

Research Article

Urban Planning Response to Population Growth in Jordanian Cities (Irbid City as Case Study)

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Abstract: Jordanian cities witnessed a rapid growth in population in recent years which affected their urban fabric to large extent. This population growth whether natural, or compulsory-through migration from neighboring countries due to wars and political conditions or internal migration from rural communities to large cities like Amman, Irbid and Zarqa-led to awareness of strong need to assess the current planning strategies implemented in these cities and how suitable and responsive they are to these developments. The study aims to shed light on the methods used in urban planning in Jordanian cities and the response of this method to population growth in Jordanian cities through its ability to interact with urban problems. This rapid urbanization growth led to some urban organizational problems in Jordanian cities demonstrated best in increasing pressure on public services and infrastructure in these cities which shows clearly stagnation of planning ideas of officials and decision-makers, more over it showed the inability of officials to solve these problems or adopt more contemporary strategies taking into consideration the uniqueness of characteristics for each city. The study aims to shed light on the methods used in urban planning in Jordanian cities and the response of this method to population growth in Jordanian cities through its ability to interact with urban problems.

Keywords: Planning and urban organization, planning and urban organization committees, planning levels, urban organization law in Jordan

INTRODUCTION

All towns in The Hashemite Kingdom of Jordan grew as large villages more than small cities and afterwards developed in two ways: a step by step expansion due to local population growth, or a sudden indiscriminate expansion, affected by several political, social and economic factors. The second case is best described by Architect Tukan when he speaks about Amman city growth "the growth of Amman city, came of sudden convulsion caused by political factors in the region, led to the unexpected population explosion (Tukan, 1995).

Both kinds of development raised the need for legislations to control accelerating cities expansion in the kingdom. A law was issued giving municipalities the authority over development of cities and villages, planning wise. This first law for Organization of Municipalities was issued in the era of the Emirate of east Jordan as "municipalities affairs organization law" in 1925, which was valid until another law was issued "Municipalities law No. (9)" 1938, later in 1955 a newer law was issued: the law of organization of the cities, villages and buildings No. (29) For the year 1955, which caused a qualitative change in the affairs of municipalities at that time and in a Temporary Law No (79) (1966) was issued and called: the law of

organization of cities, villages and buildings (Togoz, 2007).

Development of urban settlements fabric through ages was always a strong and a clear reflection of human evolutions and activities in these settlements, it also reflected the human continuous research for a clean and convenient environment. In modern sense it reflects the continuous pursue for a complete city, with full grants to use roads network, educational, residential, health, commercial, industrial and entertainment facilities in various ways.

"Building cities is a decision taken when nations reach the luxury to provide a safe and easy use of its facilities with a fresh air circulation to avoid sickness (Ibrahim, 2006).

In this quotation Ibn Khaldoun stresses the importance of the pre-planning of the cities, starting with choosing a suitable place that can provide all essential necessities of human life at any time. He clearly believes that the dynamic interaction between people and their place-city- is directly connected to the technological and scientific development available at the time. Hence there is always a strong need of continuous development in planning based on the requirements of the humans and nature of place.

Departments of planning and organization in Jordanian municipalities have the credit to develop and

implement master plans according to the "Law of Regulating Cities and Villages".

MATERIALS AND METHODS

The researchers adopted a descriptive approach for the study, through which the current planning strategies implemented in cities of Jordan were demonstrated against valid laws and regulations. The researchers presented Irbid city as a case study to prove former discussed hypothesis. The researchers also provided a social survey to follow opinions of Irbid residents regarding urban problems impacts in the city of Irbid. This survey was conducted through a questionnaire that deals with the problem of the study through key questions that tests the most critical problems in the city and how the current planning strategies responds to these problems. This questionnaire was distributed among 200 people specialized in Irbid city planning, city affairs personnel, city architects and anthropologists.

The researchers believe that the methods and levels of planning used at the moment in Jordanian cities, based on "The Law of Organizing Cities, Villages and Buildings no. (79) issued 1966" is no more able to handle accelerating urbanization in cities of Jordan, therefore officials should develop new legislations regarding planning strategies to keep pace with modern cities in the world.

