



Papeles de Población

ISSN: 1405-7425

rpapeles@uaemex.mx

Universidad Autónoma del Estado de México
México

Montoya Arce, Jaciel; Montes de Oca, Hugo
Envejecimiento poblacional en el Estado de México: situación actual y perspectivas futuras
Papeles de Población, vol. 12, núm. 50, octubre-diciembre, 2006, pp. 117-146
Universidad Autónoma del Estado de México
Toluca, México

Available in: <http://www.redalyc.org/articulo.oa?id=11205009>

- How to cite
- Complete issue
- More information about this article
- Journal's homepage in redalyc.org

 redalyc.org

Scientific Information System

Network of Scientific Journals from Latin America, the Caribbean, Spain and Portugal

Non-profit academic project, developed under the open access initiative

Population aging in the State of Mexico: current situation and future perspectives

Jaciel Montoya Arce and Hugo Montes de Oca Vargas

Universidad Autónoma del Estado de México

Abstract

In this work the demographic aging process in the State of Mexico is described. It is shown the way how fecundity, morbidity and internal immigration from the past have contributed and will contribute to the growth, in absolute as well as in relative terms, of the 60 years of age and older population. By means of descriptive statistics applying, we perform a socio-demographic characterization of the old population, emphasizing health condition, works and working conditions for such population. From the analysis it is concluded that State of Mexico's population aging will bring important challenges in economic, political and social issues.

Key words. Demographic transition, demographic aging, State of Mexico.

Resumen

Envejecimiento poblacional en el Estado de México: situación actual y perspectivas futuras

En este trabajo se analiza el proceso del envejecimiento demográfico en el Estado de México. Se muestra la manera en que los cambios en la fecundidad, la mortalidad y la inmigración interna del pasado han contribuido y contribuirán en el crecimiento, tanto en términos absolutos como relativos, de la población de 60 años y más. Mediante la aplicación de estadística descriptiva, realizamos una caracterización sociodemográfica de la población adulta mayor, haciendo énfasis en las condiciones de salud, trabajo y prestaciones laborales con las que cuenta dicha población. Del análisis se concluye que el envejecimiento de la población en el Estado de México traerá consigo importantes retos en materia económica, política y social.

Palabras clave: transición demográfica, envejecimiento demográfico, Estado de México.

"Nobody is so old as to think that he will not see another year"
Marcus Tullius Cicero

Introduction

Demographic aging is one of the most remarkable characteristics in the recent dynamics of the State of Mexico's population. This phenomenon is, partly, the result of a sustained descent in the fecundity levels, mortality decrease and internal immigration, but it also comes from the consequent increment of the population's life expectancy. The combination of these factors has produced the consolidation of the population's aging, where people of 60

years of age and older increase their participation in the age pyramid. In the last decades the State of Mexico has entered to the aging process, which is clearly expressed in the population pyramid base narrowing and the widening of its cusp.

The observed trends in recent years indicate that the number of people older than 60 years of age will continue increasing in the next three decades (Partida, 2003). The percentage increment of the old adults in the population conjunct was quite slight during the first half of the last century. Between 1980 and 1990 it changed from 3.9 to 4.6 percent; for year 2000, this group of population reached a figure of 5.6 percent, and by 2005 this group were the 6.4 percent of the total population, which demonstrates that the aging process has been accelerating in the State of Mexico.

Recent national and international researches enable concluding that the increment of the adult population will imply great challenges in the social, economic, political and cultural spheres, and at the same time it will present unprecedented responsibilities for the society, particularly to the government and to the public and private institutions (Ham, 1996a; Gutiérrez, 1993; Zúñiga, 2004). It is also important to mention that the extension of the generational connivance will imply new arrangements in the family organization.

An example of the new institutional challenges is the increment of the demand of goods and services required by the old adult population, mainly regarding health because, although the old age is a natural stage in life and not a pathology, there is no room for doubt that as time passes by, specially after being 70 years of age, the population more frequently presents chronic-degenerative diseases that require long-term and more expensive medical treatments (Gutiérrez and García, 2005). To this respect, the international agencies, as the WHO and the Pan-American Health Organization, have recommended working throughout all and every stage of life in the prevention and control of chronic diseases, attention to health and the impulse of favorable policies in order to create an active and healthy aging process.

In the economic sphere, some of the most serious problems will be the increment of the old population's economic dependency and the strengthening of the pensions system that ensures, on one hand, its financial viability, and on the other, more satisfaction in terms of coverage and pension's amounts (Ham, 1996). In regards to the cultural aspect, there are problems such as the low life

quality of the old people, the lack of respect for their human rights and the social discrimination they are object of (Garrocho and Campos, 2005), conditions that place this population group in a position of vulnerability. In the social aspects it will also be necessary to strengthen the social support networks that enable the families and the individuals of 60 years of age and older to maintain the functional equilibriums of the family as well as to minimize the effects of the physical and social disability of its members (Tuirán, 1999; Rodríguez, 1999).

In the political aspects, some researches (Ham, 1996, and Zuñiga, 2004) highlight the importance of the roles the government and the public and private institutions should play as the responsible entities of the health and medical coverage systems, education, housing, employment, pensions and social security. These are some of the challenges the population from the State of Mexico will face in the following three decades.

The general objective of this work is to analyze the aging process in the State of Mexico. It is shown the way the changes in the fecundity, mortality and immigration from the past and the present have contributed and will continue doing so to the formation of the aging process in the State, at the same time that a sociodemographic characterization of the old population in the entity is performed. The work is divided into four large sections: the first one defines the conceptual framework, the population or demographic aging meaning is established here and also there is a discussion on the age considered as old age, according to different demographic, social and cultural meanings. In the second section we present an analysis of the demographic transition in the State of Mexico throughout the XX century. The changes in fecundity, mortality, life expectancy and the demographic growth are examined, as well as the effect of these processes have had on the population's age structure during the mentioned period. The analysis concludes that in the last two decades the continuing growth of the population over 60 years of age has produced a gradual aging process in the State. In the third part the location, concentration and demographic and sociodemographic characteristics of the old population in the State of Mexico are analyzed, focusing on the health conditions and labor benefits. Finally, in the last section the results of the analysis are presented, and,

as a conclusion, there is a reflection on the situation of the old adult population and its challenges.

Demographic aging and old age: two sides of the same coin?

The population's aging, or demographic aging, is defined as a process of the population's age structure change, characterized by the increment of the number and percentage of people in advanced ages (60 and over).¹ Such phenomenon is due to the fall of the mortality levels as a larger proportion of the population survives to very old ages, increasing the number of people older than 60 years; on the other hand, the aging process of a population is attributed to the decrement of its fecundity levels, which causes a reduction of the children and young population (0 to 14 years of age), increasing this way the participation of the adult population (Ham, 1999; Rivadeneira, 2000; Montes de Oca, 2000; Miró, 2003).

When analyzing the population's aging process there are some discussions regarding the age when the old age begins. Frequently, the inferior limit for this population group is placed in 60 years (Cepal, 2002; Miró, 2003). However, this limit can vary according to the interests of the researchers and institutions working on this issue.

