Housing Conditions

and

Family Characteristics

An Analytical Study based on
Population and Housing Census, 2015

Population & Housing Census, 2015

Department of Statistics

Jordan 2017

Executive summary

This study aims to analyze the housing conditions in Jordan by shedding light on the indicators that monitor housing conditions in the year 2015 compared to 2004 based on the data provided by the general censuses of population and housing in 2015 and 2004 in order to draw the attention of policymakers and decision makers to the importance of studying The housing conditions of families in Jordan and finding the right solutions in a timely manner through statistical information, which has become one of the most important tools in the public debate and planning and the formulation of policies related to housing. The study included five main chapters: the methodology of the study, demographic growth, social and economic conditions and its role in the pressure on housing conditions, housing stock and the annual growth of the number of buildings, houses and households, housing environment, durable goods and communications and information technology. The main results are as follows**:**

- The number of households (private and collective) in Jordan increased from 941,467 families in 2004 to 1,953,194 households in 2015, an increase of 107% during the period between the two censuses .
- The number of housing units in Jordan increased from 122, 1055 in 2004 to 23, 50490 in 2015.Amman recorded the highest percentage of housing in the Kingdom with 45.6%, followed by Irbid with 17.0% and Zarqa with 13.3% .The lowest percentage of housing units in the Kingdom was 1.0% inTafilah.
- 92.5 % increase in the number of housing units according to the census of 2015 compared to the 2004 census, with an annual increase of 10,276 housing units.
- The annual increase in housing numbers of 102,676 dwellings has resulted in an annual increase in the number of households of 91,975 households.
- Buildings are concentrated in three main governorates: Amman, Irbid and Zarqa, comprising 61% of the Kingdom's total buildings in 2015.
- The number of buildings increased to 888028 buildings in 2015, compared to 634,909 buildings in the 2004 census.
- Traditional buildings (building, house and villa) accounted for 89.5% of the total buildings in the Kingdom, while marginal buildings (Barrakeya, tent, caravan and others) accounted for 3.6%, and the buildings like hotels, institutes, establishment, public residence and buildings under construction accounted for 6.8%.

- Jordan witnessed an increase in the number of buildings consisting of three floors or more, reaching 22% in 2015, compared with 15.3% in 2004.
- The vast majority of housing units in 2015 are apartments of a percentage of 83.8% of the total housing units, followed by houses at 12.8%, tents formed the less percentage of housing types by 0.2%
- There was a significant decrease in the percentage of inhabited dwellings that depend on the public water supply network as the main source of drinking water during the period between the two censuses, from 82.4% in 2004 to 56.9% in 2015.
- The percentage of housing connected to the public sewage network increased from 57.3% in 2004 to 61.1% in 2015 with an increase of 6.6%.

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Chapter One: Introduction

1.1 Importance of the study

Housing is one of the most important priorities that concern the human if not the most important after food as a necessary need to survive. As is well known, the first work done by man is to find shelter that protects him from winter and hot summer and provides him the basic needs. At present, obtaining an adequate house to meet the needs of the family and has access to facilities and public services, given a limited income of a large segment of the population, the volatile economic conditions, the rapid rise in construction costs and land prices, as well as the enormous pressure on public services (electricity, water, Communications, sanitation and solid waste management).

Obtaining an adequate house is one of the basic human rights as food and clothing. The most important aspect of this right is secure tenure, which is achieved through legal security in the provision of housing in all its forms: property, rent, for work...etc., accompanying the process of enabling secure tenure, access to suitable houses, basic infrastructure services and public facilities.

The Universal Declaration of Human Rights states in Article 25, paragraph 1: Everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing and medical care and necessary social services", article 11, paragraph 1, of the International Covenant on Economic, Social and Cultural Rights states:" the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. The States Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international co-operation based on free consent." The Committee on Economic, Social and Cultural Rights has given great attention to this article, particularly in terms of its relationship to the human right to suitable housing.

It was reported that some 600 million urban dwellers and 1,000 million rural people lived in homes in the mid-1990s with overcrowded rates of almost non-human habitation in Latin America, Africa and Asia where their houses lack sanitation, clean drinking water and garbage collection, adding to environmental and health risks.

Countries vary with regard to the level and quality of services available to housing, such as its connection to the water network, its connectivity to sanitation, which reduces environmental and health risks and ensures a better standard of living compared to poor housing, which does not have the minimum basic facilities and services, This increases

the risk of intestinal infections and diarrhea ,tuberculosis, acute pneumonia, parasitic diseases, wounds and burns and high rates of home-based overcrowding.

Over the past decades, Jordan has given the housing sector a great deal of attention because it affects families in all parts of the Kingdom. The family is considered the basic unit in the formation of the social fabric. Therefore successive governments have put in place laws and regulations that "provide decent housing and security in accordance with international standards of public safety and climate-resistant housing." The establishment of the Housing and Urban Development Corporation in 1966 was the first government intervention in the housing sector, and the Jordanian Government launched the initiative of His Majesty King Abdullah II to "provide decent living conditions" in 2008 for low-income families, as well as housing for the poor, which was distributed free to families in various regions of the Kingdom.

Despite the plans put forward by Jordan and its objectives in providing suitable housing for Jordanian citizens, these goals have been reduced and delayed due to the political crises in the region, which led to sudden and rapid population growth due to organized and unregulated migrations including forced migration and asylum. Jordan, where recent studies on the impact of Syrian refugees in Jordan on the community showed that "the Syrian crisis has weakened the ability of the government to respond appropriately in providing services and meet the needs and development of its people".

Therefore, it was necessary to provide up-to-date data to determine the current status of houses and households on Jordanian land through conducting the Population and Housing Census conducted by DoS in November 2015, It provided comprehensive and detailed statistical data on housing units, facilities and characteristics related to living conditions, as well as indicators on housing conditions and public service connections, thus contributing to the provision of basic data for the development of well-defined housing policies aimed at the well-being of members of society.

1.2 Objectives of the study

This study aims to analyze the housing conditions in Jordan in terms of motivation and describing the current situation of housing through studying the demographic growth and social and economic conditions and its role in the pressure on housing conditions, and to

identify the housing stock and the growth of the number of buildings, houses and households through the data of the General Census of Population and Housing 2015 and compare them with the previous census, and the characteristics of housing and the increasing tendency in the production of apartments to save the cost of construction and optimal utilization of residential lands due to the continuous rise in their prices, prices of construction supplies and the transformation in the culture of citizens toward housing, the area of housing, the rate of overcrowding, the average number of people in the room and the knowledge of durable goods owned by the family.

1.3 Methodology of the study, methods and sources of data analysis

The data analysis is based on the statistical descriptive approach to study different indicators, and the statistical methods used to describe data have varied, using recursions and percentages of quantitative data classification as well as averages, rates...etc. to describe many variables and compare different categories of society by geographical and administrative classification and economic and social characteristics.

In addition, comparisons are made between the current census results, the previous census, and some of the relevant surveys conducted by the Department.

1.4 Basic Definitions

- **The building**: Each self-contained unit permanently or temporarily installed on land or water, consisting of any building material, consisting of one or more floors with a ceiling, used for human habitation, for work, worship or entertainment, has a door (entrance) or more leads from a public or private road to all or a majority of its components. The building's extensions, such as garage, shop, water cycle, and storage, are considered to be the main properties of the building, not separated, and are not considered buildings, such as bus stations, bridges, parking umbrellas, electricity transformers and abandoned buildings (buildings that are not suitable for human use or for any activity).

- **Fixed buildings:** Buildings that are permanently installed on land or water, such as (buildings, houses, villas, establishments / institutions).

- **Marginal buildings:** buildings temporarily installed on land or water, such as (barrakeya, caravan, kiosk, tent).

- **House:** It is an entire building (or part of it) with walls and a roof originally prepared for one or more households, even if it is empty or closed or under construction at the time of the census. The house consists of one or more rooms with their utilities and has a separate door from other houses that leads directly (or through a corridor or stairway) to the public road without passing through other houses. The abandoned buildings, which are not suitable for human habitation, are not considered habitable.

- **Family:** One or more individuals occupy an independent housing unit (or part of it). For purposes of enumeration, there are two types of families: private and collective.

- **House area (in square meters):** Total area of the building of the household with all its floors used by the family for its own purposes. The area includes accommodation facilities such as rooms, kitchen, bathroom, toilet, corridor, balcony, storage, roofed garage, water heating and air conditioning room, if any. The space of the rooms that are not used by the family is excluded from the house area (because they are not suitable or the family has decided to rent them or remove them) and non-family rooms such as rooms used for work purposes or for accommodation outside the family (except of the family guests).

- **Room:** is a residence or a part of it**,** surrounded by walls with a ceiling of at least 4 m^2 used for sleeping, sitting, dining, etc. the following are not considered rooms : kitchen bathroom, toilet, corridor, balcony, store, garage, room for water heating and air conditioning, a doctor's clinic nor rooms for business purposes.

Chapter Two: **Demographic Growth, Social and Economic Conditions, and their Role in Pressuring Housing Conditions.**

In the context of Jordan's commitment to all international resolutions on environment and sustainable human settlements (Habitat), which include providing housing for all, improving human settlements management and enhancing sustainable planning and management.The Jordanian Government has made considerable efforts to implement this initiative and work with service agencies and banks to overcome all the difficulties and challenges that have been encountered in achieving this initiative, this is in keeping with the general policy of the institution, which is to enable citizens with low and low incomes to have adequate housing to maintain the middle class of Jordanian society and to contribute to social, economic and political security.

This is achieved through contributing in providing an adequate housing for low-income people in all areas of the Kingdom through the sustainability of the Housing Property Initiative "decent housing for decent living" and the provision of infrastructure plots for targeted groups. The Foundation is establishing full-service housing cities that take into account all planning, social and environmental standards, at prices that are commensurate with the potential of the target segment through the adoption of a mutual support approach within the project or between the various projects executed by the institution.

