THE REALITY OF ECONOMIC DEPENDENCY IN MUTHANNA GOVERNORATE FOR THE YEARS 1997 AND 2021
((A study in the economic development of the population))

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Abstract:
The research aims to study economic dependency rates and their impact on the economic development of the population in Al-Muthanna Governorate within its administrative borders in 1997, which was determined by the availability of data resulting from the general population census in 1997, population estimates and the results of the field study for the year 2021, and extracting crude age-dependent and economic dependency rates according to categories. The wide age range as well as the spatial variation at the level of the administrative units in the governorate that the research contained in two sections.

The results and analyzes revealed that the population of Al-Muthanna Governorate is young and this youth is directly related to the age dependency ratio, which means a high percentage of the population under (15 years) and its variation at the level of administrative units, in addition to the high real economic dependency rates, as it recorded (106%) in 1997. to (132%) in 2021.

Keywords: (population growth, economic development, dependency)

Introduction

Economic dependency is a population phenomenon that reflects the relationship between different age groups. In a more precise sense, it reveals the close link between the productive age group (15-64) years on the one hand, and the two groups of young people and the elderly in society on the other hand. Therefore, the high rates of economic dependency constituted a major obstacle to Programs and plans for economic and social development in the study area. The results of the research also showed an increase in the gender ratio of the dependents compared to the dependents for the years (1997 and 2021). This raises dependency rates and reduces opportunities for saving, investment and economic development, and causes great economic pressure on the labor force, which requires real rooting of a planning vision of development for the population based on the reality of the relationship between population growth and economic growth, and this means that there are basic requirements and daily needs of the population that have not been met and affected. On future economic development projects in various fields, from here began the research problem that will be addressed as follows:

1- The research problem: The research problem was represented by the following question: How does the size of the population in the age groups (0-14) years, (65 years and over) affect the economic dependency rates? In order to discuss this problem in detail, the search through a joint will try to answer several questions that are considered sub-problems that can be formulated as follows:

- What is the effect of population growth on the rise in economic dependency rates? Does the sex ratio affect economic dependency rates?

2- The research hypothesis:

The research hypothesis is that the increase in the size of the population in the age groups (0-14 years, 65 years and over) raises the economic dependency equations, and because this hypothesis explains the general framework of the research, therefore there must be secondary or sub-hypotheses that explain the particles of that:

Rapid population growth leads to an increase in the burden of maintenance. The sex ratio affects the economic dependency rates in the study area.

3- The aim, importance and justification of the research:

The research aims mainly to know the economic dependency rates and their impact on the development of the population of Al-Muthanna Governorate, as well as the dependent groups and their type, and to search for factors of variation in economic dependency rates between the administrative units of the study area, and to reveal the spatial relationships that explain this discrepancy and knowledge of the changes. The incidence of dependency rates during the period of the study, and the importance of the subject of the research comes as it studies economic dependency, defines the features of the economic activity of the population, and stands on the size of the labor force and the dependent age groups, which lie behind the selection of the subject of the research, among considerations and motives that came as follows: -

A - The scarcity and scarcity of population studies that dealt with economic dependency and its impact on population development at the level of Al-Muthanna Governorate.

B- The significant changes that occurred in the economic structure of the population and the dependency rates in the study area.

C- The research seeks to provide a database to support decision-makers with regard to the labor force, economic support and its economic composition, which is the country's economic identity and contributes to the development of effective development plans for the future.
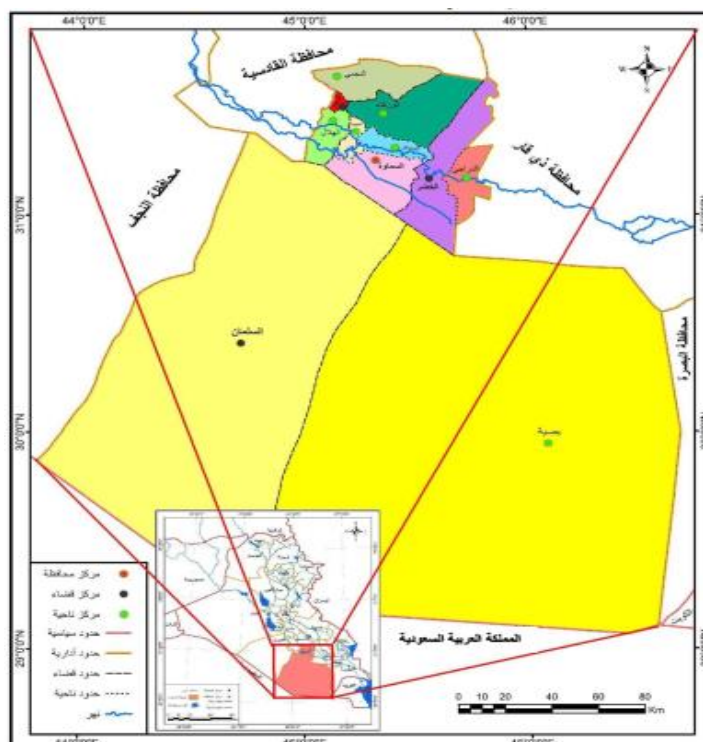
4- Research Methodology:

The research relied on the descriptive and analytical approach in following up the development of economic dependency rates and their variations and the variables affecting them. Al-Muthanna at the level of its administrative units from its original sources, which are the population censuses for the year 1997 and population estimates

for the year 2021, which were obtained from the Ministry of Planning and Development Cooperation. Resolution) (□) See Appendix (1).