For such reason, the study of the population in the third age must begin by delimiting the concept of old age. De Beauvoir (1970: 17) proposes that "old age is not a statistic fact; it is the conclusion and extension of a process". For

¹ Demographic aging indicates the increment of the old people's proportion within a population. Montes de Oca (2000) mentions that demographic aging is considered as a world wide phenomenon, mainly from the developed countries, this process experiences a demographic transition (adults-old adults) characterized by five main stages. In the first stage, the demographic growth is distinguished by a high fecundity rate and, at the same time, high mortality rates, mainly in the infant population. The second stage reflects a relative increment of the natality rates and a gradual descent of the mortality rates. In the third phase there is a reduction of the fecundity caused by a strong population and economic pressure that generates different social changes. In the fourth stage there are drops in the natality and mortality rates as a consequence of the medical, hygienic and technological advances, which reduce the probability of death by generative diseases, favouring the survival in advanced ages and with that, the increment of the local life expectancy. Finally, in the fifth stage there is an increment in the dependency levels (the proportion of people under 15 years of age and over 65 years of age in respect to the population of between 15 and 64 years of age).

this author, old age and aging are two sides of the same coin. The people grow older as they transit through the different stages of life; a population grows older once the cohorts of older ages increase their percentage in respect to the groups of infant ages.

Garrocho and Campos (2005) propose that the age when the old age begins can be set by what the legal, institutional and academic environments generate. According to these authors, the first is determined by the countries' legislations relative to the social security, this is, where the retirement age is established, whereas the second is determined by the different institutions that work with such population. In Mexico for example, the National Institute for the Old Adult People (Inapam) considers as old people that population older than 60 years.

In the academic sphere there are also several classifications. For example, for Neugarten (1973), the population's aging is a series of processes associated to the chronologic age. This author distinguished two periods; that of the old-young from 65 to 80 years of age, and the old-old, from 80 years of age and older. On the other hand, Ortiz (1997) mentions two large dimensions to analyze old age as a social phenomenon: the age and the social structure or system. On the one hand, age is understood as the stratification or order variable that allows understanding the old age concept, and on the other hand, the society and its regulations impose behavior guides creating old age. Arber and Ginn (1996) argue that any acceptable definition of old age must, in the least, distinguish between the different meanings of age and its interrelations, which are mentioned below:

1. The chronologic age is essentially biologic and it specifically refers to the calendar, this is, the number of years a person has lived, which for the individual means a series of changes in his or her position in the society for many of the guides defining the responsibilities and privileges of an individual depend on his or her chronologic age.
2. The social age is socially constructed and it refers to the adequate attitudes and behaviors, to the subjective perceptions (how old the subjects feels) and the attributed age (the age others ascribe to the subject). In this way, the age limits that mark the social appearance of

the old age are determined by very different social conventions, which acquire a meaning in exact social parameters, both spatial and temporal. This means that old age is nothing but what the society defines as such.

3. Age, as a psychological aging process, is related to the functional capacity and the gradual reduction of the osseous density, the muscular tone and strength. Among these modifications we can highlight changes and decrement in the sensitive capabilities: alterations of the sight, hearing and touch that imply difficulties and modifications in the perception of the world, of themselves and the rest of the people.

From the demographic point of view, the old adult is that person who has entered to the sixth decade of life. The World Assembly on Aging, summoned in 1982 by the United Nations in Vienna, adopted the definition of old person as any individual part of a population of 60 years of age and older. From the economic point of view, the 'old adult' is the individual who is retired and is not longer considered as a productive subject; this usually happens after people are 65 years of age in men, and after 60 in women (Lozano *et al.*, 1999: 90). In this work is analyzed, from a demographic perspective, the State of Mexico's population aging process, considering as old age population those people of 60 years of age and older.

The aging process in the State of Mexico

The demographic transition is a process that many countries of the world have experienced or are currently experiencing. This process consists on the change of the population's dynamics, changing from a scenario with high natality and mortality rates to another scenario where both are smaller. Since half the XX century, the State of Mexico, as well as other States and regions of the country have followed a typical pattern of this process.

In the State of Mexico, a starting point can be set from 1930, but mainly between 1950 and 1970, when the mortality descent was noticeable since the mortality crude rate (MCR) changed from 22.6 deaths per every one thousand people in 1950 to 10.2 in 1970; by 1990 it decreased to 5.1 deaths per every one thousand people, it kept descending until reaching 3.4 in year 2000

(Graphic 1). This downward trend in the number of deceases is a reflection of the mortality descent during the first years of life—infant mortality—and of the reduction of the risk of death, this is, the increment in the life expectancy at birth. Indeed, whereas in 1950 out of every one thousand children born 156 died, this figure was reduced to 109 in 1970, to 31 in 1990 and to 22 in 2000. This reduction was due to the application of intensive vaccination programs against epidemic diseases and to the maternal-infant health programs, including the changes in the women's reproductive patterns (Lozano, 2002; Montes de Oca, 2002). The outreach and achievements of such programs, as well as the application of the environmental sanitation in the State contributed significantly to the increment the life expectancy of its population, which ascended to 74 years in 2000, which is more than the double of the 36 years established in 1930. According to figures from the National Population Council (Conapo), in that year men lived, in average, 33 years and women 35. The figures increased to 58 years for men and 61 for women in 1970, reaching an average of 72 and 77 years, respectively, life expectancy at birth for year 2000. Something similar takes place in relation to the survival on the old ages (60 years or more), as of the people who were born in 1930 less than half (48 percent) lived more than 60 years; for those people who were born in 1960 it is expected that three fourths (75 percent) do it as well, and it is forecasted that more than 90 percent of those born in 1990 reaches that age.

The descent of mortality, along with the persistence of the high fecundity rates and the increment of the life expectancy in that period led to an elevated population growth. This accounts for the reasons why in the 1950's and 1960's the State presented the highest growth rates of its demographic history, and even higher than those registered nationally. According to available statistics the population from the State of Mexico almost tripled in only two decades, when changing from 1.4 million inhabitants in 1950, to 3.8 millions in 1970, with an annual growth rate of 5.3 percent (Montoya, 2004).

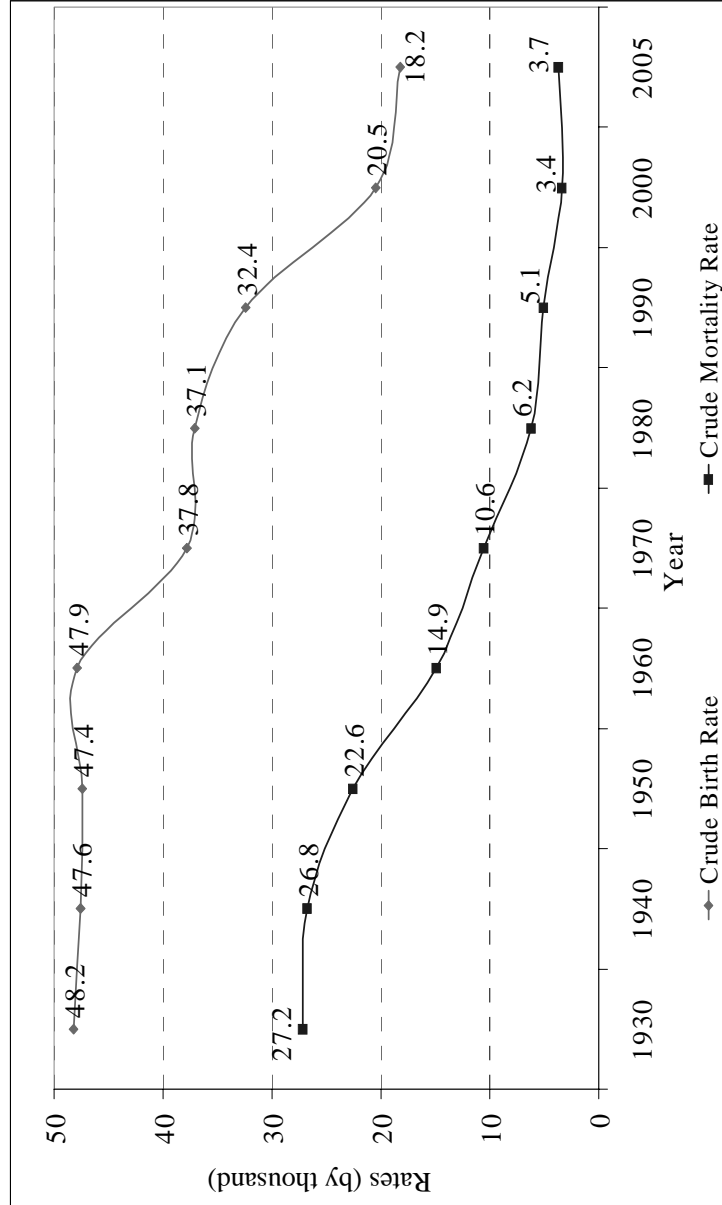
The second phase of this process can be located in the mid 1960's and the beginning of the 1970's, with the fecundity reduction and the gradual descent of the demographic growth rate. The birth rate (births per every one thousand inhabitants) experienced an important descent when it changed from 47.9 in

