

# PARTICIPATION OF WOMEN AND GIRLS IN NATIONAL EDUCATION & THE SCIENCE, TECHNOLOGY AND INNOVATION SYSTEM IN MEXICO:

A National Assessment based on the  
Gender Equality in the Knowledge Society (GEKS)  
Indicator Framework



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*Communication processes are, at the same time, the product of social interaction and the producer of the techno-social space*

Pujol & Montenegro (2015)

*Both sexes need to develop good communication skills and both must learn to use them in an appropriate and wise manner*



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# PREFACE

*Women's contributions to sustainable socio-economic development as food producers and providers, owners of micro and small-scale enterprises, healthcare providers, household managers, educators and natural resource managers, are critical to the achievement of poverty reduction and the MDGs. However, they are poorly represented at all levels of decision making, earn less income than men with lower levels of employment – frequently in the informal sector– experience the effects of poverty more severely than men, and are expected to manage their activities with fewer resources.*

National Assessments on Gender Equality in the Knowledge Society  
(WISAT, 2013)

## THE 2010 UN INITIATIVE AND GENDER EQUALITY IN THE KNOWLEDGE SOCIETY

Among other equally pervasive situations, the above presented facts motivated the inclusion in the Millennium Development Goals Report, prepared by the United Nations in 2010, of the third goal, as follows: “To promote gender equality and empower women” with the aim to “eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015” (UN 2010).<sup>1</sup> Already looking forward to the United Nations next steps “Beyond 2015” –and fully aware that 2015 marks the date by which Member States, including Mexico, should have reached their present Millennium Development Goals (MDGs)<sup>2</sup>– it seems pertinent to review the degree and characteristics of Mexico’s compliance with the UN development framework, in particular as regards the third MDG on gender equality.

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<sup>1</sup> The Millennium Development Goals (MDGs) are a series of eight international development goals that set targets for all 192 Member States of the United Nations to achieve by the year 2015. Created during the Millennium Summit in September 2000, the Goals address issues such as extreme poverty, hunger, gender equality, HIV/AIDS, and environmental sustainability. They also advocate for fundamental rights to health, education, work, and security.

<sup>2</sup> Beyond 2015 is a global campaign aiming to influence the creation of a post-2015 development framework.

Researcher Margarita Valdés from the Institute for Philosophical Research at the National University (UNAM) noted that while there are few inequalities enforced by law or policy in Mexico, many gender inequalities are perpetuated by social structures and expectations that limit the capabilities of Mexican women; these inequalities are largely maintained by local patriarchal social structures that deny women the possibility of functioning in many different areas (Valdés, M. 1995).

During Mexico's previous Administration (2006-2012), the Federal Government included indicators and goals in the National Development Plan (NDP 2007-2012) to advance compliance with MDGs throughout the country. The present Administration of President Enrique Peña Nieto is mandated to pursue the objectives established in the NDP for 2013-2018. For Mexico to achieve its full potential, the following five national goals have to be met: a Mexico in Peace, an inclusive Mexico, a Mexico with quality education, a prosperous Mexico, a Mexico with Global responsibility. Three crosscutting strategies have also been established that seek to democratize productivity, achieve a modern government that is close to the people, and include the gender perspective in all Federal public administration programs. It is the first national development strategy that mainstreams gender equality and women's empowerment.

Mexico is making a good progress towards reaching its MDGs and is on track on reaching its eight goals, except perhaps the one concerning maternal health and cutting maternal mortality.

The year 2015 is here, the deadline set has come to pass: where does Mexico stand today concerning its engagements towards the 3rd UN-MDG? The main purpose of this document is an attempt to answer the question.

#### Mexico's Rankings on Gender

*The World Economic Forum's Gender Gap for 2012 rated Mexico 84<sup>th</sup> out of 135 countries for gender equality. It was ranked 113<sup>th</sup> in economic participation and opportunity, 69<sup>th</sup> in educational attainment, 48<sup>th</sup> in political empowerment, and tied for 1<sup>st</sup> in health and survival (WEF, 2013).*

*The country ranked 91<sup>st</sup> in 2010, 98<sup>th</sup> in 2009, 97<sup>th</sup> in 2008, and 93<sup>rd</sup> in 2007. Mexico's gender gap score improved throughout the five-year period.*

*The United Nation's Gender Inequality Index of the Human Development Report for 2013 had Mexico ranked 61<sup>st</sup> out of 186 countries for gender equality; Mexico's ranking on this index had gone up from its rank in 2012, which was 72<sup>nd</sup> (PNUD, 2013). This is an improvement from its ranking in 2010, when it ranked 68<sup>th</sup> out of 169 countries (The catalist 2011).*

**Sources:** PNUD(2013), WEF (2013) and The catalist (2011).



## THE RATIONALE FOR THIS REPORT

The perspective from both genders benefits most decision-making. Men and women tend to see things in different ways and each brings a unique value to an interaction. When there is an unequal access to resources or opportunities for men and women to take part in decision-making, there are direct economic and social costs, both of which will include important cultural and environmental side effects. These largely affect women, but also have consequences for their children, their collectivities, communities and countries –and therefore for the entire world.

On a global scale, men still outnumber women in paid employment, business and political life. It is a long-standing truism that “Women labor during two-thirds of the world’s working hours and earn only 10 percent of the world’s income”. Truth being told, not everyone agrees with the facts put forward by the United Nations and the World Bank. Moreover, if we are genuinely committed to improving the circumstances of women, we need to get our facts straight. Christina Hoff Sommers, a former philosophy professor and resident scholar at the American Enterprise Institute, has stated that in terms of the plight of women “faux facts have been repeated so often they are almost beyond the reach of critical analysis”. Her argument is presented in the following text box.

**Women Labor During Two-Thirds Of The World’s Working Hours  
And Earn Only 10% Of The World’s Income**

*Advocacy groups, like the World Bank, Oxfam, and the United Nations, routinely quote this injustice confection. It is sheer fabrication”. More than 15 years ago, Sussex University experts on gender and development Sally Baden and Anne Marie Goetz, repudiated the claim: “The figure was made up by someone working at the UN because it seemed to represent the scale of gender-based inequality at the time”. But there is no evidence that it was ever accurate, and it certainly is not today.*

*Precise figures do not exist, but no serious economist believes women earn only 10 percent of the world’s income or own only 1 percent of property. As one critic noted in an excellent debunking in The Atlantic, “U.S. women alone earn 5.4 percent of world income today”. Moreover, in African countries, where women have made far less progress than their Western and Asian counterparts, Yale economist Cheryl Doss found female land ownership ranged from 11 percent in Senegal to 54 percent in Rwanda and Burundi. Doss warns that, “using unsubstantiated statistics for advocacy is counterproductive. Bad data not only undermine credibility, they obstruct progress by making it impossible to measure change.*

Source: Hoff (2014).

Having thus been forewarned about the importance of the provenance of source materials, and recognizing also that there is a lot of statistical illiteracy, even among journalists, feminist academics and political leaders, the data and statistics contained

in this report are presented, whenever possible, as published in their original source, which should be consulted for further details on methods and result analysis. Eager to help promote the availability of straight facts from Mexico that may contribute to change the circumstances of all women, this report contains the end results of a large number of survey data (e.g., Inmujeres, 2015b and INEGI, 2015g), made here accessible to public scrutiny in concentrated form, thus facilitating further analysis and study.

The year 2015 marks twenty years since the adoption of the Beijing Declaration and Platform for Action. As Member States and other stakeholders engage in formulating the Post - 2015 Development Agenda, gender inequalities still remain deeply entrenched in many societies (UN, 2015b). Gender equality has come a long way, but it still has a long way to go. As previously noted, Mexico ranks 84th out of 135 countries on the Global Gender Gap Index. While the gender gap on education has been closed, women still lag behind men in terms of labor force participation, representation in leadership positions, and wages (WEF, 2012).

This report, by providing a set of data and information made here available to stakeholders and other interested readers, can serve as a valuable reference and point of departure for planning actions that contribute to strengthen and promote institutional level accountability, public education, and the implementation of Mexico's gender equality policy. But it also attempts to provide some insight as to why the instrumentation in Mexico of policies directly addressing gender equality, or issues related to it, have met with such varying degrees of success and approval by the general population— but also, strangely enough, by many women— and therefore, achieving MDGs is requiring more time than previously established by many countries and their leaders.

The findings here presented are not intended to be a definitive account of all the work on gender equality performed in Mexico during the 15 years since the first world conference on the status of women was convened in Mexico City, coinciding with the 1975 International Women's Year (UN Women, 2000). However, it does aim to identify the main areas of progress in the implementation of the policy and the key challenges that still remain to be addressed. Gender inequality in Mexico—in the modern version of the concept— has been diminishing throughout history, but continues to persist in many forms;<sup>3</sup> of particular concern are the disparity in women's political representation and participation, the gender pay gap, and high rates of domestic violence and femicide.

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**3** Until the twentieth century, Mexico was an overwhelmingly rural country, with rural women's status defined within the context of the family and local community. Roman Catholicism in Mexico has had a firm influence on societal attitudes on women's place, emphasizing the role of women as nurturers of the family; with the Virgin of Guadalupe as a role model, women's role was defined as being within the family under the authority of men.

## THE FRAMEWORK FOR DEPARTURE

*The Gender Equality – Knowledge Society (GE&KS) indicator framework (Huyer, 2013) aggregates gender sensitive data on areas such as health and economic and social status, believing in the interconnection between these elements and the barriers and opportunities for women in technology jobs.*

*Women's capacity to participate in science, technology and innovation is grossly under developed and underutilized. Some of the preliminary results within the GE&KS framework suggest that variables such as economic status, political participation, and health and childcare support play an important role in achieving technological gender equality, drawing a more complex picture than the merely deterministic relation between access to technology and upward social mobility (Pujol & Montenegro, 2015, p.175).*

### **Sources of Inputs and Outputs**

This report focuses on presenting selected highlights and results to facilitate an increased understanding and shared learning on Mexico's work on gender equality up to 2015. It brings together a significant amount of data and information, much of it widely dispersed throughout Mexico in databases and information centers, including Federal government institutions. Both national and international sources were consulted. Official government results and statistics, as well as published research and grey literature, were also compiled and analyzed.<sup>4</sup> Sources of information included scholarly books, journals, monographs, official reports of government and international organizations, and numerous periodicals. This report brings together gender-sensitive data on key areas in the knowledge society (STI - Science, Technology, and Innovation), with gender indicators of health, and economic and social status.

Given the different sources of information consulted, the methods used for obtaining, analyzing, and interpreting data, the dates information was obtained and published, the political, social or philosophical proclivities of the different authors, contradictions among the different sets of data for the same indicator can exist and are to be expected.

<sup>4</sup> The BDSocial portal "hosts a collection of databases and technical documents related to polls applied in recent years in Mexico, funded in part or entirely by public funds. Additionally, the portal has generated surveys based on projects from universities and the civilian society, to promote their dissemination. Through a simple and homogeneous structure, the different databases for each survey are presented, together with the questionnaires, data sheets and syntax for the use of the data. The website not only condenses in a single space information scattered in different locations, but also allows access for the first time to a set of databases of surveys that were not available to the public. Through the cooperation of participating institutions generating the surveys as well as the application instruments provided by the Law of Transparency and Access to Public Government Information, this documentation has been deposited in the BDSocial website for unrestricted access".

The portal is a joint project initiated by the National Institute for Women (Inmujeres), the Latin American Faculty of Social Sciences, headquartered in Mexico (FLACSO) and Civic Alliance, AC. Available at <http://bdsocial.inmujeres.gob.mx/index.php>.



# INPUTS

## 1. HEALTH STATUS

The usefulness of the Health Status indicator results needs to be tempered with an understanding of the country's mixed cultural history and the influence it exerts on the practice of medicine and health care, both past and present. Traditional folk healing practices continue to be considered viable and their use is prevalent among many Mexicans, habitual users of a varied spectrum of "health providers," ranging from the supernatural ("el brujo" or "la hechicera") to more sophisticated modern quacks and charlatans (i.e., through the use of amulets and rituals, remedies from the Orient, odd contraptions, potions, etc), with a series of in-between stops at other folk medicine practitioners, such as herb mistresses (yerberas), mid-wives (parteras), bone setters (hueseros), folk masseurs (sobadores), healers (curanderos), and practitioners of psychic healing, with techniques that may involve the use of psychotropic substances (e.g., mushrooms, peyote and a dozen more less well-known hallucinogenic plants), or ancient religious rituals dating from pre-Hispanic times.

This kind of folk knowledge usually resides in women and is transmitted from mothers to daughters and grand daughters. The switch to modern medicine and drugs has meant the loss of much traditional knowledge; fortunately the study of plant, animal and mineral derived remedies has become a subject of modern research and, in some instances, has been adopted for its use by the national health system.

Considered by many a wise measure given the country's circumstances, the National Healthcare System in Mexico, rather than strengthening the link between employment and the provision of health insurance, severed any such ties and made health care a universal and constitutional right. In the mid-1990s, Mexico developed a system of national health insurance. In 2003, the Mexican Congress approved, by a large majority, a reform to Mexico's General Health Law (*Ley General de Salud*), establishing the Social Protection in Health System (*Sistema de Protección Social en Salud* or SPSS, for its initials in Spanish), which has significantly increased public funding to guarantee universal health-care coverage. Founded on May 15<sup>th</sup>, 2003, the *Seguro Popular* program provides coverage to 52 million previously uninsured Mexicans (in a population of 119'715,000 inhabitants at the closing of 2014).<sup>5</sup>

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<sup>5</sup> On World Health Day, President Enrique Peña Nieto reported that the number of members of the Popular insurance had reached, in December 2014, 57.3 million people (Vargas, 2015).

The National Health System is currently composed of several social security institutions, mainly the IMSS and ISSSTE, plus other smaller entities for the armed forces and the navy (SEDENA and SEMAR), oil workers (PEMEX), and local government employees, among other institutions that offer social security services to the population with employment; the System of Social Protection in Health offers services to everyone, including private institutions. By March 2012, the number of people enrolled in the IMSS was 55.9 million and ISSSTE had 8.1 million users. State governments in Mexico also provide health services. The apparent discrepancy in the total numbers reported is due to the fact that one of every four users of the popular insurance are also affiliated with other public health institutions in the country.

The System of Social Protection in Health was the right answer to the needs of that part of the population who did not have social security. It was an ideal strategy to guarantee the protection of health rights through a public volunteer insurance scheme, which expanded service options and benefited the Mexican population in general. For financing purposes, personal health services derive from two sources: a package of essential interventions provided in outpatient settings and general hospitals, financed through a fund for personal health services, and a package of high-cost, specialized interventions financed through the Protection Fund for Catastrophic Expenditures (*Fondo de Protección contra Gastos Catastróficos* –FPGC]. To date, this fund finances 18 interventions, including neonatal intensive care and the management of pediatric cancers, cervical cancer, breast cancer and HIV/AIDS.

Narrowing the gaps on the access to health services still remains a challenge, particularly in rural, widely dispersed, and indigenous communities in Mexico's less developed states and isolated areas throughout the country. The new *Ley General de Salud* consolidated its reach by providing for the cross-utilization of services among beneficiaries of different health agencies. In the near future, this collaboration should culminate in the financial integration of the system, thus ensuring that Mexico meets a basic criterion of successful health reform: better health through equity, high quality and fair financing. Continuous efforts are required to satisfy all these conditions for every Mexican. In a world of constant change, this task represents a mayor challenge. To a country with a 1 percent foreseen reduction in the 2016 Federal budget, it can become a source of social discontent.<sup>6</sup>

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<sup>6</sup> The Government of Mexico foresees a cut in public spending for 2016 most likely equivalent to 0.8 percent of the gross domestic product (GDP). Infrastructure, science, and social development will be among the areas most affected by the reduction to the country's national budget. (AFP, 2015).

## 1.1 FEMALE LIFE EXPECTANCY

In Mexico, the average life expectancy at birth (LEB) in 2013 was 74.5 years: 77.4 years for women and 71.7 for men. In all thirty-two states, these values meet with Millennium Development Goals (MDG) and those set by the International Conference on Population and Development (ICPD), who had set a target for 2005 when countries should have a LEB exceeding 70 years and, by 2015, of 75 years or more. In Mexico, twenty states had reached this target by 2012, and the National Population Council is confident that the remaining eight will meet the deadline on time (CONAPO, 2012). Definitive data will not be available until the next national population and housing census is conducted in 2020.

**Table 1. Life Expectancy at Birth by Sex (1990 to 2013)**

Year	Total	Male	Female
1990	71.4	68.0	75.0
1991	71.7	68.4	75.2
1992	72.0	68.8	75.4
1993	72.3	69.1	75.5
1994	72.5	69.4	75.7
1995	72.7	69.7	75.8
1996	72.9	70.0	76.0
1997	73.1	70.3	76.1
1998	73.3	70.5	76.2
1999	73.4	70.7	76.3
2000	73.6	70.9	76.4
2001	73.7	71.0	76.5
2002	73.8	71.2	76.6
2003	74.0	71.3	76.7
2004	74.1	71.4	76.8
2005	74.1	71.5	76.9
2006	74.2	71.6	77.0
2007	74.3	71.7	77.0
2008	74.4	71.8	77.1
2009	74.5	71.9	77.2
2010	74.0	71.1	77.0
2011	74.1	71.2	77.2
2012	74.3	71.4	77.3
2013	74.5	71.7	77.4

Source: CONAPO (2012).

In 2012, LEB was 74.3 years, an increase of 0.1 years since 2006, and 3.1 years since 1990. Historically, women live on average longer than men. The life expectancy of Mexican men increased from 68.0 to 71.1 years between 1990 and 2010, while that of the female population increased from 75.0 to 77.3 years during the same period. From 1990 to 2012, women's life expectancy increased by 2.3 years, and men's by 3.1 (CONAPO, 2012). The rate of increase in life expectancy is declining: in 1976 it was 0.52 years, in 1994 it fell to 0.24 and by 2009 it reached only 0.16 years. This decrease is believed due to the gradual ageing of the population.

Between 1994 and 2009, every state in Mexico showed substantial improvements in life expectancy: Chiapas saw the largest increase (4.9 years), while Coahuila experienced the least (1.8 years). In 1994, the states of Chiapas, Guerrero and Oaxaca reported a life expectancy below 70 years, while the Federal District, Quintana Roo and Baja California showed the highest life expectancy rate in 2009. It should be mentioned that there was a two-year decrease in the gap between states at opposing ends of the spectrum, from 4.7 years in 1994 to 2.7 in 2009.

## 1.2 FEMALE HEALTHY ADULT LIFE EXPECTANCY (HALE)

Research performed by the Ministry of Health in 2005 indicates that Mexico has lost 15.2 million years of healthy life (YHL), which represents 146 years for each thousand people. Of these, almost half were lost to early death (46 percent) and the rest to years with disability (54 percent). The largest loss of YHL occurs in men, independent from site of residence, geographical region and age group (prior to the age of 60). The difference is larger in poorer regions, and varies from 15 percent to 30 percent with respect to women, a value associated with poverty level. On average, excess risk impacts mainly men with a 1.25 rate. According to the World Health Organization, the global average of YHL in 2000 was 66, with 64 years for men and 68 for women (UNdata, 2015). By 2013, life expectancy at birth (m/f) was 73/78 years (Who, 2015).

An analysis of YHL loss based on sex and main causal groups shows that two thirds of the losses in men are related to non-transmissible diseases, while the remaining causes are distributed more or less homogeneously. For women, on the other hand, non-transmitted diseases are more predominant (77%), leaving transmitted diseases, nutrition and reproduction to account for the remaining 17 percent.

For each YHL the female population loses to accidental or intentional injury, men lose four. The rate of YHL lost in females is 130/1,000, while in males it is 163/1,000. On average, men have a 1.25 bigger risk than women, although the higher rate of risk for men differs among different age groups. The difference between men and women increases up to the age of 60, when the tendency starts to revert. While



boys younger than fifteen show a 1.2 higher risk, adult males between 15 and 44 exceed the risk in females by 1.5. From sixty onward, the YHL risk is similar. After seventy, women show higher risk than men. Table 2 presents the ten main causes for YHL loss for both sexes. In women, the most common causes are depression and diabetes, with over 6 percent in each. The main health issues for women include cataracts, osteoarthritis, dementia, Alzheimer’s disease and asthma. For men, they include cirrhosis, alcohol abuse, traffic accidents, violent aggression and homicide

**Table 2. Main YHL causes by Sex, Mexico 2005**

Female		Male	
Cause	%	Cause	%
Major unipolar depression	6.5	Affections originated during the perinatal period	5.9
Diabetes mellitus	6.3	Cirrhosis and other liver diseases	5.1
Affections originated during the perinatal period	5.3	Alcohol use	4.8
Congenital anomalies	4.3	Aggression (homicide)	4.6
Ischemic heart disease	2.8	Motor vehicle accidents (traffic)	4.6
Osteoarthritis	2.3	Diabetes mellitus	4.5
Cataracts	2.2	Congenital anomalies	4.0
Brain-vascular diseases	2.2	Ischemic heart diseases	3.5
Dementia and Alzheimer’s disease	2.1	Major unipolar depression	2.6
Asthma	2.0	Passerby injured in motor vehicle accident	2.2
<b>Total (millions)</b>	<b>6.9</b>	<b>Total (millions)</b>	<b>8.4</b>

Source: Secretaría de Salud (2014).

For Mexicans, *Diabetes mellitus* type 2 constitutes the heaviest health burden covered by the Mexican Institute of Social Security (IMSS). It is the main cause of death, of years lost for early death and of years lived with disability. It is the number one cause of YHL loss and contributes 13 percent to the total YHL lost by all affiliates. Between 2003 and 2005, the cost of treating diabetes in Mexico exceeded three hundred million dollars, 60 percent of which represented IMSS expenditure. Diabetes constitutes a heavy load for developing countries, such as Mexico, a burden that will increase significantly – given the number of diabetics is expected to double in 25 years– if the required stringent control and treatment measures are not strictly enforced.

### 1.2.1 MORBIDITY

Mexico finds itself in the advanced phase of a demographic transition that is linked with it an epidemiologic profile change. Nowadays, chronic-degenerative diseases,

like *Diabetes mellitus* and high blood pressure, are becoming more frequent. However, in certain regions and social groups, an epidemiological profile characterized by communicable diseases and (so-called) avoidable early deaths is still prevalent.

In urban areas, most common health issues are associated with environmental factors, stress and a sedentary lifestyle, increased violence, and a higher impact of chronic and transmittable diseases, such as tuberculosis and HIV/AIDS.

Breast cancer is the most frequent malignant tumor in women worldwide. In Mexico, there has been such an increase in its incidence that by 2006 it had displaced cervical cancer as the number one cause of malignant neoplasm deaths in women 25 years and older.<sup>7</sup> In 2011, 15,620 breast cancer cases were reported, an increase of 240 percent from the number of cases registered in 2006 (4,646 cases); by contrast, in 2000, 1,874 cases had been detected —an eightfold increase in little over a decade.

**Table 3. Epidemiological Information on Morbidity**

Distribution of new cases of disease in the female population, 2011		
	Disease	Population
1	Acute respiratory infections	14,467,344
2	Urinary tract infections	3,023,890
3	Intestinal infections by other organisms and other ill-defined infections	2,883,740
4	Ulcers, gastritis and duodenitis	1,065,142
5	Gingivitis and periodontal diseases	404,514
6	Acute otitis media	372,728
7	Hypertension	321,676
8	Urogenital candidiasis	283,671
9	Diabetes mellitus non-insulin dependent (type II)	250,234
10	Conjunctivitis	247,025

Source: Secretaría de Salud (2012).

Transmissible diseases are no longer the main cause of infirmity for both sexes in all age groups. Between 1990 and 2005, infectious and parasitic diseases as well as respiratory infections have given way to accidents, malignant tumors, self-inflicted injuries and heart disease in infants (1 to 4 year olds), children (5-14 year olds), teenagers and youths (15-24 year olds) and young adults (25-44 year olds). Meanwhile, non-transmissible diseases were the main cause of death for mature adults (44-59 year olds) and senior citizens (60 years old or older).

<sup>7</sup> Two type of cancer, breast and cervical, produce similar mortality in Mexico, were 9.0 deaths from breast cancer and 8.0 deaths from cervical cancer per 100,000 females were recorded in 2009 (Who, 2013, p. 91).

### 1.2.2. MORTALITY

As a result of demographic aging, mortality rates increased slightly in 2012 to five for every thousand deaths. It is believed this tendency will reach 5.6 by 2020 and 6.6 in 2030. In fact, 74.3 percent of registered deaths of senior citizens in 2005 were due to non-transmissible diseases, such as heart conditions (the leading cause of death), tumors and diabetes mellitus, tied as the second leading cause of death for both men and women.

The difference in mortality between men and women is conditioned by biological and social causes: women experience greater survival rates because they are less prone to accidents and, generally, are less involved in situations that endanger their lives. In 2012, 132 males died for every 100 females. This disparity is consistent in every age group, but is more noticeable between the ages of 20 and 34, where the mortality rate for men is 300 compared to 100 in women.

**Table 4. Percentage Distributions of Deaths by Main Cause of Death by Sex, 2010**

Cause of death	Total (%)	Male (%)	Female (%)
Diabetes mellitus	14	12	16.7
Ischemic heart diseases	12.0	11.9	12.0
Liver diseases	5.5	7.1	3.4
Cerebrovascular diseases	5.5	4.6	6.5
Violence	4.3	7.0	0.9
Chronic diseases of the lower respiratory airways	4.3	4.2	4.5
Hypertensive diseases	3.0	2.3	3.9
Other causes	51.4	50.9	52.1

Source: INEGI (2013f).

As noted above, breast cancer is the main cause of death by malignant neoplasm in the female population 25 years and over. Mortality rates have increased by 13 percent, from 16.2 deaths in 2004 to 16.7 in 2010 for every hundred thousand women 25 or older, a 14 percent increase in comparison with the year 2000. Average age at death is 58.4 years and 59 percent of deaths happen to women with social security. The states with the highest mortality rates due to breast cancer are Sonora, the Federal District, Colima, Nuevo León, Baja California and Jalisco.

As for mortality by extreme causes, homicide represents 35 percent of deaths outside the household (4.4 percent of total deaths), more than half of which take place in public places (55.8%). Firearms cause seven out of every ten deaths (70.8%), followed by bladed weapons, with 10.1 percent, and suffocation, with 5.5 percent.

In 2012, Mexico registered 26,037 violent deaths, a rate of 22 per 100,000 residents, and a decrease in 4.3 percent in comparison to 27,213 cases registered in 2011 according to Mexico's National Institute of Statistics and Geography (INEGI). Chihuahua and Guerrero had homicide rates far above the national average, at 77 per 100,000 residents, with 2,783 and 2,684 murders, respectively. The only state that surpasses these two in number of homicides is Mexico state (Edomex), with 2,905, even though its homicide rate was actually below the national average, at 18 per 100,000. Other states with high 2012 homicide rates included Sinaloa and Durango, both with 48 per 100,000 residents, and Tamaulipas, with 46 per 100,000 (INEGI, 2014e). While Chihuahua's rate peaked in 2010 with 182 homicides per 100,000, Guerrero's homicide rates have risen significantly since then, when they were at 45 per 100,000. The drop in Chihuahua's rates is likely linked to the Sinaloa Cartel's consolidation of power in the state, which put an end to a violent war with the Juarez Cartel. In Guerrero, meanwhile, rival splinter groups of major criminal organizations, such as the Jalisco Cartel - New Generation (CJNG) and the Knights Templar— are fighting violent turf wars (Cawley, 2013).

On a global scale, every year around one million people die from a self-inflicted death; every day there are on average almost 3 thousand people that put an end to their existence. At least 20 try to commit suicide for every one that succeeds and at least 6 further people are affected. The number of suicides in Mexico exceeded five thousand, which represents 6.9 percent of fatalities taking place in a public place. Eight of every ten successful attempts are male (80.6 vs. 19.4% female). Different research indicates that it is most frequently women who both have the idea and attempt the act of suicide.

Among the higher risk factors associated with this behavior is violence. So, for example, the 2011 National Survey on the Dynamics of Relationships in Households (ENDIREH), shows that women 15 years and older, who are married or in cohabitation, and have declared suffering an episode of violence by their partner in the past 12 months prior to the survey, 9.1 percent thought of killing themselves; the more severe the form of violence, the more persistent becomes the idea. Of the women who experienced emotional violence, 9.8 percent considered ending their life, 26.8 percent of women suffering sexual violence thought about ending their existence, and 45.4 percent made an actual attempt. The method most used by these abused women to end their life, in 14.3 per cent of cases, was poisoning by gas, other toxic vapors, alcohol and pesticides (INEGI, 2013c).

In 2000, suicide was the third leading cause of death among Mexico's young people. By 2012, 826 suicides occurred in adolescent youth aged 15 to 19, a rate of 7.4 deaths for every 100,000 youngsters; they represent the most vulnerable group with 41 percent of cases.

In the past 30 years, the rate of people who took their lives rose by 300 percent. The main method used to commit suicide, both in men and women, is hanging and strangulation, with 79.5 and 68.4 percent, respectively. Three in ten women who took their lives had a high school level education or higher, while in men only two of ten reached those levels. One of every 10 attempts is successful, placing Mexico ninth on a list of 53 countries with statistics on self-inflicted deaths. For 2011, suicide behavior by state shows that two entities almost doubled the national rate (Campeche and Yucatan, with 9.5 and 9.3 per 100,000 inhabitants, respectively). However, the state of Guerrero, which has a high level of violence, presented the lowest rate of suicides with 2.6 per 100,000 inhabitants.

Despite any discrepancies and possible shortcomings, the most important providers of information on this subject are the National Institute of Psychiatry (INP), the Ministry of Public Education (SEP), the National Polytechnic Institute (IPN), and the Autonomous University of Mexico (UNAM). Through their research, these institutions have prepared studies and publications to understand the statistics, casuistry and epidemiological data on suicide, seeking explanations as to the causes and reasons of the phenomenon and its relationship to alcoholism, drug abuse, violence and other possible causes.

### **1.2.2.1 Maternal Mortality**

One of the United Nations' Millennium Development Goals with most wide-ranging implications for 2015 is the reduction of the ratio on maternal mortality by three fourths. The task represents a major challenge for most countries with high maternal mortality, a complex social phenomenon associated with health system failures and structural patterns of entrenched discrimination against women (ELLA, 2013).

In 2010, Mexico registered 1,002 cases of maternal mortality, a rate of 51.5 deaths per 100,000 deliveries. In 2012, the national rate average stood at 42.3, short of the MDG initial target by about 15 percent; moreover, the maternal mortality rate (MMR) in indigenous areas stands as high as 80 per 100,000 live births, comparable to countries with low levels of human development. In Mexico, one salient contributing factor is early age pregnancies. Following the World Health Organization (WHO), the risk of maternal death is 1.2 higher in teenage mothers than in women over the age of 20.

From the total number of births in 2008, 17.5 percent occurred in women between the ages of 15 and 19; the rate of maternal mortality for teenagers is 44 deaths per 100,000 births, six points higher than the values reported in the 20 – 24 age group (37.7 deaths per 100,000 births). While teenagers are not the age group with the highest birthrate, they represent a significant enough proportion of deliveries. Provided by INEGI, 2012 MMR by state identify Guerrero, Oaxaca, and Chiapas as those entities with higher maternal mortality, with rates ranging from 59 to 75.9, while Baja California, Nuevo León and Coahuila have the lowest MMR.

The main causes of maternal death are gestational hypertension (24.8%), hemorrhages throughout the stages of pregnancy, birth and postpartum (19.5%) and other complications during pregnancy and childbirth (13.2%). The highest death rates are found in rural areas, where most women live far from health care facilities and have difficulty reaching them on time due to distance, faulty means of transportation, bad roads and, frequently, lack of money required for transportation. Under these circumstances, midwifery is being perceived with fresh eyes, considering that just until recently, particularly among medical practitioners, traditional midwives had been undervalued. The government has now established a midwifery school that provides appropriate training, accreditation and encourages medical professionals to work hand-in-hand with midwives (WHO, 2008).

### 1.2.2.2 High Rate of Caesarean Sections

During the 60's, three percent of births in Mexico took place by Caesarean section. Now, Mexico is the number one country worldwide in terms of numbers of C-sections – 45.2 percent of births take place in this manner, according to the 2012 Health and Nutrition National Survey.