5- The boundaries of the research area:

The spatial boundaries of the research area were represented by the geographical space occupied by Al-Muthanna Governorate, located in the southwestern part of Iraq, between latitudes (29° - 05' and 31° - 42') north and longitudes (43° - 50' and 46°). ° - 32') to the east, see map (1), and with an area that is the second largest among the governorates of Iraq, it amounted to (51,740) square kilometers, which is (11.9%) of the total area of Iraq, amounting to (434,128) square kilometers for the year 2021. The governorate shares administrative and international borders With the Kingdom of Saudi Arabia in the south and southwest, while its administrative borders were formed from the common borders of four governorates, which are the governorate of Al-Qadisiyah from the north, Najaf from the west, Dhi Qar from the east and northeast, and Basra from the south and southeast, see map (1) and the study area includes four districts that vary in size They are Samawah, Al-Rumaitha, Al-Khader, and Al-Salman, followed by seven subdistricts, namely Al-Sawir, Al-Majd, Al-Hilal, Al-Najm, and Al-Daraji.

Map (1) The geographical location of Al-Muthanna Governorate in Iraq and its administrative units

Source: Researcher based on:

1- **Republic of Iraq, Ministry of Water Resources, General Authority for Survey, Map Production Department, Administrative Map of Iraq at a scale of 1: 1,000,000, Baghdad, 2018.**

2- **2- Republic of Iraq, Ministry of Water Resources, General Authority for Survey, Map Production Department, Administrative Muthanna Governorate Map At a scale of 1: 250,000, Baghdad, 2020.**

The first topic: Population size and growth:

Population growth and its increase in size are among the important issues that must be taken into account when studying economic dependency, to constitute a major challenge to economic development in the study area in which population growth rates exceed economic growth rates, which greatly affected production, consumption, and the total per capita and family income. In the study area, the percentage of dependency that the research dealt with increased by distributions according to the following age groups:

1- The numerical and relative distribution of the dependent and dependent population The numerical distribution of the dependent and dependent population is intended to be distributed according to their absolute numbers, and it reveals a picture of the spatial variation in the distribution of each of these categories, but it does not accurately reflect the visual comparison between the size of each category in the administrative units of the study area, which prompted the researcher to use the relative distribution that Refers to how much each administrative unit will contribute from a calculated percentage to the total population and the distribution of the total among the different parts ().

A- The numerical and relative distribution of the dependent population in the age group (0-14) years

The population in the age group (0-14) years old constitutes the base of the population pyramid, and it is the group that has not yet entered the labor market (i.e. the non-productive group), and it is one of the age groups most affected by births and deaths.

The data of Table (1) reveal that the percentage of young people in the study area in 1997 constituted (47.1%) of its total population, while it decreased to (43.8%) in 2021, according to the field survey for research. These percentages are considered high, which constitutes a broad base for the pyramid At the same time, it represents a reserve of human wealth for the future, and it is an important criterion for the dependency ratio that sheds light on the amount of burden borne by the middle group of young people who are able to work in society and develop it economically. It is worth noting that the proportion of young people in the province is high compared to its counterpart in Iraq, which reached (46.7, 43.1)%, respectively, for the years (1997 and 2021) (). As for the level of administrative units, the data of Table (1) refer to the following observations:

1- Al-Hilal sub-district was dominated by the highest population group (0-14) years for the year 1997, when it reached (8750) people, constituting (53%) more than half of its population, and this increase is due to the fact that the sub-district is one of the most important agricultural rural centers in the governorate, followed by Al-Warka and Al-

Najmi sub-districts, with a population size of young people amounted to (10273, 26,435) people, and they constituted (50.6,52)% for each of them, respectively, of the total population therein. As for the lowest population size for the young age group for the year 1997, it was recorded in the center of Al-Salman district, as it reached (3,905) people, at a rate of (42.2%) of its total population. The decrease in its population in this age group is due to the migration of many families to areas inside and outside the governorate due to the lack of rain for many years, and thus the deterioration of pastures in it, which caused many families to lose their livelihoods, which made them migrate to other regions.

2- The Al-Khader district center advanced to the first place in terms of population size in the age group (0-14) years for the year 2021, as its population in this category reached 384 people, according to field study data, which constituted (50%) of its total population, while it declined Warka sub-district ranked third with a population size of 375 people, i.e. (45%) of its total population, leaving the second place for al-Najmi sub-district, whose young population reached (145) people, with a rate of (45.3%). The size of the population of other administrative units ranged between The percentage (44.7-42) percent represented by Al-Hilal sub-district and the Salman district center, respectively, maintained this rank for the second year in a row.

B- The numerical and relative distribution of the dependent population in the age group (15-64) years

This group of the population is one of the most important age groups from an economic point of view, as it bears the support of the two groups, the young and the elderly, and they are the individuals who are able to work and produce. They are also called the economically active population. As well as the category that contributes to early marriage ().

By reading the data of table (1), it is clear that the population group (15-64) years constituted in 1997 the proportion of (48.5%) with a population size of (212084) people, which is lower than the rates in Iraq (51.5%) for the same year, while the study revealed The field study for the year 2021 revealed that the size of this category increased to (3989) people, which is (52.9%) of the total population of the governorate.

At the level of administrative units, the data of table (1) revealed the following indicators:

1- An increase in the size of the population in all administrative units in 2021 compared to 1997 in the age group (15-64) years, which means an increase in the size of the economically active population and thus a decrease in the dependency ratio in the study area.

3- The variation in the distribution of the population in the age group (15-64) years between the administrative units of Al-Muthanna Governorate for the year 1997, as it was topped by the Al-Salman district with a population size of (5043) people, constituting (54.5%) of its total population, followed by the Al-Rumaitha district center in the second place. With a population size of (34972) people, i.e. (50.8%) of its total population, while the lowest percentage of the population in this category

was recorded in Al-Hilal sub-district (46.3%), with a population size of (7641) people.