1960 to 37.8 in 1970 (Graphic 1). However, although during those years there was already a decrement in the fecundity levels; it is between 1970 and 1980 that the descent in the fecundity rates is steeper since the number of births per every one thousand inhabitants dropped from 37.1 in 1980, to 32.4 in 1990 to 20.5 in 2000. This decreasing trend in the fecundity levels was extended as a result of the spread of the family planning practices, within a policy that looked before anything to regulate the demographic growth, which contributed to foster the fecundity transition in the country (Partida, 2005).

In 1960, the global fecundity rate (GFR) was around seven children per woman. From the second half of the 1960's, but mainly in the first years of 1970, there is a significant decrement of the fecundity levels, until it reached an average of 2.6 children per woman in 1990, which meant a drop of 49 percent in only two decades (Graphic 2). The most important factor that has accompanied this fecundity decrement is the increase in the proportion of couples using a contraceptive method. In the State, in 1992 the percentage of married, or united women who used a contraceptive method was of 71.2 percent, figure that changed to 74.5 percent in 1997, and it is estimated that currently that figure changed to 77.3 percent (Conapo, 2004).

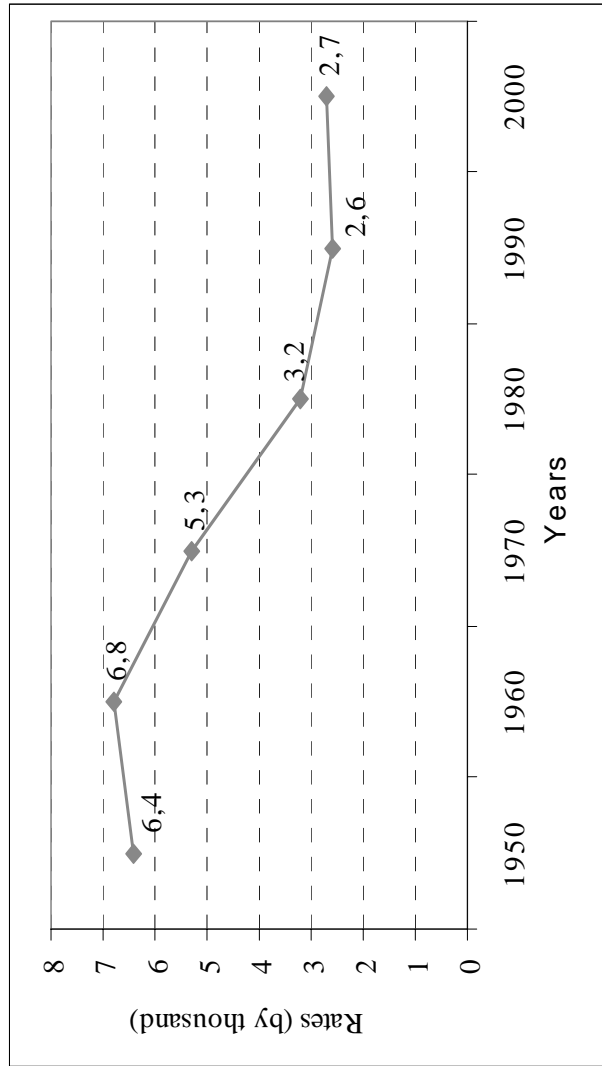
As a consequence of the fecundity descent, the demographic dynamic started to gradually decrease its speed. However, this fact took place at the same time as the industrial consolidation of some municipalities close to Mexico City, which gave the opportunity of employment for the countryside people which at the same time produced a population moving toward the State. At the end of the decade of 1960 the entity housed one million 73 thousand 314 people who had been born somewhere else and who constituted 28 percent of the population in the State of Mexico. From the decade of 1970, the social growth, in other words, the immigration stimulated by the State of Mexico's industrial growth, was now the main factor for the demographic growth in the State. By year 2000, the immigrant population represented 38.6 percent of the total population (Montoya, 2004; Montes de Oca, 2002). One of the results of this process has been the huge concentration of the population in very few cities of the State.

GRAPHIC 1
DEMOGRAPHIC TRANSITION OF THE STATE OF MEXICO, 1930-2005



Source: Own elaboration based on data from INEGI (1930 to 2005).

GRAPHIC 2
GLOBAL FECUNDITY RATE, STATE OF MEXICO, 1950-2000



Source: Own elaboration with data from INEGI (1950 to 2000).

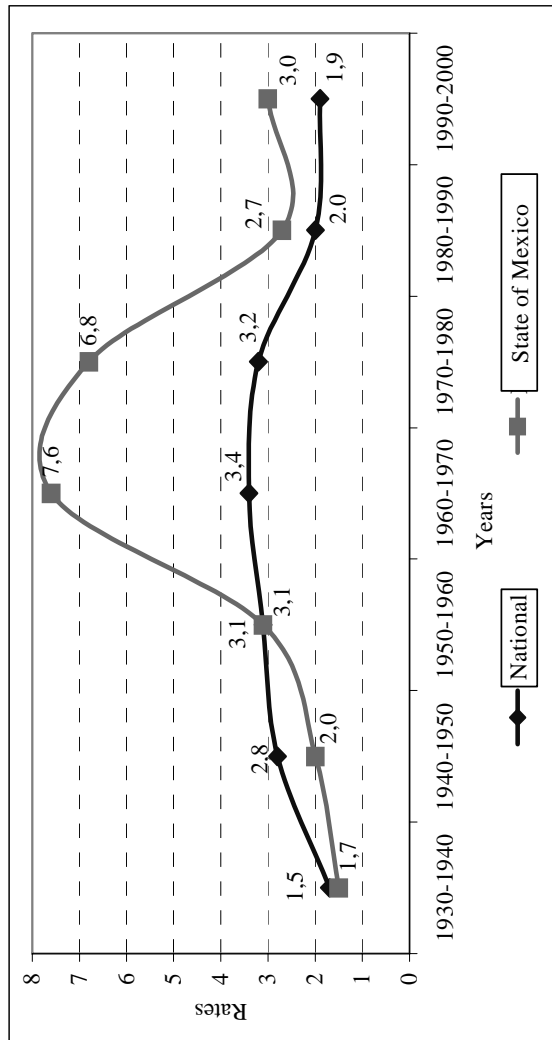
This series of transformations in the fecundity and mortality, adding besides the internal immigration, determined the population's growth rhythm since the beginning of the second half of the XX century. Between 1930 and 1960, the State population was doubled when it changed from 999 112 people in 1930 to 1 897 851 in 1960, with an annual growth rate of 3.1 percent, similar to that registered nationally in the 1960's. Ten years later, in 1970, the population increased to 3 833 185 inhabitants, with a growth rate of 7.6 percent, almost the double of the rate registered nationally, and being the former one the highest in the State's demographic history.