This apparent national birthing preference contravenes the guidelines issued by the World Health Organization (WHO) that state “the percentage of Caesarean sections should not exceed 15 percent of total births”. The high percentage prevalent in Mexico is related to several factors, two of which predominate: a business-oriented practice, allowing doctors to program the date and time of parturition, and the widespread belief that there are less risks associated with a C-section than with a vaginal childbirth. Private medical practice is predominantly engaged with this procedure, as C-sections are practiced in almost 70 percent of cases. In the public sector, IMSS and IMSS *Oportunidades* recorded an increase of 29.9 per cent in the procedure, with up to 50 percent taking place in other public institutions, i.e., the Ministry of Health, with 51.2 percent of deliveries attended, and the ISSSTE, with 58.5 percent.

These figures contravene Mexico's normativity. The situation “is of concern, because [the actual value] exceeds by far the maximum limit recommended by the Official Mexican Norm (*Norma Oficial Mexicana 007-SSA2-1993*), which establishes a 20 percent maximum of permitted C-sections per total number of births recorded” (NTX/MVC, 2014).

These data are of concern as they associate with Mexico's position as a country with the lowest breastfeeding rate in Latin America: 85.6 percent of women do not breastfeed, leaving only 14.4 percent of women who do so –and even then only for the first six months of life. Six years ago, the percentage of women who breastfed was 22.3 percent. The National Institute of Public Health (INSP) identified 23 reasons why there are increasingly fewer mothers in Mexico feeding their newborn infants with

breast milk. The study “Practice of infant feeding and deterioration of breastfeeding in Mexico” compared 1999, 2006 and 2012 national surveys on health and nutrition and noted, throughout the country, a decrease in women who breastfeed their children (INSP, 2014). According to data collected over 12 years, the first reason not to breastfeed newborn infants is the mother’s lack of milk (37%), followed by her having had an illness (11.7%) or the baby rejecting the mother’s milk (11.3%); there are another 20 further reasons, among them, although much less frequently than in the past, having the support of another woman, a nursemaid, who breastfeeds the child (0.15%). The study estimates that each year Mexican families spend 3 thousand 500 million pesos to buy powdered milk for children under one year of age.<sup>8</sup> Today, even mothers in rural settings are recurring to milk formulas to feed their babies, motivated in many cases by baby formula promoters. This change in infant feeding behavior has been considered as one of several causes for the obesity epidemic affecting the country.

C-sections and the absence of breastfeeding affect weight gain in children and make it very difficult for mothers to regain their pre-pregnancy weight (Proceso, 2013). Concurrent with the trend of increasing cesarean delivery (CD) (Neu & Rushing, 2012), some countries are showing evidence of increased incidence of both autoimmune (such as type 1 diabetes, Crohn’s disease and multiple sclerosis) and allergic diseases (such as asthma, allergic rhinitis and atopic dermatitis). The lack of contact with the microbiota of the mother’s vaginal canal is very likely of greater importance than previously thought for the development of healthy children, reaching even into adult life.

A reduction in C-section procedures by 1 million 600 thousand during the next five years would allow savings to the health sector of 13,000 million pesos (Camara de Diputados, 2014). The total annual costs of inadequate breastfeeding in Mexico for the studied cohort ranged from \$745.6 million to \$2,416.5 million MXP, where the costs of infant formula accounted for 11–38 percent of total costs. A range of 1.1 to 3.8 million reported cases of disease and from 933 to 5,796 infant deaths per year from the diseases under study are attributed to inadequate infant breastfeeding practices; altogether, these represent nearly 27 percent of the absolute number of episodes of such diseases (Ávila Burgos et al., 2014).

### 1.2.2.3 Abortion

As of January 19<sup>th</sup>, 2011, 52,484 pregnancy interruptions had been performed in Mexico City since its decriminalization in 2007 and solely for patients into their first 12 weeks

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<sup>8</sup> The American Society of Nutrition published the article “The costs of inadequate breastfeeding of infants in Mexico” (Colchero, Contreras-Loya, Lopez-Gatell, González de Cosío, 2015) a study by a research group from the National Institute on Public Health (INSP) headed by Dr. Teresita González de Cosío, associated to the Research Center on Nutrition and Health (CINyS) of the INSP.

of pregnancy. Legislation of all remaining states in Mexico penalizes abortion, excluding those cases of pregnancy by rape. Only the penal codes of Guanajuato –where more than a dozen women haven been sentenced up to 30 years in prison–, Guerrero and Queretaro do not condone abortion when the life of the mother is at risk. Since 1992, the state of Yucatán takes into consideration economic factors for an abortion should a woman have given birth to three or more children. It is unexpected and thus noteworthy that abortion is the third highest cause of maternal mortality in the Federal District, where medical services and clinics are concentrated, while nation-wide it is the fifth highest cause.

On April 2007, the Official Gazette of the Federal District published a decree regulating abortion and considering amendments to the Health Law and the Penal Code.<sup>9</sup> A new paragraph was inserted stating that: “Public health institutions belonging to the government of the Federal District will conduct pregnancy interruptions requested by women who ask for them, even if they are covered by any other public or private health service.” And as if to counter this progressive measure, 18 of 23 Mexican states have approved reforms stating that life begins from the moment of conception.

In 2009, Mexico’s national abortion rate was estimated at 38 abortions per 1,000 women between the ages of 15 to 44 (*circa* 3.8%). These values may not be the most accurate representation of actual numbers given the social and religious stigma associated with this procedure. As previously noted, recent political lobbying on behalf of the dominant Roman Catholic Church and pro-life organizations has resulted in the amendment of more than half of state constitutions, which now define a fertilized human egg as a person with rights to legal protection. Although no official figures are available on clandestine abortions in the country, the NGO *Grupo de Información en Reproducción Elegida* (GIRE) estimates that, in 2009, 159,000 women were rushed to a hospital for complications resulting from unsafe and illegal abortions (Montalvo, 2013; Ford, 2010; GIRE, n.d.). Before the passage of the amendments to the abortion law, many Mexican women would go to a *hierbera* or buy special herbs in the *mercado* or try dangerous home versions to abort in order to end an unwanted pregnancy.

By end of April 2007, Mexico City’s Ministry of Health started providing first trimester abortions free of charge to the estimated 43 percent of women with no public health insurance residing in Mexico City (Schiavon et al., 2010). During 2008, the public health sector carried out 13,057 legal abortions, compared to 66 abortions between 2002 and 2007, when legal prescriptions still restricted abortion to four circumstances originating in rape, danger to the woman’s life, to her health, and congenital malformations. By January 19<sup>th</sup>, 2011, 52,484 pregnancy interruptions have been

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<sup>9</sup> The Legislative Assembly of the Federal District (LAFD) reformed Articles 145 through 148 of the Criminal Code and Article 14 of the Health Code.



performed in Mexico City (Gómez, 2011), even though near 85 percent of gynecologists in the city's public hospitals had declared themselves conscientious objectors to the procedure (Malkin and Cattan, 2008).

Among the petitioners for an abortion, 78 percent were local residents, 21 percent were living out-of-state and 1 percent foreigners from countries such as Germany, Argentina and Canada (Gómez, *op.cit*). As for their age, 0.6 percent were between 11 and 14, 47.6 percent were between 18 and 24, 22 percent between 25 and 29, 13 percent between 30 and 34, and 2.7 percent between 40 and 44 years of age. More than half of the patients were single (Gómez, *op.cit*), and more than 80 percent of the women who sought abortion services are Catholic and formally educated.

### 1.3 INCIDENCE OF MALARIA, TUBERCULOSIS AND HIV/AIDS RATES

The 2012 World Malaria Report stated that Mexico is on track to eliminate malaria. The Tuberculosis Epidemiologic Watch System, however, reported an increase in the number of new cases during 2000 to 2010, with the lowest number of cases (16,159) occurring in 2002, and the highest (20,088) in 2010. This trend is characterized by a continuous increase, the only exceptions occurring between 2001-2002 and 2008-2009.

**Table 5.** Accumulated Diagnosed HIV/AIDS Cases by age class and sex, 2012

Cases of AIDS by sex and age class			Cases of HIV by sex and age class		
Age	Number of cases		Age	Number of cases	
	Male	Female		Male	Female
0-4	1,256	1,152	0-4	295	309
5-9	364	342	5-9	118	100
10-14	282	180	10-14	37	50
15-19	2,014	969	15-19	1,377	989
20-24	12,314	3,512	20-24	5,940	2,297
25-29	23,968	4,951	25-29	6,981	2,244
30-34	26,517	4,966	30-34	5,859	1,884
35-39	22,142	4,023	35-39	4,364	1,402
40-44	15,897	3,111	40-44	3,031	892
45-49	10,495	2,112	45-49	1,842	613
50-54	6,673	1,506	50-54	1,053	384
55-59	4,240	935	55-59	590	206
60-64	2,506	504	60-64	324	124
65 or older	3,352	581	65 or older	527	133

Source: CENSIDA (2012).

The first diagnosed case of AIDS in Mexico was reported in 1983, although other public health research contends that the HIV epidemic began in 1981. The number of women infected has been increasing throughout the history of the epidemic. The National Center for the Prevention and Control of HIV/AIDS (CENSIDA, for its acronym in Spanish) reported in November 2004 a total of 90,043 HIV/AIDS cases, 14,063 of which were female, i.e., 16.2 percent of the case total. Since its outbreak in Mexico and until November 2009, there have been a total of 135,003 AIDS cases reported, 82 percent male and 17 percent female, giving a rate of 4.6 men for every woman infected. Fortunately, Mexico had been successful in securing blood supplies early on, and no cases of HIV have been detected recently through this mode of transmission. The potential for HIV-tuberculosis (TB) co-infection is also a concern in Mexico, as in other countries. Studies have shown TB to be the second most frequent infection in AIDS patients in Mexico.

The spread of HIV/AIDS in Mexico is exacerbated by stigma and discrimination (S&D), which act as a barrier to prevention, testing and treatment. The female age group most affected by the disease is 15 to 49 years old, coinciding with a woman's fertile period in life. Infection occurs primarily by sexual transmission, with 99 percent of cases transmitted through heterosexual sex. Transmission through intravenous drug use accounts for less than 1 percent of cases. Women constitute 18 percent of accumulated AIDS cases and 26 percent of HIV infections.

The male to female ratio for AIDS is four to one, and three to one for HIV infections. The profile of HIV-infected women includes poverty, low education, unstable sexual partners and lack of risk awareness. Since 1985, when the first cases of AIDS in women appeared, until June 1<sup>st</sup>, 1994, the accumulated total of AIDS detected in women were 2,767 cases, 14.8 percent of the cumulative total for both sexes. By the end of 2012, 11,812 cases –from a total of 49,383– were under treatment by the Ministry of Health (24 percent of all cases). It has been estimated that 75.7 percent of the cases go undetected. The latest official statistics are published in a 24-page report by CENSIDA with 2013 information (CENSIDA, 2014). Then, there were 6,229 notified and 4,657 diagnosed cases. A lengthy document of 320 pages *in lieu of* a progress report document includes additional information on other STDs (CENSIDA, 2014b).

#### **1.4 POPULATION MOBILITY IS A FACTOR IN HIV/AIDS TRANSMISSION IN MEXICO.**

Cross-border activity, including immigration from Central America and the influx of migrant workers returning from the United States, has contributed to the spread of the epidemic, particularly in rural parts of the country.<sup>10</sup> There are approximately 4.1 million migratory workers in the United States, predominantly of Mexican background. Away from their families, men in particular seek sexual contact with local women, many of them sexual services providers that may not practice safe sex.

During the past decade, women have become the fastest growing group likely to contract AIDS. Both the risk of contracting AIDS and traditional barriers to prevention (cultural, linguistic, religious, female subservience to sexual partner, access to contraceptives, limited sexual education, to name but a few) are formidable when considering migrant women laborers. However, there seems to be an interesting collateral effect: the gender-role expansion experienced by these women through their seasonal migration to the United States has also expanded their traditional roles to include earning wages, higher purchasing power, more involvement in family decision making, greater division of household responsibility with husbands, increased feelings of autonomy, and even lower stress levels than nonworking migrant women (Guendelmen, 1987).

Mexico has established a national network of HIV/AIDS ambulatory health care facilities known as *Centros Ambulatorios Para la Prevención y Atención en SIDA e ITS* (CAPASITS). As the name implies, these are ambulatory health care facilities for the prevention and attention of HIV-AIDS and sexually transmitted diseases. The CAPASITS provide comprehensive community-based attention and free of charge treatment to people with HIV; they are the result of collaboration among local governments, the national government, and NGOs.

## 1.5 PHYSICAL INTEGRITY (FGM)

In 1999, the Ministry's of Health Mexican Official Norm NOM-190-SSA1-1999, defined family violence as "the isolated or repeated act or omission, committed by a family member in a position of power—on the basis of sex, age, or physical condition— against one or more members of the same [family], regardless of the physical space where the physical, psychological, and sexual abuse or abandonment takes place". In 2002, this Ministry began to train its staff to fully comprehend and apply this normativity. As a result, an *Integrated Model for the Prevention and Care of Family and Sexual Violence* was designed to assist in the implementation of strategies that increase the effectiveness of services provided by the Ministry of Health for the "detection, prevention, care and rehabilitation related to family and sexual violence, as well as violence against women".

The 2005 amendment to the previously mentioned NOM gave way to a new Mexican Official Norm, the NOM-046-SSA2-2005, which establishes the criteria that allow to detect, prevent, care for and guide users of health services in general, and in particular those involved in family or sexual violence. One of the main areas of prog-

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<sup>10</sup> The immigration rate to Mexico (i.e., the number of people who move to Mexico from abroad, overwhelmingly return migrants) has dropped, from 4.4 migrants per 1,000 residents between 2008 and 2009 to 1.5 per 1,000 between 2013 and 2014 (Zong & Batalova, 2015).

ress with this Norm was the introduction of the so called “emergency pill” as a new contraceptive method to be used by victims of sexual violence, a recommendation made long ago by national and international organizations concerned with this issue.

In 2008, a state fund was created to support women development mechanisms by the name of “Comprehensive Care of Women Victims of Gender Violence” (*Fondo MVVG*, in Spanish). Earlier, in 2006, the Mexican government had established several initiatives, such as the Program to Support Women’s Institutions in the states (*PAIMEF*, in Spanish), or to strengthen women’s institutions (*IMEF*, in Spanish), and to promote cooperation between government, communities and academia for preventing, detecting and addressing violence against women.<sup>11</sup> The Program for Social Co-investment (*PCS*, in Spanish) was created to promote and strengthen the participation of communities in social development activities targeted for persons in a state of poverty or vulnerability. Within the strategic guidelines that provide substance to National Program for a Life without Violence 2002–2006, a “Subsystem for Attention” was designed to support victim networks and the creation of shelters for victims of domestic violence, including family violence and abuse.

## 1.6 TOTAL FERTILITY RATE<sup>12</sup>

Women in Mexico had seven children on average in the 1960’s; now, a 2014 estimate sets the number of children per woman at 2.29, a value that is expected to fall below 2.0 before 2020. At the same time, life expectancy has increased –most Mexicans did not live beyond the 50’s in 1960–, and by 2011 life expectancy had reached 76.8 years, and is expected to reach this year (2015) 77.25 years on average. If projections for 2050 are accurate, life expectancy for women in Mexico will be 84.96 years (CantyMedia, 2015). These demographic changes could have a potentially serious impact on long-term budget outlooks (Nava-Bolaños & Ham-Chande, 2014).

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**11** The PAIMEF is a federal program operated by the Institute for Social Development (INDESOL), and represents a specific response to promote the formulation and implementation of public policies at state level for the prevention and response to violence against women, their daughters, children and significant others; it is based on a conceptual and performance framework for promoting human rights with a gender perspective. It aims to contribute to an egalitarian society by preventing and addressing violence against women, supporting annual projects and specific actions to promote and operate Women Instances in the Federal States (IMEF), in coordination with various public and social institutions (SEDESOL, 2015).

**12** Total (global) fertility rates represent the number of children that would be born to a woman if she were to live to the end of her reproductive period and bear children in accordance with current age-specific fertility rates.

In 2012, there were somewhat fewer than 31.1 million women of fertile age (WFA) in Mexico, representing 54.1 percent of the total female population. Mexico's global fertility rate for 2013 was 2.2 children per woman between the ages of 15 to 49. In the past 20 years, there was an increase to 48.1 percent of women in reproductive age, although the total proportion of women increased more slowly, as is also happening with the rest of the population. Between 1990 and 2000, the WFA grew at a rate of 2.4 percent, while over the past decade it had increased 1.5 percent. The highest fertility rate is found between the ages of 20 to 24, although the 25-to-29 year old group is close behind.

The increase of WAF in almost every age group has decelerated during the past 20 years. At the national level and compared to the previous decade, the number of female teenagers slightly decreased between 2000 and 2010, and it should be noticed that, along with the 20 to 24 age group, it showed the lowest growth rate (0.6%) for the years 2000 to 2010, contrasting with the previous decade, which reached 1.6 percent.

It is worth noting that from 2000 to 2010 the fertility rate for women over 30 increased constantly until the end of their reproductive life, while from 1990 to 2000 the rate of the older group decreased slightly. The decrease in fertility has been more pronounced in those groups that are better integrated in the national economic development, whereas those in a poverty situation have stayed behind. The inclusion of females in the labor market and the levels of fertility are highly correlated. The decrease of fertility rates due to pregnancies that occur later in life encourages higher economic participation for women, which in turn influences the decrease and postponement of pregnancies.

**Table 6. Specific Fertility Rates\***

Age	1999	2009
15-19	64.2	56.9
20-24	154.2	131.8
25-29	151.4	125.5
30-34	111.1	95.0
35-39	61.7	50.3
40-44	22.8	16.7
45-49	5.6	2.6

\*Age Specific Fertility Rates represent the number of births occurring during a given year per 1,000 women of reproductive age classified in single-or five-year age groups.

**Source:** INEGI (2013h).

## 2. SOCIAL STATUS

Mexico is a country rich in culture and traditions. Daily life for its inhabitants varies drastically according to socioeconomic level, gender, ethnicity and racial perceptions, regional characteristics, rural-versus-urban differences, and other social and cultural factors. Each of the 32 states that constitute Mexico have each created and developed their own beliefs and traditions, including those aspects related to women's social status. Social stratification, or the grouping of individuals into a hierarchy based on socio, is highly prevalent in Mexico, and can be traced back to colonial times (Boundless, 2014).

Women still observe the traditions of their culture of origin and pass them on to the next generations. This cultural legacy is albeit very complex and intricate given the many variables that influence social attitudes and behavior. Among many issues, there are aspects derived from migration and mobility, communication technologies, social movements, changed life priorities, loss of the extended family and new familial configurations, but also new economic processes and circumstances that impact the status of present day girls and women in Mexico.

### 2.1 EQUITY/DISCRIMINATION IN SOCIETAL INSTITUTIONS

There are basically seven major societal institutions that include: family, community, religion, academia, business, media, and government. Freedom occurs when all seven of these societal institutions are on an equal plane with no one form being more important or having more power or influence than another. When one gains predominance, some form or level of tyranny always emerges (Palmer, 2008).

#### 2.1.1 MARRIAGES AT AN EARLY AGE

Each Mexican state stipulates the minimum age for marriage, ranging from 14 to 18 years. In seventeen states, 16 years is the minimum age, but in places such as Baja California, Campeche, Chihuahua, Durango, Nayarit, Oaxaca, Sinaloa, Tamaulipas and Veracruz, legislators consider that a female can marry at 14 and a male at 16. The remaining 16 states have set the minimum age at 18, which coincides with the national age of consent. However, underage couples may marry with parental consent.

In some states, such as Oaxaca, Chiapas, Guerrero or Veracruz, selling girls into marriage is justified as a traditional practice. Along with marriage at a young age, this is considered part of the way of life of some local indigenous communities. This practice is more common for girls than boys, along with arranged marriages between girls and adult males, which in many cases serves to cover up cases of abuse and trafficking of minors. Nevertheless, these practices are considered in some regions as a means out of poverty.

The Mexican Civic Federal Code (Cámara de Diputados, 2013) stipulates that:

**Article 148.** In order to get married, the man needs to be at least sixteen years of age and the woman fourteen. Only the Head of Government of the Federal District, or any of its Delegates, may concede exemptions for serious and justified motives.

**Article 149.** A son or daughter who are not eighteen cannot contract marriage without the consent of both their parents if both are still alive, or from the one who still is. This right belongs to the mother, if the son lives with her, even if she has remarried. If it is not possible for the parents to give their consent, the grandparents on the father's side will have to give permission if both are still alive or just the one who still is; if it is not possible for the grandparents on the father's side, the consent falls on the grandparents on the mother's side.

**Article 151.** Interested parties may appeal to the Head of Government of the Federal District or to any of its Delegates, as the case may be, when the ascendancy or guardians refuse their consent or revoke the one they had already granted. The aforementioned authorities, after obtaining the information related to the case, will grant or deny consent.

Under certain circumstances, therefore, the minimum age requirement can be disregarded and a government official or judge can approve the marriage of a 13 year old girl, or even younger. As a result, there is really no minimum age for marriage. It is also clear that the law does not treat males and females equally, since it establishes different standards for minimum age at marriage.

**Table 7. Non-single, under-age population in Mexico, 2010**

Age	Total	Percentage	Married or in a marital relationship	Divorced or separated	Widowed
12-14	34,424	0.53	32,306	1,644	474
15-17	421,383	6.30	402,149	17,768	1,466
TOTAL	455,807	6.83	434,455	19,412	1,940

Source: INEGI (2012a).

In a Plenary Session held in April, 2013, the Congress reached an agreement along the following terms: "The Chamber of Representatives respectfully urges the Congresses of the Federative Entities, within the scope of their own respective powers, to review the Civil

Legislation with the purpose to increase the minimum age required for both contracting parties to celebrate a marital union."The fact that almost five hundred 12 to 14 year olds are already widowed and very likely with children. Their situation gives cause for concern.

### 2.1.2 DRESS CODE

Throughout history, women in Mexico have experienced restrictions on the way they may dress. Governments at state and even municipal level have prohibited the use of miniskirts in some regions. Since 2011, as a response to these restrictions, women have organized themselves in movements such as *AtreveteDF* and *Hollaback*. Organizations of actresses, activists, feminists and professionals have joined the "slut-walk" movement started in Canada. The protests taking place in Mexico demand respect and protection without discrimination from local and Federal governments. Today, Mexicans tend to adopt modern fashion styles like any mayor city. There are more conservative states where miniskirts for women and shorts for men are still frowned upon. The ways women dress in Mexico still adhere to certain standards that tell much of the woman's social standing and economic background. *Rebozos*, *delantales* and *huaraches* (shawls, aprons and sandals) are mainly worn in rural areas or by lower income women, and many of these items of clothing are now of Chinese manufacture or made out of plastic. Younger generations tend to dress like today's youth all over the globe.

### 2.1.3 FREEDOM OF MOVEMENT

Historically women have been confined to the household, where their activities are considered to have no value and thus, gain little or no recognition. But when women began to enter the labor market in significant numbers, they faced a "double day" of work and domestic responsibilities, with higher rates of movement between public and private domains. A factor not be overlooked is related to the time that woman spend outside "their" domestic environment and in their place of employment, which tends to be under continuous male supervision.

Controls on women's mobility vary from urban to rural areas. In rural and indigenous communities, it is customary for women to ask male family members for permission to be absent from the household in order to participate in local economic activities. This permission is granted, not only because it is a commitment to the company and work group that must be complied with, but also because it alleviates the household's economic burden.

Older women have a greater range of mobility for they can delegate domestic responsibilities to others. Furthermore, as they are no longer considered sexually active, they no longer represent a threat to the honor of the male head of a household. Young women may leave the house under two conditions: to produce an income and only if the work place offers an acceptable degree of security (Pérez and Vázquez, 2009).



According to the 1995 Family Planning National Survey (ENAPLAF, in Spanish), 60 to 70 percent of non-employed women are forced to obtain permission from their husbands to carry out any economic activity away from home. Of those employed, 50 to 60 percent require consent (Casique, 2003).

In the 1998-1999 Family Dynamics Survey (DINAF, in Spanish), 57 percent of females surveyed needed to ask for permission to take on employment, belong to an association, visit friends and relatives, use contraception, go shopping or visit a medical clinic. Data provided by DINAF show that in cities, such as Monterrey and Mexico City, women indicated greater autonomy in decision-making than those living in less privileged urban areas (García y Oliveira, 2007).

The National Survey on the Dynamics of Household Relations (ENDIREH for its acronym in Spanish) (INEGI, 2013c) gathers information on the different types of violence suffered at home, in school, at work and in a social context by women aged 15 and older, and the physical and emotional consequences experienced by women subject to spousal abuse.<sup>13</sup> The results of this survey show the incidence, frequency and magnitude of different types of violence against women, providing arguments in support of the creation and promotion of public policies that address this type of violence.

The survey makes use of six indicators of women's empowerment: 1) autonomy in decision making; 2) women's autonomy; 3) attitudes towards gender roles; 4) female participation in domestic chores; 5) male participation in domestic chores; and, 6) women's economic resources. Table 8 refers to the ENDIREH 2011, where data required for each index is available for women who are: currently in a marital relationship, occasionally involved in one, and women that once were in a partnered relationship (separated, widowed, or divorced).

**Table 8. Women Empowerment Indexes 2011**

Indicator	Index average	Currently in a marital union (1)	Once in a marital union (2)	Single (3)
Power of Decision	0.6668	✓		
Autonomy	0.5862	✓		✓
Gender roles	0.8307	✓	✓	✓
Female participation in domestic chores	0.5101	✓	✓	✓
Partner participation in domestic chores	0.3185	✓		
Economic resources	0.1005	✓	✓	

Source: Inmujeres (2012a).

<sup>13</sup> The National Survey on the Dynamics of Household Relations (ENDIREH) was conducted in 2003 and 2006 in a joint effort between the National Institute for Women (Inmujeres), the United Nations Fund for the Development of Women (UNIFEM) and the National Institute of Statistics and Geography (INEGI); in 2011, it was performed through a joint exercise between INEGI and Inmujeres

An important fact to be acknowledged is that both men and women seem to share in most decision-making, and in almost every case the number of decisions the woman makes exceeds the number in which the man makes the choice. This seems to suggest that women play an important role in family decision making, perhaps even more significant than men's.

**Table 9.** Distribution of re-codified variables on Women's Power to Choose, 2011

Who decides most of the time in the household or in your relationship...	Just him	Both	Just her*	Total
Whether you may work or study	12.43	37.01	50.56	100
Whether you may leave the house	8.62	24.77	66.61	100
What to do with the money you earn or the money available to you	6.65	37.41	55.94	100
Whether you may purchase things for yourself	4.94	21.61	73.45	100
Whether you may part take on the social and political activities in your community	7.26	32.11	60.63	100
How to spend and save money	8.98	54.36	36.66	100
What to do with the money you earn	25.5	57.3	17.2	100
Whether you give children permission to engage in some activity	9.68	75.29	15.03	100
Whether you have a saying in moving to a different house or city	13.1	78.63	8.27	100
When to have sexual intercourse	8.08	85.89	6.03	100
Whether to use contraception	6.25	76.02	17.73	100
Who must use contraception	9.86	67.96	22.18	100
How many children to have	5.72	81.74	12.54	100

\* This category also includes "not only by herself, but accompanied by him".

Source: INEGI (2013c).

On the other hand, it is worth noting that personal decisions are more important to women than any other decisions they make; for instance, whether they can work or study, leave the house, for example, to go shopping and buy goods for themselves. This would suggest that women's power to make decisions is relatively higher in the realm of personal choice than in things pertaining to the family or her partner. However, it should also be pointed out that in those decisions related to her economic independence, such as whether she can work or study and what she does with the money she earns, rates of partner interference are significantly high. Only in half the cases does the decision of work or study fall exclusively to the woman.

## 2.2 AUTONOMY OF WOMEN

*Mexican society has been portrayed as a typical example of patriarchy, where male superiority is accepted as part of the natural order of things and women are relatively powerless in the public sphere and, to a lesser extent, in the private sphere. But ongoing changes may be defining substantial differences between the traditional Mexican woman's portrayal and the contemporary one ... women are reaching higher levels of education, increasing their level of incorporation to the labor market and assuming greater economic responsibility for their families.*

Idrovo & Casique (2006).

Much has been written about women's autonomy during the past two decades, in particular related to indigenous communities, spearheaded by the Zapatista movement in Chiapas. Clothed in the attire of modernity and from an urban perspective, one may believe that things have changed in Mexico in terms of women's autonomy. Although there has been much progress, much still remains the same and in many occasions autonomy comes not from a personal choice, but rather from an economic or social necessity.

Table 10 shows frequencies of types of arrangements women make with their partners, e.g., asking permission to engage in certain activities, or not telling the partner about a certain issue, etc. Some results derived from these basic data are worth noting; for instance, the low percentage of women still asking for permission to carry out certain activities: 12 percent do so when it relates to a community or political activity; 9 percent ask permission to go shopping or engage in paid work, 8 percent do so when visiting family or friends, as well as when going to vote. However, these activities seem to be more under a woman's control, as it is in these categories where the highest percentages of independent decision-making are found.

It is important to take note that both women currently in a marital relationship as single women are considered in the calculation of the Autonomy Index. The picture is indeed very different for these two groups, as the average values for each group within this index show: women currently in a marital relationship show an autonomy average of 0.74, while single women present a 0.64 value. The results may appear counterintuitive, as one would expect single women to have more autonomy than women in a marital relationship (INEGI, 2013c). However, it appears that a single woman in Mexico is still, in many aspects, more vulnerable than a woman that has a man to protect her.

**Table 10. Rates on Autonomy Variables for Women**

Agreements made with the husband, boyfriend or partner to perform an activity					
Type of activity	Asks Permission	Informs partner	Nothing	Does not do it (*)	Total
Wants to work at a paid job	8.67	11.78	45.51	34.04	100
Wants to go shopping	8.70	5.59	41.86	43.85	100
Wants to visit relatives or friends	7.72	8.05	46.58	37.65	100
Wants to buy something for herself or change her look	3.39	4.83	27.99	63.79	100
Wishes to participate in a community or political activity	11.98	7.45	34.19	46.38	100
Wishes to start a friendship with someone he doesn't know	3.92	4.02	17.76	74.30	100
Wants to decide for whom to vote	8.01	2.23	10.37	79.39	100

\* This category also includes: She doesn't go by herself; rather she goes with him.

Source: INEGI (2013c).

## 2.3 SEX RATIO AT BIRTH

In general, the human population has a ratio of 97 males for every one hundred females born; it is the natural birth sex ratio. However, this ratio may vary in certain regions depending on certain social factors. Equilibrium, or the lack of it, has the potential to alter the frequency and, indirectly, the way in which couples form; accordingly, it can also impact the conformation, reproduction and stability of families throughout their life cycle.

**Table 11. Sex ratio at birth, mean variation 1994-2012**

Year	Distribution		Sex ratio at birth
	Men	Women	
1994	50.35	49.63	1.015
1995	50.44	49.54	1.018
1996	50.44	49.55	1.018
1997	50.39	49.60	1.016
1998	50.44	49.55	1.018
1999	50.01	49.98	1.001
2000	49.99	49.98	1.000
2001	50.23	49.76	1.009
2002	49.85	50.02	0.997
2003	49.21	50.77	0.969

Year	Distribution		Sex ratio at birth
	Men	Women	
2004	49.61	50.36	0.985
2005	50.01	49.96	1.001
2006	50.07	49.92	1.003
2007	50.11	49.87	1.005
2008	50.08	49.90	1.004
2009	50.32	49.66	1.013
2010	50.18	49.81	1.007
2011	50.27	49.72	1.011
2012	50.54	49.45	1.022

Source: INEGI (2014c).

According to data from the Mexican Population Census from October 2005, there are 94.6 males for every one hundred females. Migration is the main reason for discrepancies within natural and social indexes. Mexico's male population index is lower, as males constitute most migrant groups: for every seven migrants, six are men.

In 2014, Mexico's total population was 120,286,655, which makes it the twelfth most populous country in the world, following China, India and the United States (CIA, 2014).