One of the most positive steps undertaken by the Jordanian State to provide decent housing through the "Affordable house program", which our Government, in cooperation with the United Nations Human Settlements Program (Habitat), intends to implement in the Kingdom with a view to providing housing for low-income people." The program is part of the national response plan to the challenges of Syrian asylum, as the housing problem for Jordanian families with low incomes and limited incomes has been aggravated by the decline in the supply of housing units that are suitable for their financial ability, whether they are prepared to own or rent, as this problem has been aggravated by the increasing number of Syrian refugees who flow to the kingdom where their number exceeds one million refugees, and the number is still likely to rise as the flow of refugees continues at a rate of more than 100 persons daily."

The Ministry of Planning, in cooperation with the Habitat Program, has worked to prepare for the implementation of the "Jordan's program of affordable house" as one of the solutions to the problem of low-income Jordanian families, who are looking for rental

or property flats, which will be implemented by the private sector and financed through banks, local Islamic and commercial banks and private investors' sources of financing.

Recent studies and surveys of housing demand rates have shown that there is a growing demand for affordable housing units, and that both the price limits and the proposed area of housing units will be widely accepted by the targeted income groups of families whose monthly income ranges between 300 and 500 dinars, confirming that local banks have shown willingness and readiness to finance the target group with a financing ceiling ranging between 80-100 percent of the total purchasing cost according to market prices and a repayment period of 10 years, and interest rate according to current market prices .The monthly payment for the financing value of 12.5 thousand dinars will be about 150 dinars per month, whatever the source of the financing (whether it is an Islamic bank or a commercial bank).

2.1 Distribution of Population in Jordan

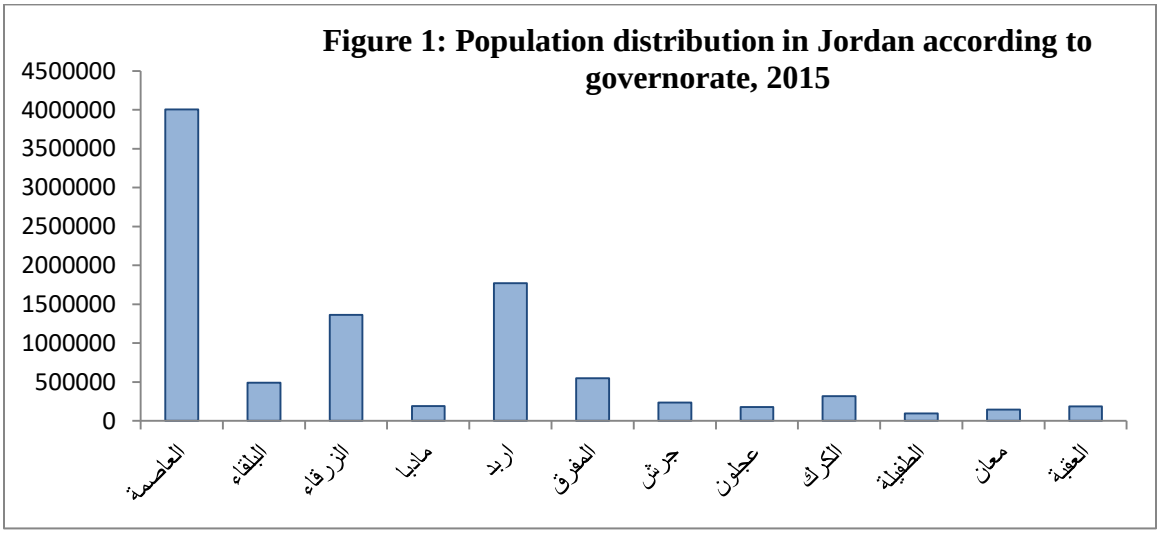
Demographic, social and economic factors play an important role in pressuring Jordan's housing environment and conditions, Jordan's population increased by 86.8% during the period 2004-2015, with a population of 5,103,639 in 2004 and rising to 9,531,712 in 2015, of whom 5,046,824 were male and 4,484,888 female. This unexpected rise is due to several reasons, the most important of which is the emigration resulting from the political circumstances in the region. (Table1)

Table 1: Distribution of Population in Jordan by Governorate and gender, 2004 and 2015

GOVERNORATE	2004			2015		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**
Amman	998,626	943,440	1,942,066	2,151,568	1,855,958	4,007,526
Balqa	179,307	167,047	346,354	263,984	227,725	491,709

Zarqa	392,589	372,061	764,650	721,601	643,277	1,364,878
Madaba	66,868	63,092	129,960	99,985	89,207	189,192
Irbid	474,566	453,726	928,292	914,634	855,524	1,770,158
Mafraq	126,941	117,247	244,188	283,533	266,415	549,948
Jarash	79,075	74,527	153,602	123,245	113,814	237,059
Ajloun	60,266	58,459	118,725	90,626	85,454	176,080
Karak	103,521	100,664	204,185	165,421	151,208	316,629
Tafiela	38,478	36,789	75,267	50,391	45,900	96,291
Maan	49,491	44,762	94,253	75,401	68,681	144,082
Aqaba	56,559	45,538	102,097	106,435	81,725	188,160
Total	**2,626,287**	**2,477,352**	**5,103,639**	**5,046,824**	**4,484,888**	**9,531,712**

Jordan is characterized by the unbalanced distribution of the population in its geographical areas, where figure (1) shows that two thirds of the population is concentrated in three governorates, namely Amman, Irbid and Zarqa, which covers only 15.7% of Jordan's area, Amman is the largest governorate in terms of population, with a population of 4,007,526 inhabitants in 2015, with an area of 7,579 km2, or 8.5% of the Kingdom's area, with a population density of 529 people / km2, while Ma'an is the largest governorate in the Kingdom with an area of 32,832 km^2, with a population of 144,082 and density of 4.4 individuals/km^2.



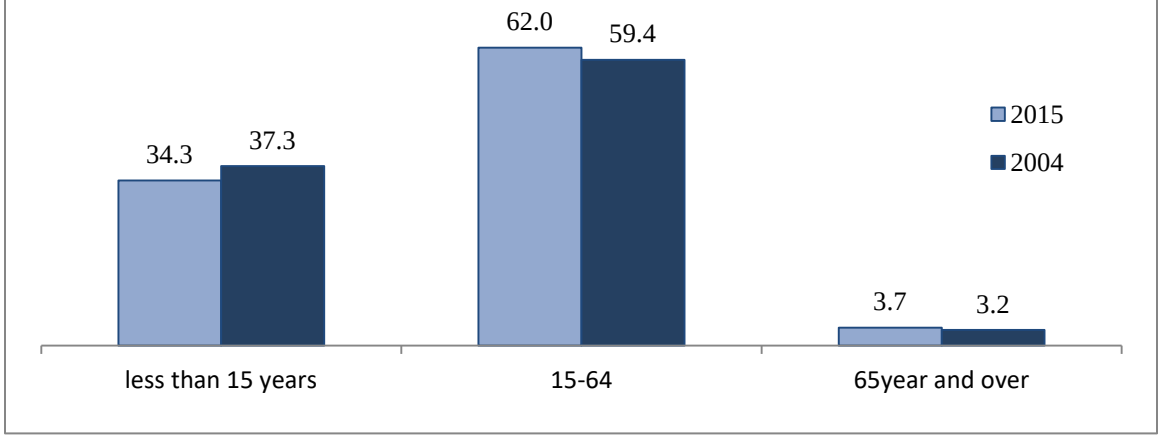
(ملاحظة: المحافظات لم تقبل التغيير لانها صورة)

2.2 Age structure of population

Jordan is still classified as a youth society according to the age structure of its population. Figure 2 shows the percentage distribution of the population in Jordan by broad age groups during the 2004 and 2015 period. The figure shows that the percentage of the population under the age of 15 decreased by three percentage points 2004 and 2015, while the percentage of the population aged 15-64 years increased from 59.4% in 2004 to 62% in 2015, i.e. by 2.6 percentage points**.**

On the other hand, the percentage of the population in the age group (65 years and over) increased from 3.2% to 3.7%, i.e. by half a percentage point between 2004 and 2015. A detailed examination shows that the percentage of Jordanian population in this category is higher than that of the non-Jordanian population in Jordan, which was 4.2% and 2.5%, respectively. This increase is due to the significant change in the age structure of Jordanians and the high life expectancy at birth From 71.7 years in 2004 to 73.2 years in 2015.

Figure 2: Percentage Distribution of Population in Jordan by Broad Age Groups, ٢٠٠٤&٢٠١٥



2.3 Social and economic conditions

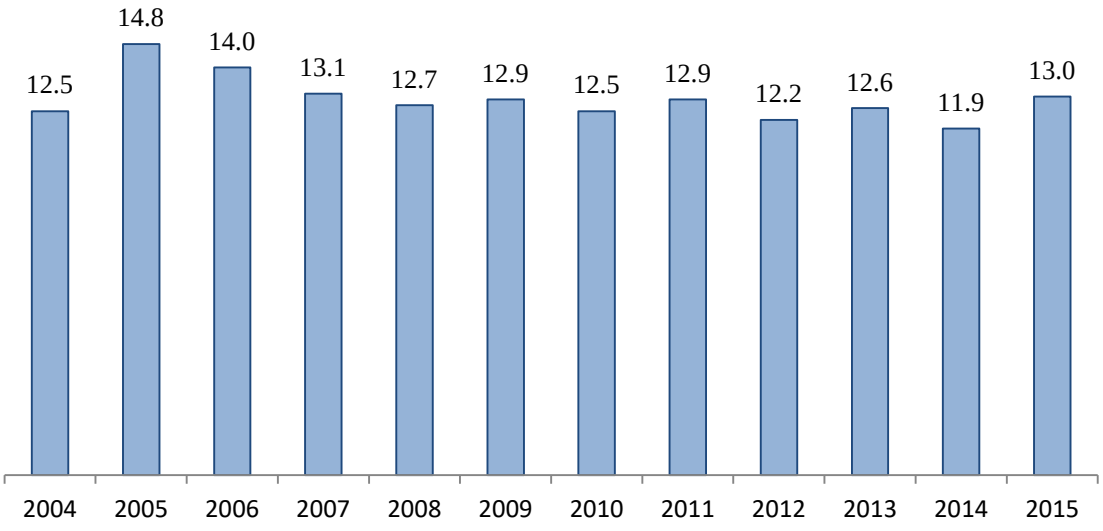
Economic and social conditions affect or are affected negatively or positively by housing conditions, where the development of GDP increases the capacity of the State to allocate

appropriate investments to the housing, infrastructure and social services sector and to ensure a better quality of life for its population.