Tabel (1) Numerical and relative distribution of the population of Al-Muthanna Governorate according to the broad age groups and administrative units for the years (1997 and 2021)

Administrative units	1997							2021						
	0 - 14		15 - 64		65 and more		number population / people	0 - 14		15 - 64		65 and more		number population /people
	number	%	number	%	number	%		number	%	number	%	number	%	
Samawa district center	83173	45.5	87547	47.9	12020	6.6	182840	1318	42.6	1700	55	70	2.4	3088
Al-Suwair district (*)	-	-	-	-	-	-	-	155	43	195	5401	10	2.9	360
Rumaitha district center	31181	45.2	34972	50.8	2734	4	68887	515	41.8	665	53.9	52	4.3	1232
glory district	12047	49.8	11907	49.2	219	1	24173	158	43.8	194	53.8	8	2.4	360
Warka district	26435	50.6	25444	48.7	319	0.7	52198	375	45	415	49.8	42	5.2	832
starburst district	10273	52	9267	46.9	182	101	19722	145	45.3	160	50	15	4.7	320
Crescent district	8750	53	7641	46.1	112	0.7	16503	136	44.7	158	51.9	10	3.4	304
Salman district center	3905	42.2	5043	54.5	303	3.3	9251	37	42	48	54.5	3	3.5	88
Busayyah district	1189	50	1170	49.3	15	0.7	2374	7	43.7	8	50	1	6.3	16
greens district center	29183	47.8	29093	47.7	2701	4.5	60977	384	50	361	47	23	3	768
Al-Daraji sub-district (*)	-	-	-	-	-	-	-	70	43.7	85	53.1	5	3.2	160
Total	206136	47.1	212084	48.5	18605	4.4	436825	3300	43.8	3989	52.9	239	3.1	7528

Source: The researcher's work based on Appendix (2).
(*) The residents of Al-Suwair and Al-Daraji sub-districts were counted among the residents of the Samawah and Al-Khader districts, respectively, in the 1997 census.

3- The Samawa district center ranked first in terms of population size for the category (15-64) years for the year 2021, which amounted to (1700) people, at a rate of (55%) of the total population in it, and the reason is due to migration from the countryside to the cities in search of job opportunities, especially young people who are able to Work within this category, and the population percentages of this category were high in all other administrative units, and ranged between (54.1-47)%.
C- The numerical and relative distribution of the dependent population (65 years and over)

This category is considered outside the labor market (i.e. a non-productive consuming category) and its percentage is increasing in the study area as a natural reflection of the high health, economic and cultural level to keep pace with the general trend that leads to a doubling of the percentage of centenarians in the coming years ().

From the data of Table (1), it is noted that the percentage of the population of dependents in the age group (65 and over) decreased to (3.1%) in 2021, after it was (4.4%) in 1997, with a population size of (18605, 239) people, respectively, for the year 1997 and the field study For the year 2021. As for the level of administrative units, the data of table (1) reveal the following facts: -

1- The variation in the proportions in the size of the population in the category of the elderly among the administrative units in the governorate for the year 1997, as the center of the Samawah district ranked first with a population size of (12020) people and a rate of (6.6%) of its total population. The reason for this increase is due to Fertility decline in the district center, where the percentage of young people reached (45.5%), which is one of the low percentages in the governorate for the year 1997. Whereas, the district center of Al-Khader came in second place with a population size of (2701) people and its percentage (4.5%) of its total population. As for the elderly population, it was recorded in the districts of Al-Hilal and Busayyah (0.7%) for each of them, as a natural reflection of the increase in the percentage of young people in these two units, as the percentage of young people in them reached (53, 50)% for each of them, respectively, for the same year.

2- Busayyah sub-district achieved the highest population size for the elderly category in 2021, which amounted to (6.3%), which is higher than its rates at the governorate level amounting to (3.3%) for the same year. The reason for this is due to the high population fertility in this sub-district, as the percentage of young people reached The age in it was (43.7%) for the same year, while it came in the second rank in the Warka district in terms of population size in the category (65 years and over) with a rate of (5.2%). %) for each of them, respectively. From the foregoing, the following can be concluded: -

A- The gradual decrease in the percentage of the dependent population in the age group (0-14) years in Al-Muthanna Governorate from (47.1%) of its total population in 1997 to (43.7%) of its total population in 2021, and this has a significant impact on reducing economic dependency rates and increasing indicators development of the population of the province.

B- An increase in the percentage of the dependent population in the age group (15-64) years in the governorate from (48.5%) of its total population in 1997 to (52.9%) of its total population for the year 2021, which constitutes an important factor in reducing economic dependency rates.

C- The decrease in the percentage of the dependent population in the category (65 years and over) in the governorate from (4.4%) of its total population in 1997 to (3.3%) of its total population for the year 2021, which is reflected in the decrease in the dependency rates for the elderly.

D- Since the age group (0-14) years decreased in proportion with the increase in the percentage of the population in the age group (15-64) years, this necessarily leads to the recovery of economic growth and development projects.

3- Population growth

Population growth refers to the difference in the size of the population, whether it increases or decreases according to different periods of time. Population growth is one of the important issues because it affects the economic development of the population at the present time and in the future. The research dealt with the following:

Tabel (2) Annual population growth rates in Muthanna Governorate and Iraq for the years (1997 and 2021)

the year	Muthanna Governorate				Iraq			
	population	absolute increase	growth rate (*) %	growth rate %	population	absolute increase	growth rate%	percentage change %
1987	315816	-	-	-	16335199	-	-	-
1997	436825	121009	3.2	38.00	22046244	5711045	3.00	35.00
2021	777843	341018	3	78.6	36054800	14008556	2.7	64.00

Source: The researcher's work based on:

1- Republic of Iraq, Ministry of Planning, Central Statistical Organization, Final Results of the Population of Iraq, Baghdad, 1987, Table (22), p. 76.
2- Republic of Iraq, Planning Commission, Central Statistical Organization, Results of the General Population Census for the year 1997, Al-Muthanna Governorate, Table 22, p. 75.
3- Ministry of Planning and Development Cooperation, Central Agency for Statistics and Information Technology, Directorate of Population and Manpower Statistics, Iraq Population Estimates for 2021, Table (33).