**Table 12. Mexico's top Demographics**

Variables	Year	No.	Units
Total population	2015 est.	121'005,815	Inhabitants
Male population	2015 est.	59'046,836	Inhabitants
Female population	2015 est.	61'958,978	Inhabitants
Population density	2015 est.	61.5	Inhabitants / km <sup>2</sup>
Male ratio in total population	2015 est.	0.954	Men / women
Male ratio at birth	2013 est.	1.02	Men / women
Male ratio, under 15	2015 est.	1.045	Men / women
Male ratio, between 15 and 65	2015 est.	0.961	Men / women
Male ratio, 65 or older	2015 est.	0.845	Men / women
Urban population	2014	79	% / population
Rate of urbanization	2010-15 est.	1.2	% / year
Rural population	2014	21.0	% / population
Population under 15	2015 est.	27.6	% / population
Male population under 15	2015 est.	28.9	% of male population
Female population under 15	2015 est.	26.4	% of female population
Population between 15 and 64	2015 est.	65.5	% of population
Male population 15 to 64	2015 est.	64.6	% of male population
Female population 15 to 64	2015 est.	66.4	% of female population
Population over 65	2015 est.	6.8	% of population
Male population over 65	2015 est.	6.4	% of male population
Female population over 65	2015 est.	7.2	% of female population
Average age of population	2012 est.	27.1	Years
Average age of population, males	2012 est.	26.0	Years
Average age of population, women	2012 est.	28.1	Years
Life expectancy at birth, total	2015 est.	74.9	Years
Life expectancy at birth, males	2015 est.	72.3	Years
Life expectancy at birth, females	2015 est.	77.7	Years

Source: CONAPO (2010), INEGI (2013h), El Banco Mundial (2014) and Worldstat (2012).

In 2010 there were 95.3 men for every hundred women. The state of Guanajuato has one of the lowest M/F ratios of the country (92.7); only the Federal District, Oaxaca and Puebla are lower. At the other end of the spectrum, Southern Baja California and Quintana Roo reported the highest M/F ratios.

## 2.4 INCIDENCE OF VIOLENCE AGAINST WOMEN

Despite very positive advances, violence against women remains one of the country's most significant problems, affecting nearly 7 in every 10 women, in private or public life. Further, femicide remains a very serious concern: over the past 26 years, more than 36,000 female deaths have been presumed to be murders carried out with extreme violence often preceded by rape, severe injuries and mutilation (John Hendra, Deputy Executive Director for Policy and Programs at UN Women in Crossette, 2014).

Mexico has approved a series of laws and institutions designed to protect women from discrimination and violence. A large part of the challenge, however, lies in the effective implementation of these laws and the prevalence of institutional weaknesses" (Trimel, 2012). The general incidence of violence against Mexican women 15 years and older is 41.6 percent: 40.6 percent of these have reported been subject to emotional violence. The second most significant form of violence is economic (23.8%), followed by physical (13.5%) and sexual violence (7.3%).<sup>14</sup>

Women who are been separated or divorced suffer the highest rates of all forms of violence; 64 percent of separated females have suffered some form of violence from their former partner at some point in time. This percentage is 20 points higher than the value reported for conjugal violence suffered by women in some form of relationship (42%) or widows (46%). A very similar percentage holds for separated women who declared suffering from emotional violence (72%).

The incidence of any type of violence against widows reaches 45.54 percent, with emotional violence being reported at 40.5 percent. More than half of separated or divorced women (57.7%) reported economic violence from their partners at some point in their lives, a percentage that reaches 28.29 percent among widows. In both cases, the incidence of economic violence is higher in comparison with married or single women (Table 13).

Clearly, the rate of physical violence from a partner at some point in life is particularly high among separated women (41.2%) and widows (22.2%). This data contrasts with the physical violence reported by women who are married or living in a

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<sup>14</sup>Economic violence refers to limited or lack of access to funds and credit; controlling access to health care, employment, education, including agricultural resources; exclusion from financial decision-making; and discriminatory traditional laws on inheritance, property rights, and use of communal land.

relationship (10.7%) and by single women (3.4%). The same trend emerges for sexual violence: 24 percent of separated women and 12 percent of widows report having suffered this type of violence, whereas among women living in a relationship and single women the percentage is 5.2 percent and 2.9 percent, respectively. In the case of currently separated females, it is worth noting that in almost half the cases reported (46.3%), it was the woman's decision to end the relationship, while among women who did not suffer any form of violence, that rate drops to 23.6 percent. While single females report the lowest incidence of violence, one fourth of them have experienced violence from a partner at some point in their lives, which seems to indicate some form of violence during courtship or other social interaction with a partner.

**Table 13. Incidence of violence among women 15 and older, inflicted by a partner at some point in life, by marital status, 2011**

	United	Separated	Widows	Single	Total
Emotional Violence	37.34	72.01	40.5	33.73	40.58
Physical Violence	10.73	41.18	22.16	3.41	13.47
Economic Violence	24.44	57.74	28.29	1.01	23.84
Sexual Violence	5.24	24.05	12.09	2.9	7.33
Any Form of Violence	42.16	63.64	45.54	24.83	41.65

Source: Inmujeres (2012a).

In sum, the highest level of incidence of “couple violence”, in its different forms and experienced at whatever point in time, befalls women who are separated. For each type of violence, women who are separated report twice the rate for widows, who are the second most afflicted group. Women in some form of relationship represent the third most affected group, as 42.2 percent of them have encountered some form of violence from their partners at some point in their lives. Finally, 24.83 percent of the single female population reports suffering some form of relationship violence.

When the focus is on violence suffered during the previous year, 21.6 percent of the female population suffered one or several forms of couple violence. Again, the highest incidence is concentrated in emotional violence (19.9%), followed by economic (11.4%), physical (3.7%), and sexual violence (2.3%) (Table 14).

The highest rate of violence experienced during a previous year is found in women currently in some type of relationship (a free union or a marriage). Among them, 27.9 percent suffered some form of violence from their partner, followed by those separated or divorced with 16.5 percent. Single women and widows are, respectively, third (14.2%) and fourth (with 3%). These results seem to indicate that, as most married women live with their partners, a closer living proximity also conveys a higher risk of domestic violence; separated women and widows show lower overall

values, although economic and emotional violence play an important role with these two groups. Single women usually experience violence at the hands of the person they are dating.

**Table 14. Incidence of Couples Violence among women 15 years and older by marital status during the preceding year, 2011**

	In a marital relationship	Separated	Widows	Single	Total
Emotional Violence	23.26	14.1	2.56	19.15	19.89
Physical Violence	4.4	6	0.84	1.41	3.73
Economic Violence	16.12	10.39	1.17	0.41	11.37
Sexual Violence	2.82	3.04	0.38	1.18	2.34
Any Form of Violence	27.88	16.49	3.02	14.15	21.6

Source: Inmujeres (2012a).

Regardless of marital situation, emotional violence has the highest incidence; economic violence is second in frequency among united and separated women, but not among single females who, by definition, do not have an economic bond with their partners. Physical violence falls in third place frequency-wise among united and separated females, while it takes second place among single women. Finally, sexual violence ranks fourth among united and separated women, and third among singles. For this last group, all other types of violence show a relatively low incidence (below 1.5%), with the exception of emotional violence.

According to data supplied by ENDIREH (2011), only 32.9 percent of women have never witnessed, suffered or used physical violence in their families of origin. This seems to mean that physical violence within the family is or has been a part of everyday life for two out of every three Mexican women at some point in their lives.

The 2011 ENDIREH report shows, by decennial age groups, a slight decrease in the incidence of physical and emotional violence among women in younger groups. The 2006 National Survey on Violence against Women Users of Public Health Services (ENVIM, in Spanish) has shown similar results. These data suggest the possibility that changes in family dynamics may be occurring, associated with a decrease of violent behavior towards children. Family members are usually the main source of violence towards girls.

Besides the family of origin, the in-law family also inflicts violence on women. ENDIREH 2011 identified both male and female in-laws as the main actors of in-law family violence against women. Of all females who reported theft of property (4.79%), 5.54 percent said their in-laws were responsible, while 6.45 percent declared that property titles or deeds had been taken from them (1.56 percent of the total female population).



Elderly women, defined by ENDIREH (2011) as those women 60 years and older –although the international standard is 65 years– are also victims of violence; most of them are victimized by their own families. Less visible, but equally perturbing, is the emotional violence inflicted on 13.5 percent of women 60 years and older; 10.7 percent are victims of negligence and 0.76 percent has suffered from physical violence. The main aggressors are the people they live with. The research on violence against the elderly female population must explore several hypotheses arising from these data. Violence can take place i) as an extension of an aggression pattern that has been continued from an earlier stage in life, or ii) as a risk associated with age –an element of vulnerability due to physical and mental limitations usually associated with higher age–, or iii) as the result of economic dependency. It should not be assumed that these hypotheses are mutually exclusive (*cf.* Douglas, 1983).

### 2.4.1 FEMICIDE

Among other manifestations, a growing murder rate is of particular concern as an indicator of increasing violence in the country. According to information provided by INEGI in 2009, the state of Chihuahua had the highest rate of female murders, with 13.1 for every 100,000 women. Baja California, Guerrero, Durango, Sinaloa, Sonora and Tamaulipas are also seriously affected by violence.

From 2005 to 2009, the homicide rate grew from 2.4 deaths to 3.5 for every hundred thousand women. These figures may not be totally accurate; indigenous women are especially at risk of becoming victims of femicide, since they do not benefit to the same extent as their non-indigenous counterparts from the services that would otherwise protect them from violence and enhance their ability to seek redress (UN, 2012).

**Table 15. Total Presumed Femicides 1985-2013**

Year	Total number of deaths	Year	Total number of deaths	Year	Total number of deaths
1985	1,485	1995	1,504	2005	1,297
1986	1,416	1996	1,469	2006	1,298
1987	1,267	1997	1,338	2007	1,083
1988	1,408	1998	1,525	2008	1,425
1989	1,244	1999	1,411	2009	1,925
1990	1,254	2000	1,284	2010	2,418
1991	1,285	2001	1,382	2011	2,693
1992	1,378	2002	1,280	2012	2,764
1993	1,354	2003	1,316	2013	2,647
1994	1,468	2004	1,206	2014	?

Source: INEGI (2014e).

**Table 16. Characteristics of Female Deaths with Presumption of Homicide and Female Context Indicators, 2005 and 2009**

Characteristics	National	
	2005	2009
Death Rate with presumption of Homicide (for every 100,000 women)	246	340
Number of Female Demises with presumption of Homicide	1,297	1,858
Median Age of Women presumed to be Homicide Victims	31.0	31.0
Percentage of Deaths Presumed Homicide		
Single Women (including females under 12) presumed to be homicide victims.	42.60%	44.10%
Female deaths presumed to be homicides in towns with 1 to 999 inhabitants	13.30%	9.70%
Certified by a forensic doctor	86.20%	76.60%
With autopsy performed	82.40%	74.50%
Where family violence is presumed	8.40%	5.90%
<b>Not specified if there was family violence</b>		
The injury happened in a living space	45.50%	36.40%
The injury happened in a public place	27.80%	35.80%
Victims over 18 years old	19.00%	16.0%
Chocking and similar	21.60%	18.0%
Fire arms	30.80%	41.80%
Sharp objects	17.30%	14.20%
Blunt objects	20.70%	18.30%
Male Death Rate presumed to be homicide (for every 100,000 men)	16.92%	32.47
Rate of male deaths presumed to be homicide in relation to female's presumed homicide	6.90%	9.6
Percentage of violent female deaths (by external causes) of total female deaths	5.10%	5.00%
Percentage of female deaths presumed to be homicides of total violent deaths of women	11.50%	15.30%
Suicide Rate (for every 100,000 women)	1.41	1.78
Median Age at the time of suicide	26.00	26.00
Rapes reported for every 100,000 women	25.71	27.15
15 year olds and older women who suffered community violence during their live	50%	–
15 year olds and older women married or in a relationship who suffered couple violence in the preceding year	40.00%	–
15 year old and older women married or in a relationship who suffered physical or sexual violence from their partners in current relationships who reported it to the authorities	17.80%	–
15 year old and older women married or in a relationship who suffered emotional violence from their partners in the preceding year	32.00%	–

15 year old and older women married or in a relationship who suffered physical violence from their partners in the preceding year	10.20%	–
15 year old and older women married or in a relationship who suffered sexual violence from their partners in the preceding year	6.00%	–
Percentage of hospital expenditures on women in public institutions for causes related to violence	3.20%	32.00%
<b>National</b>		
<b>Female context indicators</b>	<b>2005</b>	<b>2009</b>
Percentage of contraception demand not satisfied*	12.00%	9.86%
Maternal Mortality Rate (for every 100,000 live births)	61.78%	62.21%
Percentage of childbirths of women under 18 years old	6.40%	7.20%

\* Refers to 2006 and 2009

**Source:** Inmujeres (2011), INEGI (2014e) and UNWomen (2015).

Since 2010, the Observatory –a coalition of 43 groups that documents serious crimes against women– has been petitioning for a gender-based violence alert to be activated in Edomex. It is important to note that the numerous organizations involved with this issue highly differ with official statistics on femicide. There is still no national DNA databank in Mexico, so thousands of unidentified bodies are buried in common graves (Lakhani, 2015).

Violent deaths (including homicide, suicide, accidents, and others by external causes) represent one of every 20 female deaths, both in 2005 and 2009. At the same time, the rate of violent death presumably related to homicide increased from 11.5 to 15.3% (Table 16).

The state of Mexico, usually referred to as Edomex, has a particularly violent history on this issue. A staggering 1,258 girls and women have been reported as disappeared in Edomex in 2011 and 2012 –of which 53 percent were aged between 10 and 17, according to figures provided by the National Citizens Observatory on Femicide. Over the same period, 448 women were murdered in this state. Many of their mutilated bodies were left displayed in public places like roads, parks and shopping centers –an act which criminologists and feminist scholars say is associated with gender hate crimes.

It is also worthy of notice that the median age of victims is 31, with a high death rate for single women, which has been slowly increasing from 42.6 to 44.1 percent between 2005 and 2009. In rural areas, however, rates have been decreasing: only one of every ten female homicides takes place in towns with 1,000 inhabitants or less. On the other hand, the male homicide related death rate has almost doubled, jumping from 16.9 for every 100,000 men in 2005 to 32.5 in 2009.

A special comment deserves the murder of women from indigenous communities, and in particular the general violence exerted against girls and young women who reside there, as the aggression takes place inside the family and within the com-

munity. In an essay by Marcela Lagarde (2008) the authors emphasize that in Mexico *“femicide flourishes under the hegemony of a patriarchal culture which legitimizes despotism, authoritarianism, and cruel, sexist treatment —patriarchal, misogynist, homophobic, and lesbophobic— as supported by classism, racism, xenophobia, and other forms of discrimination.”* Although this opinion may seem rather extreme, it reflects behaviors presently occurring, part of a national reality that is the result of a historical socio-cultural inertia that still permeates many groups in modern day Mexico.

According to the UN Indigenous Women Report, strategies to decrease femicide will need to include efforts towards research and data collection on cultural monitoring within a patriarchal machismo culture, in addition to the evaluation of cases that have lacked –so far– substantial investigation.

#### **2.4.2 WOMEN TRAFFICKING**

Each year, at least 1,700 Latin American and Caribbean women can be found as sex slaves in Japan; other research has discovered that around 3,000 Mexican women work as prostitutes in that country, having been recruited through international trafficking networks (Chiarotti, 2003).

Due to the highly clandestine nature of this activity, Mexico has no consistent data on number of victims involved in trafficking. According to the United Nations Office for Drug Control and Crime Prevention (ONUDD, in Spanish), and the Report on Human Trafficking issued by the US Department of State, Mexico has been catalogued as a point of origin, transit and destination for human trafficking with the purpose of sexual exploitation and forced labor. The groups considered most vulnerable to human trafficking in Mexico are: women and children, indigenous people, and undocumented migrant workers. The Mexican government reports that each year over 20,000 Mexican children are victims of sexual exploitation through trafficking, especially near the northern border and in resort areas. The latest amendment to the Federal Law Against Organized Crime states that there are 10,000 annual cases of female victims of trafficking for sexual exploitation in Mexico and it is believed that half of them are taken to the United States and Canada.

Attempting to build capacity for facing the challenges arising from this type of crime, the Federal government, the National Institute for Women (Inmujeres), the National Migration Institute (INM, in Spanish), the International Organization for Migration (OIM, in Spanish) and the Women’s Inter American Commission of the Organization of American States (CIM-OEA, in Spanish), together with the civilian society, launched a joint initiative titled “Trafficking of Women, Boys and Girls in Mexico.” The initiative began in October 2004 with financial support from the U.S. Agency for International Development (USAID) and Inmujeres, attending to CIM-OEA’s Resolution 225/02 and OEA’s 1948/03 General Assembly Resolution.

A national Law to Prevent and Penalize Human Trafficking and its regulation was passed in 2007 and published in February 2009. That year, 22 Mexican States and the Federal District also decreed reforms to their penal codes to codify some forms of human trafficking; only the Federal District and the state of Chiapas have enacted specific laws.

On September 23<sup>rd</sup>, 2013, the Federal Official Gazette published the Regulations for the General Law to Prevent, Punish and Eradicate Crime on Human Trafficking (DOF, 2013b). Herewith, Mexico reaffirmed its commitment to fight human trafficking and protect and assist all victims; by so doing, the Ministry of the Interior (SEGOB) complies with its responsibility of issuing and strengthening the effectiveness of the Law, helping to care for the victims of human trafficking and fighting to eradicate this heinous crime. The Regulation was harmonized with the General Law on Victims, thus expanding the existing protection system and taking one more step towards the protection and healing of the victims from this type of crime.

## 2.5 ADULT UNPAID WORK

According to the National Survey on Occupation and Employment, during the years 2006 to 2011 two of every three women were employed in an unpaid job, while only one of every four men were so. It should be noted that participation rates for unpaid employment, for both males and females, were slightly higher in 2011 than in 2009, a year of slow economic growth and diminished employment opportunities. This is shown in the participation rates for family and community work. The opposite happens in years of economic recovery or when the economy turns more dynamic.

In 2011, 62.2 percent of 43.8 million women 14 years and older were engaged in unpaid work, while 26.2 percent of 39.9 million men fell into this category. While the participation in unpaid activities of people at both ends of the age continuum –14 to 19 years old, and 60 years and older– is noticeable, people in their mid-life years tend to be more restricted by their circumstances, influencing the division of labor by sex. For this reason, the trend line for participation in unpaid employment by age for both men and women takes a “U” shape.

As people reach the age of employment, they become engaged in the job market, especially men, who fulfill the role of economic providers, following deeply rooted cultural values. Males thus stop participating at some stage in unpaid domestic or community activities; but as they grow older, their participation in paid work decreases and involvement in unpaid activities increases again (Table 17).

Although it is known that not every job provides economic compensation, women face this reality more frequently. Due to stereotyping, work related to domestic activities –such as caring for children, managing the family economy, home

up-keep and other activities– is regarded as a “woman’s duty”, implying that they are confined by an identity and social role. This labor discrimination is socially assimilated as part of the gender identity.

**Table 17. Participation Rate in Unpaid Work by Sex,2006 - 2014**

Year	Male	Female
2006	4.63	10.40
2007	4.60	10.61
2008	4.55	9.81
2009	4.92	10.0
2010	4.79	9.07
2011	4.38	9.62
2012	4.63	8.51
2013	4.29	8.46
2014	3.91	8.11

Source: INEGI (2015e).

In spite of the growing presence of women in the economically active population, some indicators show that many are simultaneously performing domestic activities. They face what is known as “the double working day”, having to combine their activities at the work place with a significant burden of domestic chores. Men do not usually face this work overload (see Table 18).

**Table 18. Economic Value of Unpaid Domestic Work (Percentage Composition) by Type of Function according to Sex, 2011**

Type of function	Men	Women
Food preparation	12.1	87.9
Home cleaning and household maintenance	26.1	73.9
Care of clothing and laundry	16.0	84.0
Shopping and house administration	44.5	55.5
Care and support	24.9	75.5
Support to other households and voluntary work	23.1	76.9

Source: INEGI (2011e).

Despite increased participation of females in the labor market, women usually continue to perform unpaid work –especially domestic unpaid work– regardless of holding outside jobs as well.<sup>15</sup> In Mexico, 98 percent of the female population between the

<sup>15</sup> By 2020, women are projected to be 47% of the total labor force in Mexico (22,704,200) (Catalys, 2014b).

ages of 16 and 64 carry out domestic chores, 83 percent perform unpaid activities, and almost 15 percent assist in other households and in the community. The rates for males are 90, 73 and 8 percent, respectively. The differentiation by sexes for unpaid work exists in both urban and rural areas.

Gender roles and labor division by gender define differences in household responsibilities. For example, more than nine of every ten women prepare and serve meals, but only five of every ten men take part in those activities. A similar proportion can be observed in domestic housework, where nine of every ten women and six of every ten men participate. This pattern repeats itself in almost every activity, except for those considered more masculine: heavier maintenance, installations and repairs, which are neither daily nor routine chores. Another important finding shows that gaps are not as wide for activities such as making payments or other administrative processes, as well as running the household.

Male participation in domestic unpaid work is not insignificant; however, the main gender difference lies in the amount of time both sexes devote to unpaid work. In Mexico, the population between the ages of 16 to 64 dedicates 2,135 million hours every week to unpaid activities: women contribute 1,702 million hours, while men contribute 512 hours. It is clear that close to three quarters (76%) of the time spent in unpaid work is being contributed by women. In terms of the time people dedicate to domestic chores, four-fifths of that time is provided by women, as is also one-third of the time related to unpaid care. These figures clearly show that unpaid work is a clear indicator of gender inequality in the country.

#### Other Highlights from the OECD'S

*The 4 hours and 21 minute difference in unpaid work time between Mexican women and men is the highest in the OECD, where the average gap is 2 hours and 28 minutes.*

*Mexicans have the second highest level of income inequality and the highest level of relative poverty in the OECD. One in every five Mexicans is poor, compared to just above one in ten on average across the OECD. Nearly half of Mexicans find it difficult or very difficult to get by on their current income.*

*Mexicans report the third highest positive psychological experiences (feeling rested, smiling, learning, and enjoyment) and lower than average negative experiences (pain, worry, stress, sadness, depression).*

Source: OECD (2011b).

According to an OECD 2014 report, Mexican women spend 373 minutes a day doing unpaid work, such as house chores or shopping, exceeded only by Turkish women, with 377 minutes a day. When comparing their menfolk, Mexican men spend an aver-

age of 113 minutes on unpaid work vs. Korean men, who spend only 45 minutes, the least among OECD member countries. If we look at the sum of paid and unpaid work, women work more than men (2.6 hours more per week on average across the OECD).

Mexicans spend large proportions of their time in the kitchen working without wages; they spend more time cooking than is customary in most other countries. USA inhabitants spend the least time cooking each day, barely 30 minutes, and Turks the most, with 74 minutes. Most people spend around 50 minutes a day cooking.

Certain variables, such as education and marital status, influence involvement in domestic unpaid work; however, it has been proven that women perform a larger proportion of this kind of work than men, regardless of other factors. However the case, the value of unpaid work is considerable, equivalent to about one-third of GDP in OECD countries, ranging from a low of 19 percent in Korea to a high of 53 percent in Portugal (Rhoda & Burton, 2011).

## 2.6 CHILDREN AND YOUTH: DOMESTIC CHORES

A recent World Bank report states that millions of minors work in Mexico, 870.000 of them under the age of 13. In 2011 there were approximately three million boys, girls and teenagers between the ages of 5 and 17 active in the Mexican workforce.

The following figures serve to illustrate some aspects of this issue:

- Child labor rate is 10.5 for every 100 children.
- A large percentage (45.6%) of children combine work and school activities with domestic chores.
- A high number of working boys, girls and teenagers (39.1%) do not attend school.
- From the total population of non-working boys, girls and teenagers (between the ages of 5 and 17), 11.4 percent spend more than 15 hours a week on domestic chores at home. Of those, 35.4 percent do not attend school.
- 44.1 percent do not receive economic compensation for their work.
- 4.4 percent are reported to have suffered a work related accident or injury.
- 4.1 percent of children perform domestic services, and eight of every ten cases are girls and female teenagers.
- 36.8 percent work 35 hours or more providing domestic services (nearly half a million are women).

In 2010, according to ILO estimates, 15.5 million children were involved worldwide in paid or unpaid domestic labor at the residence of a third party or employer. Ten



and a half million of these are engaged in domestic child labor, and girls represent the higher percentage (72%). Dangers linked to domestic child labor include long and exhausting workdays, handling dangerous objects, such as knives or hot cooking utensils, insufficient food and inadequate lodgings, and humiliating and degrading treatment that may include physical and verbal violence, as well as sexual abuse. These risks increase when they live in the house of the employer.

An important variable for consideration is the time dedicated to domestic chores; some estimates on domestic child labor consider the allocation of 15 hours or more to perform work-related activities. Despite the fact that this amount of time does not allow any child to adequately perform a job suitable to his/her age, it certainly interferes with school activities. Therefore, when looking at figures on child labor, it should be kept in mind that girls, boys and teenagers of ages between 5 and 17 –who usually declare not to work– might indeed be spending 15 hours or more attending to domestic chores. Official figures report that 35.4 percent of them do not attend school; from a gender perspective, the percentage of girls who do not go to school is almost double that of boys (39.1 and 20.1 percent, respectively).

As far as Mexico is concerned, data show that in 2011 approximately three million boys, girls and teenagers between the ages of 5 and 17 participated in some economic activity, an occupation rate of 10.5 for every one hundred children, 68 percent of which are male and 32 percent female. This represents occupation rates of 14.1 percent and 6.8 percent respectively for each sex: three of every ten are children between the ages of 5 and 13. Among the main reasons for children between the ages of 5 and 17 to be working as domestic service providers is to pay for their studies and contribute to cover family needs at home (48.1 and 28.9 percent, respectively). This shows that financial restrictions within the family's home increase the possibility of child and teenage labor.

Over 11.3 percent of boys, girls, and teenagers between the ages of 5 and 17 working as domestic service providers live away from their birthplace. The nature of their work –usually without social security and other legal rights– frequently makes them vulnerable to human rights violations, as is the case, in particular, for migrants.

**Table 19. Percentage Composition of the Economic Value of Domestic Unpaid Work, by Kind of Activity and according to Sex, 2011**

Activity	Men	Women
Meal preparation	12.1	87.9
Cleaning and household maintenance	26.1	73.9
Laundry and taking care on clothing	16.0	84.0
Shopping and house administration	44.5	55.5
Providing care and support	24.9	75.5
Support to other households and voluntary work	23.1	76.9

Source: INEGI (2014f).

According to the National Survey of Social Income on Child Labor, conducted by the International Labor Organization (ILO, 2011; 24), 73 percent of the Mexican population believes that girls have the obligation to assist at home with domestic chores. Data from the Child Labor Module of the survey (MTI, in Spanish) reflect that seven of every ten non-working children between the ages of 5 and 17 perform domestic chores at home. Although most spend less than 15 hours per week on these activities (87.4 percent to be exact), it is significant that 11.4 percent spend 15 or more hours a week working, and that this percentage is higher for girls and female teenagers in comparison to boys and male teenagers (16.6 and 5 percent, respectively).

Domestic chores performed on a daily basis to keep the household “running” are seen as part of the contribution that girls, boys and young women make to the household, making it possible for other members of the family to earn paid work outside the household. As a result, this labor becomes unpaid work, stays outside the market logic, and is not included in national economic data. In sum, domestic work represents a contribution in kind to domestic welfare and significantly favors the continuity and social cohesion of life.

### 3. ECONOMIC STATUS

The National Development Plan 2013-2018 (PND in Spanish) enforces the decrease of gender gaps and promotes the participation of women in the business sector by removing obstacles that prevent their full participation in remunerated economic activities, developing products, services and financial schemes. Change is happening and the influences of a globally interconnected society is bringing not only telecommunications that one could only dream about a generation ago to one’s own front-step, but also the minds and ideas and fantasies of a new generation of travelers, discoverers and inventors, who know how to write code and create, promote and sell an app in gender neutral mode. It is the older generations that now require our attention.

#### 3.1 WOMEN AS A PERCENTAGE OF THE ECONOMICALLY ACTIVE POPULATION (EAP)

*Gender disparities in employment rates are very high. Male employment rates were substantially higher than female employment: in 2012 labor force participation rate for male was 80% vs. 45% for female.*

The World Bank (2015).

*The share of women in the labor market has increased from 34.3% in 1990 to 44.6% in 2012 and is projected to rise even further and reach 47% by 2020*

PwC (2014).

The role of women in Mexico's economy underwent a series of dramatic changes starting in the 1970s and continuing over the next two decades. By 1990, the percentage of women in the EAP had increased to over 30 percent, double the percentage recorded twenty years earlier. The following textbox provides an overview of the numbers of women in the EAP (Canada: Immigration and Refugee Board of Canada, 2013) derived from a variety of original sources compiled by IRB Canada.

***Women's Role in the Economy***

*Various sources have reported that there has been considerable progress with regard to the role of women in the Mexican economy during the last thirty years. For example, according to a Library of Congress country study on Mexico, compared to statistics from 1970, the percentage of women in the workforce had doubled to 31 per cent in 1990 (US June 1996). Two sources also mentioned that by 1995 the percentage of women participating in the economy had risen to 35 per cent (CRP 1997; PBS n.d.), while figures in a 1999 report by the National Employment Inquiry (Encuesta Nacional de Empleo) of Mexico indicated that between 36 and 37 per cent of women were economically active (Mexico July 21, 160).*

*An 11 July 2000 report by the National Institute for Women (Instituto Nacional de las Mujeres, Inmujeres) provided a graph that denotes the rise in female participation in the workforce that started at 17.6 per cent in 1970, increased to 31.5 per cent in 1991, and reached 36.4 per cent in 2000 (Mexico, 11th July 2000). According to International Labor Organization (ILO) statistics, female participation in the Mexican labor force increased from 38.9 per cent in 1995 to a high of 41.7 per cent in 1997, while decreasing slightly to 40.7 per cent in 1999 (2002). Moreover, Mexico's female employment-to-population ratio made steady gains in percentages in contrast to the male ratio, which fluctuated during the same period (ILO 2002).*

The demographics of women in the workforce also changed during this period. In 1980 the typical female worker was under twenty-five years of age. Her participation in the workforce was usually transitional and would end after marriage or childbirth. During the next years, however, an emerging feminist movement made it more acceptable for educated Mexican women to pursue careers. In addition, the economic crisis of the 1980s required many married women to return to the job market to help supplement their husbands' income.

About 70 percent of women workers in the mid-1990s were employed in the tertiary sector of the economy, usually at wages lower than men's. The growing presence of women in the workforce has contributed to a series of changes in social attitudes; however, other more deep-rooted traditional attitudes still persist (Table 20).

Mexican female participation in the job market has shown a sustained increase during the past 30 years, linked to the country's modernization, industrialization and urbanization processes, but also to an economic restructure that has taken place in recent decades and has necessitated more household members to enter into the job market.

**Table 20. Percentage distribution of working population according to occupation between the ages 5 to 17 by sex, 2013**

Occupation	Women	Men
Official, Director or Chief	0.08	0.01
Professional and technician	3.41	2.39
Auxiliary worker in administrative activities	2.69	1.20
Merchant, salesman	33.32	14.08
Personal services and surveillance worker	8.84	3.30
Agricultural worker	4.45	11.22
Craftsperson	4.86	2.91
Drivers and industrial machine operators	1.52	2.43
Workers in basic and supportive activities	40.83	62.47

Source: INEGI (2014f).

During Mexico's 2006-2011 Administration, the rate of labor force participation showed practically no change. Women kept a rate close to 98 percent while for men the rate was 94 percent, confirming both a higher general involvement by women in work (both paid and unpaid), as well as a persistent inequality in the distribution of jobs. By the third trimester of 2013, the economically active female population reached 38.3 percent, with the male population dominated with 61.7 percent (SNE, n.d.). According to data provided by INEGI in 2012, the rate of participation of women 15 years and older –with at least one child– was 44.1 percent. Needless to say, the majority of females who are part of the country's economic activity (97.9 percent) combine their working activities away from home with domestic chores in their own households.

**Table 21. Work Participation Rates by Sex, 2005 - 2015**

Year	Male	Female
2005	77.7	39.6
2006	78.7	40.7
2007	78.2	41.4
2008	78.3	42.0
2009	76.8	41.2
2010	77.6	42.5
2011	76.8	41.8
2012	78.2	42.9
2013	79.1	44.8
2014	78.3	43.2
2015	77.8	42.7

Source: INEGI (2015c).

