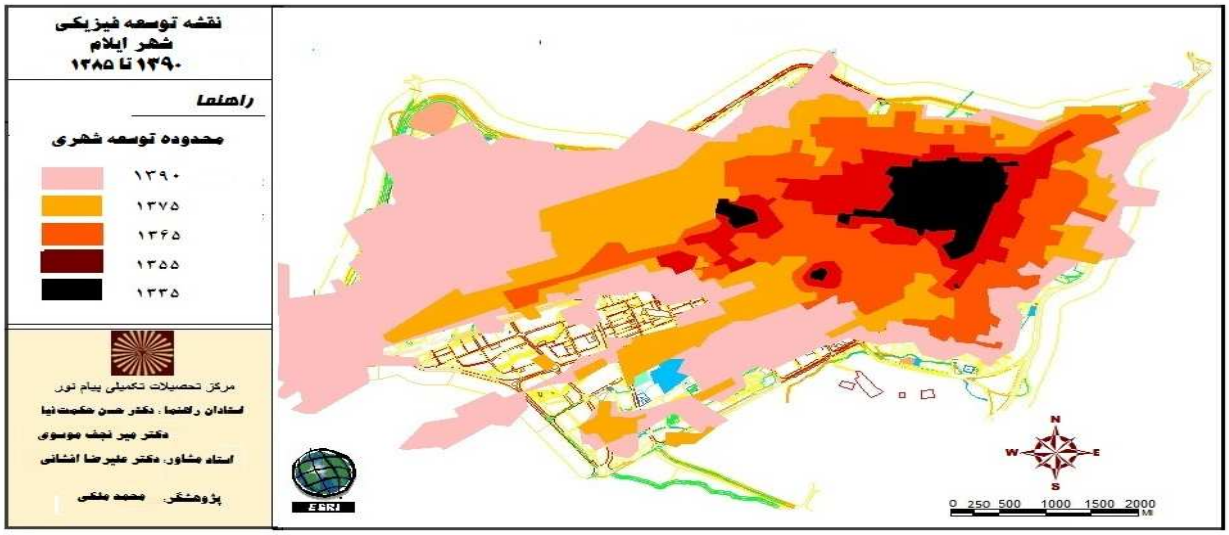

Figure 2.The Physical Development of Ilam City from 1956 to 2011

Significance of the Study

Measures of urban sustainability are of high importance in spatial-physical urban development programs. The city limit of Ilam City, as the metropolitan of Ilam Province, has increasingly developed in recent decades but this development has not been adequate in terms of urban sustainability measures, and now in most of the urban settings especially new ones it faces major inadequacies with regard to equal access to urban facilities. The significance of the present study is that by identifying the current situation and the unstable and deprived areas of the city, the study can attract the attention of planners to adopt policies and plans for decreasing district inequalities through proper and optimum allocation of growth and development facilities. In this regard, it is essential to target at the development of deprived areas which are not very active in order to attain social and economic justice in different city areas to reduce district inequalities. Thus, studying access to urban facilities and resources as one of the indexes of urban sustainability is highly significant; conducting substantial studies to identify limitations and deficiencies as well as good and careful planning in this regard can bring about a better future in different urban settings of the city with regard to adequate access to urban facilities and resources.

Theoretical Basis

The most common definition of sustainable development which is provided by the World Commission on Environment and Development (WCED) states that a sustainable development is the one that fulfills the needs of the present generation without compromising the ability of future generations to meet their own needs. According to this definition, before attaining sustainability, every society should provide justice both in and among generations [10].

Also, in the international conference on conservation development in Ottawa, attaining social equality and justice was mentioned as one of the conditions for achieving sustainable development [10].

Sustainable urban development means circumstances in which today's urban people and tomorrow's citizens can live in peace and under security, and while being healthy, they have long and productive lives [11].

Criteria for a Sustainable City

Herbert Girardet considers these as the qualities of a sustainable city [12]:

- Income and expenses resources
- Energy conservation and its efficient performance
- Technology for using renewable energy sources
- Constructing durable buildings
- Proximity of the work place to housing
- Establishing a good transport system
- Reducing the time wasted and using time effectively
- Creating an organic system to turn wastes into fertilizers
- A proper urban metabolism
- Providing a storage of main food items from local sources

The most important criterion for a sustainable city is creating mental relaxation for the citizens and fulfilling their material and immaterial needs.

Social Justice

The concept of social justice can be studied from different angles, and concepts such as social justice, spatial justice, geographical justice, and environmental justice are also affected by its multidimensionality [9].

Since the late 1960s the concept and function of social justice entered the literature of geography. Issues like social welfare, great inequalities, poverty, racism, ethnocentrism, living in shanties and slums, etc. which were previously ignored in the field of geography quickly have received the attention of geographers. David Harvey was the first geographer who used the concept of social justice for public well-being and welfare, income distribution in places, equal allocation of resources, and satisfying people's basic and essential needs. Having shown the relation between social inequalities and geographic spatial structures, he became the founder of modern human geography [13].