First: planning levels in Jordan:

National level (national comprehensive level): This level of planning determines general policies of the State in all its aspects and various fields of urban, industrial and agricultural.

Regional level (spatial planning): This level meets the requirements and recommendations of the National Planning level. Yet, gives more space to celebrate differences between regions in one state. A region in general is an area of land which has certain characteristics that make it a wide distinct entity allowing the existence of several economic and natural variables, reflected in population distribution in that region.

"The region is known as an area with natural geographical boundaries or natural topographic boundaries, or under common urban economic project with similar problems in housing, urbanization, industrialization, irrigation and electric power (Temporary Law No. (79) for the year, 1966) (Fig. 1).

Local level (urban design and urban planning): Local planning is more interested in a region units (cities and villages) in order to achieve best use of community resources in social and economic development through the comprehensive national regional framework, this role in Jordan is the responsibility of urban planning agencies, represented by departments of planning and organization in the



Fig. 1: Regional planning and its relationship to other sciences

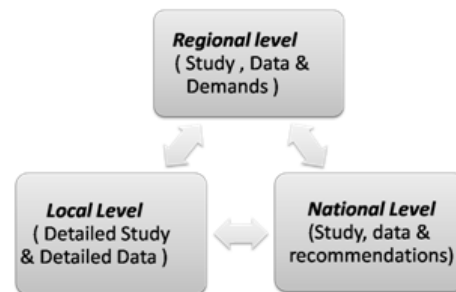


Fig. 2: Shows the correlation between planning levels

Greater Amman Municipality and all other municipalities in the kingdom (Fig. 2).

Second: the department of planning and organization: Main task for this department is to propose a master plan for the city, through this master plan, the department of planning and organization is entitled to give land use for every plot in the city: Residential, Commercial, Public Facility, Agricultural and any other land use needed and stated in the law.

The study of land use is one of the most important planning studies; it is the tool that gives the volume of services in a city such as streets, parks and public buildings.

Therefore Planning Departments are responsible for suggesting new land uses within municipality boundaries, which makes these departments the actual partner with the regulators and planning committees in defining the new land use for the city.

Any change or addition to the existing organized land needs to go through official steps that ends with announcing the new land use through Official Gazette and three local newspapers.

"The organization is defined as any area identified, formed or deemed to have determined, or formed as a regulation under the provisions of any previous legislation or that is defined by the Minister's decision through the Supreme Council of the organization and



Fig. 3: Defines Irbid city center as a starting point for city growth



Fig. 4: Map showing the city of Irbid after passing through several stages in the growth (greater Irbid municipality)

which shall be published in the Official Gazette, by the Organization Department" (Temporary Law No. (79) for the year, 1966).

Third: planning and organization committees:

- **The supreme council of organization:** Has the right to control the organizing committees of local cities and the District, direct and advise them.
- District Committees is formed in each province known as District organization Committee for cities, villages and buildings.
- **Local committees:** The local Joint Committee shall be composed of one member at least, of the District Committee located in the area of each local region (Temporary Law No (79) For the year, 1966).

Fourth: Irbid city (case study): Geographically Irbid is located in the northern part of Jordan between latitudes 32, 32 and longitude 35.51 east and it is considered as a link between parts of (Syria, Lebanon, Jordan and Palestine), total area of Greater Irbid Municipality is 310 km² and area of organization is 100 km² and population of the city's 490,000 inhabitants in 2006.

Greater Irbid municipality: First municipal council was established in the city of Irbid in 1881. The growth of the city of Irbid went through several evolutionary stages started from city center towards the outside under the influence of rapid population growth (Ta'ani, 2007) (Fig. 3).