This way, the population from the State of Mexico had doubled in only nine years. So, already in the 1980's the population increased to 7 564 335 people, and in year 2000 it was of 13 587 570, figure that still sets the State of Mexico as the most populated state of the country, with an average annual growth rate of 3.0 percent.

Even if the number of people from the State of Mexico has not stopped increasing, as it can be seen in Graphic 3, the speed it does it has decreased importantly since 1970. Similarly, everything leads to think that this trend will continue its course until it reaches levels close to zero. Currently, according to the 2005 Population and Housing Census, the population of the State of Mexico was of 14 007 495 residents, a figure similar to the population sum of 11 states of the Republic: Aguascalientes, Baja California, Campeche, Colima, Durango, Morelos, Nayarit, Queretaro, Quintana Roo, Tlaxcala and Yucatan, which sum 13.2 million people together.

Of course, the changes in the fecundity, mortality and immigration have not only determined the population's growth rate, as it has been mentioned, but they have also provoked marked changes in its population structure, as it can be seen in Graphics 1, 2, 3 and 4. On one hand, the decrement of the mortality creates a progressive increment of the survival, reflected in the adult and advanced ages groups; on the other hand, the decrement of the fecundity is seen as a narrowing of the pyramid's base (age groups from zero to four years), since, as the transition deepens, the number of births is every time smaller. Both processes lead to a gradual aging, characterized by a fewer proportion of children and young people, as well as a progressive increment of the relative weight of the people in adult and advanced ages.

GRAPHIC3
POPULATION'S AVERAGE ANNUAL GROWTHRATE, 1930-2000



Source: Own elaboration based on the Population and Housing 1930 to 2000 censuses (INEGI).

Immigration, on the other hand, has considerably increased the figures in the productive ages groups (15 to 59 years of age), but it has also done so at the population pyramid's base and cusp, due to the immigrants' offspring and that the arriving population gets older in the State.

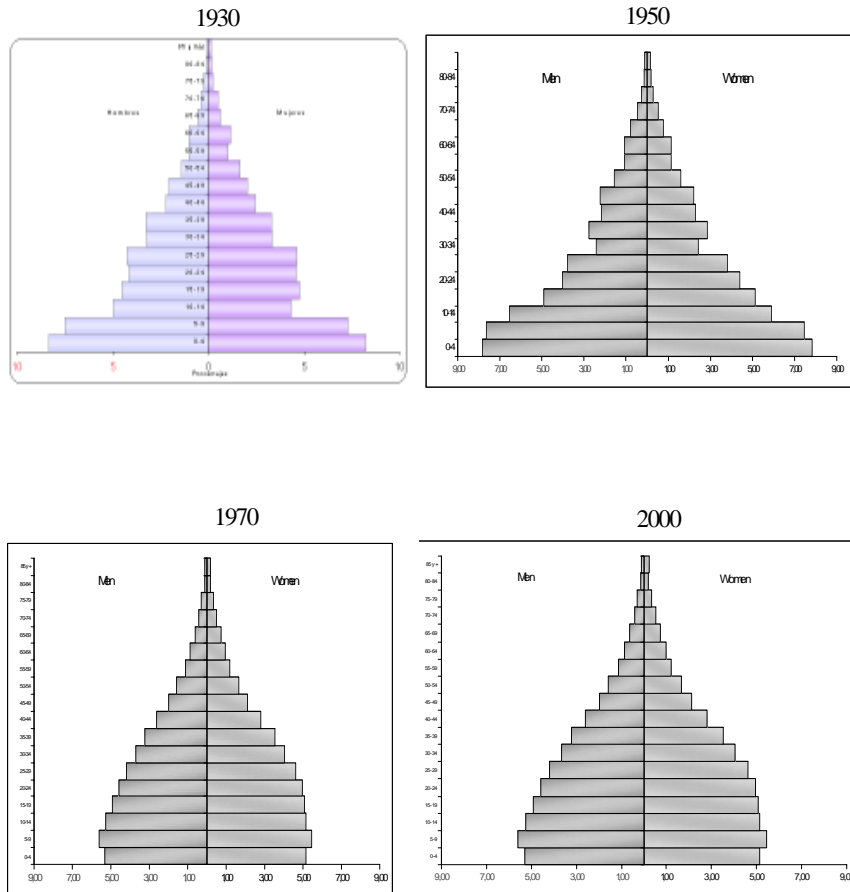
In 1930, the State of Mexico's population pyramid was a triangle with a very wide base and a very narrow cusp, according to the high proportions of infant population (zero to 14 years of age) that characterized the population from the State as a very young one (15 to 24 years), as a reflection of the of the gradual infant mortality decrement and the prevalence of the high levels registered in that time.

So, between 1930 and 1940 the proportion of the zero to 14 years of age group was steady in 31 percent, whereas the proportion of people of 60 years of age was of 5.3 percent in 1930 and in 1940 it increased to 5.5 percent.

By 1950, the structure by age of the population from the State of Mexico was characterized by presenting an important increment in all the age groups, but mainly in the groups of 15 years and less (zero to 14 years of age), which constituted something more than 40 percent of the State's total population (43.1 percent). Nonetheless, even when most of the population was concentrated in these ages, there was also a considerable increment in the advanced ages. In that decade, the population of over 60 years of age and older accumulated close to six percent of the total population as a result of the decrement of the population in productive ages, that at the same time was the result of the decrement in the number of births in the State due to the 1910 armed conflict and the eminent population migration in said period.

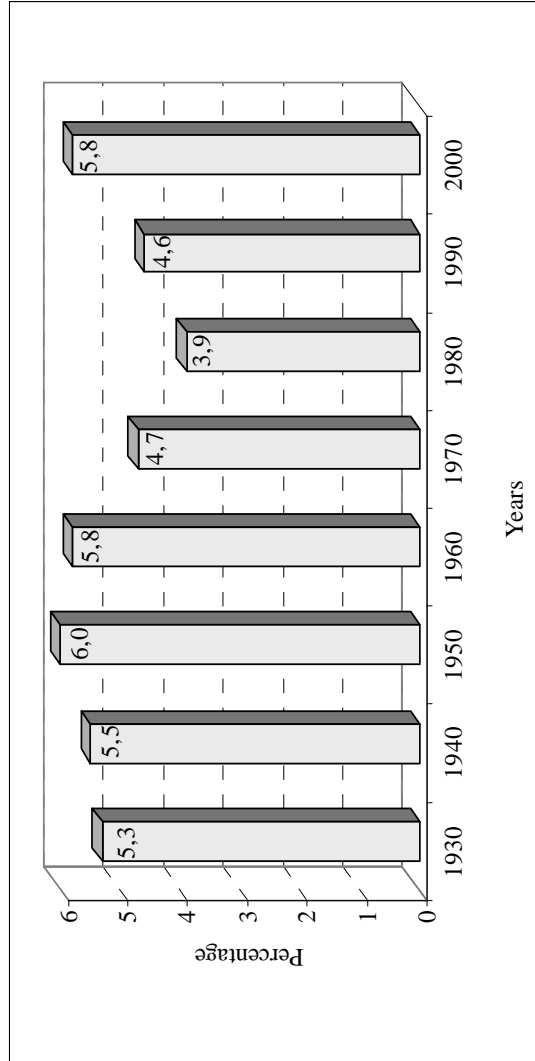
In 1970, threshold moment of the demographic growth in the State of Mexico as a result of the persistence of the high fecundity rates and the immigration of the young people, the population experienced a marked rejuvenation of its structure by ages. The percentages of the groups from zero to 14 years of age increased considerably, even reaching 48.7 percent of the population. Meanwhile the groups in productive ages (15 to 59 years of age) presented a gradual descent when they were 46.6 percent of the total, and the population of 60 years of age and older was reduced to 4.7 percent.