A- Population growth at the governorate level: - The data of Table (2) shows that the population of Al-Muthanna Governorate was subject to demographic changes that reflected the clear development in the size and growth of the population there. The absolute increase of the population in Al-Muthanna Governorate reached (121009) people in the years (1987-1997), with a growth rate of (3.2%) and a change rate of (38%). These rates are higher than their counterparts in Iraq, in which the growth rate reached (3%) and the percentage Change (35%) for the same period. For the years (1997-2021), the absolute population increase in the study area amounted to (341018) people, with a growth rate of (3%), with an increase in the rate of change to reach (78.6%), which confirms the continued superiority of these rates. It is higher than its counterpart in Iraq, amounting to (2.7%) and (64%), respectively, for the same years.

The foregoing shows the following: -

1- The annual population growth rates in Al-Muthanna Governorate were not constant, but rather they are constantly changing. This requires planning future population growth to accommodate the population increase, meet their basic needs, and develop them economically.

2- The growth rates in the study area exceeded their counterparts in Iraq. The high rates of population growth are due to natural increase and net migration.

B- The annual growth of the population according to the broad age groups

Population growth rates according to broad age groups are directly related to economic growth and its rates, that is, the growth of these groups is reflected in its effects on economic dependency rates. The population growth of the study area according to age groups will be discussed as follows:

- The growth of the population of young dependents in the age group (0-14) years

The annual growth rate of the dependent population in the age group (0-14) years for the years (1987-1997) was (3%), it decreased (2.1%) for the years (1997-2021) at the level of Al-Muthanna Governorate, according to the data of Table (3), whose data revealed The annual growth rates of this category vary according to the administrative units, as follows:

1- The highest growth rate of the population of young dependents for the years (1987-1997) appeared in the Warka sub-district (7.9%). (3.5%) This increase is explained by the high levels of fertility.

2- The lowest rate of growth of the young population during the years (1987-1997) was recorded in the center of Samawa district by (2%). This is due to the continuous migration for political and economic reasons.

3- The decline in population growth rates for the young age group for the years (1997-2021) compared to the years (1987-1997) in all administrative units, and that this decline, if it continues, will necessarily reduce the burden of support and thus reduce poverty rates and increase the economic development of the population.

- The growth of the dependent population in the age group (15-64) years

The population growth rate for breadwinners in Al-Muthanna Governorate for the years (1987-1997) was (2.4%), and it rose relatively to (2.8%) for the years (1997-2021) Table (3). This increase is due to the improvement and recovery of agriculture during the nineties of the last century, and that there is Spatial variation at the level of administrative units in the population growth rate for the age group (15-64) years took the following order:

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Tabel (3) Annual growth rates of the dependent and dependent population in the broad age groups in Al-Muthanna Governorate, according to the administrative units for the years (1987-2021**)**

age categories	Dependents (0-14) years		Dependents (15-64) years		Dependents (65 years and over)	
years Administrative units	(1987-1997)	(1997-2021)	(1987-1997)	(1997-2021)	(1987-1997)	(1997-2021)
Samawa district center	2	1.8	3.1	2.8	2.1	2.8-
Al-Suwair district (*)	-	-	-	-	-	-
Rumaitha district center	3.1	2.1	3.9	2.9	2.3	3.00
glory district	6.6	2.2	4.9	3.4	4.7	8
Warka district	7.9	2.5	6.9	3.3	2.6	14.8
starburst district	5.3	2.2	-0.8	3.2	3.4	11.6
Crescent district	4.8	3.5	7.2	5	-1	13.2
Salman district center	5.6	0.1	10.2	0.1	1.7	0.4
Busayyah district	6.6	-4.5	8.2	-3.8	1.9	7.7
greens district center	3.4	2	4.4	1.7	2.5	-0.1
Al-Daraji sub-district (*)	-	-	-	-	-	-
Governorate	3	2.1	2.4	2.8	2.3	8.2

source is the researcher's work based on Appendix (3).
 (*) The residents of As-Sawir and Al-Darraji sub-districts were counted within the district center of Samawah and Al-Khader, respectively, for the years (1997 and 1987).

1- Most of the administrative units in Al-Muthanna Governorate increased in the annual population growth rate for the category of breadwinners (15-64) years for the years (1987-1997), as it reached in the center of Al-Salman district the highest (10.2%), while Al-Najmi district occupied the lowest percentages amounting to (- 0.8% As for the years (1997-2021), they witnessed a decrease in the annual growth rates for this breadwinner category in most of the administrative units, with the exception of Al-Najmi sub-district, which reached an annual growth rate of (3.2%) for the years (1997-2021).

2- The lowest population growth rate in the dependents category was recorded in Al-Najmi sub-district (-0.8) for the years (1987-1997), while Busayya district recorded the lowest annual population growth rate for the dependents category, amounting to (-3.8%) for the years (1997-2021).

Through the foregoing, the population growth rates of the breadwinners (15-64) years indicate the role of wars and economic crises in directing them towards an increase at

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times and a decrease at other times in Iraq, including the study area, through the clear variation in migration currents and mortality.

- The growth of the dependent population in the age group (65 years and over)

This group of population is affected by a number of health, environmental, social, economic and political factors that are reflected to one degree or another on the variation in population growth rates in this group in time and space, as the data of Table (3) indicates that the dependent population in the age group (65 years and over) has reached a ratio of (2.3). %) for the years (1987-1997), it increased to (8.2%) in the years (1997-2021). As for the administrative units, the following facts are evident from Table (3):

1- The highest growth rate of the elderly dependent population (65 years and over) during the years (1987-1997) was in Al-Majd sub-district (4.7%) and in the years (1997-2021) it was in Al-Warka sub-district (14.8%).

2- The lowest growth rate for the population of adult dependents for the years (1987-1997) was in Al-Hilal district (-1%) and during the years (1997-2021) it was in the center of Samawah district (-2.8%). The clear discrepancy between the administrative units in the study area may be due Due to the different death rates and immigration, which has an increasing role in reducing population growth rates.

From the foregoing and based on the data of Table (3), the following facts are clear:

A- The decline in the annual growth rates of the population in the age group (0-14) years, (15-64) years, and (65 years and over) for the years (1997-2021) compared to their counterparts for the years (1987-1997).