In spite of the growing participation of women in the work market, patterns of labor division by gender persist and restrict work opportunities for the female worker. Women continue to have primary responsibility for reproductive activities, making it considerably difficult to reconcile productive activities with family caretaking. In 2008, the estimated workweek for women was on average 66.6 hours, ten more than for men – with 56.1 hours.

The Ministry of Labor and Social Provision (STPS, in Spanish) promotes a Policy of Equal Work to support equal opportunities and the recognition of labor rights for both women and men.

The STPS developed the Mexican Norm for Labor Equality between Women and Men (NMX-R-025-SCFI-2012).<sup>16</sup> This legal instrument is unique in Latin America in that it certifies both public and private social organizations that promote equality and non-discrimination, social provision and work-private life balance, a suitable working environment, with accessibility and ergonomic furniture, as well as the freedom to be unionized. The Mexican Institute for Standardization and Certification has credited STPS as the first institution of the Public Federal Administration certified under the Mexican Norm/Law for Work Equality between Women and Men.

### 3.2 EMPLOYED PERSONNEL BY SECTOR

Data from the Economic Census indicates that the employed population in 2003 consisted of 16,239,536 employees, distributed in 3'005,157 economic units. Five years later, there was an increase both in economic units (718,862 additional units) and the total number of people employed (reaching 20,116,834).

The economic sectors where women have traditionally shown an increasing participation are Services (from 42.2 percent in 2003 to 44.7 percent in 2008) and Commerce (from 45.2 percent to 46.8 percent).

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<sup>16</sup> The Norm includes five dimensions with specific indicators:

- Equality and no discrimination. Adopting policies and actions that guarantee these aspects between women and men.
- Social provision. Verifies that female and male workers enjoy, without any discrimination, the benefits offered by social organizations.
- Work environment. Corroborates the existence of practices and indicators for a work environment free of work violence and sexual harassment. It applies an instrument that measures satisfaction levels of workers in the work place.
- Accessibility and ergonomics - Physical spaces and furniture adapted to the needs of pregnant women, people with disabilities and senior workers.
- Union Freedom. Verifies the observance of the workers' right to create unions, as well as to affiliate to existing ones.

The largest increases in female participation took place in construction work (a 3.2 percent increase between 2003 and 2008), services (with a reported 2.5 percent positive difference), and commerce, with 1.7 percent. In recent years, employment in the primary sector decreased both for males and females by *circa* one million jobs; the secondary sector reported a slight increase in 2008, but fell again the following year. The most significant increase in employment for this period was seen in the tertiary industry –more than 6 million jobs, almost half of which went to women, increasing their participation in commerce, restaurants and services (*c.f.*, Table 22).

**Table 22. Population employed by Sex, 2003 and 2009**

Sector	2003			2008			2009***		
	Total employed	Men	Women	Total employed	Men	Women	Total employed	Men	Women
<b>Total</b>	16,239,536	10,104,046	6,135,490	20,116,834	12,085,537	8,031,297	29,032,023	18,191,153	10,840,870
Fishing and Aquaculture	196,481	181,117	15,364	180,083	165,560	14,523	2,221,663	2,032,746	188,917
Mining	122,640	110,597	12,043	142,325	126,723	15,602	N/A	N/A	N/A
Utilities (electricity, water and gas)	221,335	183,274	38,061	235,688	196,117	39,571	351,084	304,102	46,982
Construction	652,387	610,929	41,458	704,640	637,285	67,355	2,491,195	2,381,650	109,545
Manufacturing Industries	4,198,579	2,715,036	1,483,543	4,661,062	3,023,622	1,637,440	5,096,462	3,483,672	1,612,790
Commerce*	4,997,366	2,743,757	2,253,609	6,134,758	3,260,935	2,873,823	4,278,450	2,588,520	1,689,930
Transport, postage and storage	634,940	547,015	87,925	718,062	614,955	103,107	1,731,631	1,474,267	257,364
Services**	5,215,808	301,2321	2,203,487	7,340,216	4,060,340	3,279,876	1,861,538	592,6196	6,935,342

\* Comprises sectors SCIAN of wholesale and retail commerce.

\*\* Includes sectors SCIAN. Information in media. Financial and Insurance services. Real estate and leasing services.

\*\*\* Includes Professional, scientific and technical services. Corporative; Support services to business and management rights.

Educational services. Health and social assistance services. Cultural recreation and sports services.

Temporary accommodation and restaurant services. Other services except government activities.

Source: INEGI (2006a, 2010a and 2011b).

In the non-formal sector, 36.4 percent of the female population and 35.5 percent of the male population are self-employed, 15 percent of women and 10 percent of men work on an informal basis without a salary. Under the category of employers we see a major gap, since men constitute near 9.9 percent while women's rate fluctuates between 3.1 and 3.8 percent. The numbers of unpaid workers also provide evidence

on inequality, as female laborers represent between 15 and 20 percent of the unpaid worker population, while men represent between 8 and 9 percent.

### 3.3 SELF-EMPLOYMENT (INFORMAL EMPLOYMENT)

According to data provided by INEGI, informal economy reached a new high in 2011 with almost 14 million people, 1.65 million more than in 2010: 4,500 workers joined this sector every 24 hours. Some analysts have estimated that informal work represents 35 percent of the country's GDP. "In 2014, the National Institute of Statistics and Geography (INEGI) made available first estimates of the Informal Economy in Mexico's GDP for the years 2003-2012" (Vanek, 2015).

These estimates represent an important advance in the methods for calculating National Accounts. They reflect a new base year (2008) and meet the demand for better measurement of the contribution of the Aggregate Value of the Informal Economy to the Gross National Product of the Total Economy. Estimates are presented on the Gross Value of Production, Intermediate Consumption, and Value Added both for the Informal Sector and Informal Employment, valued at current prices for the base year of 2008 and the implicit price index. In addition, information is included on remunerated and non-remunerated jobs of the Informal Economy. These figures include total informal employment—both inside and outside the informal sector—to the national economy. During the period, the share of the GDP contributed by the informal economy dropped slightly from around 27 percent to a still significant 25 percent (INEGI, 2013e).

**Table 23. Participation of the Informal Economy in the GNP Series 2003-2013**

	2003	2004	2005	2006	2007	2008
Total Economy* VAB	9,028,899	10,120,003	10,962,144	11,941,199	11,568,456	12,723,475
Informal* Economy VAB	1,984,233	2,199,161	2,373,403	2,590,500	2,793,589	3,017,060
Contribution (%)	27.2	26.5	26.3	25.6	25.5	25.3
	2009	2010	2011	2012	2013	2014
Total Economy* VAB	14,021,257	15,117,804	15,447,55	9,028,899	10,120,003	
Informal* Economy VAB	3,105,229	3,337,191	3,601,017	3,840,661	3,838,013	
Contribution (%)	26.8	26.2	25.7	25.4	24.8	

R = Revised figures P = Preliminary figures GAV = Gross Added Value GNP = Gross National Product

\* Figures in millions of pesos at current prices.

Source: INEGI (2013e).

Lack of quality employment opportunities led 1.62 million people to create their own businesses. In 2011, the number of self-employed persons increased to 10.75 million –22.48 percent of the employed population. Self-employed women represent 25.4 percent of the total employed female population, the highest rate among OECD countries.

**Table 24. Employed Population by Activity Sector, according to Employment Situation and Sex (2009)**

Activity Sector	Formal		Informal	
	Men	Women	Men	Women
Agriculture, livestock, forestry, hunting and fishing	2.9	0.7	27.7	5.1
Extractive industry and electricity	3.3	1	0.2	0.1
Manufacturing	24.1	17.7	10.1	13.4
Construction	6.6	1.4	15.8	0.3
Commerce	14.9	15.4	16	34.3
Food and accommodation services	3.7	4.9	4.6	13.2
Transportation, mailing and storage	7.5	3.5	7.2	0.7
Professional, financial and corporate services	8.5	9.9	5.1	4.5
Social services	11.6	30.9	1.5	5.2
Diverse services	3.9	3.6	9.9	21.3
Government and international organizations	12.8	11	13	16
Not specified	0.1	0.1	0.4	0.4
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: Inmujeres (2010b).

### 3.4 HOUSEHOLDS

According to the 2010 Population and Housing Census, there are 28,159,373 households in Mexico; men are considered the lead in 21.2 million homes, and women head the remaining 6.9 million. In proportional terms, for every 100 households, there is a 3:1 ratio in favor of men.

Most households in Mexico are based on a family unit. The nuclear family takes precedent (64.2%) over the non-nuclear family (26.3%), while single-person households represent the remaining 8.8 percent. There are some important differences depending on the sex of the person who heads the household: for every 100 male-headed households, 70 are nuclear families, 24 are non-nuclear families, and 6 are single-person households. In those cases where the head is a woman, 47 of every 100 are nuclear families, 36 non-nuclear families, 16 are single-person households, and one is a co-resident. While the nuclear family takes precedence among female-head-



ed households, females also head more non-nuclear families than males. The rate of female single-person households is twice the rate of male single-person households.

**Table 25. Percentage Distributions of Households by Sex of Household Head, according to type and class, 2010**

Household type and class	Census households	Sex of Household Head	
		Male	Female
Total	28,159,373	21'243,167	6'916,206
Family	90.5	93.2	82.4
Nuclear	64.2	69.8	46.9
Non nuclear *	26.3	23.4	35.5
Not family	9.3	6.7	17.3
Sole resident	8.8	6.3	16.4
As co-resident	0.5	0.4	0.a
Not specified	0.2	0.1	0.3

\* The census "Non nuclear households" includes extended family and other unrelated members.

Source: INEGI (2012a).

It is customary for the eldest male in a family to be recognized as the head of the household. However, women are heading increasing numbers of households. The age of the household head shows that, when below 45, the percentage for male heads (53.2 percent) is higher than for female heads (42.2%). At 45 years of age or older, the rate of female heads becomes higher, reaching 31.8 percent between the ages of 45 and 59, and 26.9 percent for 60 years and older. For the same age groups, men are the head of a household in 28.7 and 18.1 percent of the cases, respectively.

Almost three of every four households headed by a female include children but no male partner, suggesting that in most cases women are the household head because there is no adult male present. This is more common in households headed by older females.

At households where the head is either a single male or female –with children, but without a partner–, which is the case in 19.1 percent of family households, 84 percent acknowledge a woman as the highest authority.

Slightly over 66 percent of male household heads participate in the work market, while only 49.9 percent of female heads do so. Women-headed households have a tendency to higher percentages of work force participation than those living with a partner. Women household-heads represent a social group that finds itself increasingly subject to economic vulnerability. From 2000 – 2008, this household type increased in absolute terms by 2.33 million, from 4.34 to 6.67 million. In 2008, of all the households

headed by a woman, 2.4 million experienced some degree of poverty. The total number of households headed by women is almost equivalent to the number of new female-headed households registered between 2000 and 2008, which seems to indicate that this is quite a new tendency. However, as stated by Arrollo, Ordaz, Li, & Zaragoza (2008) (Report Coordinator for “*A diez años de intervención. Evaluación externa del Programa Oportunidades 2008 en zonas rurales (1997-2007)*”, we can no longer defend the argument that “domestic units headed by women contribute to generate poverty”, when we should realize instead that they are the result of it...” (López & Gaspar, 2010).

On a related issue, it was estimated in the year 2000 that 622,000 households headed by females were in a state of food poverty, a number that had increased to 856,000 by 2008. The households under “capability poverty” increased from 923,000 to 1.2 million, and, finally, the number of households under economic poverty in 2000 increased from 1.7 million to 2.4 million by 2008.<sup>17</sup> When compared to households where the family head is male, households led by a woman are less likely to descend into economic poverty.

### 3.5 COMPARATIVE WAGES

Wage discrimination is the condition where women receive a lower income than men in spite of working the same number of hours at the same position, with a similar skill level.

The Income Discrimination Index indicates the magnitude of change that must take place for women to achieve income equality. A negative value indicates the rate by which the income of female workers should be increased. A value equal to zero indicates a situation of income equality between men and women, while positive values point to discrimination towards men.

The tendency of income is towards equality, but progress is slow and irregular (Table 26). According to the 2008 Index, women’s income needs to increase by 10 percent to be equivalent to a man’s. These values constitute a well known, albeit disheartening, picture for most working Mexican women, for income inequality exists in every employment sector, exception made of domestic work –an occupation mainly performed by women.

Working conditions are changing according to employment group and worker characteristics. Nowadays, women tend to experience discrimination, wage segregation and employment in hazardous activities, but also double workdays and a lack of services to help them balance their multiple schedules, e.g., accessible child-care facilities (and soon enough, in an aging population, elderly care facilities).

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<sup>17</sup> According to López and Gaspar (2010, p.78), capacity poverty refers to the situation when a household income is lower than the amount needed to cover basic needs (such as food, education, and health).

**Table 26. Wage Discrimination Index, 1997-2010**

Year	Total
1997	-11.2
1999	-10.9
2001	-15.3
2003	-14.2
2004	-12.6
2005	-7.4
2006	-8.8
2007	-9.7
2008	-9.5
2010*	-8.2

\* Inmujeres : 8.2% difference between male and female salaries.

Source: INEGI (2015c) and (2011b)

When men and women's income, ranked by median hourly wages, is analyzed, it becomes clear that regardless of age, level of education and marital status for any of the sexes, compensation earned by female workers represents between 89 and 96 percent of a male worker's earnings.

Senior citizens in general receive even lower compensation than women. The group closest to men in income level is women with higher levels of education; with the exception of single females, who tend to earn more than single men.

**Table 27. Median Income per Paid Work Hour by Age, Education, and Marital Situation by Sex, 2011**

Age groups, schooling degree and marital status	Men	Women
Total	20.8	20.0
<b>Age Groups (in years)</b>		
14-29	18.9	18.8
30-59	23.3	21.1
60 and more	17.4	16.7
<b>Age groups, schooling degree and marital status</b>		
Total	20.8	20.0
<b>Level of Education</b>		
No education or unfinished Primary school	16.1	14.3
Completed Primary school, unfinished High school	18.8	16.7
Completed High school and higher	24.2	23.3
<b>Marital status</b>		
Single	18.8	19.4
Married or in a Marital relationship	22.2	20.8
Separated, Divorced or Widowed	20.5	18.8

Source: INEGI (2013a).

The rate of average income holds a close relationship with the level of qualifications. In principle, the higher the qualification, the higher the income. While administrators and executives are the highest income earners, jobs such as farming are at the opposite end of the spectrum. However, if comparing what men earn in relation to women’s earnings for each job in most employment groups, women make less money than men. While for jobs related to transportation, and protection and surveillance females earn higher income than males, their participation in these sectors is very low. Income gender inequality reaches the extreme in industrial employment, where female laborers earn 75 percent of the income their male counterparts do.

Although women’s average wages are between 4 to 36 percent less than men’s, the gap –referred to as the *crystal ceiling*– widens in absolute terms for higher-earning women according to the Global Wage Report 2014/15 by the ILO (2014).

**Table 28.** Percentage of Women employed according to daily wages, 2010-2014

Year	Minimum daily wage in pesos	Less than one	Between 1 and 2	Between 2 and 3	Between 3 and 5	More than 5	Not specified	No income
2010	55.77	18.4	26.1	17.6	13.3	6.7	7.6	10.3
2011	58.06	17.7	26.5	18.0	11.9	6.5	9.2	10.0
2012	60.50	19.0	26.5	17.3	11.8	6.2	9.4	9.8
2013	63.12	18.8	26.9	17.0	12.2	5.9	10.3	8.8
2014	65.58	18.3	27.3	17.9	11.3	5.3	11.2	8.7

Source INEGI (2015a).

Income levels for the female population began to increase during the early nineties, when about one out of every two households had ingress or monetary compensation from a female worker; by 2005, the proportion had risen to two of every three nuclear families.

“The 2010 distribution of total current income per capita (TCIPC) by sex shows that males earned a monthly income of \$2,981 pesos, while females earned \$2,854 pesos —a difference of \$127 pesos. Only in non-monetary transfers did women receive more income than men. In 26 Federal states the average income of male workers is higher than the average income earned by female workers. In only six States the opposite is the case” (CONEVAL, 2012). Yucatan, Guerrero, Zacatecas, Coahuila, San Luis Potosí and Campeche.

**Table 29.** Income distribution by Occupational Group, minimum daily wage\* and sex, 2014

Occupational Group	Up to one DV *	Between 1 and 2 DV *	Between 2 and 3 DV *	Between 3 and 5 DV *	More than 5 DV*	No income	Not specified
National	13.5	24.2	22.2	14.5	6.6	7.4	11.7
Men	10.5	21.9	24.8	16.7	7.4	6.8	11.9
Women	18.4	28.0	18.0	10.8	5.1	8.4	11.3
Professionals, Technicians, Artists	4.3	12.5	15.9	23.9	18.8	2.0	22.6
Men	4.2	11.7	15.4	24.0	20.2	1.1	23.5
Women	4.5	13.7	16.5	23.9	16.7	3.3	21.4
Education	4.1	11.0	12.9	33.9	18.9	0.6	18.5
Men	3.7	11.0	10.4	32.0	23.5	0.9	18.5
Women	4.4	11.0	14.4	35.2	16.0	0.4	18.6
Executives and Management	1.1	5.0	9.8	19.7	33.5	0.7	30.2
Men	1.0	4.8	9.3	18.3	35.2	0.1	31.3
Women	1.1	5.3	11.0	22.4	30.2	2.0	28.0
Clerks	3.0	18.9	27.3	21.4	10.2	2.0	17.1
Men	2.8	17.9	27.0	22.7	12.6	0.8	16.2
Women	3.2	19.7	27.5	20.4	8.4	2.9	17.8
Industrial workers, craftsperson and assistants	10.2	26.1	31.3	15.8	4.1	3.6	8.8
Men	6.1	22.8	34.7	19.9	5.2	1.7	9.7
Women	22.0	35.3	21.7	4.3	1.2	9.3	6.2
Commerce	18.9	27.9	17.9	9.4	3.9	10.4	11.5
Men	6.1	22.8	34.7	19.9	5.2	1.7	9.7
Women	25.9	29.2	13.3	5.8	2.0	14.1	9.6
Transport operators	4.0	17.8	33.0	26.2	7.9	0.3	10.8
Men	4.0	17.6	33.2	26.3	7.8	0.3	10.8
Women	7.7	46.0	11.0	9.2	18.6	1.3	6.2
Personal services	19.6	35.8	24.6	8.3	1.7	1.4	8.5
Men	9.7	30.3	32.8	13.4	2.8	1.3	9.7
Women	26.0	39.3	19.4	5.0	1.0	1.5	7.8
Protection and surveillance	1.0	8.7	26.5	33.1	16.9	0.1	13.7
Men	1.1	8.9	27.6	32.6	17.0	0.0	12.9
Women	0.2	7.3	17.3	37.8	15.6	0.7	21.1
Farming	27.1	24.2	10.0	2.9	1.1	29.2	5.6
Men	28.0	24.9	10.4	3.1	1.2	26.4	6.0
Women	19.3	17.9	6.1	1.1	0.6	53.4	1.6
Not specified	0.5	9.3	1.5	4.2	0.0	0.0	84.5
Men	0.6	12.7	1.4	4.7	0.0	0.0	80.5
Women	0.0	0.5	1.8	3.0	0.0	0.0	94.7

Source: INEGI (2015c).

### 3.6 COMPARATIVE HOUSEHOLD INCOME

A household income is made up from the total monetary contributions of all its members. In Mexico, income distribution is polarized: households in settlements under 2,500 inhabitants are poorer than those with a population over 2,500 inhabitants. The average household net-adjusted disposable income per capita is 12,850 USD a year, less than the OECD average of 23,938 USD a year. Moreover, there is a considerable gap between the richest and the poorest – the top 20 percent of the population earn nearly thirteen times as much as the bottom 20 percent.

Household distribution according to income deciles for 2010 show that of 6.2 million household residents in localities with fewer inhabitants, 23.3 percent fall in the first household decile. Percentages decrease as the decile number increases to only 3.2 percent in the tenth decile. The same trend occurs concerning the sex of the household head, with more women-headed households (31.2%) in the first decile than men-headed households (21.4%).

There are approximately 22.8 million households in localities with 2,500 or more inhabitants. Of those, 5.9 percent are in the first decile of income and 11.8 percent in the last. The rate of households with a male head increases slightly in each decile until it reaches 13.2 percent in the tenth; on the other hand, households headed by women present little variation between deciles, the highest percentage falls in the seventh, with 11.1 percent, and the lowest in the tenth, with 8.5 percent.

Households in localities with 2,500 or more inhabitants receive on average almost double the monthly income (\$10,284 pesos) than those in areas with less than 2,500 residents (\$5,363 pesos). Women, with \$4,597 pesos of monthly income, head households with lower incomes. In contrast, households with higher incomes are usually headed by a man in localities with 2,500 or more residents, earning on average \$10,963 pesos a month.

## 4. ACCESS TO RESOURCES

Access to the resources individuals have determines the degree of wellbeing they can achieve; access and distribution of resources by sex is still uneven in Mexico. The limited access women have to material resources such as capital, housing, land, paid work, etc., restricts their capacity to exert their rights and liberties and make their own decisions. This inequality is also present within the household due to traditional gender roles and the gender division of labor (GDOL).

Although the distribution of land in Mexico is included under Article 27 of the 1917 Constitution, ownership rights to land, housing and other property are issues that deserve to be further addressed in public policies.

## 4.1 OWNERSHIP RIGHTS TO LAND, HOUSING AND OTHER PROPERTY

Housing is the immediate physical surrounding where much of the life of human beings develops; it is also a direct manifestation of the family, a space where its occupants can feel protected. Generally ownership of this space provides occupants with a **degree** of security about its present and future availability.

**Table 30.** Distribution of Private Housing by Size of Place of Residence and Sex of Household-head, 2010

Household Owners		
Number of inhabitants in place of residence	Women (%)	Men (%)
2,500 or fewer inhabitants	88	87.1
2,500-14,999 inhabitants	81.8	79.3
15,000-99,999 inhabitants	72.9	71.3
100,000 and more inhabitants	71.5	70.4

Source: INEGI (2011d) and (2013f).

Table 30 shows the percentage distribution of private housing, based on sex and ownership. A report by INEGI (2013b) indicates that, generally, percentage of house ownership is over 70 percent with either a female- or male-household head. The highest percentages of house ownership appear in areas with fewer inhabitants (less than 2,500 inhabitants), with 88 and 87.1 percent, respectively. These numbers decrease to 71.5 and 70.4 percent in localities of 100,000 and more inhabitants.

The National Fund for Public Housing (FONHAPO, in Spanish) was created in 1985 with the objective of subsidizing the acquisition, construction and improvement of (family homes). FONHAPO operates through credits and subsidies to the housing program “*Tu Casa*” (Your House) and “*Vivienda Rural*” (Rural Housing), with nationwide coverage.

The Program was created to help meet housing needs of poverty affected households; however, the program only has been able to support 39.5 percent (930,654) of female headed households in need of a total 2,360,476 tallied in the country.

In 2010, there were 196,350 towns with 2,500 inhabitants or less, which total 26 million persons and represent 23.2 percent of Mexico’s total population. Of this mainly rural population, the 2010 Population and Housing Census indicates that 13.4 million are women and 12.9 million are men –104 females for every 100 males. The mean age for rural women is 23 years, and for men, 22 years. More women than men live in rural areas because of male migration.

In 2010, woman-headed households made up 20.6 percent of households in areas with less than 15,000 inhabitants; this represents two million households. Of those, 18.2 percent were afflicted by food poverty, 25.3 percent by mental poverty and 48.9 percent were living in financial poverty.<sup>18</sup> Among the problems women in rural areas face are issues of health, education, employment, migration and limited access to land ownership, as well as difficulties obtaining financing.

Agrarian laws have made a decisive impact in Mexico's rural areas on the property rights of women in communal lands (*comunidades* and *ejidos*). According to the latest amendment to the Agrarian Law, passed in 1992, there are three types of social property holders: *comuneros*, *ejidatarios* and *avecindados*. The Agrarian Law also recognizes the *pequeños propietarios* or small landowners, not much different from the *ejidatarios*. Since 1992, women have had rights to parceled land, common land, ancestral homes and urban plots within the communal land. Women with land possession rights have emerged as a new force since the amendment of the Agrarian Law, holding title certificates to parceled—or community used lands. The Communal Assembly, a judiciary or administrative resolution or a buy & sell transaction or succession can acknowledge this status. Women settlers are those who live in urbanized areas of Communal Land, which have a right to property in their ancestral home, but have no rights on parceled or common lands.

The data presented in Table 31 show that the highest percentage of women's property rights, 42 percent, falls under the category of settlers and ancestral household owners. This is twice the percentage of women with access to parceled lands (possession owners). The lowest percentage—at 20 percent— belongs to women with communal land rights.

**Table 31. Nationwide Property Rights on Communal Land by Sex, 2007**

	Women (%)	Men (%)
Communal land owners	20	80
Possession owners	23	77
Settlers	42	58

Source: Almeida (2012).

<sup>18</sup> Mental health poverty and mental poverty are not the same. Mental poverty is simply defined as an impoverished mind. It is a way of living for some. It is a condition and state of mind where there are limited educational resources and if there are educational resources, one chooses to avoid them. It is a system that exists where the norm is ignorance and refusal. Refusal to change, to try and learn new and better ways—of not only thinking, but also putting thoughts into action. Mental poverty is usually a socially induced condition state (Urban Dictionary). Mental health poverty, on the other hand, deals with people with mental and psychosocial disabilities that end up living in poverty, poor physical health, and subject to human rights violations (WHO, 2015).



These figures demonstrate that women holders of common land represent a smaller segment than that of the owners of land rights certificates, although they do own a larger area of parceled land –possibly inherited or received as a donation from their fathers (or mothers since 1992 when reforms to the Agrarian Law were passed). Female owners of land rights are slightly better represented; they usually invest in land with savings from paid work. The percentage of women settlers is higher because they either have had access to family homes or to small parcels of land usually set aside for housing, than they actually do to land as such (Almeida, 2012).

The Agrarian Law of 1992 provides certain rights for women, such as ownership of common land, the right to work and exploit a parcel, to vote in the Communal Land Assembly, to be elected as members of a Communal Commission or Security Council, the right to inherit –although they do not have the right of preference on succession–, to allocate common land and be the owner of several parcels of land, among others. The main disadvantage with this Law is the loss of patrimonial rights on family parcels given the individualization of possession, and the fact that communal land can now be traded (bought and sold), as well. The other significant loss for women is that Communal settlements now no longer have the obligation to assign parcels of land for the *Unidad Agrícola e Industrial de la Mujer* (UAIM, for its initials in Spanish; in English, Women’s Agricultural and Industrial Unit), which deprives female farmers of development opportunities.

## 4.2 ACCESS TO CREDIT, LOANS, AND VENTURE CAPITAL BY WOMEN

The percentage of Mexicans 15 and older with a bank account is 33.19 percent for men and 21.97 percent for women, well below fifty per cent, but also below the figures reported by other Latin American countries such as Brazil and Chile, where the m/f percentages are 61.1 and 51.02 percent, and 43.44 and 40.97 percent, respectively. As in many other spheres of life, Mexican women experience higher exclusion from financial opportunities than their male counterparts. Financial systems have an essential purpose, which is to offer the possibility of savings, credit, payments and risk management for people with a wide scope of needs (Bank of Mexico, 2012) (Table 32).

Women who have a bank account in a formal financial institution (Table 32) represent 22 percent of the total female population. The average percentage for Latin America and the Caribbean reaches 35 percent; in high-income economies, it rises to 87 percent. In contrast, institutions such as the National Commission for the Protection of Financial Services Users (CONDUSEF, in Spanish) recognize that women are valued as more responsible clients by the financial system when they contract debt. The Economic Commission for Latin America and the Caribbean (CEPAL, in Spanish) calculates that financial entities have a recovery rate of 90.5 percent when their clients are female.

**Table 32. Account Holders in a Formal Financial Institution**

	All adults (%)	Lowest income quintile (%)	Women (%)	Age between 15 and 24 (%)
World	50	-	47	37
Latin America and the Caribbean	39	-	35	26
Rest of developing countries	42	-	37	31
High-income economies	89	-	87	76
Mexico	27	12	22	29

(-) Not available

Source: Demircug-Kunt & Klapper (2012).

### 4.3 PERCENTAGE OF WOMEN USING INTERNET AND CELL PHONES

Availability of Information and Communication Technologies (ICT's), as well as other appliances and goods for household use, generate differences in the way some domestic chores are performed and the workload they involve. Nowadays, computers are a tool for learning, work and entertainment. Rates of availability are slightly different between households headed by men (29.9%) than by women (28%). There is a similar behavior for Internet access, with a male to female ratio of 21.6 to 20.4%, respectively.

**Table 33. Percentage Distribution of Computer Use, Place of Access and Reason for using internet by Sex, 2010 and 2013**

	2010			2013		
	National	Men	Women	National	Men	Women
<b>Population six years and older</b>						
Uses computers	40.1	20.3	19.8	46.7	23.32	23.37
Uses Internet	33.8	17.2	16.7	43.46	21.74	21.72
Place of access						
Home	16.3	15.6	8.1	24.28	11.88	12.41
Work	6.4	5.7	2.9	9.25	5.06	4.2
School	3.7	2.8	1.9	6.85	3.34	3.51
Pay-per-service in public places	12.9	12.1	6.3	15.54	7.92	7.61
Free access in public places				0.81	0.44	0.37
Other people's home	1.2	1.1	0.6	2.24	1.07	1.17
Other place	0.1	0.1	0.1	0.57	0.31	0.26

Reasons for using internet						
Information search	19.8	10.2	9.6	27.96	14.06	13.9
Communication	19.4	9.7	9.8	18.28	8.95	9.33
Learning	12.1	5.8	6.3	15.26	7.16	8.1
e-banking	0.9	0.5	0.4	0.72	0.39	0.33
Entertainment	9.5	5.4	4.1	15.74	8.51	7.23
Interaction with Government	0.4	0.2	0.2	0.55	0.32	0.23

Source: INEGI (2011c and 2014d).

In 2013, twelve million Mexican households were estimated to have a computer, which represents over one third of the total number of households (38%), a proportion that keeps increasing constantly over time. Indeed, when compared to the previous year, there was a 7.8 percent increase (INEGI, 2014b).

The distribution of computer users by sex in 2013 showed that men have a slightly lower participation than women (a m/f rate of 49.9 to 50.1 percent). In terms of Internet access, men and women have an equal share –50 percent–, as shown in Table 34.

**Table 34. Computer and Internet use by sex, 2001-2013**

Year	Percentage Distribution			
	Internet users		Computer users	
	Women (%)	Men (%)	Women (%)	Men (%)
2001	45.4	54.6	46.4	53.6
2002	48.0	52.0	49.2	50.8
2004	47.0	53.0	48.2	51.8
2005	47.1	52.9	47.8	52.2
2006	49.4	50.6	50.3	49.7
2008	47.1	52.9	45.9	54.1
2009	49.6	50.4	49.6	50.4
2010	49.3	50.7	49.4	50.6
2011	49.6	50.4	49.5	50.5
2012	49.0	51.0	49.0	51.0
2013	50.0	50.0	50.1	49.9

Source: INEGI (2006b, 2008b, 2008c, 2011c, 2013d & 2014d).

The main age interval for Internet users varies between 12 to 17 years; however, according to data from INEGI (see Table 35), youngsters between those ages are the most assiduous users of the Internet.

**Table 35. Distribution of Internet Users by Sex and Age Group, 2011 y 2012\***

Sex and Age Group	2011	Percentage	2012	Percentage
	(Millions)	(%)	(Millions)	(%)
Women	18.6	49.6	20	49
Men	19.0	50.4	20.9	51.0
12 to 17 years	9.6	25.6	9.9	24.2
18 to 24 years	8.1	21.5	8.4	20.6
25 to 34 years	6.6	17.5	7.9	19.4
35 to 44 years	4.7	12.5	4.9	12.1

\* Includes people who declared a cell phone (iPhone or similar) as their main means of web connection —a quarter of the population owns a mobile phone.

Source: SNE (n.d.).

#### 4.4 USE BY WOMEN OF RAILROADS AND OTHER TRANSPORTATION INFRASTRUCTURE

In 2008, Mexico City created a program for women public transportation users “*Viajemos Seguras*”, initially designed to be implemented in all modalities of the public transportation system, including trolleys, buses, metro system, metro-buses, taxis, and street trams. The program is coordinated by Inmujeres<sup>19</sup> with the participation of ten other public and private institutions (Caballero, 2013).<sup>20</sup>

The main purpose of the program is to eradicate gender violence based on a set of actions that will facilitate use of public transportation by females, who represent 47 percent of the system’s passengers.