GRAPHIC 4
 PERCENTAGE POPULATION BY QUINQUENNIAL AGE GROUPS AND GENDER
 STATE OF MEXICO,
 1930, 1950, 1970 AND 2000



Source: Own elaboration with data from INEGI. Population and Housing Censuses, 1930 and 1950.

GRAPHIC 5
POPULATION OF 60 YEARS OF AGE AND OLDER
STATE OF MEXICO, 1930-2000



Source: Own elaboration with data from INEGI (1930 to 2000).

However, between the decades of 1970 and 1980, the population started to show important changes in the structure by age; the fecundity steep descent caused a reduction in the population's age pyramid (zero to 14 years of age) and a gradual increment in the active and advanced age groups (15 to 59 years); this circumstance was the cause for the pyramid's narrowing, which was more marked in the following decades. In year 2000, more than 50 percent of the population were between 15 and 59 years of age, whereas the population of children in school age was reduced to 31.9 percent and the population of people of 60 years and more increased to 5.4 percent, which meant an increment of 2.3 percent in comparison to the decade of 1980.

It can be said that the demographic changes in the State of Mexico's population dynamics modified the population's structures by age directed toward its own aging (Graphic 5). In 1930, the older population of the State of Mexico was of approximately 52 thousand 633 people, figure that accounted for 5.3 percent of the total population. By 1950 it reached 82 901 and in 1960 the figure increased to 109 756 old people, who were the 5.8 percent of the total State inhabitants.

Between 1970 and 1980, as we have previously mentioned, immigration to the State played a crucial role in the population's rejuvenation, causing a decrement in the proportion of people of 60 years of age. In 2000, such population represented 6.4 percent of the population, this percentage will continue increasing constantly since, although young people continue arriving to the State, this population will grow old in the short term and will add to the population groups of people over 60 years, this is, there will be a double population aging process.²

Currently, the State of Mexico is located in the margins of a phase posterior to the demographic transition and close to the replacement level, and with an increasing life expectancy, but this time with gains in the intermediate and advanced ages. The statistics point to the fact that such trends will continue having strong consequences in the population's structure by age and will

² In this case we talk about a double aging for two reasons: the first is that the State population has a purely adult population, which is already aging, and the second is that with the arriving population in labor ages, the age structure rejuvenates. Nonetheless, as they do not return to their places of origin, they will grow older along the already established residents.

manifest in an accelerated aging process. According to Conapo, it is estimated that in 2020 in the State of Mexico the proportion of population of 60 years of age and older will be of 11.9 percent, and by 2030 it will be of 17.6 percent of the total population.

The old adult population of the State of Mexico

Who are the old adults in the State of Mexico? Where do they live? What economic and sociodemographic characteristics do they present? These are some of the questions we are trying to answer in this work in order to present a sociodemographic characterization of the old adult population in the State of Mexico. As we have previously mentioned, in year 2000 the population of 60 years of age and older in the State was close to six percent of the total population, figure that places it above the national average and makes the State one of the regions where most of the population will be concentrated in during the next decades.

When analyzing the distribution of the population of 60 years of age and older by age groups for that year, it is observed that approximately 34 percent of the population was concentrated in the 60 to 64 years group, 25 percent in the 65 to 69 years group, 17.2 percent were from 70 to 74 years of age and 12 percent were 80 years of age or more. Another indicators that allows us to observe the population's aging is the average age,³ which was 17 years in 1950 and changed to 15 in 1970, to 19 years in 1990, and by year 2000 it increased to 25.4 years (Coespo, 2002). It is predictable that these figures will continue increasing due to the high demographic growth from the past.

Who are the old adults and where do they live? The State has an unequal distribution and concentration of the old adult population. By year 2000, the municipalities that presented a higher proportion of old adults are Nezahualcoyotl, Ecatepec, Naucalpan, Tlalnepantla and Toluca, being the former the most important, whereas Ayapango, Chapultepec, Zacazonapan, Texcalyacac and Papalotla are the municipalities that present a lower volume of the said

³It is the age that divides the population into two numerically equal groups, this is, half of the population is under that age and the other half is older than the median.

population. About the distribution by kind of residence locality —rural or urban— the results were that more than 60 percent of the old adults lived in urban zones (69.2 percent), and only 30.8 percent lived in rural areas.⁴

The old age of this population is practically feminine because in the rural areas there are approximately 88 men per every 100 women, whereas in the urban areas there are 81 men per every one hundred women. On the other hand, when analyzing the distribution by gender and residence locality it can be observed that 53.3 percent of the population of 60 years of age and older are women and 46.7 men, in the rural localities, whereas in the urban zones women were 55.3 percent of the population, this is 10.6 percent more than men since these were only 44.7 percent of such population. It is important to mention that despite the fact that most of the old adult population lives in urban zones, the structure by ages from the rural zones of the State of Mexico is more aged.

This is mainly because of the emigration of the young population toward the municipalities in the metropolitan areas of Mexico City and Toluca, to other States of the country or even to the United States.

What kind of education does this population have? Education is an indicator that has an impact on the population's quality of life. Education has been selective in regards to gender, this can be demonstrated with the fact that the higher proportion of illiteracy rests on women. According to illiteracy data from the aged population, 28 out of every 100 old adults cannot read or write; this is a fact that is even clearer when comparing illiteracy rates between men and women. The percentage of male illiterates is 17.8, whereas women present a 36.7 percent. The education of this population is relatively low; close to 35.9 percent of men did not conclude elementary education and 30.4 percent of the women are in the same situation.

Which is the marital status of the population of 60 years of age and older? One of the characteristics of the aging process is the fact that more women live alone, which makes them affectively, socially and economically more vulnerable. The data record that 72 percent of the men are married and only 41.8 percent of the women are in that situation. From the single ones, 3.5 percent are men

⁴ According to the 2000 Population and Housing General Census, the urban localities are those with more than 2 500 inhabitants and the rural localities are those with less than 2 500 inhabitants.

and 5.2 are women. Widowhood is another aspect that turns women more vulnerable in the old age. Data show that 14.3 percent of the men are widowers, among women, the proportion is three times that figure; 43 percent of them are widows. A study performed by HelpAge International (1999) mentions that divorce leaves women in a precarious economic situation when they reach the old age. If we take into account that and the poor education of the women, we can see that their expectations are reduced throughout their lives and therefore, their economic income is limited.

Which is their condition in the economic activity? Retirement does not always take place when people are 60 years of age, in the State, a large number of people of this age continue working. This situation is associated to the poor coverage of the retirement systems. The permanence and insertion of the old adults in the labor market is one of the main strategies of the old adult population to ensure an independent economic situation. The economic participation rate by gender is of 45.2 percent in men and 11.8 among women (INEGI, 2000).