At The beginning of twentieth century, Irbid city developed slowly, built-up area was no more than 210,000 m² (Tualbh, 1982). Limits of organization began expanding after they were grown organically. This expanding refer to employment opportunities which provide it which make it to be a magnate population and after this activity, which began in the city of Irbid in 1948 and after the migration of a large number of the Palestinians to it. In 1967 and after Second migration where flow to Irbid 17 878 inhabitants. To become the city's population 62,563 people. In 1990, where Iraqi troops entered Kuwait and the start of the Gulf War the number of returnees from the Gulf States to the city of Irbid about 25000 people (Construction Public Statistics, 2011). Table 1 Bringing with them the proceeds of their stay in the Gulf, which led the establishment of projects in the city as well as population coverage. All of these developments that I mentioned earlier was increase the area of the city which increases the demand for services, without development method of planning and urban design in the city. Today Irbid is a fast growing city which led to the expansion of the organizational boundaries to include seven areas (Al-Barha, Al-Rawda, Al-Manarah, Al-Naser, Al-Rabeeh, Al-Nozha and Al-Hashmyah) (Fig. 4).

Many organizational problems were tested through a Questionnaire.

Fifth: most important topics of planning which have been put forward for discussion:

The image of Irbid city:

- Is city's current fabric is characterized by Singularity and simple form?
- Is there similarities between buildings in composition, form, homogeneity and symmetry in housing units?
- How clear are roads I the city regarding directional differentiation (roads leading from inside to out of the city and vice versa)?
- **Clarity of joints:** How clear is intersection between two roads, or the connection between a building and its surrounding space?
- Is there a clear identification of places inside the city through names and serial numbers?

Urban growth standard measurement:

- Is city's urban growth responding only to the population growth, which making it unorganized?
- Is there enough educational facilities (an elementary schools and kindergartens) in the current city fabric?
- Is there enough health services available in the current city fabric in comparison to population density (hospitals, health centers)?
- Does Infrastructure services (water, electricity and sewage) cover all populated areas?

Table 1: Shows the increase in population and the amount of building licenses and the average number of housing units in 1955 and 2008

| The total area of the licensed residential and non-residential buildings (m ²) | Number of residential and non-residential buildings licensed | Population | |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------|------------|------------------------|
| 19595 | 179 | 154181 | Irbid Governorate 1955 |
| 577000 | 2096 | 1041300 | Irbid Governorate 2008 |

Environmental planning standard measurement:

- Does current urban growth take into consideration available land suitable for building new settlements?
- Does current urban growth care satisfactorily for vegetation in the city and new established settlements?
- Is there severe traffic jams in the city that cause emission of waste gases and increase the noise?
- Does developing detailed master plan provide each area with a balanced dynamic environment?
- Does urban planning provide a mechanism to recycle rainwater and use it?
- Does current planning achieve gradual roads network system that allows the creation of green streets, to be used by pedestrians and bicycles?
- Does the current fabric provide best architectural morphology for buildings and spaces in relation to climatic conditions, especially self and mutual shading between buildings?

Standard measure of economic planning:

- Does current master plan encourage mixed use (Residential with Commercial) for land use to create job opportunities close to the neighborhood housing?
- Does current master plan helps to maintain land prices through the study of multi-storied buildings?
- Does current master plan encourage the use of public transportation to rationalize energy consumption?

Standard measure of social planning:

- Does the current master plan encourage social interaction between buildings dwellers in a neighborhood through the distribution of buildings?
- Does the current master plan encourages separating the passage of vehicles from pedestrian passage through rows of trees or different paving?
- Does current master plan provide open urban spaces for people gathering and social interaction?
- Does current master plan provide public plazas for national and religious celebrations?

Sixth: most organizational problems that have been put forward to discuss:

Parking regulations: The extensive use of private transportation (cars) is one of the most important problems in the city, this is caused because of public transportation inefficiency causing traffic jams and

many kinds of pollution. The lack of parking spaces increases the congestion inside the city. This lack exists although the current legislations requests parking spaces for any new building: (No building will be granted building license unless parking spaces are shown on permit drawings, showing proper parking space inside the lot. In residential use, A and B categories should provide one parking space for each residential unit, categories C and D should provide one parking space for each two residential units. In commercial buildings one parking space should be provided for each 100 m², in Industrial buildings one parking space should be provided for each 200 m², in five stars hotels one parking space should be provided for each 80 m², in hospitals one parking space should be provided for each 80 m² and in theatres one parking space should be provided for each 20 seats (Temporary Law No. (79) for the year, 1966).