The GDP of fixed prices increased from 6823.7 million in 2004 to 11413.2 million in 2015, a growth rate of 67% during the two years. However, the weakness of material resources, the low rates of economic development, the weak expansion of the productive base, and the rise in government expenditure on imports of consumer and capital goods were among the most prominent features of the Jordanian economy during the past decades, which caused a continuous deficit in the state budget and a deficit in its trade balance, which led to rely on external sources of funding such as internal and external loans. The annual inflation rate also declined significantly during the period 2004-2015, falling from 2.64% in 2004 to -0.88% in 2015. In contrast, per capita GDP increased at current prices from 1,445.5 JD in 2004 to 2,794.6 JD in 2015 with an increase of 93%. The annual rate of increase was about 6%.

Moreover, the weaker economic conditions have led to a decline in labor demand, which is reflected in unemployment and poverty rates, the wider the poverty margin, the more negative impacts on production and productivity, public health and the environment. The results of the unemployment and employment surveys showed that the unemployment rate of the 15-year-old population fluctuated between 11.9% and 14.8%, while the percentage of households below the absolute poverty line for 2002 and 2010 (14.2%, 14.4%), respectively (figure 3).

Figure 3 Unemployment rate of population 15 years and above, 2004-2015



Chapter 3: Housing stock and annual growth of the number of buildings, dwellings and households.

Successive international migrations into Jordan and the resulting substantial population increase have created previously unknown pressures on available resources such as natural resources (water, land and environment) and on community services of various types (education, health and housing**,** these migrations reflected in the increased pressure on the need for residential land for housing construction, especially in the 1970s and 1980s, which has increased demands for land regulation, which has led to a large and random expansion of organized land, where most of these expansions were at the expense of agricultural land, which does not exceed 12% of Jordan's area, especially in Amman and Irbid governorates.

3.1 High demand for houses

Jordan's population increased between the 2004 and 2015 censuses by 86.8%, and due to this increase, the number of families increased by 1,011,727 during this period, which in turn led to an increase in the number of housing units required. The number of houses in Jordan increased from 1,221,055 in 2004 to 2,350,490 in 2015; Amman recorded the highest housing rate in the Kingdom at 45.6%, followed by Irbid at 17.0%, then Zarqa at 13.3%, while Tafila recorded the lowest housing rate in the Kingdom at 1.0%. (Figure 4)

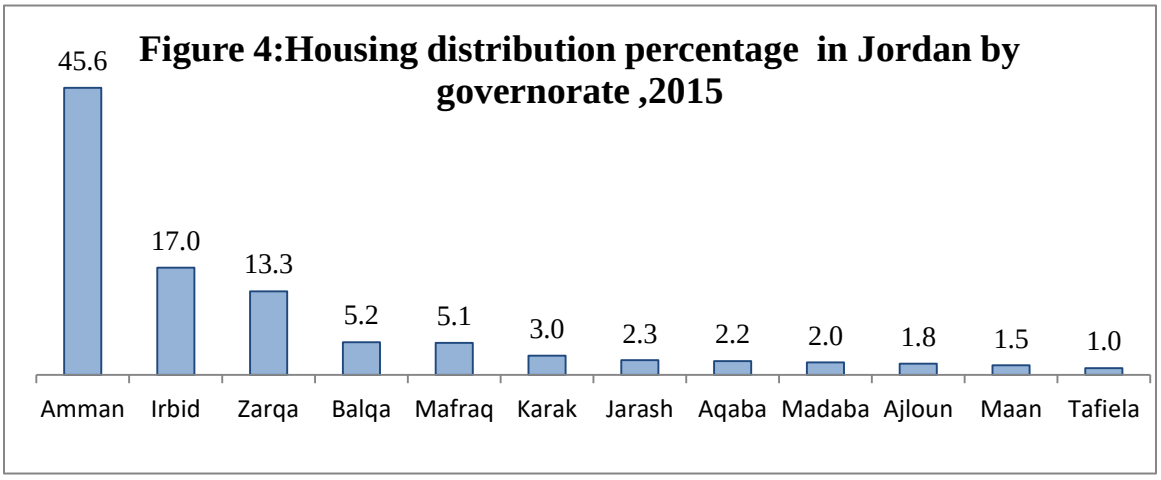
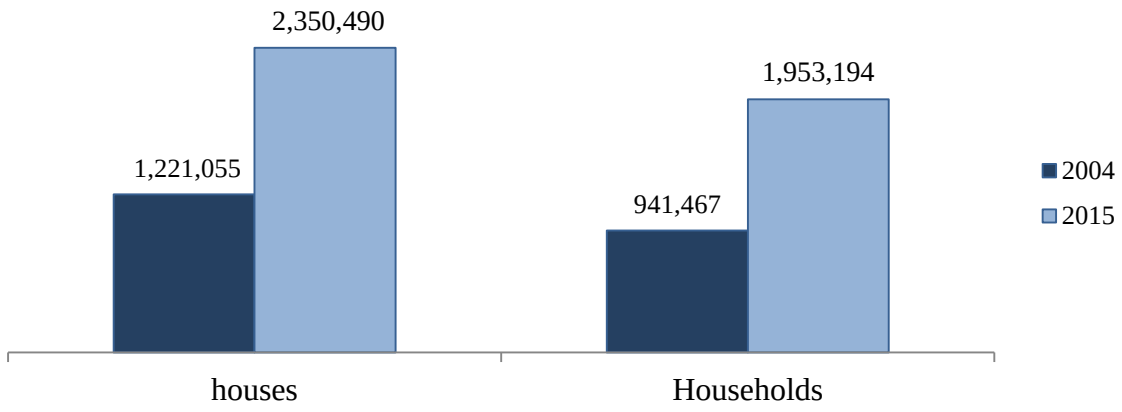


Figure 5 shows that there is a 92.5% increase in the number of dwellings by 2015 census data compared to the 2004 census and an annual increase of 102,676 dwellings (an increase of 8.4% annually). The number of households (private and collective) in Jordan

increased from 941,467 in 2004 to 1,953,194 in 2015, with a 107% increase, i.e. an annual increase of 91,975 households, up 9.7% annually.

Figure (5) Distribution of houses and private and collective households, 2004 and 2015



3.2 Housing stock status

First: Annual growth in the numbers of buildings, houses and households

The population growth rate in Jordan increased from 2.6% in 2004 to 5.3% in 2015, and the unprecedented increase in the population growth rates in Jordan is due to Jordan's exposure to migration, resulting from the political situations in the region, and the waves of labor coming from neighboring Arab countries and East Asian countries. At the same time, the annual increase in number of houses of 102,676 dwellings exceeded the annual increase in the number of households of 91, 91.975 households. It is worth noting that buildings and households are concentrated in three main governorates, Amman, Irbid and Zarqa, where 61% of the Kingdom's total buildings are located in 2015. (Table 2).

Table 2: Number of Buildings, Houses and Households in Jordan by Governorate، 2015

Governorate	Number of buildings	Number of houses	Number of households
Amman	247,904	1,072,559	843,558
Balqa	70,016	121,953	99,695
Zarqa	118,062	312,170	279,703
Madaba	25,660	46,273	38,118

Irbid	174,910	400,103	355,007
Mafraq	86,449	118,974	106,367
Jerash	34,244	54,413	46,735
Ajlun	24,623	41,638	34,931
Karak	45,248	71,595	63,413
Tafila	16,426	24,637	19,211
Maan	23,475	35,328	28,429
Aqaba	21,011	50,847	38,027
Total	**888,028**	**2,350,490**	**1,953,194**

Second: characteristics of buildings

Figure 6 shows an increase in the number of buildings in Jordan with an increase of 39.9% compared to the 2004 census, where the number of buildings reached 888,028 in 2015, while the number of buildings in the 2004 census were (634,909 buildings), the traditional buildings (building, house, Villa) accounted for 89.5%, while the marginal buildings (Barrack, tent, caravan and others) are 3.6%. (Figure 7).