#### 4.5 ACCESS OF WOMEN TO ELECTRICITY, INCLUDING PENETRATION AND RELIABILITY IN RURAL AREAS

Access to modern, sustainable, affordable, and reliable energy services is central to addressing many of today’s global development challenges. No specific data were found on the subject; however, given that all women in rural areas must live in some sort of a

<sup>19</sup> InmujeresDF is a public institution responsible for guaranteeing respect, protection and human rights of women in order to eliminate inequality of opportunity.

<sup>20</sup> The participating institutions are: General Attorney’s Office, Ministry of Public Security, Localization Service by Telephone LOCATEL, Institute for Youth, Citizen Council for Public Safety and Justice Procurement (SSPDF), Ministry of Transportation and Roadways (SETRAVI), Collective Transportation System (STC or Metro), Electric Transportation Service (STE), Metrobús and the Network for Passenger Transport.

household, data obtained from the Federal Commission for Electricity (CFE, for its initials in Spanish), provide an idea as to the behavior of this indicator. The CFE web page contains the following information: Electricity reaches almost 190,000 communities –of these, 3,667 are classified as cities and 190,732 are rural towns and smaller villages. Also, 97.6 percent of the population consumes electricity (2014 datum). Nevertheless, there are areas many as half a million Mexican homes that have no electricity due to their location in remote rural and hard-to-access places; three million Mexicans do not have reliable access to electricity, close to half of them assumedly women. There are 86,000 villages in Mexico without utility grid electricity and of 24 million 6,357 homes, 588,864 do not have access to electricity. The states with the highest total percent of homes without electric service are: Veracruz with 13.9 percent; Oaxaca, 9.7 percent; Chiapas, 8.4 percent; Guerrero, 6.85 percent; San Luis Potosí, 5.24 percent; Chihuahua, 5.14 percent; and Edomex with 4.99 percent. Baja California has a rate of 1.74 percent homes without electricity, which amounts to 10,260 homes (INEGI, 2006b). In those states with the highest rate of electric service unavailability, the main causes are highly dispersed homesteads found on difficult access terrain, without roads or other any other kind of infrastructure, which makes it almost impossible to extend the necessary power lines.

On November 28<sup>th</sup>, 2008, the Official Gazette of the Federation published the Law on the Use of Renewable Energies and Energy Transition Financing (LAERFTE, for its initials in Spanish). This legislation seeks to regulate the use of renewable energy sources for electricity production. The regulation for the LAERFTE was published in the Official Gazette on September 2, 2009 (Zamora, Leyva & Lambert, 2010).

## **5. WOMEN'S AGENCY**

In Mexico's electoral system, the first law on the subject of gender was passed in 1993. Since then it gradually has been modified to increase the participation of women in the nation's political life. The most recent electoral reform, approved in 2007, increased the quota of female candidates from 30 up to "at least 40 percent". That means that 40 percent or more of the Proprietary Candidates will be of the same sex in an attempt to reach parity (DOF, 2008, p.98).

On October 11<sup>th</sup>, 2013, while commemorating the 60th anniversary of women's right to vote, Mexico's President, Enrique Peña Nieto, announced that he would send to Congress an initiative to modify the Federal Code of Electoral Institutions and Processes (COFIPE), which establishes that political parties are mandated to reserve 50 percent of their legislative candidacies for women (Peña, 2014). This initiative also contemplates that the Substitute Candidates of both Congress and the Senate will also have to be female. As the President said: "I'll sign and send to the Congress of the

Union an initiative which, if approved, will force political parties to grant 50 percent of their candidacies, both for federal legislators and senators, to women; I have no doubt that it will pass easily.”

The initiative also suggests that political parties allocate 2 percent of their public funding to promote the political leadership of women and imposes sanctions on the parties to ensure that they observe the Federal and State electoral judicial framework. This disposition helps Mexico move closer to its goal of achieving gender parity, as included in the Millennium Development Goals, so that neither women nor men constitute more than 60 percent of the representation in Congress.

**Table 36. Percentage of Seats Occupied by Women in Mexico’s Congress  
1997-2016**

Legislature	Years	House of Representatives			Senate		
		Total	Male	Female	Total	Male	Female
LVII	1997-2000	100.0	82.6	17.4	100.0	84.4	15.6
LVIII	2000-2003	100.0	83.2	16.8	100.0	82.0	18.0
LIX	2003-2006	100.0	75.1	24.9	100.0	75.6	24.4
LX	2006-2009	100.0	74.2	25.8	100.0	79.7	20.3
LXI	2009-2012	100.0	68.3	31.7	100.0	76.2	23.8
LXII	2013-2016	100.0	62.2	37.4	100.0	65.4	34.6

Source: Datos.gob.mx (2013).

If we compare the numbers for gender equality of the Congress with the international context, Mexico is losing its position compared to other developing countries. The representation of women in Congress of other Latin American countries has shown considerable progress in recent decades. Table 36 summarizes the percentage of female Representatives in Mexico between 2000 and 2016. In 2000, close to 17 percent of legislators were women, in 2012 this percentage increased to 26 percent and to 37.4 percent by 2015. Table 37 shows that the average percentage of women legislators from 2000 to 2008 was 20.4 percent, according to information provided by CEPAL (2012) (Table 37).

The low proportion of women making economic and political decisions might be explained in terms of structural and ideological barriers, yet women have overcome those obstacles and their participation has increased in the country’s political life.

The past two decades signified an outstanding progress for women in Mexico’s legislative system; for example, between 1991 and 1994, the House of Representatives reported women’s participation at around 10 percent. A few years later, between 1997 and 2000, the rate of Congresswomen was 17.4 percent and, by March 2013, the LXII Legislature reported the largest percentage of women at 36.8 percent, which represents 184 seats occupied by women out of five hundred seats available (INEGI, 2013). (See 38).

**Table 37.** Evolution of Female Representation in the Mexican Congress, 2000-2013

	2000	2002	2004	2006	2007	2008	2009	2010	2011	2012	2013
México	16	16	22	25	23	23	28	26	26	37	37

Source: CEPAL(2012).

**Table 38.** Women in Politics, 1991-2013

Women in National Congress (% of seats in the Lower or local chambers)				Women in Ministerial positions (%)
1991-1994	1997-2000	2008	2013	2008
8.8	17.4	23.2	36.8	15.8

Sources: UNIFEM (2008), INEGI (2013g) &amp; Rodriguez (1999).

## 5.1 WOMEN MINISTERS

Table 39 shows the number of civil servants active in the Mexican Judiciary System from 2010 to 2012. It should be noted that there were no women acting as Directors of the Federal Judiciary Council during that period. However, not only Judges of the Federal Electoral Court, but also the Local Judges showed a higher percentage of female participation in 2010 (with 32 and 40 percent, respectively) and in 2012 (with 23 and 27 percent each). There were 200 women Magistrates and Judges of the Federal Judiciary Council reported in 2012, the highest number during that 3-year period, but only representing close to 20 percent of the total number of civil servants recorded. Finally, the Supreme Court of Justice has had only two women members out of 11 members during that period.

**Table 39.** Civil Servants in the Judiciary System by Sex, 2010-2012

Civil Servants	2010			2011			2012		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
Ministers of the Supreme Court of Justice (a)	11	9	2	11	9	2	11	9	2
Directors of the Federal Judiciary Council	6	6	0	6	6	0	6	6	0
Magistrates and judges of the Federal Judiciary Council	957	759	198	964	765	199	1003	756	200
Collegiate Circuit courts (b)	573	467	106	576	469	107	594	452	106
Unitary Circuit courts (c)	76	62	14	77	63	14	81	62	17

District Judges (d)	308	230	78	311	233	78	328	242	77
Judges of the Federal Electoral Tribune	22	15	7	22	15	7	22	17	5
State Courts of Justice	7	6	1	7	6	1	7	6	1
Local Judges	15	9	6	15	9	6	15	11	4

a) The Minister President of the Supreme Court of Justice of the Nation is also Chairman of the Federal Judiciary Council, but was only taken into account for his first position in the table

b) Incorporates three judges for each court

c) Incorporates a judge for each court

Source: SCJN (2013).

In its Data Base, the World Bank does not register any information for 2015 under the indicator "Female legislators, senior officials and managers" for Mexico World Bank Data (2015a). In 2008, Mexico had a country ranking of 30.72 in terms of the share of legislators, senior officials and managers who are female. In comparison, the country with the highest value in the world is Dominica, with a value of 57.06, and the country with the lowest value in the world is Yemen, with a value of 2.14 (World Bank, 2015a).

**Table 40. Women Participation in Public Administration by type of contract and sex, 2009 and 2013**

	2009					2013				
	Total	Men	(%)	Women	(%)	Total	Men	(%)	Women	(%)
Contractual employee	258,639	175,395	67.81	83,244	32.19	356,190	227,706	63.93	128,484	36.07
Unionized worker	951,940	473,090	49.70	478,850	50.30	1,516,075	668,439	44.09	847,636	55.91
Part time worker	124,093	54,754	44.12	69,339	55.88	125,147	61,021	48.76	64,126	51.24
Freelance worker	22,891	11,939	52.16	10,952	47.84	69,714	32,216	46.21	37,498	53.79
Other	63,867	30,582	47.88	33,285	52.12	56,489	29,369	51.99	27,120	48.01
Total	1,421,430	745,760	52.47	675,670	47.53	2,123,615	1,018,751	47.97	1,104,864	52.03

Source: INEGI (2014a) and (2011a).

## 5.2 SENIOR POSITIONS IN LOCAL GOVERNMENTS

*A Mexican woman running to be mayor of a town in the state of Guerrero has been found dead, less than a fortnight after launching her campaign. The body of Aidé Nava González, 42, was discovered at 10pm on Tuesday on the outskirts of Ahuacutzingo - the town she was hoping to represent.*

The Telegraph (2015, March 12)  
<http://www.telegraph.co.uk>



Mexico is a Representative Federal Republic with 31 federative entities (states) and a Federal District. Each entity is autonomous and creates its own laws for internal application under the condition that they do not contravene any of the articles of the Political Constitution of the United States of Mexico. Therefore, the 31 entities have their own State Congresses and draw up their own legislative regulations. The Federal District, where the national capital is seated, has relative autonomy and a Legislative Assembly that draws up legislation and regulations for this federative entity (*fide* INEGI, 2011a). The Congress of the Nation is the only body allowed to amend the Constitution.

This is the legal context in which women have to seek their niche as officials and representatives in local government. Even as many Mexicans celebrate a milestone in Josefina Vázquez Mota, the first woman to be selected as the presidential candidate of a major Mexican political party, the number of women in office at the most basic level of government — in the small cities and villages that are a backbone of democracy — still falls notably short.<sup>21</sup> So far, women’s participation in state government institutions is very low: in 2009, the national percentage of female municipal presidents (as Mayors are called in Mexico) was 4.6 percent (112), although by 2010 it had increased to 5.9 percent.

**Table 41. Distributions of High-level Positions in Local Government by Sex (Municipalities), 2011**

State	Men	Women	Women %	Total
Aguascalientes	10	1	9.1	11
Baja California	5	0	0.0	5
Baja California Sur	4	1	20.0	5
Campeche	10	1	9.1	11
Coahuila	36	2	5.3	38
Colima	9	1	10.0	10
Chiapas	112	6	5.3	118
Chihuahua	65	2	3.0	67
Distrito Federal	15	1	6.3	16
Durango	37	2	5.1	39
Guanajuato	40	6	13.0	46
Guerrero	76	5	6.2	81

<sup>21</sup> A group of national and international experts on politics and campaigns is trying to kick open the doors of city halls to more women like Ms. Domínguez, who is participating in a training program designed to increase the number of women campaigning for local offices. The National Democratic Institute, an organization affiliated with the Democratic Party in the United States, has organized a “Future Women Mayors” academy here that teaches participants the basics of politics, how to devise a campaign strategy and what to do once they get elected (Zabludovsky, 2012).

Hidalgo	78	6	7.1	84
Jalisco	117	8	6.4	125
Estado de México	114	11	8.8	125
Michoacán	104	9	7.9	113
Morelos	33	0	0	33
Nayarit	19	1	5.0	20
Nuevo León	47	4	7.8	51
Oaxaca	553	17	2.9	570
Puebla	205	12	5.5	217
Querétaro	18	0	0	18
Quintana Roo	7	2	22.2	9
San Luis Potosí	53	5	8.6	58
Sinaloa	17	1	5.6	18
Sonora	68	4	5.6	72
Tabasco	17	0	0	17
Tamaulipas	41	2	4.7	43
Tlaxcala	52	8	13.3	60
Veracruz	190	22	10.4	212
Yucatan	93	13	12.2	106
Zacatecas	55	3	5.2	58
Total	2,300	156	6.8%	2,456

\*Note from Source: Information for 176 municipalities is not available; the percentage considers only 2,280 municipalities.

Source: Hevia (2012).

In 2011, female representation in State Legislations was 22.4 percent; there were 26.8 percent female trustees and 38.5 percent female majors, a number that fell to 36.9 in 2012.

**Table 42. Percentages of Comptrollers and Trustees by Federative Entity and Sex, 2005, 2007-2012**

Year	Trustees			Comptrollers		
	Total	Men	Women	Total	Men	Women
2005	17,212	73.9	26.1	2,379	90.2	9.8
2007	17,289	72.4	27.6	2,346	87	13
2008	15,902	70.5	29.5	2,313	84.2	15.8
2009	15,844	68.2	31.8	2,326	84.4	15.6
2010	15,982	67.4	32.6	2,374	81.3	18.7
2011	11,580	61.5	38.5	1,563	73.2	26.8
2012	13,318	63.1	36.9	1,828	72	28

Source: Inmujeres (2015a).

Table 43 shows data for 2005 to 2012. In 2005, there were 26.1 percent women comptrollers, and 9.8 percent trustees. By 2012 the percentage of women had increased to 36.9; in comptrollers and trustees, female representation more than doubled, reaching 28 percent.

**Table 43. Women in Office, 2005-2012**

Indicator	Year	Male	Female
Secretaries of State	2012	82.35	17.65
Senators	2012	66.41	33.59
Municipal Presidents (Mayors)	2012	93.16	6.84
Comptrollers	2011	73.19	26.81
Supreme Court Judges	2012	81.82	18.18
Federal Representatives in Congress	2012	63.2	36.8
Local Representatives	2011	77.63	22.37
Trustees	2011	61.54	38.46

Source: Inmujeres (2015a).

Distribution of females in office can be seen in Table 44, which shows that men have higher representation rates. This situation is more marked for positions such as Municipal President (Mayor) and Supreme Court Judge.

**Table 44. Women's Representation in Select Occupations, 2008**

Occupations	Women (%)	Men (%)
Legislators, Senior Officials and Managers	30.7	69.3
Professionals	44.6	55.4

Source: ILO (n.d.)

The Chiapas State Congress has the highest rate of female representation with 39 percent (*cf.* Table 45); the Federal District, the second highest, with 33.3 percent; and, Aguascalientes has the lowest female representation, with 7.4 percent (Table 45).

Speaking about female representation in political parties, there have been few women presiding such an organization. There was a woman presiding the Executive Committee of PAN in 2012 (Cecilia Romero Castillo) –but it was only a 2-month exercise, substituting for the *de facto* elected Head (Gustavo Madero) who was running for a higher office and did not succeed. The PRI had its first national leader in 1994 (Maria de los Angeles Moreno) and the PRD, five years after (Amalia García).

**Table 45. Representatives in Congress by State and Sex, 2012**

State	Men	Women
Chiapas	61	39
Federal District	66.7	33.3
Baja California Sur	66.7	33.3
Baja California	68	32
Oaxaca	69	31
Tamaulipas	69.4	30.6
Veracruz de Ignacio de la Llave	70	30
Nayarit	70	30
Tabasco	71.4	28.6
Quintana Roo	71.4	28.6
Campeche	74.3	25.7
Yucatán	75	25
Colima	76	24
Morelos	76.7	23.3
Hidalgo	76.7	23.3
Jalisco	76.9	23.1
Michoacán de Ocampo	77.5	22.5
Sonora	78.1	21.9
Chihuahua	78.8	21.2
Durango	80	20
Guerrero	80.4	19.6
Guanajuato	80.6	19.4
Tlaxcala	81.3	18.7
San Luis Potosí	81.5	18.5
Sinaloa	81.8	18.2
Zacatecas	82.1	17.9
Puebla	82.5	17.5
Nuevo León	83.3	16.7
México	83.8	16.2
Coahuila de Zaragoza	88	12
Queretaro	92	8
Aguascalientes	92.6	7.4

\*Includes the VI Federal District Legislative Assembly

Source: INEGI (2013f).

Women Secretaries, the second most important position within Party National Executive Committees' (CEN), were appointed by the following parties (one each): Institutional Revolutionary Party (PRI), National Action Party (PAN), Ecological Green Party of Mexico (PVEM), and New Alliance Party (PANAL). They represent 57 percent of Party Secretaries. The parties with larger female representation are the PVEM and the Labor Party (PT), while the Party for the Democratic Revolution (PRD) shows the smallest percentage, a surprising fact given the high priority this Party concedes to the promotion of civil rights for both men and women. For a detailed report, albeit somewhat dated and prepared in Spanish for the Federal Voting Institute (IFE, for its acronym in Spanish) on "Women in Politics: balance and perspectives", visit Women in Politics (IFE, 2014).

**Table 46. Integration by Sex and Party Group, 2013.**

Political Party/ Parliamentary Group	Men	%	Women	%	Total	%
PRI	131	61.5	82	38.5	213	42.6
PAN	78	68.4	36	31.5	114	22.8
PRD	64	63.4	37	36.6	101	20.2
PVEM	16	57.1	12	42.9	28	5.6
MC	12	60	8	40	20	4
PT	8	57.1	6	42.9	14	2.8
NA	5	50	5	50	10	2
TOTAL	236	63	150	37.4	500	100.0

Last modified: October 16<sup>th</sup>, 2013.

Source: Cámara de Diputados (2015).

Since September 2012, there had not been a single woman Governor in the country; only 7% of the 2,000,456 municipalities have a woman as Municipal President (Mayor); none of the seats for Coordinators in Congress of the three main political parties are in the hands of a woman, as is also the case with the Heads of the two Houses of Congress. In the Presidential Cabinet there are only three woman Ministers and eight Under-Ministers. The process of reducing the gender gap in politics, which seemed to have gained such good speed between 1990 and 2010, seems now stalled.

As a result of the 2015 elections, Claudia Pavlovich was elected governor of the state of Sonora, becoming the only woman in this administration to serve at this level.

### 5.3 CONTRACEPTIVE PREVALENCE

Family planning has been promoted in Mexico for the last 35 years as part of its health services and by policy and legal means. Since 1973, Article 4 of the Constitution insti-

tutes the right to freely decide, in a responsible and informed manner, on the number and spacing of one's children. In 1974, actions to regulate population growth were incorporated in the General Population Law (SEGOB, 1974). The National Program for Family Planning 1977-1979 formally outlines actions to decrease pregnancy rates and promote the use of contraceptives.

The National Population Council (CONAPO, in Spanish) is the agency responsible for demographic planning in Mexico as established by the National Population Program (PNP, in Spanish). The PNP is the instrument applied to population policy planning; the program is integrated into 17 dependencies and institutions, as well as State Population Councils or their equivalent units in Mexico's 32 Federative Entities. The Ministry of Health, through its National Center of Gender Equality and Reproductive Health, currently coordinates the Program for Family Planning (*Planificación Familiar* - PF, in Spanish) and contraception.

The impact of these programs is reflected in a steady decrease of pregnancy rates beginning in the seventies –after Mexico had registered a historic high of 7.3 children per woman in the sixties. Since then, the total rate of fertility (TGF, in Spanish) has decreased from almost six children in 1974 to 2.2 in 2006 and 2.01 in 2012. The Federal District has the lowest rate, with 1.68 children per woman.

Contraceptive use by married women or in a common-law relationship has fluctuated since the PF Program was first implemented. During the first four decades it increased steadily: from 15 percent in 1973, to 74.5 percent in 2003. In 2006 it fell to 70.9 percent (OMS, 2011), and by 2009 it increased again to 72.5 percent. Most modern contraceptive methods are available in Mexico at no cost through the public sector, the primary

In connection with the use of contraceptives among women of reproductive age during their most recent sexual experience, the ENSANUT (INSP, 2012) demonstrated the high percentage of women in reproductive age that do not use contraceptives, as shown by the following figures: 36.7 percent between ages 15 to 19; 41.9 percent between ages 20 to 29; 47.9 percent between ages 30 to 34; and, 53.2 percent between ages 35 and 49. The most used method of contraception for women between the ages of 15 to 34 is the condom. The second option for women between the ages of 15 and 29 is the IUD, while for women between the ages of 30 and 34, surgical contraception represents the second most used option. For women between the ages of 35 and 49 it is the most used method.

According to ENADID (INEGI, 2010g), the knowledge of contraceptive methods has increased between 1997 and 2009: "[...] more than 90 percent of women of reproductive age (WRA) know about pills, IUD, shots, bilateral tubal occlusion (BTO) and the male condom. On a second level, around 85 percent know about vasectomy and the contraceptive patch. A comparatively lower percentage knows about sub-dermal im-

plants, emergency pills (EP), female condom and traditional methods—that pre-date the emergence of modern birth control and have lower efficacies in their traditional use than modern methods. Sub-dermal implants show a noticeable increase in WRA's contraceptive preference; its use went from 14.8 to 62.9 percent during the timeframe of the study, that is to say, knowledge of this method had more than a fourfold increase in user preference”.

**Table 47. Contraceptive Method Used in Most Recent Sexual Experience by Age Group**

Contraceptive Methods Used in the Last Sexual Intercourse	Age Group			
	15-19 (in %)	20-29 (in %)	30-34 (in %)	35-49 (in %)
Condom	47.8	33.8	22.3	14.7
Local or Barrier*	0	0	0.2	0.1
Natural or Traditional**	1.1	2	2.2	2
Hormonal***	6.1	8.9	5.4	3.9
Implant	0.9	1.7	0.7	0.2
Emergency****	4.3	2.1	1.3	0.6
IUD	7.4	9.2	9.1	4.9
Surgical	0.2	5.1	14.1	22.1
Other	0.2	0.5	0.5	0.8
Nothing	36.7	41.9	47.9	53.2
n=	1,738	4,783	3,107	8,664
N*=	1,781.8	8,028.8	4,721.9	10,591.3

\* Includes: spermicide, sponge or diaphragm

\*\* Includes: rhythm, calendar, regular abstinence, thermometer, Billings, *Coitus interruptus*

\*\*\* Includes: pills and shots

\*\*\*\* Emergency Contraception Pills

N\*= amount in thousands

**Source:** Allen-Liegh, Villalobos-Hernández, Hernández Serrato, Suárez, de la Vara, de Castron & Schiavon-Ermani (2013).

The use of contraceptives varies depending on site of residence: 53 percent of teenagers in rural areas report having used some form of contraceptive in their last sexual experience. By contrast, the number increases to 63.9 percent in urban areas and, among those living in a metropolitan area, the percentage is 66 percent. Among adults aged 20 to 49, the same tendency is followed: there is less use of contraception in rural areas (42.8%) than in urban locations (49.9%) and metropolitan areas (54.3%). If all women groups of reproductive age are taken into consideration, the prevalence of contraceptive use in urban females is 75.1 percent, while in rural areas it is 63.7 percent, still relatively high for a predominant Catholic country.

Differences present in the sexual and reproductive health of rural women compared to their urban counterparts is due in part to their limited access to reproductive health and family planning services, as well as to marriage at an earlier age. Education levels and economic situation of women also influence contraceptive use –in rural communities a higher number of pregnancies are traditionally considered an advantage, because children are perceived as a future workforce. CONAPO estimates that contraceptive use by rural women is close to that observed in 1987 in urban areas. Thus, an estimated gap of 22 years separates rural from urban women in terms of the prevalence of contraception; this gap that is even more pronounced among indigenous language women speakers. Only 58.3 percent of this group uses some method of birth control. However, women who received family planning advice during prenatal care were more likely to use a contraceptive than were those who did not receive such advice (odds ratio, 2.2). Women who received family planning advice had a higher probability of using condoms (relative risk ratio, 2.3) and IUDs (5.2), and of undergoing sterilization (1.4), than of using no method (Barber, 2007)

In Federative Entities with larger rural and indigenous population, such as Chiapas, Guerrero and Oaxaca, the unsatisfied need for contraceptives in 2009 was established at 22.6 percent, 17.5 percent and 15.6 percent, respectively. These rates are well above the national mean of 9.8 percent. As a consequence, a higher number of deaths related to pregnancy, childbirth and puerperal periods take place among the female rural population.<sup>22</sup>

With respect to the civil status of women in Mexico, a large percentage of single teenage females (74.4%) used some form of contraception during their last sexual experience. The rate for separated, divorced or widowed teenagers is lower (55.1%), as it is also for women in a marital relationship (common law union or marriage), with 51.2 percent. Although 57.2 percent of adult females aged 20-49 reported the use of some form of contraception during their last sexual experience, when analyzed by status, the figure drops to 50.1 percent among women in a marital relationship and to 48.3 percent among those separated, divorced or widowed.

In a comparative analysis of birth control prevalence among reproductive age women in a marital relationship, findings show that in 1992 the percentage was 63.1 percent, in 1997 it rose to 68.5 percent, in 2006 it reached 70.9 percent and in 2009 it was estimated at 72.5 percent. This means that seven out of every 10 women in a marital relationship at the age of reproduction use some form of contraception, proof that birth control has increased noticeably in Mexico. For most highly educated women, motherhood does not enter into consideration until their thirties.

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<sup>22</sup> The puerperal period refers to the period immediately following childbirth.



Evidently, the percentage of unmet demands for contraception has decreased; between 1987 and 2009 it declined more than 60 percent. However, improving coverage in rural areas still remains a challenge. Integrating family planning advice into prenatal care may be an important strategy for reaching women when their demand for contraception is high. The contribution of midwifery as an outreach strategy to educate isolated and traditional native communities needs to be developed more extensively, including medical extension services.

PNP is particularly targeting teenagers and youths, given their unsatisfactory performance on reproductive health: “[...] Total contraceptive incidence is 62 percent higher than that observed in teenagers, while their unsatisfied demand is 150 percent higher than the demand reported by women in a marital relationship at reproductive age” (CONAPO, 2010). As a consequence, the rate of teenage pregnancy –provided it is true there has been a gradual decrease from 81.4 births in 1990 to 78 in 1995, and lower still to 69.5 in 2007 for each 1,000 women in the 15 to 19 age group– still falls short over 10 points of the goal established in 2012 by the PNP at 58 births per 1,000 women.

Finally, women in Mexico still are held, in general, to a stricter sexual code of conduct than men. Sexual activity outside of marriage is still regarded as immoral for “decent” women– but acceptable for men. So, why use contraception. The connection between the transmission of AIDS/HIV, worker migration, casual sex, family planning, contraceptive use, and mother and child health has been explored piecemeal, but future consequences on the physical, mental, and family health of those involved in these events need to be more consciously analyzed. The foreseen social and economic results will be very costly to the country and its citizens. As a start, the health sector should improve the integration of HIV and sexual and reproductive healthcare through cross-training HIV specialists and OB/GYNs, and by continued sensitization of all providers on the topic.

## **6. OPPORTUNITY AND CAPABILITY**

*The capability approach purports that freedom to achieve well-being is a matter of what people are able to do and to be, and thus the kind of life they are effectively able to lead.*

Plato (Stanford, 2011)

*(... if they only had a chance!)*

## 6.1 GENDER COMPARATIVE LITERACY

Illiteracy in Mexico affects senior citizens in particular, and, within this group, women and the indigenous population. According to the 2010 population census, there are 5.4 million total illiterates in Mexico; they represent 4.8 percent of the total population.<sup>23</sup> Illiteracy levels have decreased from 82.1 percent in 1895 to 6.9 percent in 2010. This decrease took place particularly in the seventies, albeit rather slowly. During the last 40 years the number of illiterates has decreased by 1.3 million, close to 32,000 people every year.

Illiteracy has been reduced significantly among young males and females between the ages of 15 and 29. Higher rates of illiteracy are seen in senior citizens (60 years and over), particularly women –almost 29 percent of women aged 60 or older are illiterate; that represents three of every 10 older women –a population of concern, in particular for women living alone and without means to care for themselves. Overall, the number of illiterate senior citizens does not differ much from that of the adult population (both groups currently include 2.4 million people). From 1980 to 2010, the total number of illiterates decreased from 6.4 million to 5.4 million. In rural areas illiteracy rates decreased by 27.6 per cent, while in urban zones they decreased by 0.8 per cent. In 2010, the illiterate population was divided equally between rural and urban areas: however, the rural population represents 23.1 percent of the total population, so that for each rural inhabitant about 3.3 people live in an urban area. Therefore, rural illiteracy is higher in relative terms.

**Table 48. Literacy Rate of People 15 Years Old and Older, by Sex**

Country	Both sexes			Men			Women		
	2000	2005	2010	2000	2005	2010	2000	2005	2010
Mexico	90.5	91.6	93.1	92.6	93.2	94.4	88.7	90.2	91.9

\*Data refer to the year closest to the column head

Source: CEPAL (2013).

Illiteracy is a women's issue: of the 5.4 million illiterates identified in 2010, 61.1 percent were female, and by 1980 the percentage was 60.5 percent –a very small negative variation. For each illiterate male, there are 1.6 women in this situation. When analyzing changes in illiteracy by sex and age group, an improvement is noted; due to the improve-

<sup>23</sup> When considering absolute illiteracy it is important to take into account *functional* illiterates who completed two years of primary school. Therefore, although 5.4 million people are considered illiterate, this figure needs to be increased by 3.4 million (including 15 year olds and older) who have only two years of primary education. This gives us a potential total illiterate population of 8.8 million.

ment of conditions for women between 15 and 29 years of age, illiteracy has decreased from 59.1 percent in 1980 to 51.1 percent in 2010. By contrast, adult women between the ages of 30 and 59 show an increase in illiteracy: from 61.6 to 62.1 percent during the same period of time. For women 60 and older, rates increased from 59.9 to 62.3 percent. Given these numbers, most attention should be provided to women 30 years and older.

When place of residence is considered, both sexes have registered change over the past 30 years in illiteracy rates. In 1980, illiterate women in rural zones represented 54.9 percent of the total rural population, decreasing to 48.8 percent by 2010. At the same time, the percentage of illiterate women living in urban areas increased from 45.1 to 51.2 percent. This behavior is believed to be as a result of female migration from rural areas to the cities; this group of women also present higher fertility rates and require a more personal approach for their incorporation into the health system and other social services, including continuous education programs.

Of the total indigenous population in Mexico, 5.4 million speak only their native language; 27.3 percent cannot read or write Spanish; and 64.6 percent are women. For every ten illiterate indigenous men, there are 18 women. The highest rate of illiteracy is among the indigenous population 60 years or older. Women represent 72.7 percent of that group.

**Table 49. Illiteracy in Populations Speaking Indigenous Languages, 2010**

Age group	Total	Illiteracy	Men	Illiteracy	Women	Illiteracy
15-29	163,932	9	61,591	6.9	102,341	10.9
30-59	752,709	28.1	239,527	19	486,182	36.8
60 or older	573,475	59.8	217,171	46.4	356,304	72.7
Total	1,463,116	27.3	518,289	19.8	944,827	34.4

Source: INEGI (2012a).

In Mexico, with an average life expectancy of 75.4 years, to be illiterate at 60 creates an almost insurmountable condition for continuous personal development and potential social growth. With a life expectancy of 78 years, this situation becomes even worse for women, who constitute the vast majority of illiterates.

“The problem of illiteracy in Mexico is not restricted to senior citizens 60 years and older, or to the indigenous population; it is a symptom of the country’s lack of economic growth, increasing inequality and a model of progress that favors macroeconomic indicators over human development. It cannot be said that the Mexican economy is in good health for the future, when 5,4 million Mexicans over 15 years of age can’t read or write, 10 million are functional illiterates because they haven’t finished their Primary education, and another 16 million have not finished Secondary school” (Narro & Moctezuma, 2012).