Organization of commercial sites: Commercial use in Jordan is divided into three main categories: Linear, Local and central, each of these has its own organizational characteristics. This commercial use is usually scattered and sometimes grouped inside residential settlements. However these commercial activities are mainly formed in random shapes and locations, many of them exists in streets which are residential, yet transformed with time to become commercial or partially commercial-usually 6 to 12 m wide.

Commercial activities are still not dealt with in a proper way that leads a balanced fabric, especially in city centers which are not yet ready to contain commercial centers due to many organizational problems and lack of planning. Residential settlements around city center lack commercial centers that can lessen pressure over city centers.

Aggression over agricultural land: Aggression over agricultural land continues for the benefit of residential settlement, through organizing agricultural land to become residential. Agricultural land is defined as: any land that can be economically used for agricultural uses, depending on either rain, or a permanent water source. and if we take the total organized space in the province of the middle of the Hashemite Kingdom (earmarked for urban development) We find it about 837 km² to accommodate about 12.5 million people, a medium increasing of in the population of 16 million, while the population of middle region was million people in the year of 2000 and it expected to reach to 4.3 million people in 2020, where the areas which were allow to organize is four times the required space in 2020 and the organized areas in the provinces of North and South are enough to Kingdom people needing for

more than fifty years (The Jordanian Ministry of Agriculture, 2010).

Pressures continues to organize new lands for building purposes, this is due to many reasons:

- Official permissions that allow residential settlements, universities and industrial projects to take place in agricultural lands.
- Current laws are not activated to limit using agricultural land for building.
- Current policies do not satisfy the target of maintaining agricultural land.

Forestation within cities: Forestation inside the city is an essential element for the well being of the city, through this element pollution-noise and gases-inside the city can be sustained within acceptable limits, trees shading also control heat and provide a pleasant environment for city residents. Although current law of organization of land (section 21) states that each plot of land should be forested at least 15% of the plot area, but this legislation is not applied in the city yet.

RESULTS AND DISCUSSION

Study and analyze the results of the questionnaire No 1: The researchers analyzed questionnaire no. 1 and found the following results (Fig. 5).

Study and analyze the results of the questionnaire No 2: After studying and analyzing the questionnaire of study area which was distributed to 200 citizens who are involved in city affairs and planning, the researchers summarized the problems of planning in the study area and presented by the citizens in the questionnaire as follows (Fig. 6).

Suggestions provided by contributors in the questionnaire: All contributors in the questionnaire were allowed to provide their comments and suggestions over many items discussed in the questionnaire, the or contributions and comments were summarized as follows:

- Lack of public services like car parking spaces and open squares
- Lack of play grounds for children
- Lack of parks and forestation inside the city
- The city center is only a point of attraction at day time and abandoned at night-mainly because commercial and governmental activities ends by the end of the day-causing a negative element in the city center
- Deteriorating environmental situation in the city, particularly in the area of the city vegetables market (Hesba) after the end of the commercial activity there