Figure (6) Number of buildings and houses in Jordan, 2004 and 2015

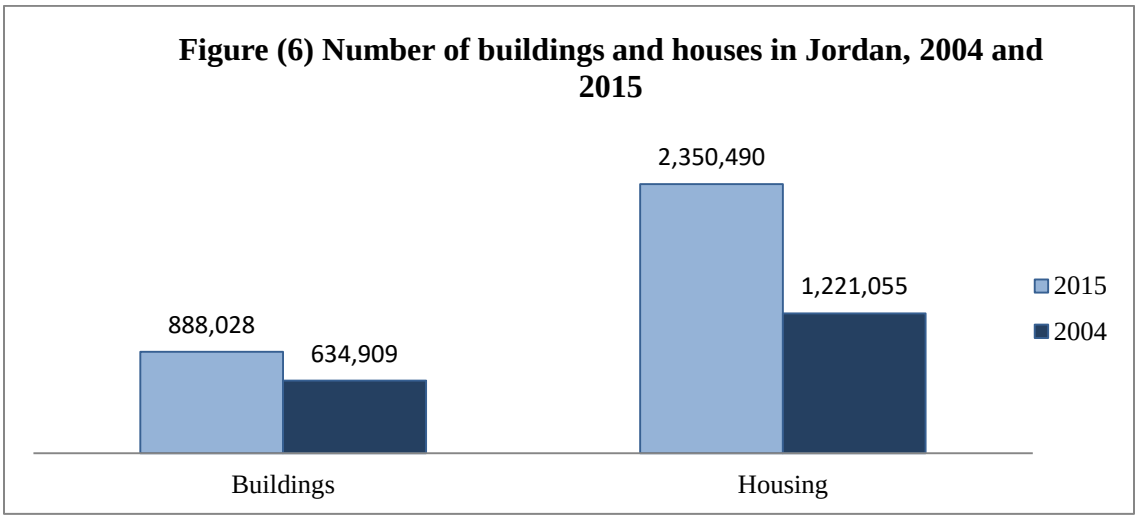
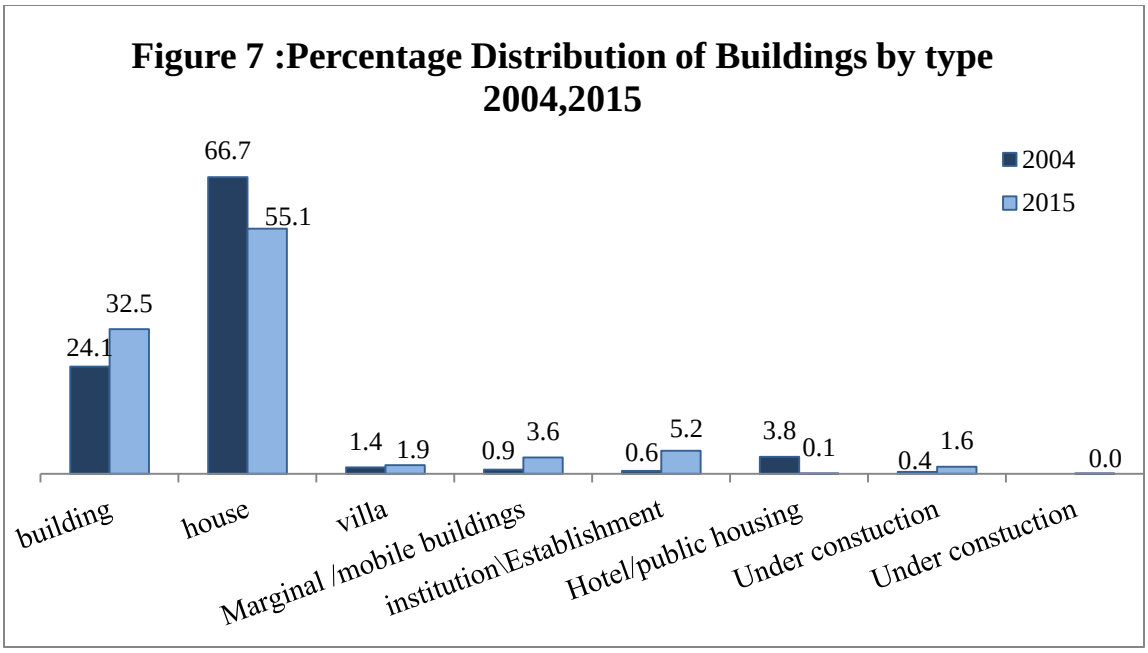


Figure (7) shows that 55% of the total number of buildings in 2015 are traditional houses that prevails in the southern governorates and some northern governorates, while this rate reached 66.7% in 2004, results showed a clear increase in buildings during the two censuses to reach 32.5% in 2015, compared with 24.1% in 2004.



The data in table (5) showed a tendency to vertical construction at the expense of horizontal construction, owing to the population's preference for good infrastructure and service premises and lower construction costs for more than one plot of land.

The results show a gradual decrease in single-story buildings over the past 20 years, the decrease reached 24% during the 1994-2015 census period. In addition, all floors in the buildings have gradually started to rise, with the two-story building rate rising to 31.1%, and the three-story and more buildings up to 22% in 2015, with only 12% in 1994 and 15.3% in 2004. This is due to Jordan's recent high population growth and the culture of society favors accommodation in city centers where services are available.

Table (5): Percentage distribution of fixed buildings by number of floors, 1994, 2004 and 2015

the number of floors	1994	2004	2015
1	62.2	54.8	47.0
2	26.4	29.9	31.1
3	7.8	9.8	12.7
4	2.7	3.7	5.0
5	0.7	1.4	2.9
and more 6	0.3	0.4	1.3
total	**100.0**	**100.0**	**100.0**

According to geographical distribution, the data in table 3 showed that 46.2% of the buildings are located in Amman, 25.4% of the houses in Irbid, and two thirds of the villas in Amman, and that the area's typography in Mafraq imposed on the presence of tents in it at the rate of 39%. It is worth mentioning that 97% of carvans were concentrated in the two governorates of Zarqa and Mafraq, due to the political circumstances in the region, especially in Syria, where these two governorates contained two camps for Syrian refugees.

Table (3): Percentage Distribution of Buildings by Type of Building and Governorate

Governorate	Building	House	Villa	Tent	Caravan	Barrack	Kiosk	Institution	Hotel/public house	Under construction	Other	Total
Governorate	46.2	17.3	67.8	13.9	1.3	23.0	20.1	27.6	44.2	25.7	43.1	**27.9**
Balqa	6.9	8.6	9.5	12.6	0.3	33.9	4.6	7.1	3.8	10.6	16.0	**7.9**
Zarqa	18.3	9.4	3.7	6.3	45.0	15.6	10.2	11.5	5.4	9.7	4.4	**13.3**
Madaba	2.2	3.5	1.9	3.3	0.1	0.6	0.2	2.5	2.6	4.6	6.6	**2.9**
Irbid	12.7	25.4	11.0	14.8	0.7	2.6	11.7	19.0	9.0	15.6	7.7	**19.7**
Mafraq	2.4	11.7	2.4	39.0	52.1	5.8	43.0	10.6	2.4	12.8	12.2	**9.7**
Jerash	2.8	4.6	1.3	1.4	0.1	12.9	2.8	4.0	0.6	7.5	3.3	**3.9**
Ajlun	1.4	3.8	0.7	0.6	0.1	0.2	2.3	2.4	1.0	4.2	0.0	**2.8**
Karak	2.4	7.2	0.7	1.7	0.0	0.5	0.8	5.2	8.3	1.5	0.6	**5.1**
Tafila	0.8	2.6	0.2	1.5	0.0	0.0	2.0	1.9	4.0	0.8	0.0	**1.8**
Maan	1.3	3.5	0.3	0.1	0.0	0.1	0.3	3.7	7.1	4.0	0.6	**2.6**
Aqaba	2.5	2.2	0.5	4.7	0.2	4.9	2.0	4.5	11.5	2.9	5.5	**2.4**
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

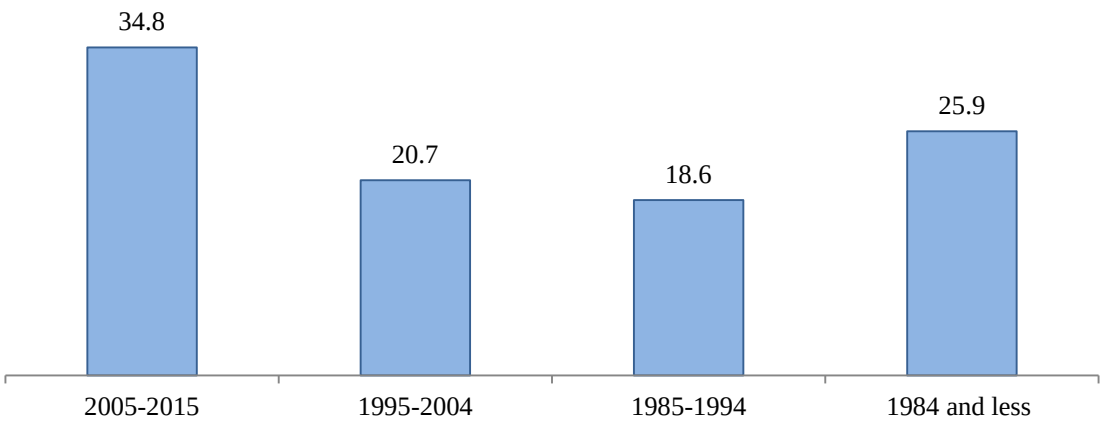
According to the 2015 census, buildings used for residential purposes were 80% of the total buildings, while they were 76.4% of the 2004 census. 7.2% of buildings used for residential and economic purposes (for housing and work) in 2015 out of 7.4% of buildings used for multiple purposes (e.g. work, housing, worship, recreation, etc.), While the number of empty buildings represented 2.4% of the total buildings, and the buildings used for economic purposes, i.e. work, reached 6.4%, while the other remaining buildings, which are closed buildings or buildings that are still under construction, reached 2.9%. (Table 4)

Percentage Distribution of Buildings by Type of Works, 2004 and 2015

Occupancy status	**2004**	**2015**
For residence only	76.4	80.2
For work only	5.1	6.4
For worshipping	0.4	0.6
For entertainment/ culture	0.2	0.2
Multi-purpose	7.7	7.4
Empty	7.3	2.4
Closed	0.2	0.1
Under construction	2.7	2.8
Total	**100.0**	**100.0**

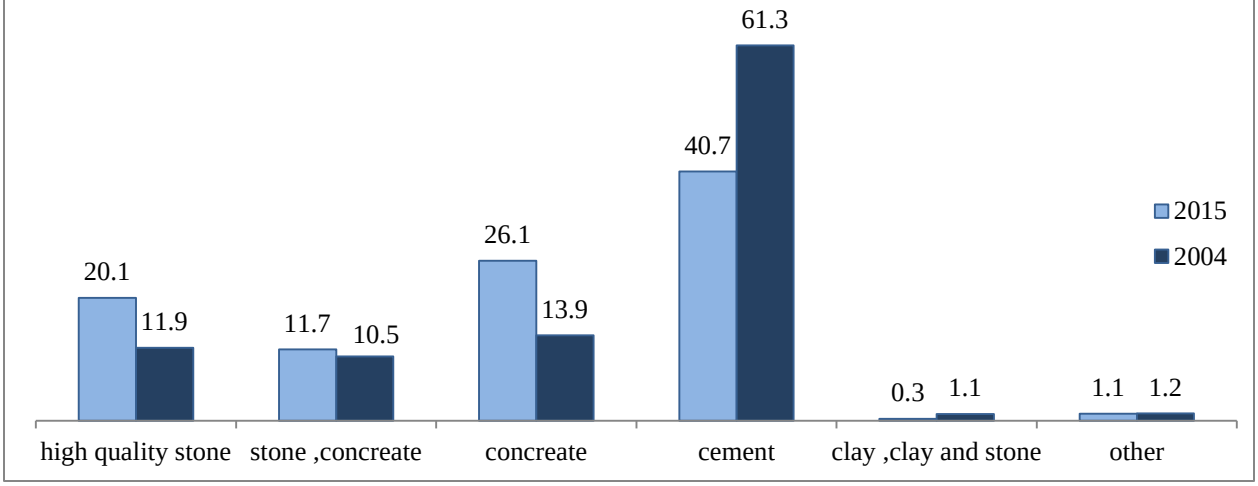
The results also showed that 34.8% of the total buildings in Jordan are relatively modern and was built between (2004-2015), and that one of five buildings was built during (1995-2004). This indicates that more than half of the buildings in Jordan were newly established during the period (1995-2015) to cover the increasing population during this period, with the population increasing according to the 1994 Census of Population and Housing from 4,264,000 to 9,531,712 in 2015, with a population increase that was more than doubled. (Figure 8)