B- The high annual growth rates of the dependent population in the age group (15-64) years, compared to the young and elderly groups for the years (1987-2021).

Third: the qualitative composition of the population

It is called the sexual structure, as the members of the population are distributed between females and males, and it expresses the number of males for every 100 females, which is the cumulative result of previous trends in fertility, mortality and migration rates. The ratio is usually about 105 males for every 100 females at birth, and it may go up to (107) or drop to (102), but it revolves around (105) males for every 100 females (). And that the study of the gender ratio is of great importance in determining the size of the dependency through its demographic effects related to age at marriage, births, and deaths. The data of Table (4) indicates that the gender ratio in the study area was in favor of females, and that the variation is in this ratio from year to year during the study period. In 1997, the ratio reached (94) males per hundred females, which is less than its counterpart in Iraq (99) males per female for the same year. This decrease can be explained by the exceptional circumstances witnessed by Iraq and the study area during the Second Gulf War and the subsequent repercussions of the economic blockade and the resulting spatial movement of the population of the study area, as the gender ratio continued.

Tabel (4) Gender ratio in Al-Muthanna Governorate and Iraq for the years (1997 and 2021)

1997				2021		
type	males	females	type ratio	males	females	type ratio
Muthanna Governorate	211984	224841	4	406902	370941	110
Iraq	10987252	11058992	99	18343682	17711118	104

source is the researcher's work based on:

1- Republic of Iraq, Planning Authority, Central Statistical Organization, Results of the 1997 Population Census, Muthanna Governorate, Table 22, pg. 166.
2- Republic of Iraq, Ministry of Planning, Muthanna Governorate Statistics Directorate, Population Statistics Department, 2021.

Its rise at the governorate level to reach levels higher than normal, amounted to (110) males per 100 females for the year 2021, surpassing its counterpart in Iraq, which amounted to (104) males per 100 females for the same year, and this remarkable increase is attributed to the relative improvement witnessed by the health services sector, which contributed In reducing deaths at young ages and the return of numbers of immigrants from the province. It is clear from the data of table (5) that there is no indication of clear differences in the total gender ratio between the administrative units on the one hand, and the general gender ratio of the study area, which in its entirety is low for the year 1997, and this is an indication that Al-Muthanna Governorate was one of the areas expelling the population at that time, with the exception of Busayya district, in which the ratio of males exceeds females (103) males per 100 females, the gender ratio in administrative units ranged between (93-96) males per 100 females. As for the year 2021, the gender ratio increased in some administrative units and decreased in others. However, it recorded an increase in its rates in 1997, and it came in first place with the total gender ratio for the year 2021 in Busayyah district (128) males for every 100 females, and the reason is attributed to the conditions of the Gulf War and drought, which prompted most of its population to migrate from it, especially men, while it was the lowest percentage There are 93 males for every 100 females in the center of Samawah district. Through the foregoing, table (5) data revealed the following facts:

Tabel (5) Spatial variation in the percentage of the total gender of the population and the dependents and dependents in Al-Muthanna Governorate according to the administrative units for the years (1997 and 2021)

years	1997			2021		
Administrative units	total gender ratio	Gender ratio of dependents	The gender ratio of the breadwinners	total gender ratio	Gender ratio of dependents	The gender ratio of the breadwinners
Samawa district center	95	98	97	93	93	92
Al-Suwair district (*)	-	-	-	-	-	-
Rumaitha district center	94	93	90	94	93	92
glory district	93	93	92	100	100	99
Warka district	93	94	92	100	100	96
starburst district	94	93	92	99	100	95
Crescent district	89	93	92	101	93	92
Salman district center	96	96	95	105	111	109
Busayyah district	103	104	103	128	116	115
greens district center	94	93	92	108	109	108
Al-Daraji sub-district (*)	-	-	-	-	-	-
Governorate	94	94	84	110	108	107

Source: The researcher's work based on Appendix (4).
(*) The residents of As-Sawir and Al-Daraji sub-districts were counted within the center of Samawah and Al-Khader districts, respectively, for the years (1997, 2021).

1- The increase in the gender ratio of the dependents compared to the breadwinners for the years (1997 and 2021), since this category includes the young and elderly population groups whose contributions to wars decrease, in addition to the breadwinners who are responsible for protecting the country.

2- The highest gender ratio of dependents at the level of administrative units in 1997 was recorded in Busayyah district (104 males per 100 females), while the highest gender ratio of dependent population was recorded in the same district (103) males per 100 females for the same year.

3- The lowest gender ratio for the dependent population was in the Rumaitha District Center, Al Majd, Al Najmi, Al Hilal, and Al Khader District Center, with a ratio of (93) males per 100 females for each, respectively, in 1997, while the lowest gender ratio among the dependent population was (90) males per 100 females. Registered in the Rumaitha district center.

4- The year 2021 witnessed the highest gender ratio among the dependent population recorded in Busayyah sub-district (116) males per 100 females, corresponding to the highest ratio of the dependent population (115) males per 100 females, recorded by the same sub-district.

5- The center of Al-Rumaitha district was recorded in the lowest rank for the gender ratio of the dependent population in the governorate for the second year in a row. As it

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recorded (92) males for every 100 females, while three administrative units recorded the lowest gender ratio among the dependent population for the year 2021, which are the center of Samawah district, the center of Al-Rumaitha district, and Al-Hilal district, with a ratio of (92) males per 100 females for each of them, respectively.

The second topic: economic structure and economic dependency rates
First: the economic composition of the population.