**Table 50. Population over 15 Years of Age and Percentage of Illiteracy by State and Sex, 2005 and 2010**

State	2005						2010					
	Under 15 years			Literate			Over 15 years			Literate		
	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
Mexico	68,802,564	32,782,806	36,019,758	91.5	93	90	78,423,336	37,656,281	40,767,055	92.4	93.7	91.1
Aguascalientes	690,851	325,407	365,444	95.6	96	95.3	806,727	384,526	422,201	96.2	96.5	95.9
Baja California	1,822,210	912,731	909,479	96.4	96.8	96.1	2,215,759	1,114,205	1,101,554	96.3	96.6	96
Baja California Sur	341,597	174,360	167,237	95.8	96.1	95.6	449,217	229,935	219,282	96.1	96.4	95.8
Campeche	509,989	249,491	260,498	89.5	91.1	88	579,514	284,307	295,207	90.9	92.3	89.7
Coahuila de Zaragoza	1,689,560	827,710	861,850	96.6	96.8	96.5	1,913,256	939,879	973,377	96.6	96.8	96.5
Colima	386,079	186,960	199,119	93.5	93.5	93.5	465,103	228,139	236,964	94.3	94.4	94.2
Chiapas	2,627,814	1,265,390	1,362,424	78.6	83.7	73.8	3,095,133	1,491,657	1,603,476	81.6	86	77.5
Chihuahua	2,116,027	1,039,597	1,076,430	95.3	95.4	95.2	2,320,524	1,141,942	1,178,582	95.4	95.5	95.3
Distrito Federal	6,418,438	3,004,024	3,414,414	97.1	98	96.2	6,715,516	3,150,628	3,564,888	97	97.8	96.3
Durango	991,890	475,364	516,526	95.1	95.1	95.1	1,108,793	537,849	570,944	95.6	95.6	95.5
Guanajuato	3,185,978	1,466,061	1,719,917	89.5	91	88.1	3,748,032	1,759,356	1,988,676	91.3	92.6	90.1
Guerrero	1,947,210	909,141	1,038,069	80	83.3	77.1	2,244,576	1,065,308	1,179,268	82.5	85.4	79.8
Hidalgo	1,565,206	729,605	835,601	87.1	89.6	85	1,854,450	874,396	980,054	89.1	91.3	87.2
Jalisco	4,484,515	2,127,915	2,356,600	94.1	94.5	93.9	5,127,597	2,472,155	2,655,442	95.1	95.4	94.8
México	9,241,780	4,420,165	4,821,615	94.5	96.3	92.9	10,635,400	5,096,596	5,538,804	95	96.5	93.6
Michoacán de Ocampo	2,606,609	1,205,311	1,401,298	87.3	88.1	86.7	2,997,421	1,418,242	1,579,179	89.1	90	88.4
Morelos	1,073,434	501,834	571,600	91.8	93.1	90.6	1,262,274	596,774	665,500	92.9	94.1	91.8
Nayarit	641,682	312,382	329,300	91.7	91.7	91.7	762,249	376,529	385,720	93.1	93.3	92.9
Nuevo Leon	2,935,240	1,447,773	1,487,467	96.9	97.2	96.6	3,331,163	1,648,027	1,683,136	96.1	96.3	95.8
State	2005						2010					
	Under 15 years			Literate			Over 15 years			Literate		
	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
Oaxaca	2,264,935	1,047,619	1,217,316	80.6	85.4	76.4	2,591,966	1,207,392	1,384,574	83.1	87.3	79.4
Puebla	3,478,730	1,615,687	1,86,3043	87.2	90.3	84.5	3,924,146	1,830,526	2,093,620	89.1	91.7	86.8
Queretaro	1,043,681	492,224	551,457	91.8	93.7	90	1,269,931	604,051	665,880	93.2	94.8	91.7
Quintana Roo	677,442	343,255	334,187	93.3	94.6	91.9	924,855	469,889	454,966	93.4	94.4	92.4
San Luis Potosi	1,581,636	748,094	833,542	90	91.2	88.9	1,775,954	850,266	925,688	91.4	92.4	90.5
Sinaloa	1,746,010	856,060	889,950	93.5	93.1	93.9	1,969,412	969,811	999,601	94.4	94.1	94.7
Sonora	1,615,822	801,383	814,439	96.2	96.1	96.2	1,874,387	937,599	936,788	96.2	96.2	96.3
Tabasco	1,330,791	643,911	686,880	91.3	93.1	89.6	1,544,096	748,100	795,996	92.3	93.8	90.9
Tamaulipas	2,059,108	1,003,258	1,055,850	95.3	95.7	94.9	2,264,230	1,106,029	1,158,201	94.6	94.9	94.2
Tlaxcala	709,044	334,970	374,074	93.2	94.9	91.6	806,459	381,458	425,001	94.2	95.7	92.8
Veracruz de Ignacio de la Llave	4,858,837	2,279,768	2,579,069	86.5	88.9	84.3	5,415,656	2,565,685	2,849,971	88	90.1	86.1
Yucatan	1,252,562	609,376	643,186	88.9	90.6	87.3	1,408,061	686,006	722,055	90	91.5	88.6
Zacatecas	907,857	425,980	481,877	92.7	93	92.5	1,021,479	489,019	532,460	93.9	94.1	93.6

Source: INEGI (2002, 2012a & 2008a).

## 6.2 PRIMARY, SECONDARY AND TERTIARY SCHOOL ENROLMENT (MALE AND FEMALE)

The right to an education is guaranteed by Articles 3 and 31 of the Mexican Constitution and regulated in Articles 3 and 4 of the General Law on Education (LGE, in Spanish). Pre-school, primary, and secondary education is mandatory, and starting with the school cycle 2012-2013, middle-high school also became obligatory. State provided education is secular, free and democratic. The National Education System (SEN, in Spanish) is mandated to provide universal access to these levels and also improve the quality of education. In addition, Article 6 of the LGE states that education is a necessary right for social development and that the National Policies for Social Development should include it as a factor to overcome poverty.

The National Plan for Development 2013-2018 includes the following as one of its objectives: "Fundamental equality between women and men will be reflected in education, culture, sports, and technical and scientific specializations. Furthermore, the inclusion of women at all levels of education will be encouraged, giving special attention to enrolment rates to ensure there are no obstacles in their integral development. Also, gender equality will permeate academic programs at every level of education, to reinforce its relevance from an early age".

Enrolment in the three levels representing basic education (pre-primary, primary and secondary school) has registered a noticeable increase over the past decades, especially at pre-school level (a 75 percent increase from 1990-1991 to 2013-2014). Enrolment in primary school increased only one percent and for secondary school 57 percent during the same period. The average years of schooling have also shown an increase: in 1990 it was 6.3 (6.6 for men and 6.0 for women), while in 2010 it was 8.6 (8.7 for men and 8.4 for women).

Taking into account age and sex, the rate of school attendance in 2011 was highest for children between 6 and 11 years: girls at 98.4 percent and boys at 98.2 percent. For the group aged 12 to 14, the attendance for girls (94%) and boys (92.8%) is a little lower, but remains above 90 percent. In older children, the rate of school attendance decreases for both sexes: for every 100 females 15 to 17 years old, 72 attend school; of every 100 males, 71 do so.

Between the ages of 6 and 17, female attendance is relatively higher in comparison to male students, but this situation reverses at the age of 18. A third of the population between 18 and 24 years attends school, with a two-percentage point difference between females (31.6%) and males (33.5%). In comparison with the years 2005-2011, female attendance saw a higher increase (5.3 points) than males' (4.2 points), contributing to a reduction from three percentage points in 2005 to two in 2011. In higher education, the rate decreased considerably in the population between the ages of 15 and 19, both for women (6.4%) and men (7.8%), with a difference between the sexes of 1.4 points.

Considering municipalities by size, there is a clear increase in the percentage of the population attending school in urbanized areas, as there are more financial, material and human resources available. The age group with the lowest gap is represented by 6 to 11 year olds –97 percent attend school, regardless of locality size, with no noticeable gender disparity.

**Table 51. Population 15 and older, based on educational level and sex, 2005 - 2010**

Sex	Population 15 years and older	No Education <sup>a</sup>	Incomplete Education <sup>b</sup>	Complete Primary Education <sup>c</sup>	Incomplete Secondary Education <sup>d</sup>	Complete Secondary Education <sup>e</sup>	Middle High Education <sup>f</sup>	Higher Education <sup>g</sup>
<b>2000</b>								
Mexico	62,842,638	10.2	18	19.1	5.3	18.9	16.7	10.9
Men	30,043,824	8.7	17.6	18.4	6	19.7	16.2	12.6
Women	32,798,814	11.6	18.3	19.9	4.6	18.3	17.1	9.4
<b>2005</b>								
Mexico	68,802,564	8.4	14.3	17.7	4.2	21.7	18.5	13.6
Men	32,782,806	7.2	14.1	17	4.9	22.3	18.4	14.8
Women	3,019,758	9.6	14.4	18.4	3.6	21.2	18.6	12.4
<b>2010</b>								
Mexico	78,423,336	7.2	12.6	16	5.2	22.3	19.3	16.5
Men	37,656,281	6.2	12.4	15.5	5.8	22.7	19.3	17.2
Women	40,767,055	8.1	12.7	16.5	4.6	21.9	19.3	15.9

Notes:

The total population aged 15 and over does not add up to 100%, because it excludes the population with no level of studies specified. Figures for the following census dates: February 14 (2000); October 17 (2005); and June 12 (2010).

<sup>a</sup> Includes the population in preschool or kindergarten.

<sup>b</sup> Includes the population with some degree approved between one and five years of primary school.

<sup>c</sup> The population includes six elementary grades passed

<sup>d</sup> Includes population with one and two degrees of high school or equivalent

<sup>e</sup> Includes population with three high school degrees or equivalent

<sup>f</sup> Includes population with at least a bachelor's degree or equivalent approved

<sup>g</sup> Includes population with at least a bachelor's degree or equivalent approved plus those with some graduate degree

Source: INEGI (2002, 2012a).

For the 12 to 14 year old group, attendance depends highly on town size and it usually ranges between 90 and 96 percent. In any sized localities, the largest gender disparity (2.8 percentage points) is found in towns of 2,500 to 15,000 inhabitants. In this group, the attendance difference between smaller and larger localities increases significantly to five percentage points for both sexes. Populations of 15 to 17 year-olds report lower attendance rates (from 59 to under 80 percent). Females show higher enrolment rates, except in areas with 100,000 or more inhabitants, where male (79.9%) and female

(78.4%) enrolment shows a less than 1.5-point difference. For 18 to 24 year olds, school attendance in both sexes is lower than the rates observed for older age groups. In this age group, gender disparities favor males, independently of the size of the locality. The largest disparity (3.3 percentage points) occurs in areas with a population between 2,500 and 14,999, followed by those between 15,000 and 99,999, with 2.7 points. In larger areas, with a population of 100,000 and over, the difference is negligible at less than one percentage point (0.6%).

Finally, for the group including women between 25 and 29 years of age and living in localities with less than 2,500 inhabitants, female attendance rates are only slightly higher than male, similar to the estimate for those living in towns with 15,000 to 100,000 inhabitants. In localities situated in the opposite population size range, male rates are higher by over two points.

The data in Table 51 show the progress made in accessibility to the educational system, especially in the 6 to 14-year old age group, as well as a decrease in the gender gap. The population of teenagers and older youth show lower rates of attendance, retention (in the system) and study completion, being also the group with the largest gender gap.

"In 2011, of every 100 men, 6 had no education at all, 34 had at least one complete year of education in primary school or one to two years in secondary school, 23 had completed secondary school, and 37 managed to pass at least one level of middle-high education. As for every 100 women, 8 have never had access or passed at least one level of formal education, 35 have incomplete basic education, 22 finished secondary education and 35 have accredited at least one level in any of the levels of middle-high education or higher education. Gender gaps continue to exist, but they show a decreasing trend at every level, especially following secondary school. In 2005, in the population with post-basic education the difference was three points less for women, a rate that diminished by two points in 2011." (INEGI, 2011d) (Table 52).

While access to education for 5-14 year-olds is universal in Mexico as in virtually all OECD countries, it has one of the smallest proportions of 15-19 year-olds enrolled in education (53%) among OECD and partner countries, despite having the largest population of this age group in the country's history. Only Colombia (43%) and China (34%) have lower enrolment rates. Even if the proportion of 15-19 year-olds who are enrolled in education grew by 11 percentage points since 2000, it is still smaller than the OECD average of 84%, and smaller than the proportion observed in other Latin American countries, such as Argentina (73%), Brazil (78%) and Chile (76%).

As a general trend, boys show higher failure and dropout rates, while women show higher levels of attendance, passing and completion. This behavior can be explained in terms of the social demands placed on boys to take on paid work at earlier ages, as well as by an improved infrastructure in rural areas that makes education more accessible to girls.

**Table 52. Historical Series of Indicators of the National Education System, 2005-2012**

Education Indicator	2005-2006			2008-2009			2009-2010			2010-2011			2011-2012		
	T	M	W	T	M	W	T	M	W	T	M	W	T	M	W
<b>Pre-school Education</b>															
3 year-old care	24.7	24.1	25.4	38.3	37.4	39.3	39.5	38.5	40.6	43.4	42.4	44.5	46.5	45.4	47.7
4 year-old care	80.0	78.9	81.2	97.2	96.0	98.4	98.9	97.8	100.1	101.1	100.1	102.2	103.8	102.8	104.9
5 year-old care	92.8	92.2	93.5	96.2	95.4	97.0	98.4	97.8	99.0	97.7	97.2	96.3	98.0	97.6	98.5
3, 4 and 5-year old care	66.6	65.8	67.4	77.6	76.7	78.6	79.1	78.2	80.1	80.9	80.0	81.8	82.8	82.0	83.8
<b>Primary Education</b>															
Coverage (6 -12 years)	94.1	94.6	93.7	97.0	97.2	96.7	98.6	98.8	98.5	100.6	100.7	100.5	102.8	102.9	102.8
Desertion	1.3	1.5	1.1	1.0	1.2	0.8	0.8	1.0	0.7	0.7	0.8	0.6	0.7	0.8	0.6
Failing	4.3	5.3	3.4	3.8	4.7	3.0	3.5	4.2	2.7	3.2	3.9	2.5	3.2	3.9	2.5
Completion efficiency	91.8	90.8	92.7	94.0	93.2	94.8	94.5	93.6	95.4	94.9	94.3	95.6	95.1	94.8	95.4
<b>Secondary Education</b>															
Absorption	94.9	96.0	93.9	95.5	96.1	94.8	95.7	96.4	95.0	96.5	97.1	95.8	97.0	97.6	96.5
Coverage (13-15 years)	91.8	91.1	92.6	95.2	94.6	95.9	95.3	94.7	95.8	95.9	95.6	96.2	96.8	96.7	96.9
Desertion	7.7	9.6	5.9	6.4	7.6	5.2	6.0	7.1	4.9	5.6	6.6	4.5	5.3	6.5	4.1
Completion efficiency	78.2	73.6	83.0	81.4	78.0	84.9	82.2	78.9	85.6	83.3	80.2	86.4	84.2	80.9	87.6
<b>Middle-High Education</b>															
Absorption	95.3	96.7	92.2	96.9	100.5	93.6	96.4	99.8	93.2	96.7	100.0	93.5	99.5	103.0	96.0
Coverage (16 -18 years)	58.6	56.6	60.6	62.3	60.0	64.6	64.4	62.8	66.0	66.7	65.3	68.1	69.3	68.5	70.2
Desertion	16.5	19.0	14.0	15.9	17.7	14.1	14.9	17.2	12.8	14.9	16.7	13.2	14.4	16.5	12.4
Failing	34.7	39.8	30.0	35.0	40.4	30.0	33.6	38.9	28.7	32.7	37.8	27.9	32.5	37.6	27.6
Completing efficiency	58.3	53.1	63.5	60.9	56.0	65.6	62.0	57.7	66.3	62.2	58.3	66.2	61.8	57.0	66.8
<b>Higher Education</b>															
Absorbed into Undergraduate studies	74.6	80.3	69.7	73.7	81.1	67.7	76.1	83.6	69.9	76.5	83.7	70.5	77.6	83.9	72.2
Absorbed into Technical Specialty	5.3	6.7	4.1	5.6	7.0	4.5	6.4	8.2	4.8	6.5	8.5	4.8	7.0	9.2	5.1

Note:

To calculate terminal efficiency, desertion and failure, figures were estimated for the 2011-2012 cycle.

M= male; F= female; T= total

Source: SEP (2015).

In general terms, the education gap increased in 2010 to 20.6 percent, which represents 23.2 million people. This indicator shows a decrease of 1.3 percent in relation to 2008, which means approximately 900,000 people overcame the education gap in those years.

A recent publication by OECD, 2014b [*Panorama de la Educación, Nota de País* (Table C5.1a)] analyses the relationship between employment and educational performance indicators. Based on current trends, it is estimated that Mexican 15-29 year-olds will spend 3.3 years as NEETs –neither employed nor in education or training– when the OECD average is 2.3 years. So, while around one in ten Mexican young men are NEET, more than three in ten young Mexican women are



(*op.cit.*, Table C5.2b and C5.2c). While this kind of difference is observed in other countries, it is much larger in Mexico. Studies based on the *Encuesta Nacional de la Juventud* (IMJUVE, 2011) indicate that most young NEET women are housewives, suggesting that the gender gap may be largely related to cultural matters, such as early marriages and pregnancies.

### **6.3 AVAILABILITY OF ON-THE-JOB SPECIALIZED TRAINING FOR WOMEN AND MEN WORKERS**

The reforms to the Federal Labor Law, that went into effect on December 1<sup>st</sup>, 2012, had an impact on the legal obligations that corporations must enforce in Mexico's formal economy where training is concerned. To this effect, the Directorate-General for Training issued an agreement that "presents the administrative criteria, requisites and forms to process and request services in the area of training, instruction and productivity for workers", published in the Official Gazette of the Federation on June 14<sup>th</sup>, 2013. According to these reforms, employers must establish two-year plans and programs for education and training, and include them in training courses provided by the companies from which they had acquired goods or services, as well as by foreign companies that train Mexican workers. This capacity-building effort may become a part of training programs provided to workers to initiate, continue or complete their basic, middle or higher education studies.

The Ministry on Employment and Social Provision, via its Directorate-General for Training, has introduced a public policy that strengthens working skills through continuous education, enabling individuals and groups in a vulnerable work situation to gain opportunities for better jobs. In June 2005, the worker Training-at-a-distance Program (PROCADIST, in Spanish) was established. Its operation enabled technical and social instruction to support the development of more productive and competitive human capital in Mexico. This virtual space offers to the 57 million workers in the country a wide and diverse spectrum of courses, workshops and certified programs that improve their abilities and knowledge, and allow them to gain a better competitive position in the labor market. This is a very valuable opportunity, especially for the 2 million female and male workers who have not received formal education.

### **6.4 THE MINISTRY OF PUBLIC EDUCATION AND TRAINING-FOR-WORK**

Training for and on-the-job is part of the education services provided at 199 Training Centers for Industrial Work (CECATI, in Spanish) through a network of widely spread

campuses, one link of the 27 Institutes for Job Training (ICAT, in Spanish), which operates 279 units throughout Mexico and in private recognized schools (with Official Accreditation of Studies –RVOE in Spanish).<sup>24</sup>

During the school year 2011-2012, training services for work benefited 1,544 students, a population larger by 3.7 percent than during the previous school year, when 1,488 students took advantage of the program. Of the enrolled students, 74.7 percent were registered in public and 25.3 percent in private schools. These numbers pertain only to training available at educational institutions. For the school year 2012-2013, job training benefited 949,536 women and 666,288 men.

Taking into account the total economically active population for the year 2009, 16,323,315 people (34.92%) participated in training-for-work courses; men have a slightly higher participation rate (35.02%) than women (34.76%), which in absolute numbers represents 9,793,815 men and 6,529,500 women trainees. Of the total number of women in training, 436,745 were unemployed.

**Table 53. Economically Active Population in Job Training, by Sex and Condition of Employment, According to Method of Training, 2009**

Women and Condition of Employment	Economically Active Population with on the Job-Training	Method			
		In a classroom	Distance Learning by Internet	Distance Learning by other methods	Partially in classrooms
Employed	6,092,755	5,957,019	108,908	4,980	21,848
Unemployed	436,745	431,503	3,454	0	1,788
Total	6,529,500	6,388,522	112,362	4,980	23,636

\* Data refer to last training course taken.

Source: INEGI (2010e).

Training courses taken by women have been, for the most part, in the schoolroom (6,388,522) followed by courses taken via Internet (112,362). As regards specialization, "Training to provide different types of services" is best represented with 1,959,726 attendees; in second place are courses related to "Management, Accounting and Computers" (586,222). Courses in "Marketing" (312,315) fall in-between, followed by courses

<sup>24</sup> The DGCFT offers on-site and on-line courses derived from an attractive educational offer. The different training modalities offered include: Extension courses (CE), to upgrade, specialize in or incorporate new technologies at work; Rapid specific training (CAE), which improves worker productivity; Official recognition of occupational competence (ROCO), which, after an evaluation, provides an official diploma to persons who acquired field-of-work related knowledge and skills; Entrepreneurship training, to enter the business world; and Mobile action (AM) to empower communities, located in difficult access areas, who request specific training.

related to “Information and Communication Technologies” (238,772). While it is true that women tend to train in areas similar to or an extension of home economics, it is also true that they are seeking out new fields of labor, such as the newer –computer linked– information and communication technologies (ICTs).

**Table 54. Employed Population with work training by Sex and Study Subject of last instruction received according to year taken, 2009.**

Study Subject of Last Course taken, by sex	Employed Population with Work Training	Year taken				
		This Year	Last year	Two Years Ago	More Than Two Years Ago	Not specified
<b>Men</b>	<b>9,243,678</b>	<b>3,823,205</b>	<b>1,733,667</b>	<b>756,067</b>	<b>2,916,683</b>	<b>14,056</b>
Production	1,593,766	453,549	258,332	129,871	745,340	6,674
Services	1,834,976	922,723	362,437	151,623	397,636	557
Management, Accounting & Computers	1,569,723	690,683	325,068	130,009	423,108	855
Commerce	846,512	318,351	169,134	78,969	276,632	3,426
Maintenance and Repair	739,862	253,529	116,090	62,057	308,186	0
Security	954,103	463,290	170,627	73,902	245,886	398
Personal and Family Development	583,557	230,309	106,137	47,358	198,209	1,544
Information Technologies & Communication	745,096	327,982	144,723	64,032	208,249	110
Social Skills	87,347	37,371	18,083	6,485	25,408	0
Unspecified	288,736	125,418	63,036	11,761	88,029	492
<b>Women</b>	<b>6,092,755</b>	<b>3,082,999</b>	<b>1,138,274</b>	<b>473,451</b>	<b>1,385,285</b>	<b>62,746</b>
Production	642,219	189,191	103,086	33,249	311,114	55,579
Services	1,959,726	1,148,370	362,132	126,601	318,941	3,682
Management, Accounting & Computers	1,186,163	586,222	230,094	117,413	250,684	1,750
Commerce	625,310	312,315	124,950	57,783	129,866	396
Maintenance and Repair	92,317	41,296	19,122	13,863	17,944	92
Security	346,523	232,828	58,935	7,129	47,409	222
Personal & Family Development	443,547	228,598	91,279	33,959	89,665	46
Information & Communication Technologies	604,958	238,772	111,666	70,634	183,625	261
Social Skills	24,781	17,814	3,745	1,288	1,934	0
Unspecified	167,211	87,593	33,265	11,532	34,103	718

\*Data refer to the last training course taken.

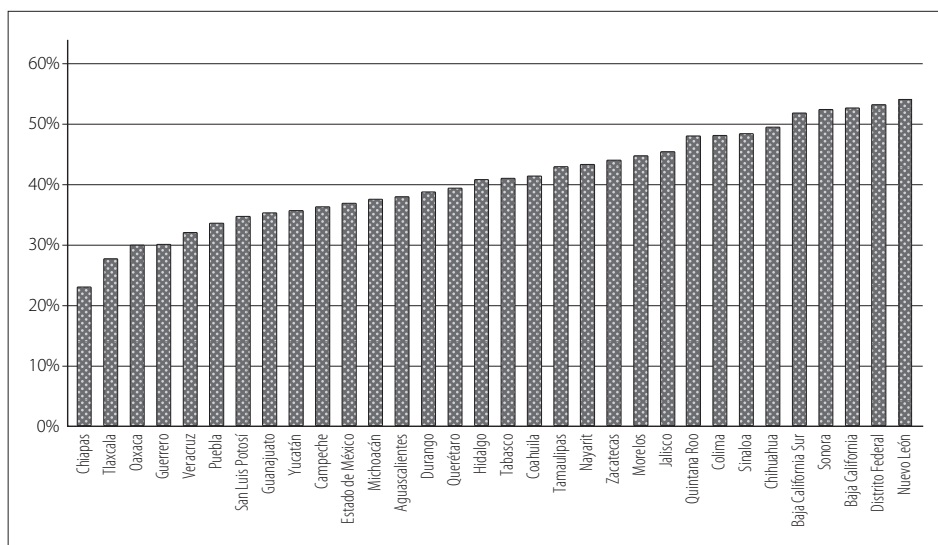
Source: INEGI (2010e).

## 6.5 ENROLMENT IN DISTANCE EDUCATION

Due to its flexibility –an inherent component of the very definition of open-and distance education– since the sixties this teaching & learning vision has been widely discussed in Mexico, mainly at the meetings of the National Association of Universities and Higher Education Institutions (ANUIES, in Spanish). The debate has now been enriched with the introduction of Information and Communication Technologies (ICT resources), such as the Internet, and new educational categories have emerged –such as virtual education (i.e. online education and e-learning) and including “blended” learning (a combination of all the above).

In April 2014, INEGI (2014h) published that 47.4 million Mexicans over six years old were using Internet (44.4 percent of that group), showing an average annual growth rate of 12.5 percent since 2006. It also pointed that 10.8 million households had Internet access (34.4 percent of the total), meaning that the main access point for 56.8 percent of active users in the country is at home.:

**Figure 1. Percentage of households with Internet access, 2014.**

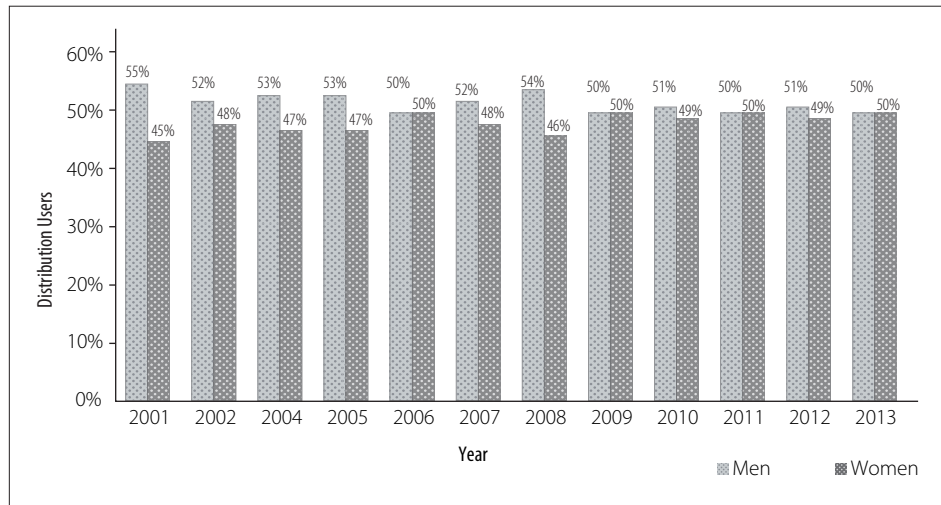


Source: INEGI (2014b).

Internet accessibility in Mexico is highly uneven throughout the country. There are states where less than 30 percent of the total number of households have access to *Internet* (See Fig. 1).

With regards to the gender digital divide, Rivera and Fernández del Campo (n.d.) reveal “that in 2001 there was a gap of 10 percent among men and women users; while that disparity has been reduced in subsequent years, there is no significant difference by gender between Mexican Internet users, since 2009” (See Fig. 2).

**Figure 2.** *Internet users by sex and year.*



Source: Rivera y Fernández del Campo (n.d.)

For distance education these figures are highly relevant. Besides Mexico City, some states have actively promoted this learning modality, like Jalisco, Veracruz, and Chiapas.

Distance education is a necessity in Mexico. Table 55 shows enrolment figures in formal programs offered in distance and open education.

**Table 55.** *Enrolment in Distance Education Programs, 2012-2013*

Discipline	Men	Women
Medicine and Health Sciences	10,761	22,605
Exact Sciences and Engineering	39,057	15,008
Humanities and Arts	10,472	19,445
Social and Administrative Sciences	111,145	144,617
<b>Total</b>	<b>171,435</b>	<b>201,675</b>

Source: ANUIES (2014).

The distribution of total enrolment behaves similarly to that observed in classroom education. The largest proportion of students concentrates in Social and Administrative

Sciences, where Business Administration, Pedagogy (Education and Teaching), Law and other Social Sciences are grouped. Gender disparities are higher in the grouping for Exact Sciences and Engineering, just as expected. Physics and Mathematics are disciplines with still very low female involvement in Mexico.

The percentage of women enrolled in specific undergraduate degree programs in 2012 included: 14% Engineering, construction and manufacturing, 5.4% Exact Sciences, and 47.3% Social Sciences, Business and Law (UNESCO, 2014). For a fact, vertical segregation is found in University enrolment, even when solely taking into account undergraduate students.

## 6.6 LIFELONG LEARNING

Lifelong learning in Mexico started with adult education. The National Institute for Adult Education (INEA, in Spanish) was created in 1981 and has been instrumental in educating youths and adults in Mexico with a federalized operation model. The 2010 Census had identified a total of 31,900,057 people in an illiteracy and education lag condition. The program has contributed to eradicate these lags in basic education by generating education models, defining operational norms and transferring resources to the states and their municipalities to help close the gap for the 15-year old and older population. The program operates in every state and the Federal District through the State Institutes for Adult Education (IEEA, in Spanish) and the INEA branch offices (SEP-CONEVAL, 2013).

The program's main objective is to provide 15-year and older persons the services needed to overcome illiteracy and close the gap on basic education by applying the Education Model for Life and Work (MEVyT, in Spanish), crediting and certifying knowledge and learning at the levels attended (ROP, 2011).

One characteristic of the INEA-MEVyT curricula is the use of modular content, customized for different life contexts and social needs. The program is divided into three levels (beginners, intermediate and advanced) and offers basic modules directed towards reading/writing and the development of basic quantitative abilities. It also offers a range of modules oriented to encourage and practice moral values, traditions, knowledge and specific aptitudes that support the holistic nature of the program's educational services (SEP, INEA, CONEVAL, 2013).

The Institute for Adult Education-INEA has reached relevant nationwide achievements in literacy. Table 56 below charts the number of women who achieved literacy through adult education programs (Table 56).

The concept of lifelong learning has permeated educational institutions, especially in higher education, where the activities conceived for this new approach have

taken root. For instance, the Autonomous Metropolitan University (UAM) changed the contents of its curriculum to include permanent learning as a specialization within its academic program. Also, the National Polytechnic Institute (IPN) provides training of this nature and, at present, there are 131,564 students at the Virtual Campus and in continuous education centers (IPN, 2009).

**Table 56. Literacy of Adult Women participating in INEA, 2003-2011**

<b>Year</b>	<b>Number of Women who achieved literacy</b>
2003	86,942
2004	84,599
2005	117,563
2006	140,996
2007	84,876
2008	95,400
2009	102,342
2010	104,762
2011	87,024

Source: INEGI. (2015d).





# SUPPORTING POLICY

## 1. KNOWLEDGE SOCIETY POLICY ENVIRONMENT

Mexico first incorporated a gender perspective (PEG, in Spanish) in public policies in 1995 at the Beijing Fourth International World Conference on Women. Since then, one of the country's goal for sustainable development has been to implement gender as a crosscutting dimension into all levels of government, as well as their actions, plans and programs. The backbone that provides sustenance to these efforts has been a national legal framework that advocates for gender equality –as described in Articles 2, 9 and 14 of the National Planning Law<sup>25</sup> – and directs all government entities to incorporate PEG into their guidelines, codes and procedures.