Figure (8) Percentage distribution of fixed buildings by year of foundation, 2015



According to the results of the general population and housing census 2015, the quality of housing stock in Jordan is clearly evolving in 2015 compared to 2004, the percentage of buildings which walls were built from high quality stone increased from 11.9% in 2004 to 20.1% in 2015. The percentage of buildings that were built from cement bricks decreased substantially by 20.6%. (Figure 9)

Figure 9: The percentage distribution of fixed buildings according to the predominant building material of external walls 2004,2015



Third: characteristics of houses

The number of housing units in Jordan was 1,221,055 in 2004, while the number of housing units stood at 2,350.490 in 2015, which means that there was an increase of 1,129,435 units between 2004 and 2015, indicating that there was a surplus of housing units compared to the families in the Kingdom during the period between the two censuses of 101,913, and therefore the continued increase in the number of housing units at this level compared to the increase in the number of families increases the surplus rate, so that this surplus must be considered through planning for the future annual increase of housing units in order to match the population expectations in Jordan.

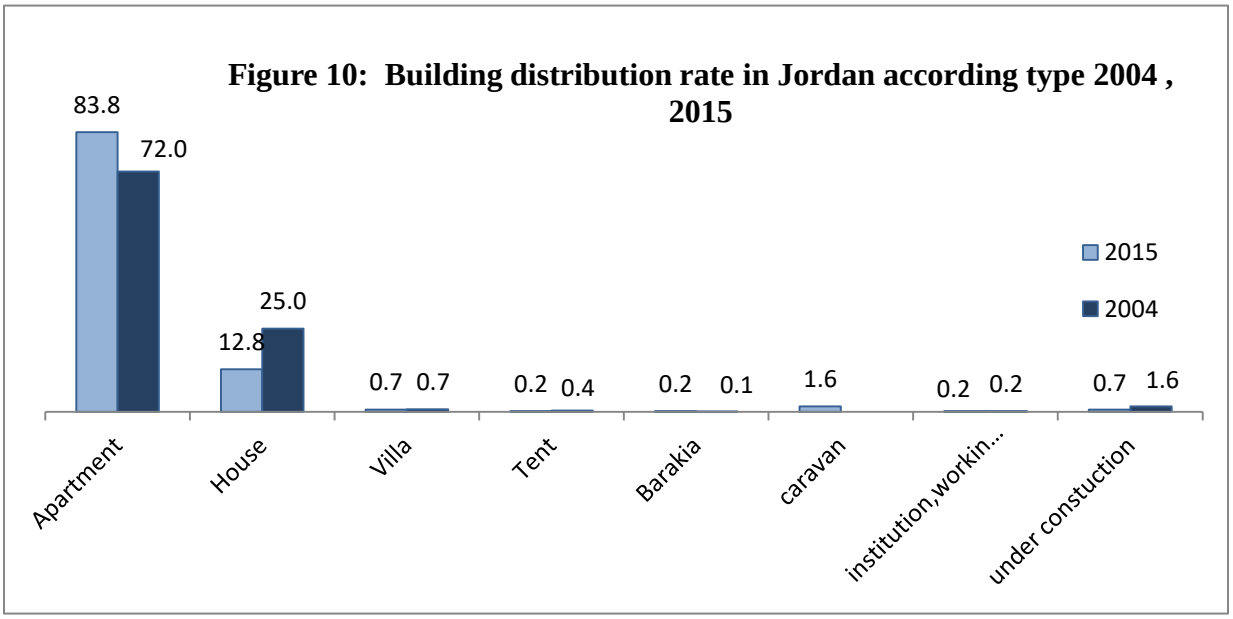
By Looking at figure (10), we notice that the vast majority of the houses in 2015 are of apartment type at a percentage of 83.8% of the total housing units, half of which are in Amman, 18% in Irbid and 14.8% in Zarqa. The house type was followed by 12.8% in Irbid, tents which are the less reached 0.2%, half of them in Mafraq. In contrast, houses of apartment type reached 72% in 2004. The percentage of dwellings of the house type declined substantially during the 2015 census to about double.

The political conditions facing the region led to the presence of housing in a new type that did not appear in the previous censuses, such as caravans, which reached 1.6%; this type of housing was concentrated in the governorates of Mafraq and Zarqa, with rates of 76% and 22% respectively.

In addition the results showed that the percentage of houses of Villa type did not exceed 1% most of them are in Amman at 70%

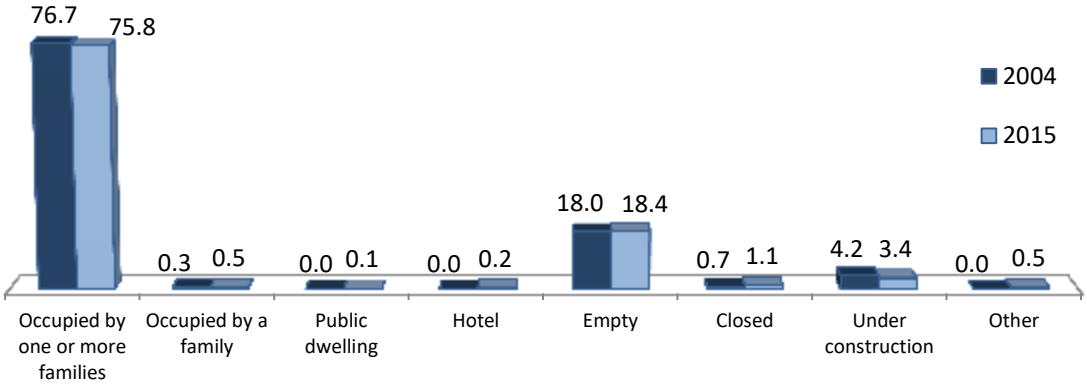
.

Figure 10: Building distribution rate in Jordan according type 2004 , 2015



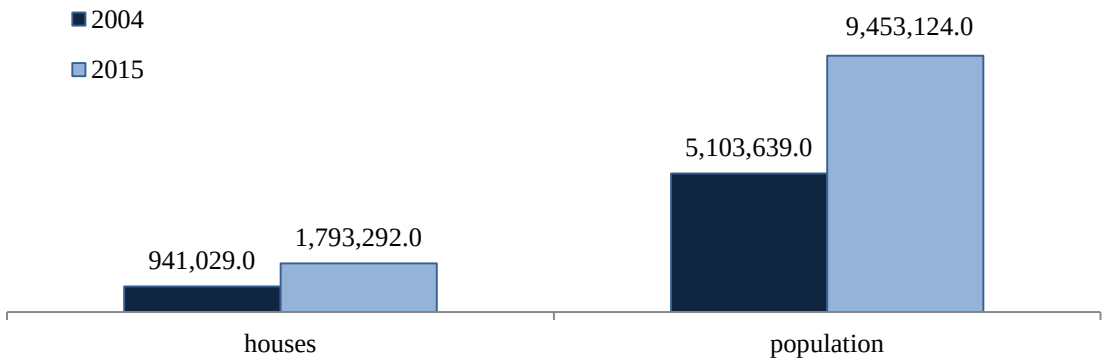
There were no significant differences during the period between the two censuses in all characteristics of housing occupancy. Three out of every four houses are occupied by private families or more in both censuses. The private family is defined as traditional families consisting of one or more member with a household head and sharing a housing unit, and it is common to have a close connection between most family members, and one out of six houses is empty in which no one lives at the time of the visit, either because it is offered for sale or rent (furnished or unfurnished) or because its residents are immigrants to another country, or it has just been completed. (Figure 11)

Figure 11: Percentage distribution of Houses In Jordan according to occupancy type 2004 & 2015



The substantial increase in the population in Jordan during the period between the 2004 and 2015 censuses led to a notable increase in the number of houses occupied by private or collective families[1]. Figure (12) shows the increase in the population of these households from 5,103.6 thousand in 2004 to 9,453.1 thousand in 2015, an increase of 4,349.5 thousand people, and doubled the number of houses occupied by private or collective families during the two censuses by one time .