The economic structure of the population has received a lot of attention from demographic and economist researchers, and the reason for this interest in the economic indicators of the population is attributed to the fact that economic and social well-being depends on the earners (workers), their qualifications, and the amount of income they receive (). Thus, it is reflected in the variation in the economic dependency ratio in time and place. For the purpose of identifying the extent of the population's contribution to economic activity, there must be standards or measures to indicate the variation and difference between different countries as well as the administrative units within the same country. Among the most important of these measures are the following:
1- The rate of crude economic activity.
2- The rate of net economic activity.
1- The rate of crude economic activity

The crude economic activity rate represents the economically active population as a percentage of the total population, and this ratio represents a paramount importance in determining the proportion of the economically active population. Table (6) indicates the ratio of the economically active population to the total population in 1997, about (24.7%). It is clear that the study population is a young society. This rate decreased slightly in 2021 and recorded (24%). There was a spatial variation in the rate of raw economic activity between urban and rural areas over the time period of the study, as urban areas constituted in 1997 a percentage of (24.1%) and increased in 2021. To (26.5%), males outperformed females in these percentages for the two years (1997 and 2021).

Tabel (6) Percentage distribution of the rate of raw economic activity in Al-Muthanna Governorate by type and environment for the years 1997 and 2021

years	Urban			countryside			total		
	males	females	total	males	females	total	males	females	total
1997	43.1	3.9	24.1	40.2	4.3	25.1	46.6	4.1	24.7
2021	40.1	2.8	26.5	38.7	2.6	21.3	45.8	4.6	24

Source: - The researcher's work based on appendices (4, 5).

2- Net Economic Activity Rate (Revised)

The net economic activity rate (revised) is seen as one of the most accurate and closest to measuring the economic activity of the population, as it measures the actual contribution of individuals of working age who engage in economic activity ( ). It is clear from Table (7) that the rate of net economic activity (revised) throughout Al-Muthanna Governorate amounted to (38%) in 1997 and decreased to (34.2%) in 2021. This is due to the economic stagnation experienced by Iraq and the spread of unemployment among the society. Table (7) also shows a variation in the rate of economic activity at the level of districts in the governorate, which can be represented by means of standard scores, as follows:

The first level: It is the high level with a standard score of (0.5 or more) and includes the Salman district center in 1997 with a (revised) economic activity rate of (50%). The recurrence of the Salman district center in the same level in 2021, as well as the Rumaitha district At rates of (43.7 and 43) percent, respectively.

The second level: This level included the center of Samawa district in 1997, at a rate of (44%), while this level was reduced to the center of Al-Khader district in the year 2021, at a rate of (40.7%).

The third level: the low level, and its standard score ranged between (0.1 - 0.49), and in 1997 it included both the Rumaitha district center and the Al-Khader district center, with rates of (33.3, 35.3)%, respectively. In 2021, this level was represented in the Samawah district center, with a rate of (34.1). %).

- The fourth level: the very low level, with a standard score of (0.5 or less). This level did not enter any district center in the governorate, as they are industrial and commercial centers.

Tabel (7) Percentage distribution of the rate of net economic activity in Al-Muthanna Governorate by district centers for the years (1997 and 2021)

district	1997		2021	
	average %	Standard score	average %	Standard score
Samawa district center	44	0.06	34.1	0.68
Rumaitha district center	33.3	-0.8	43	1.05
greens district center	35.3	-1.34	40.7	1.04
Salman district center	50	1.32	43.7	1.06
Governorate	38		34.2	

Source: - The researcher's work based on Appendix (5)

Second: Dependency rates

1- Crude dependency rate:-

Dependency is a population phenomenon that reflects the relationship between different age groups and constitutes an indicator that measures the role of age structure in the economic activity of the population. Table (8) reveals a number of raw dependency facts in Al-Muthanna Governorate, as follows:

Tabel (8) The general dependency rate in Al-Muthanna Governorate according to administrative units for the years (1997-2021)

Administrative units	Dependency ratio 1997	Dependency ratio 2021
Samawa district center	108	130
Al-Suwair district (*)	108	127
Rumaitha district center	97	119
glory district	103	150
Warka district	105	159
starburst district	113	135
Crescent district	115	131
Salman district center	83	125
Busayyah district	102	160
greens district center	110	122
Al-Daraji sub-district (*)	110	150
Governorate	102	132

Source: - The researcher's work based on Appendix (4).

- The crude dependency ratio continued to increase in (1997 and 2021) from (102%) in 1997 to (132%) in 2021. This means that workers support themselves and (131) people for every 100 male and female workers, which means that there are negative effects on economic growth. to the population.
- The crude dependency ratio varied at the level of administrative units, as Busayyah sub-district recorded the highest rates (160%) and Al-Warka sub-district (159%), in addition to Al-Majd and Al-Daraji sub-districts (150%). (119, 122)%, respectively. This is due to the expansion of the middle class and the decrease in the percentage of young people, in addition to the presence of more than one worker in the same family.

Real economic dependency ratio (**□)

The real economic dependency ratio or rate means what is supported by workers in the age group (15-65) years out of the total population, meaning that economic dependency calculates the number of non-working persons per 100 working persons, and its rates give a perception of the standard of living of the elderly and young, which helps to realize The reality of the economic situation in society. The increase in participation in the labor force, especially the female category, and the decline in dependency rates are positive developments for understanding the economic and demographic reality in society. Table

(9) shows the following facts about real economic dependency in Al-Muthanna Governorate.

schedule (9) The real dependency rate in Al-Muthanna Governorate according to administrative units for the years (1997-2021)

Administrative units	Real dependency (%) in 1997	Real dependency (%) in 2021
Samawa district center	109	117
Al-Suwair district (*)	-	-
Rumaitha district center	98	119
glory district	103	150
Warka district	105	159
starburst district	112	135
Crescent district	155	131
Salman district center	83	125
Busayyah district	103	160
greens district center	110	122
Al-Daraji sub-district (*)	110	150
Governorate	106	132

Source: - The researcher's work based on: - Appendix (3) and Appendix (4)

The economic dependency rates in the governorate witnessed a remarkable increase for the year 2021, after it was (106%) in 1997, it increased to (132%) in 2021 due to the deteriorating economic reality, lack of employment and the stagnation of the private sector in the country.

Economic dependency rates varied at the level of administrative units, and the highest rates were recorded in 2021 in Busayya district at a rate of (160%). This leads to a decrease in the percentage of dependent groups and an increase in the percentage of the labor force.