A feature that characterized the permanence of the old adults in the labor market is their precarious activity condition (Del Popolo, 2001), according to data on the economically active population participation by sector of activity it is indicated that most of the old adults work in the informal sector (78.1 percent) and only 21.9 work in formal activities. Women have a higher participation in informal activities (86.2 percent against 75.2 percent of male participation)

If the labor condition by situation at work is observed—self-employed or employees or workers—we have that among the people of 60 years of age and older predominates the self employment, which does not provide any kind of social security. 57.9 of women work on their own and only 48.1 percent of men do so.

From the total of employees or workers (32.5 percent according to labor situation), men have a higher participation: 33.5 percent; whereas women only participate with 29.5 percent. In the laborers or farmhand, men presented a higher participation (8.2 percent against 1.3 of the women), whereas in the situation of workers without payment, women represented 8.3 percent against 6.1 of men.

If the labor participation of the population of 60 years of age and older by sector of activity is observed that from the total of occupied 55.7 percent are concentrated in the tertiary sector. Among the feminine population of 60 years of age and older predominates by far this economic sector as the option for labor since 83.4 percent of the older women who work does it in the services sector; meanwhile men from the same age group are distributed as follows: primary sector, 25.9 percent; secondary sector, 27.5 percent, and in the tertiary sector 46.7 percent.

How much does the old population earn? The income perceived by the aged population is of the utmost importance because as the rest of the population, they have needs to satisfy: alimentation, dressing, footwear and medical assistance, this is, the old adults have to cover their needs, and similarly, they have to try to live a dignifying and comfortable life. Nonetheless, the salaries they receive are generally low, and if to this circumstance is added the limited pensions and retirement amounts from the social security institutions, the population with this kind of benefits do not have the possibility of saving anything.

The concentration of the income presents important differences in their distribution by gender. Women tend to earn less; only five percent of the male old men receive the minimum wage or less, 21.3 percent of women from the same age group are in this income range; similarly, as only 11.7 percent of the men of 60 years of age and older earn between hand and one minimum wage, the feminine group of that income level is 24.5 percent of the total. But the shortage of income is shared by both genders, as 33 percent of the old adults receive barely between one and two minimum wages. This is a distinctive feature of the old adult people with income. It is clear that approximately 73 percent of the salaried aged people receive less than two minimum wages, including 17.6 percent who do not receive anything.

Who are the retired people and pensioners in the State? The retirement or pension is considered as the ideal form for retirement at the end of the old adult population's labor life. In the State, retirement should be enough to cover the expenses and allow an independent life for the retiree, as a fair payment of a whole trajectory of efforts, creation, production and work. According to the

Federal Labor Law (*Ley Federal del Trabajo*), the pension is a right legislated and accorded by the labor law as social security; however, the reality is completely different, as the previsor system in the country, and particularly in the State of Mexico, does not favor the accumulation of resources by the occupied population so they can have a dignifying old age since the coverage is poor, and in the case the subject has a pension, this is not always enough to cover their basic needs.

According to data from Conapo (2000), only 27.8 percent of the total population of 60 years of age and older have a pension,⁵ figure that shows the insufficient coverage of the social security system. This poor coverage of the social security makes that there is a high participation of the old adults in the labor market as many of them lack income from retirement payments or pension (Cepal, 2002; Villa and Rivadeneira; 2000; Guzmán, 2002).

What kind of social security does the old adult population present? The main function of the social protection is to look after the social welfare level of the population at the end of their labor life. The data show that only 51.6 percent of the population of 60 years of age and older have this benefit, figure that accounts for the condition of minority of the State of Mexico with access to social security permanent services. Now, from the beneficiaries divided by gender, women have less attention than men (44.5 percent and 55.5 percent, respectively).

Old adults commonly use the assistance to the general population services through clinics and hospitals of the Ministry of Health (*Secretaría de Salud*) and other institutions that provide health services. More than one third of the population of 60 years of age and older (36.4 percent) go to the Mexican Institute of Social Security (*Instituto Mexicano del Seguro Social, IMSS*), from that percentage, 35.7 are women and 37.1 are men. Besides, 17.5 percent is being taken care of in health centers from the Ministry of Health; 18.2 percent of the women and 16.6 percent of the men use this service. Regarding private offices, clinics or hospitals, a total of 32.4 percent of aged people uses them. Only 2.8 percent goes to "another place" and 2.5 percent does not use

⁵ According to estimations of Conapo based on the 2000 XII Population and Housing General Census, this percentage corresponds to the population from the age group of 60 years of age and older between the total population minus the EAP with social security.

any of these services. It is predictable that the aged population with no access to the permanent health services increases in the following years with the absolute increment of the aged population.

The age factor influences, generally, in the decrement of the health condition in the population of advanced ages, this is, as the people grow older, the probability of suffering from a disease or having an accident is higher than in any other age group. According to Domínguez (1992), the frequency of the disease, its severity, and also the complexity of the required treatment are closely related to the age.

A new reform from the institutions in charge of providing the health and pensions services to the aged population is necessary as this population's dynamic makes essential a wider coverage in both aspects. More than 80 percent of the old age population from the northeast and south zones of the State do not have access to the health services as part of the salaried jobs' benefits, this is because the different economic labors these people did all their lives. These figures are even more shocking if we add that in 2006 the Institute of Social Security of the State of Mexico and Municipalities (*Instituto de Seguridad Social del Estado de México y Municipios (ISSEMYM)*) only had 802 000 beneficiaries, which indicates that the policy of social security in the State of Mexico Development Plan is of a short-term and not enough to cover the future population entering the old age.

What kind of disabilities do the old adults present? As a consequence of the enlargement of the aged population there is a significant increase of the number of disable people from that age group. Disability is defined as the limitation or absence of the capacity to perform an activity within the limits considered as normal for a human being, as a result of a physical or mental deficiency (INEGI, 2001). The presence of the demographic aging implies an increment in the prevalence of disabilities. According to Conapo (2004), the prevalence of these disabilities increases gradually from an age of 45 years; however, it reaches important levels from the 70 years, when there is more risk of suffering functional deterioration to perform an activity.

TABLE 1
SOCIOECONOMIC CHARACTERISTICS OF THE ADULT POPULATION
OF 60 YEARS OF AGE AND MORE. STATE OF MEXICO, 2000

Category	Men	Women	Total
<i>Age groups</i>			
60 – 64	35.3	32.8	34.0
65 – 69	25.3	24.7	25.0
70 – 74	17.2	17.3	17.2
75 – 79	11.8	11.9	11.8
80 – 84	10.4	13.3	12.0
<i>Residence locality</i>			
Rural	46.7	53.3	69.2
Urban	44.7	55.3	30.8
<i>Educative level</i>			
Illiteracy rate	17.8	36.7	28.1
Without elementary education	25.6	40.8	33.7
Incomplete elementary	35.9	30.4	33.1
Complete elementary	20.0	17.8	18.8
Incomplete secondary	1.7	0.9	1.3
Complete secondary	6.6	6.3	6.4
Medium high or more	10.2	3.8	6.7
<i>Marital Status</i>			
Single	3.5	5.2	4.3
Married	72	41.8	56.9
Living together	6.5	2.8	4.6
Separated	2.8	5.5	4.1
Divorced	0.9	1.6	1.2
Widow(er)	14.3	43	28.6

Continues

TABLE 1
 SOCIOECONOMIC CHARACTERISTICS OF THE ADULT POPULATION
 OF 60 YEARS OF AGE AND MORE. STATE OF MEXICO, 2000
 (CONTINUATION)