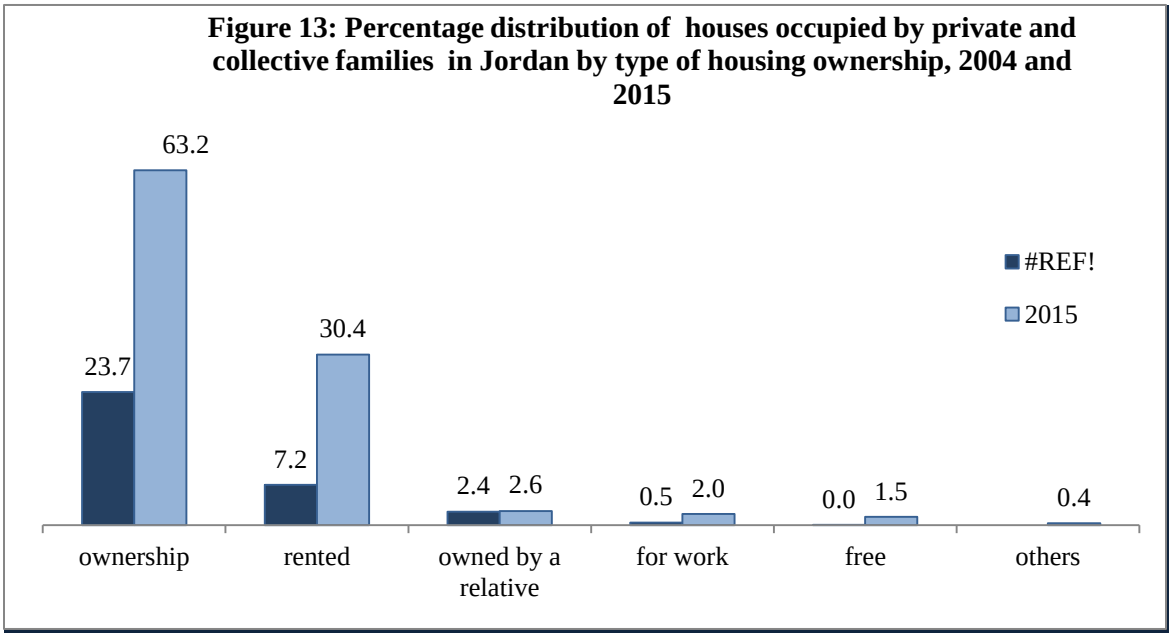
Figure (12) Number of population and houses owned by private or collective families in Jordan, according to 2004 and 2015 Censuses (in Thousands)



Collective Families: Each group of 6 people or more reside in a traditional house (apartment, house, barrack ...) and have no close relationship with each other, depending on their own in living and sharing some meals with others.[1]

The data in Figure 13 showed a notable increase in the percentage of rented houses in the year 2015, where it reached 30.4%, compared with 23.7% in 2004. The data also showed a double decrease in the percentage of houses owned by a relative, where the percentage decreased from 7.2% in 2004 to 2.6% in 2015. Two thirds of the occupied houses in Jordan were owned by the family or one of its members during the census.

Figure 13: Percentage distribution of houses occupied by private and collective families in Jordan by type of housing ownership, 2004 and 2015



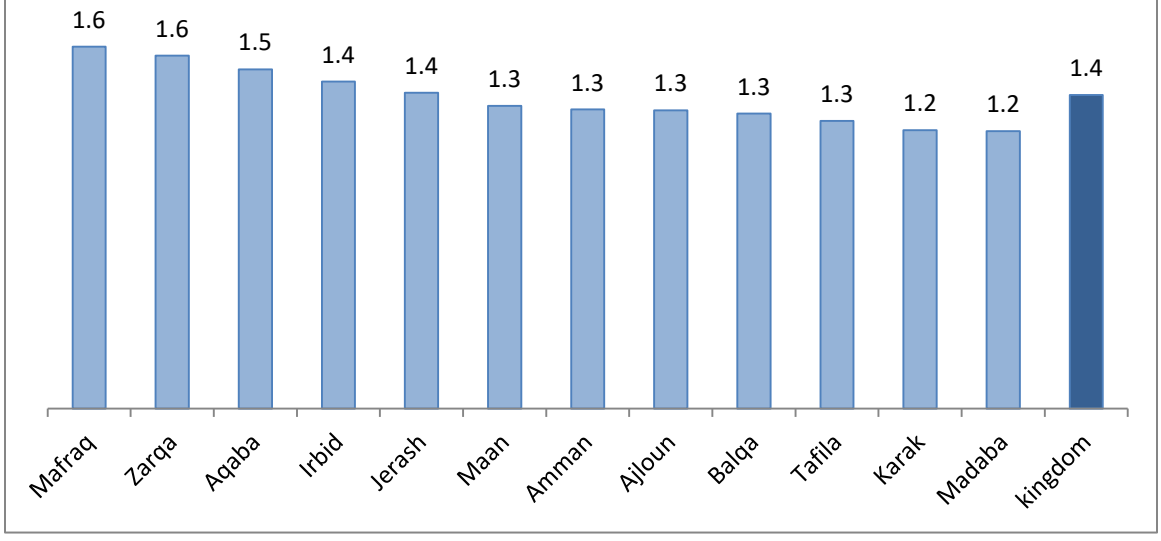
Overcrowding has a direct impact on human health and social life, and overcrowding generally indicates people's psychological response to density. World Health Organization, therefore, considers overcrowding to be one of the major factors affecting human health, where overcrowding in a small area encourages the rapid spread of infection, especially among children. On the other hand, overcrowding creates many social problems, including lack of privacy, and the possibility of sexual harassment due to lack of personal space.

Many factors affect overcrowding, such as population growth, income, housing cost, location, and prevailing political conditions. Population density is measured by the number of people in the total number of rooms in the house. In Jordan, there is an improvement in overcrowding rates between 2004 and 2015, where the results of the general population and housing census 2015 showing an increase in the total number of rooms in traditional houses with private families during the 2004 and 2015 censuses

period and where they increased from 3,285,673 rooms to 6,729,816 rooms respectively and more than doubled , while the number of private family's members increased from 5,044,295 in 2004 to 9,293,053 in 2015. According to the global definition of overcrowding, the house is considered overcrowded if the average number of people per room is more than two.

The results in Figure 14 showed a slight decrease in overcrowding at the national level during the 2004 and 2015 censuses. The average decreased from 1.5 people per room in 2004 to 1.4 in 2015, indicating that there is no overcrowding in Jordan in general. Madaba and Karak were among the lowest in the overcrowding rate, with an average of 1.2 people, while Zarqa and Mafraq were among the highest in the overcrowding rate, with 1.6 people for both governorates.

Figure 14 Percentage of overcrowding by governorate, 2015



Chapter 4: Services related to houses

One of the most important indicators that reflect the standard of living of families is the availability of public facilities and basic services which are essential for houses. According to the results of the General Population and Housing Census 2015, the recent population growth in the Kingdom has led to a significant increase in the number of households, increasing the pressure on available resources.

Therefore, it was necessary to focus on the most important of these facilities and services that affect the livelihood of families, which is focused on the availability of drinking water, sanitation and heating.

1.4 Drinking water and sanitation

Safe and easily accessible drinking water is important for public health, whether it is used for drinking or household use, food preparation or recreational purposes. Improved water supply and sanitation, better water resources management, can enhance the economic growth of countries and contribute significantly to poverty reduction**.**

First: drinking water

Drinking water is one of the most basic services that must be provided in the house. The process of providing communities with clean water networks is essential to maintain public health. The main sources of drinking water are the public network, which is derived from groundwater as the main source of drinking water. The average annual water consumption is increasing continuously, requiring constant water supply and searching for other water sources, the expected increase in actual water consumption is due to several reasons, among other things, population growth, building construction projects, and the establishment of several industrial projects, as well as irrigation.

Data of the 2012 Population and Family Health Survey confirmed that access to a safe source of drinking water is common in Jordan and means that 99% of Jordan's population reaches a safe drinking water source .

In general, the data of the Census of Population and Housing in 2015 showed a significant decrease in the percentage of occupied houses that depend on the general water network as the main source of drinking water, reaching 56.7% of the occupied houses compared to 82.4% of the occupied houses in 2004. This decrease is due to

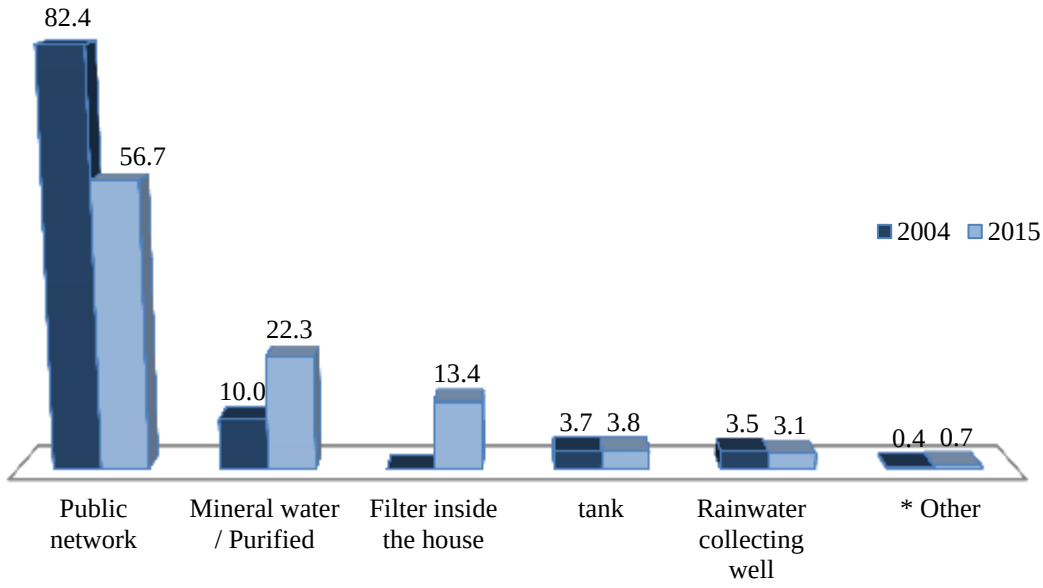
several reasons, the most important of which is the availability of other alternatives to water sources that were not present or were previously non-widespread. (Figure 15)

The data showed a significant increase in the percentage of houses depend on mineral water as a major source of drinking water during the 2004 and 2015 censuses, with one out of every ten houses in 2004 depends on mineral water as a major source of drinking water, while two out of every ten houses in Jordan in 2015 relied on mineral water as a major source of drinking water.

The data showed stability in the percentage of households that depend on tanks as a main source of drinking water during the 2004 and 2015 Census periods, which reached 3.7% and 3.8%, respectively, this is due to several reasons, the most important of which are the existence of some residential areas outside the municipal organization, and the difficulty of connecting water through the public water network.

The option of filtering inside the house was added as a major source of drinking water in the 2015 census, as the use of indoor water filtration has recently been observed by linking the filter to the water source of the house, filtering and processing it to make it safe for drinking.