The accuracy of the economic dependency ratio can be known by excluding workers over the age of sixty-five or the unemployed who are of working age from the dependents (). There are a number of factors that raise the percentage of dependents with the presence of individuals who do not contribute to the labor force, such as: full-time studies, lack of job opportunities and qualifications, insecurity, chaos and disability that prevent individuals from practicing various economic activities.

There are factors that affect economic dependency, including women's participation in the field of work and unemployment, and other social factors such as marital status, educational level, immigration, and a third political factor (government decisions). The high levels of dependency result in economic factors such as its impact on income, and other social effects with regard to marital status, family problems, and academic achievement. As well as health effects.

Conclusions:

1- Al-Muthanna Governorate is witnessing an increase in the number of its population towards the age group (from one year to 14 years), and thus the expansion of the base of the population pyramid.

2- The increase in the gender ratio of the dependents compared to the dependents for the years (1997 and 2021), since this category includes both the young and the elderly population.

3- Crude dependency rates in the governorate increased from (102) in 1997 to (132) in 2021, which contributed to a significant increase in economic dependency rates and generated great economic pressures on the workforce.

Suggestions:

1. The need to develop economic sectors in order to be able to absorb human energies by providing opportunities (job offer).

2. The real rooting of a population strategy vision based on the nature of the relationship between population growth and economic growth.

3. Raising women's participation in the labor market, because their increase contributes to reducing female dependency rates.

4. Paying attention to the young, as they are the future wealth of the country and its workforce.

Accessory (1)

M / questionnaire

This form aims to collect the necessary data for the tagged research (the reality of economic dependency in Al-Muthanna Governorate for the years 1997 and 2021). Its data is dealt with for the purposes of scientific research in strict confidentiality. We thank you for your cooperation by answering all its paragraphs.

with respect...

Researcher / Sadiq Naghimish Jasim

First: Data about the family: -

- Current place of residence / district .... district .... village ....

- The previous place of residence of the current place of residence / district............ district............ village..........

Second: social characteristics

Sequencing	family members		the age	Occupation	Relationship to the head of the family	marital status				Scientific case								practical situation	
	males	females				Single	married	divorced	widowed	illiterate	reads and writes	primary	intermediate	secondary	diploma	bachelor's degree	higher	works	not work
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			

Third: Economic characteristics:

  Put a tick (√) in the appropriate place for the answer

1- The amount of family income: 300 thousand or less....., 301 thousand - 499 thousand....., 500 thousand......, 750 thousand...... million or more. ......

2- The number of income-earning family members who contribute to the family's spending. The number of males ..... The number of females .... Is there anyone among the family members who studies and works? Yes ..... No ..... If The answer was yes. Are they males... females....

3- Are there any family members who are retired and working? Yes.... No.... If the answer is yes, males.... females....

4- Is there an unemployed person in the family of the age group (15-64) years? ..... .

5-If there are non-working women in the family, what is the reason? We work for the family.......they do not have an educational qualification....they do not want to work......the lack of work......the parents or husband do not want..... ....

Accessory (2) The age structure of the population in Al-Muthanna Governorate according to the broad age groups for the years (1997-2021)

Districts and sub-districts	1997				2021			
	0-14	15-64	65 and over	population	0-14	15-64	65 and over	population
Samawa district center	72536	76326	10501	159363	280	269	70	619
Al-Suwair district (*)	1037	1121	1519	23377	37	33	5	75
Rumaitha district center	31181	34972	2734	68887	79	110	52	241
glory district	12047	11907	219	24173	37	30	8	75
Warka district	26435	25444	319	52198	60	64	42	166
starburst district	10273	9267	182	19722	20	26	15	61
Crescent district	8750	7641	112	16503	20	26	14	60
Salman district center	3905	5043	303	9251	7	8	3	18
Busayyah district	1179	1170	15	2374	7	5	1	13
greens district center	21412	21338	1969	44719	60	68	23	151
Al-Daraji sub-district (*)	7771	7755	732	16258	13	12	5	30
Governorate	206136	212084	18605	436825	620	651	238	1509

Source: The researcher's work based on: 1- The Republic of Iraq, the Planning Commission, the Central Statistical Organization, the results of the general population census for the year 1997, Al-Muthanna Governorate, Table (21), unpublished data.

2- The field study for the year 2021.

Accessory (3) The age structure of the population in Al-Muthanna Governorate according to broad age groups and districts for the years (1997 and 2021)

districts	1997				2021			
	0-14	15-64	65 and over	population	0-14	15-64	65 and over	population
Samawa district center	72536	76326	10501	159363	1618	1421	75	3114
Rumaitha district center	31181	34972	2734	68887	915	787	52	1754
greens district center	21412	21338	1969	44719	784	610	53	1447
Salman district center	3905	5043	303	9251	226	198	17	441

Source: The researcher's work based on:

1- Republic of Iraq, Planning Commission, Central Statistical Organization, results of the general population census for the year 1997, (Muthanna Governorate), table (211), unpublished data.
2- The field study for the year 2021.

Appendix (4) Distribution of population, dependents and dependents in Al-Muthanna Governorate by type and administrative units for the years (1997 and 2021)

Administrative units	1997						2021					
	population		dependent population		dependent population		population		dependent population		dependent population	
	males	females	males	females	males	females	males	females	males	females	males	females
Samawa district center	89253	93487	47025	48168	43248	44299	1488	1600	669	719	819	881
Al-Suwair district (*)	-	-	-	-	-	-	-	-	-	-	-	-
Rumaitha district center	33297	35590	16042	17873	16542	18430	594	638	274	293	321	344
glory district	11656	12517	5912	6352	5739	6160	180	180	83	83	97	97
Warka district	25217	26981	12922	13832	12289	13155	416	416	209	208	203	212
starburst district	9517	10205	5039	5416	4467	4800	159	161	80	80	78	82
Crescent district	7794	8709	4271	4591	3683	3958	152	152	70	76	76	82
Salman district center	4539	4712	2062	2146	2471	2572	45	43	21	19	25	23
Busayyah district	1209	1165	614	590	597	573	9	7	5	3	5	3
greens district center	29502	31475	15400	16474	14052	15041	399	369	212	195	188	173
Al-Daraji sub-district (*)	-	-	-	-	-	-	-	-	-	-	-	-
Total	211984	224841	108999	115742	102861	121880	3915	3613	1840	1699	2074	1915

Source: The researcher's work based on:

1- Republic of Iraq, Planning Commission, Central Statistical Organization, results of the general population census for the year 1997, (Muthanna Governorate), table (22), p. 167, and table (22), unpublished data. 2- The field study for the year 2021.