Category	Men	Women	Total
<i>EAP</i>			
Participation rate in the activity	45.2	11.8	27.0
Formal occupants	24.6	13.8	21.9
Informal occupants	75.4	86.2	78.1
<i>Occupied by situation at work</i>			
Employees or workers	33.5	29.6	32.5
Laborers or farmhand	8.2	1.3	6.5
Owners	4.1	2.9	3.9
Self-employed	48.1	57.9	50.5
Worker with no payment	6.1	8.3	6.6
<i>Occupied by sector</i>			
Primary	25.9	6.47	21.1
Secondary	27.5	10.1	23.2
Tertiary	46.7	83.4	55.7
<i>Income by job in minimum wages</i>			
With no income	18.3	15.3	17.6
Up to 50% of a m.w.	5.0	21.3	9.0
More than 50% up to one m.w.	11.7	24.5	14.8
From 1 up to 2 m.w.	36.2	22.9	33.0
More than 2 until less than 3 m.w.	11.3	6.9	10.2
From 3 to 5 m-w.	8.1	4.8	7.3
From 5 to more than 10 m.w.	9.4	4.3	8.2

Continues

TABLE 1
SOCIOECONOMIC CHARACTERISTICS OF THE ADULT POPULATION
OF 60 YEARS OF AGE AND MORE. STATE OF MEXICO, 2000
(CONTINUATION)

Category	Men	Women	Total
<i>Condition of the benefits</i>			
No beneficiary	44.5	55.5	48.4
Beneficiary	55.5	44.5	51.6
<i>Beneficiary by institution</i>			
Beneficiary of IMSS	82.7	82.7	82.7
Beneficiary of ISSSTE	14.3	14.3	14.3
Beneficiary of PEMEX	3.0	2.9	3.0
<i>Use of health services</i>			
IMSS	37.1	35.7	36.4
ISSSTE	6.1	5.8	5.9
PEMEX, Defense or Marine	1.4	1.4	1.4
Health Service (SS)	16.6	18.2	17.5
IMSS Solidaridad	0.2	0.2	0.2
Private office, clinic or hospital	32.1	32.6	32.4
In other places	2.8	2.8	2.8
Does not go anywhere	2.8	2.3	2.5
Unknown if attended or not	0.8	0.9	0.9
<i>Condition of disability</i>			
With disability	11.9	11.3	11.6
Without disability	88.1	88.7	88.4
<i>Cause of disability</i>			
Birth	1.6	1.8	1.7
Disease	33.1	32.7	32.9
Accident	19.1	11.3	15.0
Old age	41.0	49.2	45.4
Other	0.9	0.4	0.7
Not specified	4.2	4.6	4.4

Source: Own elaboration based on the XII Censo General de Población y Vivienda 2000.

It is predictable that the aged population with no access to permanent health services will increase in the following years, with the absolute increment of the aged population. This is why it is not surprising to know that 11.6 percent of the disabled population from the State (due to motive, auditory, language, visual, mental or any other disability) is 60 years of age or more. As people grow older, they are prone to suffer a disability; among the causes of disability in the aged population in the State are those caused by advanced age (45.4 percent), from which women present a higher proportion (49.2 against 41 of men). Then, the disability caused by a disease, with more than one third of the population (32.9 percent) and 15 percent presents a disability caused by an accident, men presenting the largest number in this aspect (19.1 percent).

Without a doubt, health is another challenge of the demographic aging in the following three decades, for which preventive programs and measures should be instrumented in order to reduce the morbidity and disability rates so that the free-of-disabilities life expectancy increases and a larger number of people enjoys an old age in full physical and mental conditions. According to estimations from the Conapo (2004), those men who reach their sixth decade with no disabilities will live, in average, 20.1 years more than disabled people. Besides, if men of 60 years of age are active in the formal sector, they will live 2.7 years of the rest of their lives with a disability, but if they worked in the informal sector, they will live nine years at the end of their lives with a disability. Conversely, women's life expectancy at that age is of 22.1 years, from which, those who worked in the formal sector will have only 1.4 years of the rest of their lives with a disability, but if they worked in the informal sector, that figure will increase to close to 10 years. Analyzing these figures, it can be foreseen and put into practice some strategies that allow reducing the prevalence of any kind of disability, this in order to increment the life expectancy with no disabilities of any kind and therefore reducing the expenses of the aged population and the people close to them.

From the previous analysis and resting on other socioeconomic variables, we can assert that the aged people in the State present a low social development index. According to Conapo,⁶ the good social development is

⁶ Conapo (2003), Índices de desarrollo social en las etapas del curso de vida, 2000, Colección: Índices sociodemográficos, México, 2003. (*Conapo, 2003, Social development indexes in the life stages, 2000. Colección: Sociodemographic changes*).

associated to having a full and healthy life. Having a good education level and be updated (well informed) in regards to their environment having the right to social and economic security and having a dignifying housing. One of their rights, according to the Population General Law (*Ley General de Población*), is to have a full old age.

Conclusions

The State of Mexico is moving toward the last stage of the demographic transition. In this process, the population from the State entered the XXI century with an average annual growth rate of three percent, higher than the national level (1.9 percent) the advance of the demographic transition has resulted in deep transformations in the population's structure by age. The fecundity's descent, the reduction of the infant population, the increment and concentration of the adult population and the gradual but constant aging process are demographic conditions that present newer and more complex challenges.

More than half century ago, many people died before they were 50 years of age. Nowadays, most people live more than that. The percentage of the state population of 60 years of age and older in 2005 was 6.4 percent. According to estimations of Conapo (2002), this percentage will increase to 7.8 percent by 2010, to 11.9 by 2020 and to 17.6 percent by 2030; a higher percentage to that to be registered in this last decade in the country (16.4 percent).

In 2005, the old population's growth rate was higher than 4.9 percent, figure that indicates that at this speed, the population will double in only 14 years, this dynamic will continue until the third decade of this century when it reaches a growth rate of 3.9 percent annually, which is calculated to be lower than the national rate, which will probably be 4.3 percent.

According to the previously analyzed data, the old adult population from the State of Mexico will be characterized by including among its lines a high proportion of widows, separated and single women. Besides, the current educational lags will have an impact on the income expectations, the quality of the jobs, the possibilities of being economically active within the formal

economy and therefore, the possibilities of gaining access to permanent health services. This is the reason why it is important to begin once and for all, and as soon as possible, labor, business and institutional formation programs for the current adults. Without a doubt, one of the greatest challenges the old adult population will face is the lack of economic resources to meet the needs of their last years of their lives. The scarcity or absence of monetary resources comes from the insufficiency in the pensions systems' coverage, as well as their poor amounts. On the other hand, it is necessary to do something about the remunerations received by the old adult population for their work. Along this economic problem come the health issue, it is very deplorable that the aged population does not have economic resources for the care of their health in the last years of their lives, when chronic-degenerative diseases are more frequent; the characteristics of these diseases makes them more expensive to treat. This situation will get worse as the aged population grows.

The demographic aging process of the population from the State of Mexico places the different organisms from the State public administration before a double challenge: on one hand, to fulfill the commitment of improving and extending the coverage of services that currently are offered to the old adult population; and on the other, to prewise and design new mechanisms of integral attention before the increment of needs and demands of the old adults in a close future. On this aspect the population policies will have to be re-defined.

Bibliography

ARBER, Sara y Jay Ginn, 1996, "Mera conexión. Relaciones de género y envejecimiento", en Sara Arber y Jay Ginn (Comp.) *Relación entre género y envejecimiento. Enfoque sociológico*, Narcea S. A. de Ediciones; Colección mujeres.