METHODOLOGY

The present research is an analytical survey that assessed 62 educational, health, economic, social, cultural, etc. criteria to study the sustainability and vitality level of the living environment. Using factor analysis, the criteria used in this study were modeled in this way: The criteria and variables that have an internal relation aggregate around one axis and thus their relation is positive, but if they do not have any relation, they diverge and the relation is negative [14]. The final phase which involves naming and interpreting the factors is somehow the most difficult phase because there are no explicit criteria in this regard and it cannot be said with certainty that variables which have significant variance bare manidar on one factor measure which common thing or fact in the real world. Considering the correlations of criteria, proper names and terms can be selected for them. In this study 62 variables are reduced to 7 factors as follows: Economic (employment), physical-fabric infrastructure, educational infrastructure, social-cultural infrastructure, service-welfare, medical-health infrastructure, environmental.

Steps to Do Factor Analysis in Relation to Sustainable Development of Urban Areas in Ilam City

1. Selecting criteria, 2. Forming the primary matrix of information, the matrix of main values including 14 rows (urban areas) and 62 columns (criteria), 3. Building the factors using the software, building the factors using the method of analyzing to main components in SPSS, and standardizing the values through the Z formula and forming correlation coefficients to assess the fitness of values for the analysis, 4. Forming the rotated components matrix, naming and interpreting the factors using the Varimax rotation method in SPSS.

The Study Area

Ilam Province is in the west of Iran and shares 425 km border with Iraq. Ilam City is located in the north of province. The average temperature of the city is 16.5C, and its annual rainfall is 650mm; the city is one of the rainy areas of the province. The city's topography is erratic and has many ups and downs. The city is surrounded by mountain ranges which have forest areas and grasslands and create a pleasant weather for the city.

Ilam City, the political-administrative center of the province, has spread so significantly in recent decades that regarding the spatial development of the city, in 1998 it was in 2 km but now it covers 20 km. The population also has increased from 8346 in 1956 to more than 172000 in 2011. The main reason behind this population growth is

population changes resulting from the government's policies, migration from rural areas to urban areas, and the normal birth rate of old and new residents. Moreover, during the Iran-Iraq war some areas of the province including Mehran City were occupied so many of the people moved to Ilam City and thus the population of the city increased. Before becoming a province by itself, Ilam was a part of Kermanshah Province (the fifth province) and was not significantly affected by migration, but when it became a province by itself in 1975 and Ilam City was selected as its capital, migration to the city increased because for years most of the service, economic, social, cultural, and administrative facilities were settled in the city; the migration has had an ascending process in decades. Based on the estimations, the migration rate from 1966 to 1976 was 4.5% and from 1976 to 1986 was about 6.97% (with including the war refugees or migrants), and from 1986 to 1996 was 4.5%. In the last period mentioned the majority of migrants were from local tribes in poor rural areas, and since the land was costly in the city and the poor migrants did not have adequate incomes, they could not get involved in the economy of the city and thus turned into the outskirts of the city for affordable lands. This led to the development of marginalization and also the physical development of the city without planning and pre-determined projects.

From 1991 onwards, due to the lack of space in the northeast and southeast parts, the city has mostly developed in the northwest part by the Urban Land Organization in the context of the planned urban development of the city. The government transferred about 800000 $m^2$of land to employees' housing cooperatives and governmental organizations in different periods. The land caused the creation of a special social structure in the area and different pieces of the land were given different names like Frahangian, Janbazan, Razmandegan, etc.[15].

RESULTS

The affluence levels of the urban areas of the city were analyzed. The results of the factor analysis of the fourteen districts indicate that they are semi-affluent. Among them the central district is the only affluent area with regard to the integrated indicators. Its features include access to the facilities and services of the city, the high rate of literate employees, the high rate of literate male employees, high participation rate, citizens' participation in urban development, the low unemployment rate, Low dependency, the high level of awareness, small family size, the low density of family in residential units, the low rate of social anomalies, durable residential units, the high rate of literate people, dwelling of wealthy urban groups, the only sustainable urban area, proper access to educational facilities, the large number of kindergarten classes and classes in primary and secondary schools, the high number of classes in non-profit institutes, the low density of students in the three educational levels, proper access to business services, and the high number of literate men and women.