Figure (15): Percentage distribution of houses occupied by private and collective families according to main drinking water source by 2004 and 2015 Census



*Other: Includes artesian well, spring and other sources other than those mentioned

Second: connection to sanitation

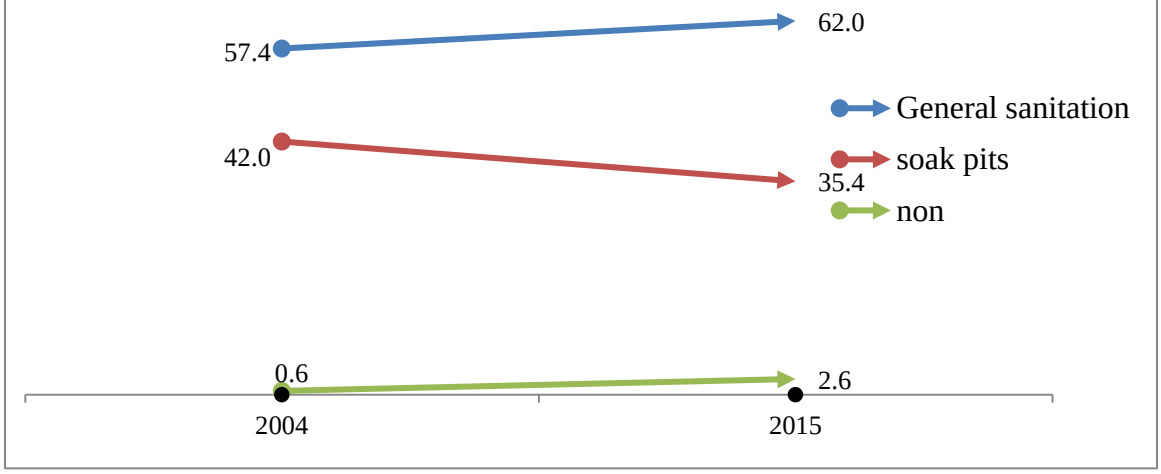
Sanitation is one of the most important processes necessary to ensure the availability of a suitable environment for individuals and families in all societies. This must be done in an appropriate engineering manner in accordance with the agreed scientific technical principles consistent with public health standards and safety requirements. Sanitation is defined as a part of the water distribution network. This network refers to the discharge of liquid wastes from buildings, houses and factories to the treatment plant or discharge areas. It is one of the most important strategies to ensure that individuals live in a safe and healthy environment.

The demand for sanitation systems is increasing as a result of the increasing amount of wastewater, which is increasing with increasing population and increasing water use. The provision of an organized network of sanitation services in communities is one of the most important necessities of life because the availability of such a network keeps the environment clean and helps prevent the spread of diseases.

In general, the results of the general population and housing census 2015 showed that families have tendency to use the public sanitation network instead of using soak pits. The percentage of houses connected to the public sanitation network increased from 57.4% in 2004 to 62% in 2015, with an increase of 8%, In contrast, the percentage of houses connected with a soak pit decreased from 42% in 2004 to 35.4% in 2015 and a 16% drop during the census period (Figure 16).

Interestingly, the percentage of households with private or collective families with no sanitation facilities increased from 0.6% in 2004 to 2.6% in 2015, due to the high rate of mobile houses (caravan, tent) to reach 1.8% of total houses in 2015, while the rate of tents was 0.4% in 2004.

Figure (16) percentage distribution of private and collective families by Connection with Sanitation in the 2004 and 2015 Censuses



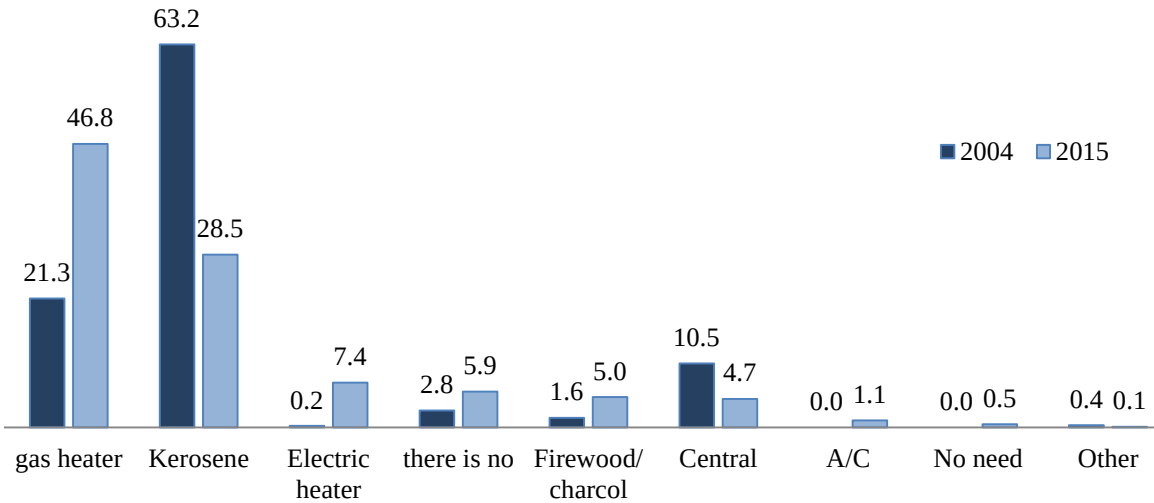
2.4 Heating

Jordan suffers from limited natural resources, especially non-renewable energy resources, and as a result of the large increase in the population growth Jordan has recently experienced, the demand for this energy has increased. Domestic heating depends mainly on a non-renewable energy source such as gas, kerosene, fuel, electricity, coal and wood, and the availability of one of the necessary heating sources is essential to houses, especially in cold-climate areas.

Figure 17 shows that about half of the occupied houses in the Kingdom in 2015 use gas as a main source of heating, due to its ease of use and the possibility of purchasing it by a large percentage of the population, and a significant decrease in the use of kerosene as a major source of heating was also noted, with a decrease of 55% during the 2004 and 2015 census period. In addition, the economic conditions of households have played an important role in the spread and decrease of some of the main sources of heating. The percentage of houses that rely mainly on central heating has more than doubled, while the percentage of households that depend on firewood / coal in 2015 was almost three times higher than in 2004. The dependence of some households on the electric heater as a main source of heating increased to reach 7.4% in 2015 compared to 0.2% in 2004.

The proportion of households with no source of heating increased from 2.8% in 2004 to 5.9% in 2015.

Figure (17): Percentage Distribution of houses owned by private or collective families by type of heating in houses for 2004 and 2015



Chapter 5: Durable goods, telecommunications and Information Technology

The Jordanian society is considered one of the advanced and developed societies in terms of possession of durable goods, modern equipment, communication equipment and information technology, which has become an essential element that has positive effects on the standard of living and well-being of families. Most households have basic appliances such as refrigerators, washing machines and cookers, but there is a disparity between households owning some of the past high-tech appliances such as microwave ovens, air conditioners, solar heaters, cars, dishwashers, communications equipment and information technology.

1. Durable Goods

One of the most important indicators that reflects the standard of living of families is the availability and variety of durable goods and appliances in houses, which are defined as the goods that the family obtains for a certain satisfaction; but not only once, but over a period of time. Durable goods in the language of the economy are commodities with a capital formation that are usually bought for one time, such as a private car, oven / cooker, microwave, air conditioner, dishwasher, energy saving lamps and solar heater. When comparing the previous censuses data, essential durable goods such as refrigerator and washing machine are found to be indispensable, so these goods are excluded from the 2015 census and replaced with goods that are most demanding in their data.

The data showed in Figure (18) that the vast majority of private households have (oven / cooker), because of the importance of its availability in the house where it is difficult to dispense with. The results also showed that Marfa governorate recorded the lowest level in the availability rates of cookers, which did not exceed 80%. This is due to the nature of the environment prevailing in Mafraq. Some households rely on the use of firewood as an alternative to gas.

More recently, the microwave has been used to heat food, and it has become an important appliance in the house as it saves time and effort. Figure 18 shows the substantial increase in the availability of this appliance, where one out of 10 households in 2004 have microwave compared with four out of ten households in 2015, while Amman

recorded the highest percentage of households with a microwave, 46.6%, followed by Aqaba with 40.3%.

On the other hand, Figure (18) shows that the percentage of households that have a car, regardless of its type during the 2004 and 2015 census periods, increased from 31.2% to 40.1% respectively. This increase is due to the increase in the population growth rate between the two censuses, annually, which was reflected in the expansion of the population. The data in Table (6) did not show significant differences between the governorates in the percentage of households that have a car in 2015. The percentages ranged from 46.7% in Aqaba and 26.8% in Mafraq .

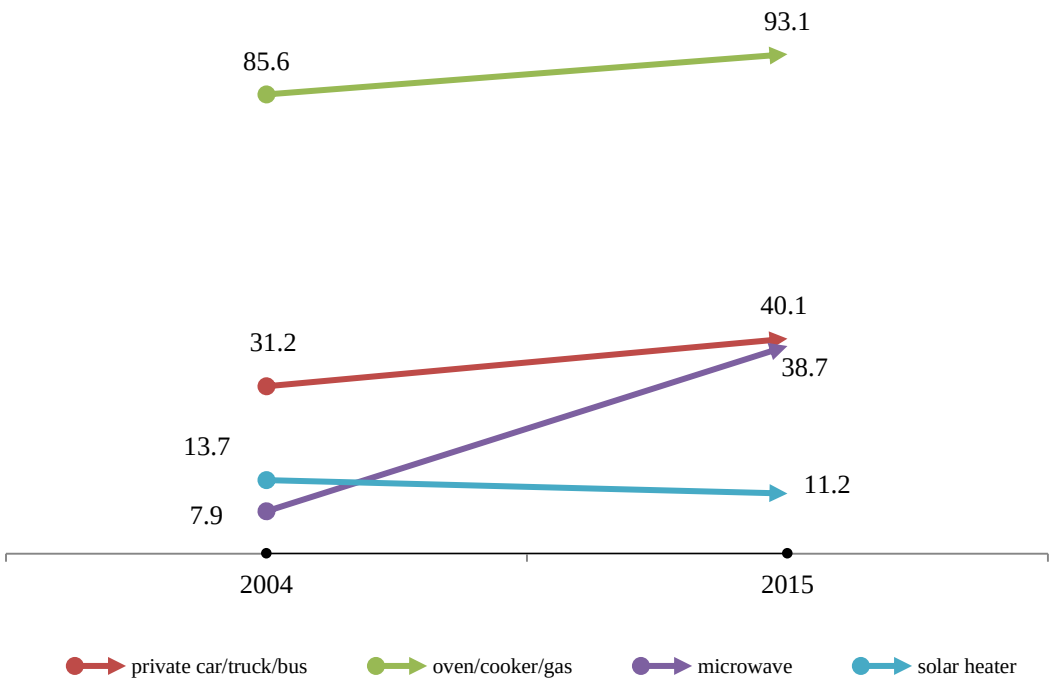
The results also showed that one out of every five households in Jordan has an air conditioner due to climate change, which has clearly affected Jordan, where temperatures are higher than normal levels, which led some households to purchase this appliance. It should be noted that households residing in Aqaba tend to have more air conditioning than households residing in other governorates, where the percentage of households that have an air conditioner is 69.4% of the total number of households. In other words, two out of every three families in Aqaba Governorate have air conditioners, while households in Ajlun are the least in tendency to own an air conditioner, with only 5.2% of households having air conditioning due to moderate climate and lack of need for use in this governorate (Table 6).