The most important laws supporting gender equality in Mexico are:

- I. The Political Constitution of the United Mexican States (amendment to Articles 1st, 4th and 26th)
- II. General Law for Equality between Women and Men
- III. Federal Law on Work
- IV. Federal Law to Prevent and Eradicate Discrimination
- V. General Law for Women's Access to a Life Free of Violence
- VI. General Law to Prevent, Penalize and Eradicate the Crimes of Trafficking and to Protect and Assist Victims of these Crimes
- VII. Law to Protect the Rights of Girls, Boys and Teenagers

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**25** Article 2: Planning should be carried out as a means to efficiently perform the State's responsibility on the comprehensive and sustainable development of the country and it should lead towards the achievement of the political, social, cultural and economic goals and objectives stated in the Political Constitution of the United Mexican States. To that end, it will be based of the following principles: [...] Gender perspective, to guarantee equal opportunities between women and men, and to promote the advancement of women through the equitable access to goods, resources and development benefits.

Article 9: The Branches of the public centralized administration must plan and conduct their activities from a gender perspective, subject to the objectives and priorities of the National Development Plan, to comply with the State's obligation to guarantee that [development] will be equitable, comprehensive and sustainable.

Article 14: The Secretariat of Finance and Public Credit will have the following attributions:

- I. Coordinate the activities of the National Development Plan;
- II. Prepare a National Development Plan, taking into account proposals from the branches and entities of the Federal Public Administration and State Governments, proposals formulated by social groups, indigenous people and communities, as well as the gender perspective.

The present Public Administration has prescribed the inclusion of PEG as one of the three axis governing public policy in the National Development Plan 2013-2018. Building upon a legal framework that seeks equality, Mexicans can aspire to be part of a society where women and men have the same rights and opportunities.

The efficacy of legislation will depend on the mechanisms and public policies implemented to achieve this goal. To meet this need, in 2001 Inmujeres was created, an institution for the advancement of Mexican women that acts as a decentralized public organization to the Federal Public Administration. It has its own legal status, assets and technical and administrative autonomy to comply with its mandate, objectives and goals. Inmujeres is a government institution that works at the federal level to create a culture of equality, free of violence and discrimination, that will allow the comprehensive development of Mexican women. It both supports men and women to fully exercise their rights, such as taking part in the political, cultural, economic and social life of the country. Inmujeres mission is: orient national policy to achieve equality of opportunities between women and men by institutionalizing and mainstreaming the gender perspective in the Mexican State and its tasks.

Inmujeres instruments a National Program for Equality between Women and Men (Proigualdad, in Spanish) that involves the performance of the Federal Public Administration and establishes a platform with basic lines of action and objectives to guarantee women's human rights, protect them from discrimination, provide access to justice and security, as well as strengthening women's capacities to promote their economic agency and gain better opportunities for their well-being and development (Inmujeres, 2010d).

One sign of progress on equality issues at the Federal level is the budget increase for gender related activities; there is, however, a need to monitor its use and assess its sufficiency. Gender violence also has been decreasing, which would seem to indicate that government administrative personnel has been receiving training and is being sensitized on these issues.

An important victory in gender equality is reflected in the granting of paternity leave: since December 1<sup>st</sup>, 2012, every male worker must be granted a 5-day paternity leave with pay for either the birth or adoption of a child (Art. 132, fraction XXVII bis, Federal Labor Law). A few months later, in May 2013, the Government of the Federal District published a decree that granted paternity leave for 15 working days with pay for men who become fathers. This legal right is part of a commitment that the Head of Government signed with the United Nations i) a Memorandum of Understanding between the Federal District Government and the United Nations Office for Gender Equality and the Empowerment of Women, as well as ii) undersigning a Set of Strategic Actions to Guarantee Fundamental Equality in Mexico City. Granting paternity leave to fathers also benefits mothers: a win-win for both parents.

Civilian organizations have been the main promoters in advancing equality, in part due to surveillance actions and political pressure, but also because they have teamed up with governments to design and implement strategies, programs and policies<sup>26</sup>. For example, the Support Program to Women's Equality in Federative Entities (PAIMEF, for its acronym in Spanish) is a program that addresses prevention of violence against women from areas of social and human development, as well as by promoting a gender perspective. Their objective is to prevent and respond to violence against women through the Women's Equality in Federative Entities program (IMEF, in Spanish), coordinating the different government and social institutions involved. In 2012, through federal, state and municipal coordination, 1,232 municipalities implemented agreements, projects, training, awareness-raising and personnel professionalization, counseling, meetings, Justice Centers, and shelter establishment; 87.5 percent of these organizations for women are linked to gender study programs in academic institutions.

A fundamental part of the practices dealing with equality consists of programs on gender studies. The gender perspective is present in the design and development of academic instruction at universities and research institutes through certified courses and Master's degrees, as well as research, extension and social integration activities to study women's condition in Mexico. The institutions active in this area include:

- *Universidad Nacional Autónoma de México (UNAM)*: University Program for Gender Studies
- *Universidad Veracruzana (UV)*: Program for Equity and Gender Studies
- *El Colegio de México (COLMEX)*: Interdisciplinary Program on Women Studies
- *Benemérita Universidad Autónoma de Puebla*: Center for Gender Studies
- *Universidad de Guadalajara*: Center for Gender Studies
- *Universidad de Colima*: Center for Gender Studies
- *Universidad Autónoma de la Ciudad de México*: Center for Gender Interdisciplinary Studies
- *Universidad Pedagógica Nacional*: Academic Group for Gender Studies on Education
- *El Colegio de Sonora*: Socio-cultural Health Studies Line of Research (gender is one of its thematic axis)
- *Instituto Nacional de Salud Pública*: annually offers a summer course on Gender and Health
- *Universidad Autónoma Metropolitana, Xochimilco campus*: offers a Graduate Program in Women's Studies

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<sup>26</sup> An example of such an initiative is SEMARNAT's Gender Unit, at Federal level, created under pressure from the civilian society, which deals with environmental and gender themes (Gender and Environment Net); this unit also forms alliances to lobby legislators (Inmujeres, 2012b).

Among other important challenges, the knowledge society needs to create a culture for equality that provides equal opportunities for human development –gender notwithstanding.

## 2. GENDER POLICY

Mexico has signed various international agreements related to non-discrimination against women, and has assumed unconditional moral and political commitments to move forward on gender equality. Mexico's most important gender-related engagements include:

- The American Convention on Human Rights (1969)
  - The Convention to Eliminate All forms of Discrimination against Women; Mexico ratified the Convention on March 23<sup>rd</sup>, 1981
  - Vienna's Declaration and Program for Action (1993)
  - Program for Regional Action for Latin American and Caribbean Women (1994).
- a) El Cairo's Declaration and Program for Action
  - b) Inter-American Convention to Prevent, Penalize and Eradicate all Forms of Violence Against Women, (Belém do Pará Convention, 1994); ratified by Mexico on June 19<sup>th</sup>, 1998; Follow Up Mechanism (2006)
  - c) Beijing Platform for Action (1995)
  - d) Inter American Convention to Eliminate All Forms of Discrimination Against People with Disabilities (1999)
  - e) New Measures Adopted in the XXIII Extraordinary Period of Sessions by the United Nations' General Assembly "The Woman in the year 2000: equality between sexes, development and peace in the 21<sup>st</sup> Century"
  - f) Developmental Objectives for the Millennium (2000)
  - g) Inter-American Program on the Promotion of Women's Human Rights and Gender Equity and Equality
  - h) Mexico Consensus (2004)
  - i) Quito Consensus (2007)
  - j) Agreement on Decent Work for Male and Female Domestic Workers (2011).<sup>27</sup>
  - k) The National Human Rights Commission responded on September 2012 the call from the United Nations' General Secretary, to join the campaign "Unite to end violence against women".

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<sup>27</sup> Linked to the Convention Concerning Decent Work for Domestic Workers (Geneva, 2013), not yet signed by Mexico

Additionally, Mexico's Supreme Court proclaimed that anybody involved with the judiciary system has the obligation to reject any norms or regulations that contravene international treaties. This instruction is the result of a 2011 Constitutional Amendment, consolidating the *pro-persona* principle.<sup>28</sup>

The Law that enacts the National Women's Institute (Inmujeres)<sup>29</sup> was passed on January 2001. The general purpose of Inmujeres is to promote and encourage those conditions that allow for non-discrimination, equality of opportunity and behavior between the sexes; full exercise of every woman's rights; and, their equitable participation in the political, cultural, economic and social life of the country.

Two additional pieces of legislation buttress the above mentioned Law, turning it into a benchmark for the institutionalization of the gender perspective. First, the publication of the General Law for Equality between Women and Men, which guarantees equality between women and men, as well as the development of institutional mechanisms to implement fundamental equality, namely: the National Equality System, the Observance on Matters of Equality and, the National Program for Equality between Women and Men. Each one takes into account the needs of states, their municipalities, and the Federal District, as well as the unique requirements to approach inequality in each region. Secondly, the General Law of Access for Women to a Life Free

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**28** *Pro-persona Principle* (also called *pro homini*) refers to the prescription that expands the rights of people to incorporate the obligations that the Mexican State has agreed to in international treaties in favor of said people.

**29** From Chapter 1, General Dispositions, the following four Articles are of particular interest:

Article 1: These legal dispositions are public and for general observance throughout the Republic, on the subject of gender equity and equality of rights and opportunities between men and women, under the terms of Article Four, second paragraph of the Political Constitution of the United States of Mexico.

Article 2: The Women's National Institute is created as a public organization, decentralized from the Federal Public Administration, with legal personality, own status and technical and managing autonomy to fulfill its attributions, objectives and goals.

Article 3: Subject to the rights that this Law guarantees are every Mexican and Foreign woman inside the Mexican territory, as well as Mexicans in Foreign territory, regardless of ethnic origin, age, civil state, language, culture, social condition, disability, religion or beliefs, and who may participate in the programs, services and actions derived from the present legislation.

Article 4: The Institute's General objective is to promote and encourage the conditions that allow non-discrimination, equality of opportunities, and behavior between the genders; the full exercise of every woman's rights and their equitable participation in the political, cultural, economic and social life of the country, under following criteria:

- Cross-cutting, for those public policies with gender perspective in the different branches and entities of the Federal Public Administration, through execution of joint and coordinated programs and actions.
- Federalistic, in so far as to the development of programs and activities to institutionally strengthen [administrative] branches responsible for gender equity in states and municipalities.
- Reinforcing ties with Legislative and Judicial Powers both at Federal and state level.

of Violence and, with it, the creation of the National System to Prevent, Attend, Penalize and Eradicate Violence Against Women, as well as the Integral Program (with the same name as the National System) to implement the National System and its actions.

At the XIV International Meeting on Gender Statistics, Mexico's National Institute for Women and the Organization of American States' Inter-American Commission for Women signed an agreement on "Cooperation Related to the Promotion of Women's Rights and Gender Equality in the Americas".

## 2.1 NATIONAL PROGRAM FOR EQUALITY, 2013-2018 (DOF, 2013a)

The General Law for Equality between Women and Men (DOF, 2012a) establishes the provisions for the creation of the National Policy on Equality, linked to the National System for Equality, the National Program for the Equality between Women and Men (PROIGUALDAD, in Spanish), as well as the bases for an observation, monitoring and evaluation mechanism under the guardianship of the National Commission on Human Rights. Taking into consideration the programming alignment foreseen in the National Development Plan (PND), the overall common ground on its objectives and, in conformity with the Guidelines for Program Development derived from the PND, the strategies and programmatic lines of action already mentioned have been included in the National Program for Equality of Opportunities and Non-Discrimination against Women 2013 - 2018 (PROIGUALDAD).

The National Program for Equality between Women and Men brings together Federal agencies aligned with the objective of achieving gender equality between both sexes. It is headed by Inmujeres –as the Federal institution in charge of equality– within the framework of the National System for Equality between Women and Men. Actions implemented by Federal, state, municipal and Federal District governments are to be performed in coordination with the National System for Equality.

The Program has seven strategic objectives:

- Objective 1: Institutionalize gender mainstreaming in the Federal Public Administration, and create implementing mechanisms to allow for its adoption in public and private sectors.
- Objective 2: Guarantee judicial equality, human rights for women, and non-discrimination under the rule of law.
- Objective 3: Guarantee the access of women to justice, security and civilian protection.
- Objective 4: Guarantee the access of women to a life free of violence.

- Objective 5: Strengthen the capacities of women to expand their opportunities and reduce gender inequality.
- Objective 6: Encourage women's economic agency, favoring better opportunities for their well-being and development.<sup>30</sup>
- Objective 7: Promote the empowerment of women, their participation and representation in decision-making [processes] within the state and ensure a democratic culture.

PROIGUALDAD integrates six transversal objectives, 36 strategies, 314 lines of action and 18 indicators with their respective goals for 2018. The lines for action are organized according to the following criteria: activities that facilitate strategical coordination with other branches of the Public Administration; general actions mandatory for all branches and entities; and, specific actions for different branches or entities.

The strategies and lines of action of PROIGUALDAD will be funded by resources allocated in the Appendix of Expenditure for Equality between Women and Men; should the activities generate an additional budgetary impact, their implementation will be subject to budget availability from each branch or entity that approved said budget. The Federal Executive Power involves itself so that the Mexican State can comply with the commitments acquired under the Convention on Eliminating all Forms of Discrimination Against Women (CEDAW), as well as those established in Mexico's (i) Planning Law, Articles 2, 9 and 14, in relation to the inclusion of a gender perspective in national planning, (ii) General Law for Equality between Women and Men, (iii) General Law for Women's Access to a Life Free of Violence and, (iv) Federal Law on Budgetary and Treasury Responsibility.

### 2.1.1 JUDICIAL FRAMEWORK TO CONFRONT DISCRIMINATION AND VIOLENCE AGAINST WOMEN

As part of the Federal Government's and the Congress' recognition on the importance of promoting equality to fight gender violence, the General Law for Equality between Women and Men (DOF, 2006) was passed in 2006; in 2007, so were the General Law for Women's Access to a Life Free of Violence (DOF, 2006) and the Law to Prevent and Penalize People Trafficking (POEC, 2009). The entering into effect of these laws demonstrates the strength of its commitment and the political will with which the Mexican State seeks to guarantee the rights of girls and women to a life without discrimination and violence.

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<sup>30</sup> T.N. In the field of philosophy and sociology a so-called agency is the capacity an agent has (a person or another identity) to act in the world (cf. Bandura, 2001).

The Office of the Special Prosecutor for Crimes of Violence Against Women and Human Trafficking (FEVIMTRA, in Spanish)<sup>31</sup>, was established by Mexico's Attorney General by Agreement A/204/08 on January 31<sup>st</sup> 2008, with the following tasks:<sup>32</sup>

- a) Investigate and prosecute federal crimes of violence against women and human trafficking;
- b) Offer diverse services to victims of violence and trafficking, such as legal advice, medical and psychological attention, legal counseling and supporting measures;
- c) Locate disappeared girls; and,
- d) Develop programs that reinforce prevention and investigation of crimes included in their area of competence.

Based on the General Law of Women's Access to a Life Free of Violence, the National System to Prevent, Investigate, Penalize and Eradicate Violence Against Women (SNPASEVM, for its acronym in Spanish) was created in 2007. Its goal is to promote inter-institutional coordination. Also, complying with this General Law, the National Commission to Prevent and Eradicate Violence Against Women (CONAVIM, in Spanish) was established in June 2009 to prepare a comprehensive and cross-cutting policy to prevent, investigate, penalize and eradicate violence against women.<sup>33</sup> The Law also mandates the establishment of a National Database on Cases of Violence (BANAVIM, for its acronym in Spanish) that will process, incorporate and update information on gender violence with the purpose of public policy coordination among organizations involved in investigating, preventing, penalizing, and eliminating this condition. It also considers a specific mechanism to protect women in situation of violence—a legal instrument without precedent in Mexican and Latin American judiciary systems—namely the procedures of “compared grievance” and of “declaration of gender violence alert” as government emergency actions to confront and eradicate femicides.<sup>34</sup>

Furthermore, a 2001 Constitutional amendment to Article 2 represented progress for indigenous women, guaranteeing their dignity and integrity, and providing

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**31** For more information on the work of the Special Prosecutor for Crimes of Violence Against Women and Trafficking see <http://www.pgr.gob.mx/Fiscalias/fevimtra/Paginas/default.aspx>.

**32** FEVIMTRA replaced the Special Prosecutor's Office for the Attention of Crimes related to Acts of Violence Against Women in Mexico (FEVIM, in Spanish).

**33** For more information on the tasks of the National Commission to Prevent and Eradicate Violence Against Women, go to <http://www.conavim.gob.mx/>

**34** There are two mechanisms to turn on the gender alert in the country: femicide violence, which involves a context “against the life, integrity and freedom” of Mexican women, and comparative grievances, a figure referred to situations where the legal framework itself—federal or local—lashes out and exerts discrimination towards this sector of the population.



equal participation in government elections (DOF, 2001). It also mandated inclusion of indigenous women in Mexico's development processes, by supporting their productive projects, and providing health coverage, educational support and participation in decision-making processes associated with community life.

Through the project *Diagnosis of the National Policy for Equality*, the three branches of government and every level of government evaluate progress made by national policy concerning equality for women and men. This assessment provides the opportunity to systematize information that gives account on the advances made and achievements reached in gender mainstreaming to guarantee equality in Mexican women's life in all its different areas of activity. This program is coordinated by Inmujeres, in collaboration with a group of other institutions.

But there is always the opposite face of the coin: while gender issues are permeating Mexico's society with success in many cases, important interests are being affected and much increased levels of violence and deaths are the end result.

### **3. GENDER BUDGETS**

To comply with the national statutory framework, and as a result of coordination among the Legislative and Executive Powers, the 2008 Federal Budget on Expenditures included expenditures for Equality between Women and Men, to promote equality of opportunities through gender mainstreaming in the design, planning and instrumentation of Federal Public Administration programs. In 2008, seven thousand million pesos was distributed for this purpose to 65 budgetary programs; by 2013 the assigned budget grew to 18 thousand 760 million pesos that were distributed among more than 100 budgetary programs.

Amendments were made to the Federal Law of Budget and Fiscal Liability, the Law of Planning, and the General Law of Equality between Women and Men (all in 2012). The Federal Law of Budget and Fiscal Liability determines the resources assigned to budgetary programs and investments included in the Transversal Appendix for Equality.

While Targeted Expenditure for Women and Gender Equality (GEMIG, for its acronym in Spanish) gained official status since 2008, it was not until 2013 that the respective Appropriations Bill [Decree of Budgetary Expenditure in Mexico] was passed.<sup>35</sup> The first proposals to target public resources for gender equality were introduced by civilian organizations. The statement of principles of the Women's National Assembly for a Tran-

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<sup>35</sup> GEMIG is the acronym in Spanish for *Gasto Etiquetado para las Mujeres y la Igualdad de Género* (Labeled Expenditure for Women and Gender Equality).

sition to Democracy (1996) expressed the need to guarantee that public expenditure includes resources targeted for women. At the same time, gender expenditure analysis were provided to women organizations and public officials with legislative and executive power –connected to budget expenditure or stakeholders in it– to raise awareness and educate them on this issues.

The process, which gained momentum during the first decade of the 21st century, took place in an environment of political change when calls to audit public budgets for performance, transparency and fiscal accountability were gaining strength. The overall process was primarily promoted by the NGO *Equidad de Género: Ciudadanía, Trabajo, Familia, A.C.*, the Center for Analysis and Research (FUNDAR) and the Federal Government (Inmujeres).

As a result of these actions, starting in 2003, the Congress Commission for Equity and Gender began tagging and reassigning resources for priority matters on gender (reproductive health, poverty and violence), in order to promote gender equality and support gender mainstreaming. Coupled to this, new measures were taken to institutionalize gender within the judicial and normative framework of the federal budget.

Grounded in the legal basis of the General Law for Equality between Women and Men (2006), the General Law for Women's Access to a Life Free of Violence (2007) and the Federal Law on Budget and Fiscal Responsibility (2006), the administration of public resources is based, among other criteria, on gender equality (Article 1). Two transitory Articles were included in the Expenditure Budget for Fiscal Year 2007 relating to the promotion of gender equality by the Federal Government and the role of Inmujeres as the organization responsible for delivering regular reports on actions taken for the advancement of women. Starting with the Expenditure Budget 2009, a gender-related article was included as Chapter IV; this amendment placed gender mainstreaming as a requirement within the general guidelines for implementation of the budget, thereby increasing possibilities to execute actions not contemplated originally in the programs and budgets tagged by Congress. In 2013, Chapter IV was renamed "Of Equality between Men and Women", an explicit statement that equality is the objective of gender mainstreaming.

From 2008 onward, the resources from the GEMIG<sup>36</sup> are detailed in a specific appendix, initially titled "Budget for Women and Gender Equality" and later renamed "Expenditures for Equality between Women and Men". This appendix presents a disaggregated budget by administrative branch and budgetary program, labeled by Congress as public resources for women and gender equality. The implementation of the

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<sup>36</sup> GEMIG is the acronym in Spanish for *Gasto Etiquetado para las Mujeres y la Igualdad de Género* (Labeled Expenditure for Women and Gender Equality).

GEMIG has been in process continuously since 2008 with varying outcomes from an administrative perspective as, based on the GEMIG, the budget application is determined individually by each entity.

Some undesirable practices are being eliminated since the public budget began to be monitored by women's and academic organizations. In this regard, the Congress' Center of Studies for the Advancement of Women and Gender Equality (CEAMEG, its acronym in Spanish) is playing an essential role, being responsible for the quarterly follow-up on budget execution and production of the GEMIG's annual balance. In so doing, women's organizations are demonstrating their important supervisory role on the GEMIG and public expenditure. CEAMEG also participates in awareness building and training for public officers, for example, during consultations on budget implementation.

Inmujeres, as the institution charged with directing national policy for gender equality, has published two major documents: "A Conceptual Guide to Developing Institutional Budgets with Gender Perspective", and "A Methodological Guide for the Inclusion of the Gender Perspective in Public Budgets". These guides have been used for training Federal public administrators as well as civilian consultants and academics.

**Table 57. Resources assigned to Public Equality Programs (In MxPesos)**

Ministry/ Area	Budgetary Program	Budget
TOTAL		18,760,618,532
<b>04 Interior</b>		197,734,233
	Promote attention to and prevention of violence against women	121,634,233
	National demographic planning	2,600,000
	Development and application of programs and policies for the social prevention of crime and to promote citizen participation	64,000,000
	Promote prevention, protection and attention to issues on human trafficking	8,000,000
	Mechanisms to protect journalists and defenders of human rights	1,500,000
<b>05 Foreign Affairs</b>		10,985,000
	Consular protection and assistance	10,000,000
	Forums, publications and activities on gender equality	985,000
<b>06 Treasury and Public Credit</b>		3,698,438,364
	Comprehensive care to victims and aggrieved parties by high impact crime	5,929,800
	Comprehensive care to families of disappeared and not found people	1,684,919
	Construction projects (administrative offices)	19,300,000
	Administrative support activities	15,808,965

	Public service and good governance support activities	7,521,394
	Promote and coordinate actions towards gender equity	413,708,286
	Strengthen transversality on gender perspective <sup>1/</sup>	342,800,000
	Federal Program to plan, finance and subsidize housing	2,315,000,000
	Program on productive organization for indigenous women (POPMI)	443,885,000
	Program on Alternative Tourism in Indigenous Areas (PTAZI)	10,000,000
	Actions with indigenous population for gender equality	122,800,000
<b>07 National Defense</b>		104,000,000
	Equality Program between women and men in the SDN	104,000,000
<b>08 Agriculture, Livestock, Rural Development, Fishing and Food</b>		449,308,202
	Registry, control and monitoring of Budgetary Programs	4,308,202
	Program for Prevention and Risk Management	250,000,000
	Program for developing capabilities, Technology Innovation and Rural Extension Development	145,000,000
	Program for Natural Resource Sustainability	50,000,000
<b>09 Communications and Transportation</b>		5,000,000
	Define and instrument the communications and transportation policy	5,000,000
<b>10 Economy</b>		1,240,541,090
	Fund for Rural Women Micro-financing (FOMMUR, in Spanish)	197,532,182
	Program to Promote Social Economy (FONAES, in Spanish)	524,561,843
	Fund to Support Micro, Small and Middle Enterprises (PYME Fund, in Spanish)	199,621,405
	National Program to Financing Micro-companies	118,825,660
	Entrepreneurs Fund	200,000,000
<b>11 Public Education</b>		708,428,604
	Promote Culture Development	20,000,000
	Generation and articulation of basic public policies to youths	1,000,000
	Design and application of policies on gender equity	76,395,035
	Program of scholarships to support basic education for young mothers and pregnant youths	130,000,000
	Program on Basic Education for Boys and Girls in Migrant Day Farming Laborer Families	223,226,902
	Program of the National System for Continuous Training and Professional Advancement for teachers of basic education in service	183,059,264
	Mexican System of High Performance Athletes	48,000,000
	Comprehensive Program for Institutional Strengthening	20,753,403
	Scholarship Program	5,994,000
<b>12 Health<sup>b</sup></b>		4,293,727,512
	Training and development of professional human resources specialized in health <sup>c</sup>	57,189,400

	Technical and administrative training of human resources for health	1,004,962
	Technological research and development in health <sup>c</sup>	157,475,523
	Services provision at different attention levels for health	1,081,302,328
	Prevention and attention to addictions	5,000,000
	Decrease of preventable diseases by vaccination	130,000,000
	Support to administrative activities	37,906,718
	Activities to support public service and good governance	4,417,840
	Quality in Health and Innovation	15,437,449
	Promote health, prevent, and control chronic degenerative and transmittable diseases and injuries	2,516,548
	Prevention and attention to HIV/AIDS and other ITS <sup>d</sup>	229,442,255
	Attention to reproductive health and gender equality in health <sup>e</sup>	1,245,934,180
	Program for the attention of families and vulnerable populations	281,114,349
	Program for child care in support of working mothers	276,007,253
	Decrease of maternal mortality	500,000,000
	Prevention against obesity	268,948,707
<b>13 Navy</b>		45,467,820
	Administration and promotion of naval education	3,000,000
	Social infrastructure projects for assistance and social security	42,467,132
<b>14 Labor and Social Prevision</b>		43,458,132
	Procurement of laboral justice	24,681,712
	Promote gender equity and non-discrimination in the employment market	18,776,420
<b>15 Agrarian Reform</b>		1,478,876,500
	Women's Program in the Agrarian Sector (PROMUSAG, in Spanish)	1,100,025,000
	Fund to Support Productive Projects in Agrarian Units (FAPPA, in Spanish)	378,851,500
<b>16 Environment and Natural Resources</b>		319,190,906
	Environmental Regulation	8,615,986
	Environmental Planning, Direction and Evaluation	35,244,000
	Conservation Program for Sustainable Development (PROCOCODES, in Spanish)	75,600,000
	Temporary Employment Program (PET, in Spanish)	199,730,920
<b>17 Attorney General of the Republic<sup>f</sup></b>		121,992,228
	Investigate and prosecute federal crimes	95,733,879
	Investigate and prosecute crimes related to organized crime	10,350,000
	Promote respect to human rights and care of crime victims	15,908,349
<b>18 Energy</b>		534,000
	Promote instrumentation of sustainable energy	150,000
	Regulate and supervise permits given and their administration in the area of electricity, oil-derived natural and liquid gas	54,000

	Regulate and supervise nuclear, radiological and physical safety of nuclear and radiological installations	240,000
	Support to administrative activities	80,000
	Conduction of energy policies	10,000
<b>19 Contribution to Social Security</b>		650,000
	Economic support to widows of veterans from the Mexican Revolution	650,000
<b>20 Social Development</b>		5,900,467,597
	Program Habitat	619,506,345
	Program A dignified household	674,043,310
	Program for Social co-investment	62,200,000
	Program for Rural households	200,371,350
	Program to support women organizations at the level of states to implement and execute programs for violence against women prevention	258,412,991
	Child care program in support of working mothers	3,547,588,370
	Rescue of public spaces	138,345,231
	Life insurance for female heads of family	400,000,000
<b>21 Tourism</b>		7,331,2600
	Support to administrative activities	631,260
	Establish and conduction of turism policies	5,000
	Support to bussiness and tourism service providers competitiveness	6,695,000
<b>22 Federal Electoral Institute (IFE)</b>		9,000,000
	Administrative management	2,000,000
	Organization of the professional electoral service	1,430,000
	Training and educating citizens for democratic exercises	4,000,000
	Privilege granting to political parties, regulation of their resources and administration of radio and television access and time availability	1,270,000
	Connection with society	300,000
<b>35 National Commission for Human Rights</b>		17,773,718
	Promote, divulge, follow-up, evaluate, and monitor national policies on women and equality between women and men	17,773,718
<b>36 Public Security</b>		3,654,557
	Promote a culture of citizen participation in crime prevention within the framework of Equality and Gender (complying with LGAMLV legislation)	3,654,557
<b>38 National Council for Science and Technology</b>		60,000,000
	Institutional support to scientific, technological and innovation activities	60,000,000
<b>40 INEGI</b>		43,558,810
	Production and dissemination of statistical and geographical information of national interest	43,558,810

<b>18 Energy</b> <sup>9</sup>		2,086,111
	Commercial operation of the optical fiber net and technological support to productive processes in quality control, informatic systems and tele-communications	311,111
	Promote forms for saving electricity and its efficient use	605,000
	Support for administrative activities	1,005,000
	Support for public services and good governance activities	165,000
<b>GYR IMSS</b> <sup>9</sup>		13,895,013,123
	Child care services	8,697,652,628
	Reproductive health care	5,197,360,495
<b>GYN ISSSTE</b> <sup>9</sup>		198,676,321
	Health control for pregnant women	169,106,501
	Gender equity	29,569,820

Notes:

- Includes 100 million pesos in resources for the Program on Strengthening of Municipal Policies on Equality and Equity between Women and Men (FODEIMM, in Spanish).
- Reassignment of 50 million within the Budgetary Program P016 of the Responsible Unit K00 NCD and 68 million pesos within the Budgetary Program P017, from the responsible unit L00 to the Responsible Units M7F for 5.0 million pesos, NBV for 55 million pesos, NDE for 7.0 million pesos and NCG for 1.0 million pesos.
- Reassignment of 5.0 million pesos from Responsible Unit NDE to NBV.
- The resources of the program are distributed in the following way: 70.9 million pesos to Responsible Unit NCD; 79.8 million pesos to Responsible Unit K00, 1.5 million pesos to Responsible Unit NCG and 77.2 million pesos to Responsible Unit NDE.
- The resources of the program are distributed in the following way: 1,160.1 million pesos for Responsible Unit L00; 5.1 million pesos for Responsible Unit M7F; 58.5 million pesos for Responsible Unit NBV; 21.2 million pesos for Responsible Unit NDE; and, 1.0 million pesos for Responsible Unit NCG.
- Resources reassigned for 13.7 million pesos from Budgetary Program E0003, Responsible Unit 400 to Budgetary Program E009, Responsible Unit 601.
- Budget is not added in the total because it is own resources.

Source: DOF (2012b).

## 4. SCIENCE, TECHNOLOGY, AND ENGINEERING POLICY

It represents the world's 11<sup>th</sup> largest economy and is home to the largest university in the Western Hemisphere. For all this, Mexico has had surprisingly little influence on global science output and innovation. Its annual rates of patents and spending on science lie below those of Brazil, its chief Latin American competitor.

During the past six years, Mexico's National Expenditure on Science and Technology (GNCyT, for its acronym in Spanish) has fallen under OECD recommendations. The percentages reported between 2004 and 2009 were as follows: 0.40%, 0.41%, 0.38%, 0.37%, 0.41%, and 0.44% (OECD, 2013b). Countries such as Finland, Japan, Israel

and Sweden invest over 3 percent of their GDP in R&D, higher than the OECD 2.4 percent general average; among all OECD member countries, in Latin America only Chile's percentage is similar to Mexico's, ranging between 0.31 and 0.42 percent.

The General Report on the State of Science and Technology and Innovation in Mexico (Conacyt, 2012) states that the federal budget for Science and Technology (FBST) in 2011 was of 111,065.3 million pesos, which represent 0.77 percent of the country's GDP, a 0.33 percent increase since 2009. In reference to a time series developed by the Consultative Forum on Science and Technology (FCCyT, in Spanish), the budget for science, technology and innovation in Mexico from 2006 to 2012, in relation to the GDP, was: 0.38%, 0.37%, 0.41%, 0.44%, 0.46%, 0.43% and 0.43%, respectively. Public investment in research and development during the decade from 1996 and 2005 reached 0.5 percent of GDP.