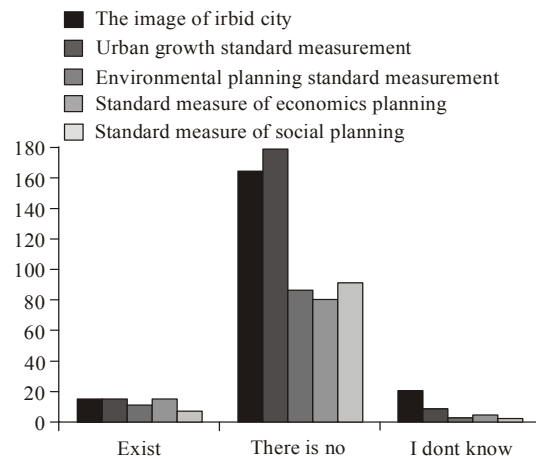


Fig. 5: Questionnaires No. 1 results

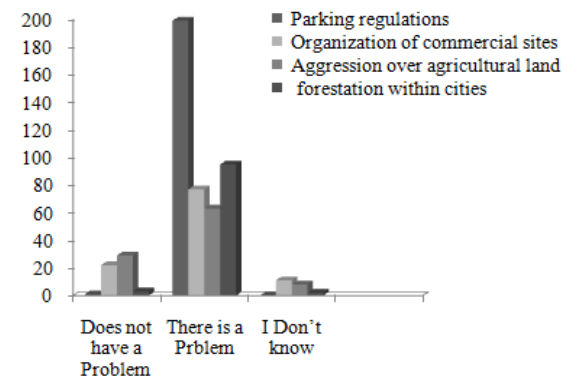


Fig. 6: Questionnaires No. 2 results

- Loss of identity and heritage of the downtown area being the historic core of the city
- There are not spaces for cultural activates
- There are many abandoned buildings that distort city center image
- Disappearance of some social activities because of the inability to find suitable public spaces for this purpose
- The weak link between people and their city because some of the icons of heritage buildings that are part of citizens memory were diminished
- Lack of citizen participation in decision making with respect to their city

CONCLUSION

- The planning and organization of the city must accommodate the new problems of urban growth residential and environmental impacts, therefore planning and organization in the city cannot rely on rigid laws. Jordanian cities are witnessing massive development and growth in urbanization and increasing amounts of organized land with increase in population, thus it became necessary to find plans to control the growth of the city.

- Re-Evaluating the role of city planning in municipalities such as the Organization and buildings department as a unit concerned in city affairs primarily, responsible for the organization, land uses-including their ratings- and approving building licenses.
- Planning process must be a technical process, planners-not politicians-should be the leaders in this process, politicians should follow by making suitable legislations consistent with the needs of Jordanian society and its interaction and development.

The recommendations and reports of the higher Council of population in Jordan recommends the preparation and advance planning for the population opportunity (population growth starting at the age of manpower 15-64 superiority largely the growth of dependents under the age of 15 years and over the age of 64 years. Studies show that Jordan is on the threshold of a demographic shift which holds a historic opportunity through the demographic window accompanied by different effects on the population situation: social and economic challenges if not being exploited properly will be a huge loss for the community. Therefore needs to monitor the planning and preparation prior for it (The Population Chance in Jordan, 2009).

RECOMMENDATIONS

The researcher proposes several recommendations, setting new planning standards to be applied in Jordanian cities development in general and in Irbid city:

- Re-evaluation the previous stage of planning at all levels to study the response for the growth of Jordanian cities.
- Issuance of new planning laws that take into consideration population growth and urban development in the Jordanian cities and updating these laws on a regular basis.
- Developing planning work in Jordan through giving more space for planners in decision making and making of new legislations that support this idea. Planners should also be involved in local and district councils.
- Starting immediately, to study the organizational problems in Jordanian cities and to accelerate the study finding immediate solutions to begin.
- Adoption of comprehensive regional planning method, aiming to reach geographical and demographic balance in which nation wealth can be distributed in form of activities, projects and services between different regions and cities.
- To take actions and make the policies to reduce the internal immigration from rural areas and small towns to big cities.

- Establish public facilities of squares, plazas and restaurants for the public.
- Encourage culture and social activities in the city.
- Revitalization of city center as a cultural and entertainment center by exploiting the possibilities of the city such as open spaces and heritage buildings, also to highlight the architectural identity of the city.
- Providing urban spaces within the city to revive down town and serve people through facilitating their meeting.
- Adopting strategic plans that take into consideration the trends of population growth and urbanization and economic development.
- Adopting the idea of improving the environmental level as a basic idea among commercial ideas in the city.
- Give priority to the traffic congestion issues to be among the key issues raised to improve the quality of life in the cities, as follows:
 - Linking urban planning with transportation issues and adopting new standards for land consistent use with the priorities of transportation and traffic.
 - Adopting experiments, which reduce the number of vehicles in the city center and activate footpaths and bicycle.
 - To provide a comprehensive solution for lack of parking spaces in the city through legislative frame work.

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