Table 1. Ranking of Ilam regions in the integrated indicators of the factor analysis

Cumulative Variance %	Variance %	Eigen Value	Factor	Row
23/36	23/36	14/17	Economic (Employment	1
36/87	13/51	9/13	Physical-fabric infrastructure	2
48/58	11/71	8/23	Educational infrastructure	3
60/21	11/63	7/21	Social-cultural infrastructure	4
66/73	6/52	5/15	Service-welfare	5
71.91	5/18	4/64	Sanitation-health section infrastructure	6
76/16	4/24	3/11	Environmental	7

Table 2. Ranking of Ilam areas in integrated indicators

CV index	Sustainability	Factor Score	Urban areas	Rank
./81	Sustainable	2/451	(1-1) Central	**1**
	Semi- sustainable	1/275	(1-2) Vejyen	**2**
		1/126	(3-1)Shad abad	**3**
		0/987	(4-2)Payaem nor	**4**
		0/628	(4-1)Zamin Shahri	**5**
		0/548	(3-2)Norouzabad	**6**
		0/418	(3-4)PicheAshoori	**7**
		0/416	(3-3)Sedavasima	**8**
		0/359	(4-3)Janbazan	**9**
		0/262	(1-4)Ostandari	**10**
	unsustainable	-0/063	(4-4)Chalimar	**11**
		-0/128	(2-1)Sabziabad	**12**
		-0/649	(1-3)Banboor	**13**
		-0/821	(2-2)Banbarz	**14**

The spatial distribution of sustainability levels show that considering the integrated indicators, the central area is the only sustainable region of the city. The findings reveal that the central area is the most affluent region among the 14 districts, and in the second group nine semi-affluent regions account for 64.28% and in the third group four areas account for 28.57% and are the most deprived parts of the city. The results indicate that the allocation of urban facilities and resources to different areas of Ilam city is unequal and imbalanced.

In fact, access to different criteria and standards is not equal, and urban facilities and resources are concentrated in the central region. The remaining regions are unequal regarding access to urban facilities and resources, and Sabziabad, Banboor, and Banbarz districts are the most deprived regions.

DISCUSSIONS AND SUGGESTIONS

Based on the factor analysis, among the 14 urban districts of Ilam, only the central area is identified as sustainable. The findings of this study show that urban facilities and resources are concentrated in the central region and other regions have restricted access to them. There are informal settlements and marginalization in four areas: PicheAshoori, Sabziabad, Banbarz, Banboor, and more than 80% of their residents are migrants from the rural areas and neighboring cities and towns in the province. Specific and new measures need to be taken to address the deprivation of people in these regions, which are carriers of social-economic, fabric, and environmental anomalies, and to promote their environmental conditions. Attaining spatial balance in the allocation of urban social and service facilities paves the way for social justice, distributive justice, and sustainable urban development. Urban social justice is synonymous with the just spatial distribution of facilities and resources among different regions and areas of the city and citizens' equal access to them. Unequal distribution of facilities leads to social crises and complicated spatial problems [2].To achieve sustainable urban development there should be conditions that allow establishing infrastructures for sustainable development in which efficient distribution of uses and facilities, and creating social justice in cities could be mentioned. Inefficient distribution of uses in different social, cultural, and economic contexts interferes with the spatial order of cities [7]. The balanced distribution of facilities through maximizing their radius of action which results in the maximum utilization of resources leads to improvements in traffic and effectiveness of urban transportation system while the concentration of facilities and services in one area makes the customers go to that area to use them and thus causes traffic congestion. Moreover, the concentration of facilities and services in one area leads to quick rises in land prices and in turn profits for the owners. Consequently, the way resources are allotted widens social class gap. The imbalanced distribution of facilities and services causes the formation of both affluent and non-affluent communities (in the north and south of the city, respectively); as the latter have a low income and do not have access to the minimum standards, the closed cycle of poverty is intensified [8]. Environmental degradation and social instability, therefore, are consequences of poverty because poverty is indicative of very complicated social-economic and political relations that cause inequality in access to resources and in turn inappropriate use of resources which leads to environmental degradation. The continuation of social inequality and instability and then environmental degradation may be irreversible [9].

All in all, considering the findings of this research on the sustainable development of Ilam city's regions, the following suggestions can be helpful:

- The city managers' attention to social justice in making decisions, equal distribution of urban facilities and services, and allocation of facilities and resources to different urban areas based on their potentials, competency, and needs,
- Developing scientific-educational, health-medical, cultural-religious, and recreational-sport services as well as urban equipment and establishments with giving priority to the unsustainable and semi-sustainable areas,
- Using the geographical information system for locating urban facilities and services,
- Qualitative and quantitative development of urban facilities and services in the unsustainable and semi-sustainable areas,
- Preventing the uncontrolled horizontal spread of the city,
- Increasing green areas, parks, and recreational centers,
- Expanding and improving communication networks and connections and increasing their coverage, especially in the unsustainable and semi-sustainable urban areas,
- Preventing unauthorized and illegal constructions in the outskirts of the city, and observing engineering principles in building and constructions.
- Giving priority to the employment of local people rather than non-local people, and planning to reduce the rate of unemployment.
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