The Dishwasher is one of the indicators of the social well-being of the household. The results of the General Population and Housing Census indicate that out of every 1,000 households in Jordan 28 households have dishwashers. Although this is a small percentage, but the tendency of owning such appliances is decreasing more and more ,as they facilitate domestic work and save more time and effort. According to the results of the household expenditure and income survey, the rate increased from 1.4% in 2002 to 2.1% in 2013, which means that of every thousand household in 2002 there are 14 household that have a dishwasher, and the number of households increased to 21 in 2013. The households of the Amman were among the most households in the kingdom owned a dishwasher, as table 6 shows that of every 1 thousand households living in Amman 45 households have a dishwasher, with a rate of 4.5%.

Interestingly, the percentage of households with solar heater during the 2004 and 2015 period decreased from 13.7% to 11.2% respectively (Fig. 18). This decrease was due to the large increase in the number of households during the period of the two censuses. This decrease is not true because households have enough awareness of the importance of using the solar heater as a source of water heating and reducing electricity consumption. When looking in depth, the number of households with a solar heater in 2015 shows a substantial increase in the number of households in 2004 from 128,683 in 2004 to 217.205 in 2015, an increase of 68.8%. Table 6 shows that most of the households with solar heater are living in Amman with 15.5%, followed by those living in Maan with 14.7%, while Al Mafraq recorded the lowest percentage of households with solar heater at 3.7%.

In line with the evolution and progress of the world in the search for intelligent solutions in the lighting of houses through the provision of lighting in a way that is environmentally friendly, Table 6 shows that 68.9% of households in Jordan have energy saving bulbs. .The data also showed differences according to geographical distribution, about two thirds of households living in Amman, Karak, Balqa and Madaba have energy saving bulbs, while half of households living in Aqaba and Al Mafraq have these bulbs.

Figure 18: Percentage of private households in Jordan that have durable goods according to 2004 and 2015 census



Percentage of Private Households in Jordan with Durable Goods by Governorate, 2015 Table (6)

Governorate	Oven/cooker	Microwave	Private car/truck/bus	AC	Dishwasher	Solar heater	Power saving bulbs
Amman	95.2	46.6	46.5	25.3	4.5	15.5	75.0
Balqaa	93.5	35.3	41.7	19.0	1.7	11.1	70.1
Zarqa	92.9	33.4	31.1	18.3	1.0	6.6	59.1
Madaba	94.3	30.6	42.4	8.7	1.4	7.8	72.2
Irbid	92.5	38.4	34.7	16.4	1.5	8.4	67.9
Mafraq	79.8	14.0	26.8	7.2	1.2	3.7	54.4
Jerash	91.4	25.6	35.0	8.9	0.8	5.9	68.4
Ajlun	91.7	34.5	38.9	5.2	1.0	7.4	69.3
Karak	93.3	30.8	43.4	11.8	1.9	10.3	72.1
Tafila	93.2	31.0	45.4	6.1	1.6	12.5	68.4
Maan	92.6	22.9	41.3	7.4	1.9	14.7	57.8
Aqaba	93.5	40.3	46.7	69.4	3.0	9.0	54.2
Kingdom	**93.1**	**38.7**	**40.1**	**20.2**	**2.8**	**11.2**	**68.9**

2.5 Communication and Information Technology

Jordan was not isolated from the world's development in the field of ICT, and the information technology sector in Jordan has witnessed a major development because of the great interest and support of His Majesty King Abdullah II Bin Al-Hussein, a great leader in this sector, which has brought about a major change in the Jordanian economy. The telecom and IT sector was the third largest contributor to GDP by 14%, with over 400 companies currently employing about 16,000, and contributing a total of 84,000 direct and indirect workers, making it the fastest growing sector locally[2].

The data in Figure 19 showed a sharp decrease in the percentage of households with a landline phone during the 2004 and 2015 period, where the percentage decreased from 44.3% to 9.1% respectively. This decline may be due to the widespread use of mobile phones, the results show that many families prefer to use regular mobile phones or smart phones to use the landline for their ease of use and availability, which was reflected positively on the high availability of these devices among families. The results in Table (7) show that the availability of the smart mobile phone in 2015 reached 62.9%. The regular mobile phone availability rate is 45.9%, which means that 108.8% of the households in Jordan in 2015 have a regular or smart mobile phone.

The importance of information technology is increasing with the spread of the Internet, which has enabled the individual access to countless services ranging from access to various types of information to shopping facilities and entertainment, not to mention the ease of the network to contact individuals inside and outside the country. The results of the general population and housing census 2015 showed that one out of five households in Jordan have an Internet access. At the governorate level, Amman recorded the highest percentage of households with Internet access at 30.2%, while Maan recorded the lowest percentage of households with Internet access at 7.6%.

In keeping up with the technological development of the world in the general population and housing census of 2015, data were collected on the availability of tablets, which is a development of laptops to represent the middle state between laptops and smart cell

[2] Communications and Information Technology Sector/ Jordan Investment Authority

phones. The screen size of the tablet increases on the smartphone screen making it easier to use, transfer, and provide the services and games that everyone, especially children, prefers. The results showed that of every eight households, only one household had a tablet and 12.8% of all households in Jordan, households in Amman were the most in possession of tablets, with one family out of every five households living in Amman having a tablet at 17.3%, while Al Marfa was one of the least-equipped governorates with a tablet, with 1 household out of 23 households, with no more than 5%.

In terms of PC / laptop availability, Figure 19 shows the slight increase in the percentage of households with PC or laptop computers during the 2004 and 2015 periods, from 21.4% to 25.2%, respectively. This slight increase is due to the presence of other alternatives such as smart mobile phone and Tablets widely spread among families. The percentage of households with personal / laptop computers in all governorates is close to 16.6% and 27.3%, with the exception of the governorates of Amman and Mafraq. The table shows that 32.5% of the households in Amman have a personal Computer, while the percentage of households with a PC / laptop did not exceed 10% in Mafraq Governorate (Table 7).

Figure(19): Percentage of private households in Jordan that own IT and telecommunication devices according to 2004 and 2015 cenuses

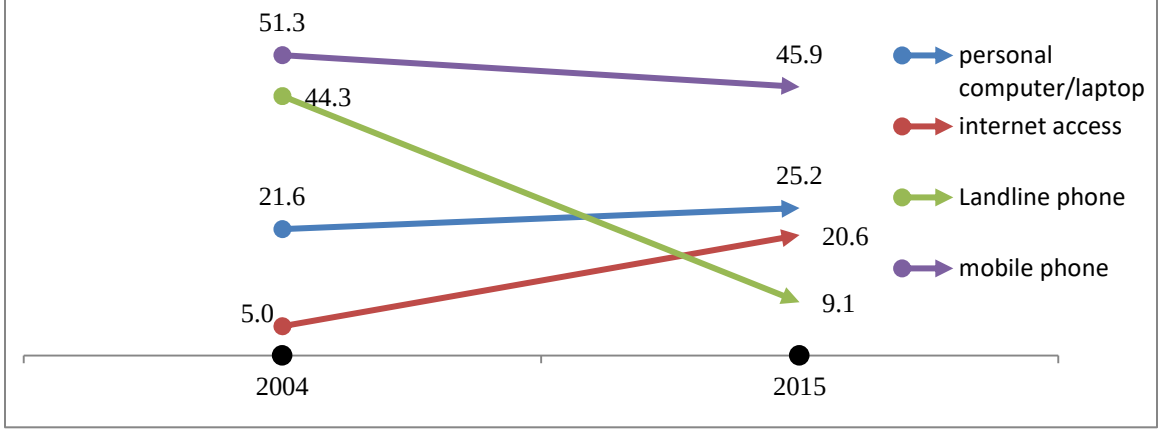


Table (7) Percentage of private households in Jordan that own telecommunications and IT devices by governorate, 2015

Governorate	landline	Regular mobile phone	Smart phone	Personal PC/ Laptop	Tablet	Internet access
Amman	14.6	38.9	71.6	32.5	17.3	30.2
Balqa	6.8	49.6	57.6	21.6	9.9	13.4
Zarqa	5.0	47.9	59.4	19.9	9.4	15.0
Madaba	4.7	46.4	59.5	18.8	8.8	10.2
Irbid	5.5	50.9	60.2	21.6	10.3	14.4
Mafraq	1.7	55.2	39.5	9.4	4.3	8.5
Jerash	2.0	55.5	49.8	16.6	7.8	11.4
Ajlun	5.2	56.0	55.7	20.3	9.9	8.3
Karak	5.5	55.4	51.7	20.5	9.6	11.8
Tafila	3.3	58.2	55.3	22.9	10.5	10.1
Maan	3.0	62.5	42.9	17.3	7.6	7.6
Aqaba	6.2	47.4	64.5	27.3	14.2	19.0
Kingdom	**9.1**	**45.9**	**62.9**	**25.2**	**12.8**	**20.6**