DE BEAUVOIR, Simone, 1970, *La vejez*, Editorial Sudamericana, Buenos Aires.

CELADE, 2002, "Los adultos mayores en América Latina y el Caribe, datos e indicadores", en *Boletín Informativo*, edición especial con ocasión de la II Asamblea Mundial de Naciones Unidas sobre el Envejecimiento, Centro Latinoamericano y Caribeño de Demografía, División de Población, Comisión Económica para América Latina y el Caribe, Santiago de Chile.

CEPAL, 1996, *Plan de Acción Regional Latinoamericano y del Caribe sobre Población y Desarrollo*. Comisión Económica para América Latina y el Caribe, Santiago de Chile.

CEPAL, 2002, "Vulnerabilidad sociodemográfica: viejos y nuevos para comunidades y persona". Separata. LC/W.3, electronic document (pdf), from de <http://www.eclac.cl/celade/vulnerabilidad>

CEPAL, 2001, *Características sociodemográficas y socioeconómicas de las personas de edad en América Latina*, Comisión Económica para América Latina y el Caribe, Santiago de Chile.

CONAPO, 2000, *La situación demográfica en México. 2000*, Consejo Nacional de Población, Mexico.

CONAPO, 2001, *La Población de México en el nuevo siglo*, Consejo Nacional de Población, Mexico.

CONAPO, 2003, *Índices de desarrollo social en las etapas del curso de vida, 2000*. Colección: Índices sociodemográficos, Consejo Nacional de Población, Mexico.

CONAPO, 2004, *Indicadores de la República Mexicana y por entidad federativa*. Consejo Nacional de Población, Mexico.

COESPO, 2002, *Proyecciones de Población 2000-2025*. Consejo Estatal de Población del Estado de México, Estado de México.

Comisión Nacional de los Derechos Humanos de las Personas de la Tercera Edad, 2003, *Fascículo No. 3*, ISBN: 970-644-292-8, Mexico.

DEL POPOLO, F., 2001, *Características sociodemográficas y socioeconómicas de las personas de edad en América Latina*, Cepal/Celade, en prensa, Santiago de Chile.

DOMÍNGUEZ, Carmen, 1992, "Envejecimiento y Familia", in *Papers*, núm. 40, Universidad Autónoma de Barcelona, Spain.

GARROCHO Carlos y Juan Campos, 2005, "Distribución espacial de la población mayor en el área de Toluca", in *Papeles de Población*, nueva época, año 11, núm. 45, julio-septiembre, CIEAP/UAEM, Toluca.

GUTIÉRREZ, Luis Miguel, 1993, "Prevención médica para el envejecimiento", en *Seminario sobre envejecimiento demográfico en México*, 25-17 octubre, mimeo, Ciudad de México.

GUTIÉRREZ L. Miguel y Emilio J. García 2005, *Salud y envejecimiento de la población en México*, Document from the work meeting of the experts on economic and social implications of the change in the age structure of the population . Mexico DF, August 31 to September 2.

GUZMÁN, José Miguel, 2002, "Envejecimiento y desarrollo en América Latina y el Caribe", en *Población y Desarrollo* núm. 28. Centro Latinoamericano y Caribeño de Demografía (CELADE), División de Población, Santiago de Chile.

HAM Roberto, 1996a, "El envejecimiento: una nueva dimensión de la salud en México" en *Salud Pública de México*, vol. 38, núm. 6, Instituto Nacional de Salud Pública.

HAM, Roberto, 1996b, "De la solidaridad intergeneracional a la privatización de las pensiones", en *Demos, Carta Demográfica sobre México*, IIS-UNAM, Mexico.

HAM, Roberto, 1999, "El futuro de las pensiones. Promesas fáciles de difícil cumplimiento", en *Demos, Carta Demográfica sobre México*, IIS-UNAM, Mexico.

- HELPPAGE INTERNATIONAL, 1999, *The Ageing and Development Report*. Earthscan Publications Ltd, London.
- INEGI, 1990, *Estadísticas históricas de México*, tomo I, México. Instituto Nacional de Estadística, Geografía e Informática, INEGI, México.
- INEGI, 2000, *Muestra del 10 por ciento del XII Censo General de Población y Vivienda 2000*, Instituto Nacional de Estadística, Geografía e Informática, Aguascalientes.
- INEGI, 2001, XII Censo General de Población y Vivienda 2000. Tabulados básicos. Instituto Nacional de Estadística, Geografía e Informática, México.
- LOZANO, Fernando, 2002, *Migración internacional, transición demográfica y remesas en México*, Centro Regional de Investigaciones Multidisciplinarias, Universidad Nacional Autónoma de México, México.
- LOZANO, R., J. Frenk y M.A. González Block, 1996, "El peso de la enfermedad en adultos mayores", in *Revista Salud Pública de México*, November-December, vol. 38, núm. 6.
- MIRÓ, Carmen, 2003, "Transición demográfica y envejecimiento demográfico", in *Papeles de Población*, nueva época, año 11, núm.45, julio-septiembre, CIEAP/UAEM, Toluca.
- MONTES DE OCA, Verónica, 2000, *Problemas contemporáneos de la población mexicana*, Coespo, Toluca, México.
- MONTES DE OCA Vargas, Hugo, 2002, *Características sociodemográficas de las personas de 60 años y más en el Estado de México, 2000*. Masters Degree thesis, El Colegio de la Frontera Norte, Tijuana.
- MONTOYA, Jaciel, 2004, "Los retos demográficos en el Estado de México", in *Papeles de Población*, nueva época, año 10, núm.40, April-July, CIEAP/UAEM, Toluca.
- ONU, 1991, *Principios de las Naciones Unidas en Favor de las Personas de Edad*, United Nations.
- ORTIZ, P. J., 1997, "Somatotipo de ancianos en el Distrito Federal", in *Estudios de Antropología Biológica*. (VI):227-292.
- PARTIDA Bush, Virgilio, 2003, *Proyecciones de la población de México, de las entidades federativas, de los municipios y localidades, 2000-2050* (methodologic document), México.
- PARTIDA Virgilio, 2005, "La transición demográfica y el proceso de envejecimiento en México", in *Papeles de Población*, nueva época, año 11, núm.45, julio-septiembre, CIEAP/UAEM, Toluca.
- RIVADENEIRA, Luis, 2000, "Insumos sociodemográficos en la gestión de política sectoriales". Cepal/Celade, Santiago de Chile.
- RODRÍGUEZ, Ajenjo C., 1999, "El papel de las instituciones públicas en la atención de la tercera edad", in *Envejecimiento demográfico en México: Retos y perspectivas*, Consejo Nacional de Población, México.
- TUIRÁN, Rodolfo, 1999, "Desafíos del envejecimiento demográfico en México", in *Envejecimiento demográfico en México: Retos y perspectivas*, Consejo Nacional de Población, México.

Population aging in the State of Mexico... / J. Montoya and H. Montes de Oca

VILLA, Miguel y Luis Rivadeneira, 2000, *El proceso de envejecimiento de la población de América Latina y el Caribe: una expresión de la transición demográfica*, Lecture from the Latin American and the Caribbean Meeting on aged people, Technical Seminar, LC/L.1399-P, Santiago de Chile.

ZÚÑIGA, Elena, 2004, "Tendencias y características del envejecimiento en Mexico", in *La situación demográfica de Mexico*. Consejo Nacional de Población. Mexico.