 (*) The residents of Al-Suwair and Al-Daraji sub-districts were counted among the residents of the Samawah and Al-Khader districts, respectively, in the 1997 census.

Numerical distribution of the economically active population and population in Al-Muthanna Governorate for the age group (15-65) years and by districts for the years (1997 and 2021)

districts	1997		2021	
	population	economically active	population	economically active
Samawa district center	76326	33583	1700	480
Rumaitha district center	34972	11646	665	286
greens district center	21338	7532	361	147
Salman district center	5043	2522	48	20
Governorate	212084	80644	3989	1368

Source: The researcher's work based on:
1- Republic of Iraq, Planning Commission, Central Statistical Organization, General Population Census 1997 (Muthanna Governorate), Table (22), unpublished data.
2- The field study for the year 2021.

Search margins :
(*) A questionnaire was designed that included (15) questions within axes that were distributed to a random sample that was tested in the community of Al-Muthanna Governorate, and it lasted for two months. The sample size was extracted according to the following equation: $\mathbf{n} = \dfrac{t^2}{r^2 + \frac{1}{n} + 2}$

n = sample size, += the tabular value of the permissible error percentage and it is equal to (1.9).
r = Permissible error percentage and equal to (0.5).
n = community size, which represents the number of families in the governorate.
See: - Sami Aziz and Muhammad Yusef Hajim, Scientific Research Methodology (concept, methods, analysis and writing), Dar al-Kutub and Documents, Baghdad, 2011, p. 86.

[1] Makki Aziz and Riyadh Al-Saadi, Population Geography, Baghdad Press, Baghdad, 1984, p. 15.
[2] Republic of Iraq, Ministry of Planning, Central Statistical Organization, Baghdad,

table (2/4) for 1997, Population and Manpower Statistics Directorate, unpublished data for 2021.

[3] Bloom, D. ,Canning, D, and Malaney, P., Demographic change and economic growth in Asia, population review , vol. 26 , supp. , pp. 257-290, 2000.

[4] Khalaf Hussein Ali Al-Dulaimi, Urban Planning, Foundations of Concepts, House of Culture for Distribution and Publishing, Amman, 1st edition, 2002, p. 116.

(*) The population growth rate is extracted according to the following equation:

$$r = (\sqrt{(n \& pt/p0)}-1)*100 \ (*)$$

If r = population growth rate, pt = population at the second census and p0 = population at the first census, n = number of years between the two censuses.

United Nations, demographic year book 1988, New York, 1988, p15.

(**) The gender ratio was calculated on the basis of the following equation: - The gender ratio = (males number) / (females number) x 100, see:

Ahmed Ali Ismail, The Foundations of Population Science and Its Geographical Applications, Dar Al-Fikr Al-Arabi for Printing and Publishing, 5th edition, Cairo, 1984, p. 83.

[5] P. H. lands, Population Problems, New York, America book, 1993, p. 191.

[6] Firas Al-Bayati, Population Morphology (Subjects in Demography), 1st Edition, Arab Expansion Foundation, Beirut 2009, p. 164.

[7] Rushd Ibn Muhammad Al-Khorayef, Participation rates in economic activity in the Kingdom of Saudi Arabia (its levels, spatial variation and factors affecting it), Journal of Gulf and Arabian Peninsula Studies, No. 99, 2000, p. 178.

(***) The real dependency ratio is calculated according to the following formula: = ((working people other than the population all) dependents population number)/(working population total) X 100

See: Musa Samha, Population Geography, United Arab Company for Marketing and Supplies, Cairo, p. 2008, p. 91.

[8] Abdullah Atwi, Population Geography, Arab Renaissance House for Printing and Publishing, Beirut, 2000, p. 198.

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Republic of Iraq, Ministry of Planning, Central Statistical Organization, Final Results of the Population of Iraq, Baghdad, 1987, Table (22), p. 76.

Republic of Iraq, Planning Commission, Central Statistical Organization, Results of the General Population Census for the year 1997, Muthanna Governorate, Table 22, p. 75.

Ministry of Planning and Development Cooperation, Central Agency for Statistics and Information Technology, Directorate of Population and Manpower Statistics, Iraq Population Estimates for 2021, Table (33).

Republic of Iraq, Planning Authority, Central Statistical Organization, Results of the 1997 Population Census, Muthanna Governorate, Table 22, p. 166.

Republic of Iraq, Ministry of Planning, Muthanna Governorate Statistics Directorate, Population Statistics Department, 2021.

Republic of Iraq, Planning Commission, Central Statistical Organization, Results of the General Population Census for the year 1997, Muthanna Governorate, Table (21), unpublished data.

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6. Al-Bayati, Firas, Population Morphology (Subjects in Demography), 1st Edition, Arab Expansion Foundation, Beirut 2009.
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8. Samha, Musa, Population Geography, United Arab Marketing and Supplies Company, Cairo, p. 2008.
9. Bloom, D., Canning, D, and Malaney, P., Demographic change and economic growth in Asia, population review, vol. 26, supp. , pp. 257-290, 2000.
10. P. H. lands, Population Problems, New York, America book , 1993 , p. 191.
11. United Nations , Demographic year book 1988 , New York , 1988 , p15.