According to "Knowledge and Innovation in Mexico: Towards a State Policy, Elements for the National Development Plan" and the Government Program 2006-2012, drafted by the FCCyT<sup>37</sup>, Mexico's scientific and technological infrastructure weakened over the past decade, a fact also reflected in the World Competitiveness Index, which shows Mexico dropped from position 39<sup>th</sup> in 1998 to 60<sup>th</sup> in 2005, according to IMD World Competitiveness Ranking 2014.

From 1970 to 1999, Mexico's total investment in infrastructure devoted to Science and Technology was US\$5,754 million, 40.2 percent of Brazil's investment during the same period. The effect of this reduced investment was also evident in the lower numbers of new SNI members, as well as in a decrease in training and hiring of Ph.D. graduates in S&T. In 2003, for each 1,000 new jobs, only 0.9 were directed to R&D.

A developmental lack of modern and competitive industries that invest in and demand science and technology resources has contributed to a declining economy in the past 3 decades; the decrease from 33<sup>rd</sup> to 56<sup>th</sup> position in the national economic competitiveness index between 2000 and 2005 confirms this observation. Similarly, the annual average rate of economical expansion has been reduced to half the rate existent between the years 1932 and 1980 (IMD, 2005).

In 2005, 34 Heads of State, Mexico's included, signed the Declaration of the IV Summit of the Americas at Mar del Plata with the purpose of promoting scientific and technological development in the Americas to encourage economic development.

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**37** The Scientific and Technological Advisory Forum (FCCyT, for its acronym in Spanish) is an autonomous and impartial instance responsible for analyzing the development of science, technology and innovation (CTI) in the country. It is a contributing body to State activities. It was created in June 2002 after the publication of the Science and Technology Act. It is part of the General Council for Scientific Research, Technological Development and Innovation (CGICDTI), responsible for regulating the support that the Federal Government is obliged to grant to promote, strengthen and develop scientific and technological research and innovation activities.



Also discussed were actions to integrate science and technology more effectively in public and private industry, with the aim of strengthening innovation and employment in a setting of gender equality and environmental preservation. To comply with these treaties, Mexico introduced the Law of Science and Technology in 2006, committing to increase the budget for science and technology with the goal of reaching 1 percent of the national GDP by 2012. In fact, national R&D investment has decreased from 0.36 percent to 0.34 percent in the last two administrations, far from the programmed goal. In 2009, reforms were approved to the STI Law, which now allows part of these resources to go to innovation.

By November 2013, Mexico's Congress approved a 20% increase in the 2014 budget of Conacyt, the country's main research funding agency. Congress increased the country's overall science budget by 12%, to 82,000 million pesos (roughly US\$5.4 billion—at a 16/05/2015 exchange rate). President Peña Nieto is also pushing through the pipeline several other pieces of legislation: an intellectual-property bill that would allow researchers and universities to commercialize their publicly funded work; a bill that would reform the academic retirement system and encourage talented young researchers to stay in Mexico; and, tax breaks that could incentivize private investment in research and development (Vargas & Vance, 2013).

Seeking to address gender equality in science and technology policies, Mexico has signed the following MIAs (Pérez, 2010):

- Declaration and Action Platform of the United Nations' Fourth Women World Conference. Beijing, September 1995.
- Declaration of the Science World Conference. "Science and the Use of Scientific Knowledge", Budapest, Hungary, June 1999.
- Declaration of the First Hemispheric Meeting of Experts on Gender, Science and Technology. Organization of American States' (OAS) Office of Science and Technology and the United Nations' Women's Inter American Commission. Washington, USA, August 2004.
- Declaration of Lima, First Meeting of Ministers and High Authorities in Science and Technology in the setting of the Inter American Counsel for Comprehensive Development (CIDI, in Spanish), in Lima, Peru, November 11<sup>th</sup> and 12<sup>th</sup>, 2004.
- The Chiefs of State Declaration in Mar del Plata, 2005, during the IV Summit of the Americas.
- Declaration of Mexico: "Science, Technology, Engineering and Innovation as instruments for Human Prosperity", Second Meeting of Ministers and High Authorities in Science and Technology in the setting of the OAS' Inter American Counsel for Comprehensive Development (CIDI), October 27<sup>th</sup> and 28<sup>th</sup>, 2008, Mexico City.

A strong momentum for integrating the gender perspective in science and technology was provided by Mexican female scientists, including their actions towards the inclusion of the gender perspective in the STI Law. Around that time –on March 9<sup>th</sup>, 1984– the First Homage to a Woman of Science was presented at the Center for Research and Advanced Studies (CINVESTAV, in Spanish), by a self-organized group called “Women in Science” (GPMC, for its acronym in Spanish) that was constituted by highly recognized female scientists, but also biology students, who wrote articles for the section “Woman-Science” in the school’s newspaper *Iltathiu*. GPMC was the first group of women in Mexico to express and emphasize the need to analyze the relationship between women and science in Mexico. Among the group’s main contributions is the design of a pioneering program that encourages the participation of Mexican women in science, the result of a panel discussion on “Woman and Creativity” that took place on August 1984 at CINVESTAV.

The GPMC convened a “Group of Women in the Field of Physiology Sciences” (GMCF, in Spanish) during the XXIX National Congress of Physiological Sciences held in the state of Tlaxcala on August 29<sup>th</sup>, 1986.

On July 27<sup>th</sup>, 1987, the Mexican Association of Women in Science (AMMEC, for its acronym in Spanish) was born, with the objective to stimulate the participation of women of science in Mexico, and to promote the professional development of Mexican female scientists.<sup>38</sup> AMMEC has developed collaboration with important international institutions, such as the Third World Organization for Women in Science (TWOWS) and the Association of Women in Science (AWIS), and received an award at the 1991 International Conference of Women Engineers and Scientists (ICWES). Among the association’s main contributions are informing on its goals and projects to female researchers active in Mexico’s foremost scientific institutions through their AMMEC bulletin, the first publication of its type specifically aimed at linking Mexican female researchers.

In time, the bulletin became the platform for more systematic exchanges of proposals from women biologists with women colleagues in physics and mathematics. In the nineties, it spurred the development of a bulletin named *Supercuerdas* (Superstrings), with support of UNAM’s School of Sciences. The leadership of Ana María Cetto contributed to her being elected as founding vice-president of TWOWS for Latin America and the Caribbean from 1993 to 1998. *Supercuerdas’* group of publishers became the focal point of TWOWS in Mexico and the bulletin evolved into the Latin American newsletter, expanding communications on sciences throughout the entire region. Its last number was published at the beginning of the 21<sup>st</sup> century.

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**38** T.N. AMMEC (Asociación Mexicana de Mujeres en la Ciencia) relates to female scientists; not to be mistaken with AMMEC (Asociación Mexicana de Mujeres Empresarias del Estado de Colima), the organization of female entrepreneurs in the state of Colima.

The College of Female University Scholars (*Colegio de Académicas Universitarias* or CAU, for its acronym in Spanish) was established in 2001; its aim, to formalize linkages between female scholars committed to incorporating gender equity inside the UNAM. Among CAU's activities was organizing the Forum: "The University Female Scholars Want: Successes, Perspectives and Proposals", which took place at the University City Campus, UNAM, 9-11<sup>th</sup>, June 2001 (Bustos y Blázquez, 2002).

Besides generating recommendations and organizing meetings, Olga Bustos, while running CAU, built an important electronic network of female scholars that has served to promote interactions and collaboration, both within the UNAM and throughout the country. CAU is also actively collaborating with other similarly minded groups in Spain and Latin America.

A female researcher from the Physics Institute of the Meritorious Autonomous University of Puebla (BUAP), organized the forum "How do we Improve Women's Participation in Physics?", which took place on February 22<sup>nd</sup>, 2002. The conclusions and proposals from this forum were presented at the International Conference of Women in Physics (ICWP), sponsored by the International Union of Pure and Applied Physics (IUPAP).<sup>39</sup>

In Mexico, the two first important meetings that brought together different groups of national and international scholars in the field of science and gender were, as follows:

- a) First National Meeting on Science, Technology and Gender, April 22-24<sup>th</sup>, 2003; and,
- b) Fifth Ibero American Congress in Science, Technology and Gender, February 16-20<sup>th</sup>, 2004, at the UNAM Center of Interdisciplinary Research in Sciences and Humanities (CEIICH, for its acronym in Spanish). As a result of this meeting a pioneer group for the study of science and gender was established by Norma Blázquez.

The contributions from different groups of participating specialists on ST&G were compiled on compact disc and published in a book titled *Science, Technology and Gender in Ibero America* (Blázquez and Flores, 2005). Another important contribution from CEIICH-UNAM has been to link female scientists and society through a collection of videos titled "Collection of Academic Careers". These materials were conceived to support curricula development and transmit to students and teachers new models and perspectives.

In 2005, María Luisa Rodríguez-Sala and Judith Zubieta, from UNAM's Institute for Social Research (IIS) edited the book "*Mujeres en la Ciencia y la Tecnología: Hispanoamérica y Europa*" (Women in Science and Technology: Hispanic America and Europe),

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<sup>39</sup> See Meza-Montes and Cetto (2002) and Meza Montes (2009).

including 12 papers presented during the panel “Women, Science and Technology” during the XXI International Congress of the History of Science, held in Mexico City, 8-14<sup>th</sup> July, 2001. Judith Zubieta subsequently collaborated in the organization of the IANAS Symposium Women for Science, held in Mexico City in 2009.

UNAM’s Program on Gender Studies (PUEG, for its acronym in Spanish) was established in 1992 under the leadership of Graciela Hierro. Its main purpose is to draft guidelines for the design of policies and public programs and, in particular, present alternative proposals that promote equality between women and men by critically reviewing academic paradigms and facilitating cooperation with other centers and institutions. A more recent director, María Isabel Belausteguigoitia, in collaboration with the Follow-up Commission on Gender Equality Reforms and its results at the UNAM, broadened the profile of female scholars and scientists at UNAM’s centers and institutes with her book *“Presencia de mujeres y hombres en la UNAM: una radiografía”* (Buquet, Cooper, Rodríguez & Botello, 2006)

The Center for Research in Optics (CIO, for its acronym in Spanish) located in the city of Leon, Guanajuato, hosted the first annual “Meeting on Women’s Participation in Science” in May 2004, promoted by Amalia Martínez García, a researcher at CIO. These meetings are now being held each year with steadily increasing levels of participation.

Elisa Baggio and Marcia Barbosa put together the “I Latin American Women Conference of Exact Sciences” in Rio du Janeiro, Brazil, in 2004.<sup>40</sup> Amalia Martínez García, Esther Orozco Orozco (CINVESTAV-IPN), and Lilia Meza Montes were among Mexican participants, who next coordinated the “II Latin American Women Conference of Exact and Life Sciences” that took place in 2006 in Mexico City. The articles written by the keynote speakers, the papers presented, the summary of accepted posters, as well as the recommendations on science and gender policies that emerged from this Conference were edited as a book titled *Latinoamericanas en las Ciencias Exactas y de la Vida* (Meza Montes *et al.*, 2009).

To provide continuity and foster earlier efforts, set up new objectives and define new plans for action, the “UNAM Group of Women in Science” (GMC-UNAM, in Spanish) was created in August 2007. GMC-UNAM has developed an active program to disseminate scientific contributions made by female Mexican researchers via four annual symposiums called “Series on Women in Science, UNAM”. Through these symposia, 60 researchers and eight awardees of the National Award in Sciences and Arts have received due recognition ([www.mujerciencia.unam.mx](http://www.mujerciencia.unam.mx)). In turn, they shared their contributions as keynote speakers; their findings, thoughts and proposals on S&T

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<sup>40</sup> Information related with the I Latin American Women Conference of Exact Sciences in Rio du Janeiro, Brazil, in 2004 is available at <http://www.cbpf.br/~mulher/index2.html>.

policy have been presented at panels called “Thoughts by female researchers”. These contributions have been published in “Towards a State Policy in Science, Technology and Innovation” and “Perspectives on Science Policy in Mexico”. New proposals have emerged since, most assuredly inspired by those two publications, and were brought together in a collection of books called “Advances by Mexican Scientists”.<sup>41</sup>

During the 2<sup>nd</sup> Conference of Latin American Women in Exact and Natural Sciences, held in 2006, Mayra de la Torre proposed restructuring (then) TWOWS Mexico.<sup>42</sup> In 2009, de la Torre took over as President of the Organization’s Mexico Chapter. Along with other female researchers, she leads a group that has been implementing the objectives set out by TWOWS (OWSD, 2015), seeking to promote the development of female researchers in Mexico and the rest of developing regions involved. To accomplish their goals, they have established collaboration with many colleagues and promoted the creation of a network of TWOWS Chapters in Latin America and the Caribbean.

In March 2007, on the eve previous to the release of a series of upcoming amendments to science policy in Mexico, UNAM’s group “Mujer y Ciencia” (Woman & Science) organized a panel on “The vision of female scientists” to analyze and discuss the document “Towards a State Policy on Science, Technology and Innovation”, prepared by the FCCYT.<sup>43</sup> One of the panel’s strongest recommendations was to increase the budget for basic science, which should grow proportional to the total STI budget up to 40 percent of total STI expenditures. A proposal was also made to create a Ministry of Science and Technology that would collaborate with the Ministry of Education and the industrial sector.

These proposals were sent to the FCCyT in 2007 and to Congress in 2009 during the term of the law reform. Representatives from many female scientist organizations and the TWOWS Mexican Chapter suggested the inclusion of gender in the reforms to the Law on Science and Technology drafted in 2009.<sup>44</sup> Simultaneously, they were sent

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**41** *Hacia la inclusión de la equidad de género en la política de ciencia y tecnología en México* (Pérez, 2010) has been used as the main reference for this topic to describe the important stimulus that female researchers have provided to help approve reforms and amendments to the Law of Science and Technology, to motivate equitable participation, without discrimination, between women and men in scientific and technology research.

**42** TWOWS is now known as OWSD, or “Organization for Women in Science for the Developing World”.

**43** Website available at <http://mujeryciencia.wix.com/unam>

**44** The Scientific and Technological Advisory Forum (FCCyT, for its acronym in Spanish) is an autonomous and impartial instance responsible for analyzing science, technology and innovation (CTI) development in Mexico. It is a contributing entity to Federal activities. It was created in June 2002 after the publication of the Law on Science and Technology. It is part of the General Council of Scientific Research, Technological Development and Innovation (CGICDTI), in charge of regulating the support that the Federal Government is obliged to grant to promote, strengthen and develop scientific and technological research and innovation activities (Foro Consultivo Científico y Tecnológico, 2015).

to the Commission in July 2007, along with a recommended set of specific actions. Later on, they were sent directly to the presidents of the Senate and House of Representatives. Unfortunately, these proposals were not taken into account and the Law for Science, Technology and Innovation passed in 2009 without including a gender perspective.

The increase of S&T and gender related activities over the past decade in Mexico correlates with the increase in the country of gender and science policies and programs. The UNAM has played a leading role in promoting equality between men and women in S&T by designing and implementing a series of issue-oriented institutional actions (Ruiz Gutiérrez *et al.*, 2009).

The National Researchers System (SNI) provides paid leaves of absence to pregnant members (Álvarez Bruneliere, 2009); the Mexican Academy of Sciences (AMC, its acronym in Spanish) approved gender-oriented amendments to award granting, and established the L'Oréal/ UNESCO/ AMC Award for Women in Science; at that time, Rosaura Ruiz became the first woman AMC President, elected to lead the Academy after 50 years of life under male leadership (Flores, 2009).

In 2009, the first symposium on “Women for Science” took place in Mexico City, co-sponsored by the AMC, CONACyT, the Inter American Network for Science Academies (IANAS), and the International Science Council (ICSU). Esther Orozco, founding Director of Mexico City’s Institute for Science and Technology, established the “Heberto Castillo Award” to recognize contributions by distinguished female researchers in the country, including all fields of science.<sup>45</sup>

In 2004, the Ministry of Education (SEP) implemented a scholarship program for pregnant teenagers and Inmujeres created an equity program (Álvarez Bruneliere, 2009). A large group of government and educational organizations provided support in 2006 for the 2<sup>nd</sup> Conference of Latin American Women in Exact and Life Sciences, offering a glimpse of growing government support for this issue (Prologue, in Meza Montes *et al.*, 2009).

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<sup>45</sup> Heberto Castillo Martínez was an engineer, scientist, politician, ideologue, social leader and “builder of institutions”; 3 political parties were established by him.

## 4.1 SCIENCE AND TECHNOLOGY POLICY PROPOSALS IN MEXICO FROM THE PERSPECTIVE OF FEMALE RESEARCHERS

### *General:*

1. A real budget increase in science and technology, to 1 and 3 percent of the GDP in the near—and middle term, respectively, would ensure that the budget for basic science increases in parallel and proportionally to the increase of total STI expenditure, at a level of at least 40 percent of total investment.
2. A debate on strategies and goals to increase the quality of higher education offered to youths in science and technology.

Combine efforts with other academic sectors to encourage the creation of a State Ministry on Science and Technology.

### *Gender Equity:*

1. Incorporation of a gender perspective in the Law of Science, Technology, and Innovation.
2. Official recognition from Conacyt and State Ministries involved in the area of science and gender, so that national resources, both public and private, are assigned to the development of research and training of human resources; development of a thematic Network in Conacyt for Science and Gender, in pursuit of collaborative project development; targeted calls for female researchers with projects in need of financing for acquisition of infrastructure for basic research; and, support for the organization of national and international meetings on the topic.
3. A National Incentives Program for institutions adopting programs to hire and promote female researchers.
4. The recognition of Science and Gender as a discipline within the SNI system, in order to properly evaluate researchers performance in life [exact] and natural sciences, in addition to the one in operation for social sciences and the humanities, as well as recognition of the country's potential for development in this field.
5. [Creation of] Evaluation Committees for Conacyt, SNI, and FCCyT elected by SNI membership and the main influential academies and scientific societies in the country, engaged in discussions and the design of change.
6. [Linkage] of representatives of female researchers on Gender and STI with Congress and Senate Commissions on Science and Technology.
7. Develop science programs for children and youths at all schooling levels to stimulate an interest and connection to science.
8. Support SNI paid maternity leaves.
9. Promote the participation of scientific leaders with a gender perspective in decision-making positions and the design of national scientific and technological policy.

Analyze, summarize and prioritize goals and actions with female researchers through the Organization of American States, the Organization for Women in Science for the Developing World (OWSD), and other similar organizations.

Source: Pérez (2010).

Eleven years after its official publication, the Law of Science and Technology was reformed and some of its articles were amended to encourage equitable and non-discriminatory participation of both men and women in S&T. The proposal was approved unanimously by the Senate and signed by President Enrique Peña Nieto. It came into effect on June 8, 2013.<sup>46</sup>

With all these reforms, Mexico is already in a more promising situation to seriously consider gender differences, such as those already enforced by SNI regulations, which allow a one-year extension to female researchers who become pregnant while receiving their awards and incentives. Another excellent example are the research awards granted by the Mexican Academy of Sciences whose stipulations differentiate between the age of women and men, taking into account some delays for women with children. Another example is the support that Conacyt provides to mothers and female heads of families to complete under-graduate and technical training education.

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**46** Decree by which the articles 2, 12, 14 and 42 of the Law of Science and Technology are reformed and amended (cont'd) Reforms sent by Congress to the President of Congress on April 24th issued officially on June 5th and published by Decree on June 7th, 2013, in the Official Gazette of the Federation. Concerns the reform to Articles 12, section V; and 42, first paragraph; and an addition to Articles 2, with one to section VIII, and 14, with a third paragraph, to the aforementioned Law.

Article 2 on the promotion of the "inclusion of the gender perspective with a crosscutting vision for science, technology and innovation, as well as the equitable participation of women and men in every field of the national Science, Technology and Innovation System" was added as a basis for State policy.

The reform to section V of Article 12, relative to the principles on which the Federal Government will support the development and strengthening of scientific and technological activities, has to do with "encouraging balanced non-discriminatory participation between women and men".

A new third paragraph in Article 14, relative to the information system under the supervision of Conacyt, which states that "as far as possible, the system must include differentiated information between women and men, so that the impact and incidence of policies and programs can be measured in the fields of scientific, technological and innovation development".

Finally, the reformed first paragraph of Article 42 of the Law refers to: "The Federal Government will support scientific and technological research that significantly contributes to develop a system to educate, train and consolidate high-quality human resources, giving equal opportunities and access to women and men".



# OUTCOMES

*Not only are women on the wrong side of the digital divide in general, they're also on the wrong side of the knowledge divide," said Sophia Huyer, Executive director of WIGSAT, a non-profit international consulting group. "Not only do they have less access to information and technology, they have less access to resources, to education, to employment, and to the opportunity to be entrepreneurs.*

AAAS-annual-meeting 2012  
Lempinen, E. (2012)

## 1. MANAGEMENT PARTICIPATION

The distribution of administrative positions in Mexico's State structures, as shown in Table 58, reveals female participation to be below 50 percent in every position. Only at those positions linked to Liaison responsibilities have women managed to reach 34 percent; the position for General Coordinator has the lowest representation value, at 2.9 percent.

**Table 58.** Distributions of Administrative Officers in State Congress by Position and Sex, 1998, 2001, 2003, 2006, 2008, and 2011

Year	Total of public officials		Percentage			
			Male		Female	
1998	53,835		73		27	
2001	50,115		67		33	
2003	62,173		79		21	
2006	92,261		73		27	
2008	83,303		62		38	
2011	81,037		58		42	
Position	1998		2003		2006	
	Male	Female	Male	Female	Male	Female
Secretary	90.9	9.1	90.5	9.5	87.5	12.5
Under Secretary	95.3	4.7	83.2	16.8	86.5	13.5
Principal Official	77.6	22.4	80.8	19.2	90.7	9.3
Head of Unit	*	*	*	*	83.2	16.8
General Coordinator	78.9	21.1	89.6	10.4	97.1	2.9
General Director	85.7	14.3	87.1	12.9	86.2	13.8

Comptroller /Auditor	72.1	27.9	95.3	4.7	86.2	13.8
Advisor	69.8	30.2	89.9	10.1	90.7	9.3
Assistant Director General	*	*	*	*	83.7	16.3
Area Director	74.1	25.9	70.8	29.2	80.2	19.8
Area Sub-Director	76.3	23.7	75.6	24.4	74.8	25.2
Department Chief	70.1	29.9	77.4	22.6	71.7	28.3
Liaison	*	*	*	*	65.8	34.2

Source: Cruz (2014), Inmujeres (2006) and Hernández (2001).

Mexico ranked 49 in UNDP gender empowerment index (GEM) in 2007 and 68 in 2013, worsening its rank by 19 points . With respect to professional and technical professions, women made up 42 and 45 percent in those years, as shown in Table 59. This Table also includes the most important economies in Latin America and how they compare with Mexico. In general, these four countries show a very similar pattern in terms of the progress attained with these indicators.

**Table 59. Gender Empowerment Index (GEM), 2007, 2013.**

Countries	Gender empowerment measure (GEM)		Seats in Congress held by women (%)	Female legislators, senior officials and managers	Female professional and technical workers	Ratio of estimated female to male earned income
	Rank	Score				
<b>Mexico</b>						
<b>2007</b>	46	0.589	21.5	29	42	0.39
<b>2013</b>	68	0.692	37.0	31	45	0.43
<b>Chile</b>						
<b>2007</b>	60	0.519	12.7	25	52	0.40
<b>2013</b>	91	0.667	14.0	24	46	0.49
<b>Argentina</b>						
<b>2007</b>	17	0.728	36.8	33	53	0.54
<b>2013</b>	34	0.719	37.0	23	56	0.49
<b>Brazil</b>						
<b>2007</b>	70	0.490	9.3	34	52	0.58
<b>2013</b>	62	0.695	9.0	36	52	0.61

Source: WEF (2013).

## 1.1 PARTICIPATION IN CORPORATE BOARDS

Corporate Boards in Mexico do not have to comply with any legal requirements to promote women to senior positions, so there is a great disparity in the ratio of male to

female members on Boards of Directors. In 2013, only 5.8 percent of the total number of Corporate Boards included women, and most of them were either social organizations or family businesses.<sup>47</sup> In other spheres, female participation is at a minimum or nonexistent. There are some noteworthy exceptions: according to the study titled *Women Board Directors of the 100 Largest Latin American Companies*, conducted by *Corporate Women Directors International (CWDI)*, *Wal-Mart de México y Centroamérica* is the Latin American company with the most women serving on its Board of Directors—5 of its 11 board members, or 45.5 percent.

According to the Council President of the Pan-American Institute's Research Center for Women in Senior Management, female participation in management positions in Mexico is estimated around 25 percent, while in Europe or Asia, the proportion is 30 percent. However, there is an even lower presence of women on Administration Boards, with 6.8 percent, compared, for instance, to Norway with 40.1 percent (Bernal, 2012).

<b>The Leadership Gap</b>
<b>Societal and cultural factors and gaps in organizational talent development strategies lead to inequality in Mexico's workplace</b>
Executive Officers: 10% women vs. 90% men
Senior Managers: 20% women vs. 80% men
Managers /Directors: 24% women vs.76% men
Pipeline (Entry to Manager /Director: 27% women vs. 73% men

Source: Catalyst (2014a).

But numbers can be deceiving. It is not the percentage of women in a group that measures female power—it's how much they speak, and how much they're heard. This idea is echoed in the work of Princeton University political scientist Tali Mendelberg, whose research may help explain why greater numbers alone do not necessarily help women's progress (Karpowitz & Mendelberg, 2014) (Table 60).

The comparative assessment in Table 60 shows a decrease of 6.4 percent in the presence of women in companies from 2009 to 2013, including companies in Emerging Markets with at least one woman on their Corporate Boards. There is also a small decrease between 2009 and 2013 in the percentage of women in companies with at least three women on the Board and those with female Chairs. Finally, women on Corporate Boards of Mexican companies in Emerging Markets had a presence of 5.8 percent in 2013, 1.1 percent lower than in 2010 (Glandman, 2013).

<sup>47</sup> Another source states that, in 2013, women comprised 7% on boards of listed companies (WEF, 2013).

**Table 60. Percentage of Female Members in Mexican Corporate Boards among Companies rated by GMI, 2013**

Description	Average % of Women on Corporate Boards				Change 2009-2013
	2009	2010	2011	2013	
Percentage of Women on Corporate Boards - Emerging Markets	6.1	6.9	6.4	5.8	-0.3
Percentage of Companies with at Least 1 Woman on Board - Emerging Markets	52.2	52.4	52.2	45.8	-6.4
Percentage of Companies with at Least 3 Women on Board - Emerging Markets	8.7	9.7	8.7	8.3	-0.4
Percentage of Companies with Female Chairs – Emerging Markets	4.3	4.8	4.3	4.2	-0.2

Source: Glandman & Lamb (2013).

As already mentioned, women in Mexico are still expected to be primary caregivers, even if it means sacrificing their careers; with less domestic assistance available due to the ingress of traditional house employees into factories and other types of employment, female executives in Mexico now place similar demands on their employers as do other working women around the world. It is therefore that 24% of companies now offer referral /support for childcare, 21% offer on-site or near-site childcare, and 7% offers elder care referral /support programs (Catalyst, 2014b).

## 1.2 SCIENCE ACADEMIES

Do we fully understand the factors (e.g., attitudes, beliefs, institutional structures, training, time allocation, incentives) associated with researchers and managers, in particular women in a collegiate environment?

The Mexican Academy of Sciences (*Academia Mexicana de Ciencias - AMC*) is an independent, civilian, nonprofit association whose members conduct research in exact, natural and social sciences, as well as the humanities and engineering. The Academy was founded 56 years ago (1959) and its membership consists of scientists and researchers with distinguished careers in national and foreign institutions. It is ruled by values where science, technology and education are considered fundamental tools to create a culture that furthers the development of nations. However, it was also established to foster independent and critical thinking, as these are the foundations that define and protect Mexico's sovereignty.

<b>AMC's objectives are:</b>	
1.	<i>To promote dialogue between national and international science communities.</i>
2.	<i>To direct the Mexican State and civilian society in the areas of science and technology.</i>
3.	<i>To generate knowledge and provide orientation on issues that concern the country.</i>
4.	<i>To promote the development of scientific research among different areas of the population.</i>
5.	<i>To obtain national and international recognition for Mexican scientists.</i>
6.	<i>To contribute to the creation of a modern, equitable and fair society.</i>

AMC provides consultancy services and undertakes performance evaluations for federal and local governments, the legislative and judicial branches and other organizations in civilian society, regarding issues on which they are consulted to facilitate decision-making based on scientific and technical evidence.

"Corresponding" members are active and distinguished researchers in any scientific discipline who have significantly contributed to the development of scientific research in Mexico. There are 112 "Corresponding" members (from 71 in 2007), among them 10 Nobel Prize winners. Of the total Corresponding members, 85.6 percent are part of Mexico's National Researcher System (SNI, in Spanish) and 60 percent have reached the highest category, "Level III".

By 2007, the AMC incorporated 2,071 members. It is now integrated by a total of 2,499 researchers ascribed to different institutions. The members are grouped according to their field of specialty in any of the following academic fields of expertise:

**Table 61. Members of the Mexican Academy of Sciences by Area, Section and Sex, 2013**

<b>Area/ Section</b>	<b>Men</b>	<b>Women</b>	<b>Total</b>
<b>Exact Sciences</b>	<b>1012</b>	<b>165</b>	<b>1177</b>
- Astronomy	53	15	68
- Physics	391	36	427
- Engineering	231	23	254
- Mathematics	117	13	130
- Chemistry	129	47	176
- Geosciences	91	31	122
<b>Natural Sciences</b>	<b>561</b>	<b>203</b>	<b>764</b>
- Agro sciences	109	24	133
- Biology	284	121	405
- Medicine	168	58	226
<b>Social Sciences</b>	<b>157</b>	<b>78</b>	<b>235</b>
<b>Humanities</b>	<b>132</b>	<b>120</b>	<b>252</b>
<b>Total</b>	<b>1862</b>	<b>566</b>	<b>2428</b>

Source: AMC (2015).

These numbers show an overwhelming majority of male Academy members (77%) in comparison to female representation (23%). Sections with higher female participation are: Biology, followed by Social Sciences and Humanities, a pattern that recurs in many other countries. It is thus clear that, even in Academy, horizontal segregation is still taking place. Exact sciences in particular (including Physics and Mathematics) have a rather meager rate of female participation with a total membership of only 14 percent.

**A gender imbalance exists worldwide in STI education, where males outnumber females due to a set of barriers for women, like the following:**

- *Need for safety and security*
- *Teaching methods that favor boys*
- *Preconceptions that S&T is a male domain*
- *Unwillingness of families to support their daughters at higher levels of education*

Source: Elsevier (2013).

Mexican women have been increasing their stake in science and technology; nonetheless, the pace of their incorporation into the SNI or into the Science Academy itself has been rather slow. Table 62 shows that even though the number of potential female researchers has increased as of lately, only a few become members of the Mexican Academy of Sciences. In 2006, the AMC, together with UNESCO and L’Oreal, created the “Fellowships for Young Women Scientists (under 36 years)” to encourage young women involved in research. Each grant consists in 10,000 USD for one year.<sup>48</sup>

**Table 62.** Population engaged in Science and Technology Activities who participate in the National Researcher System 2007, 2009, 2010, and 2012

	Thousands of persons				Percent representation in the National Researcher System (SNI)			
	2007	2009	2010	2012	2007	2009	2010	2012
Total	5,357.90	5,736.90	5,893.80	6,241.10	0.2072	0.2241	0.2299	0.2396
<b>Sex</b>								
Male	2,897.80	3,069.80	3,139.50	3,301.80	0.2656	0.2872	0.2936	0.3052
Female	2,460.10	2,667.00	2,754.30	2,939.30	0.1383	0.1515	0.1573	0.1659

Source: Conacyt (2013).

The percentage of female resources in Science and Technology is included on Table 63, which shows increases taking place in both male and female experts from 2004 to 2012; for that matter, the percentage of females in relation to males has barely changed.

**Table 63. Human Resources in Science and Technology by Sex, 2004-2012**

	2004	2005	2006	2007	2008	2009	2011	2012 <sup>e</sup>
Men	53.5	50.1	53.6	52	52	51	51	51
Women	46.5	49.9	44.4	48	48	49	49	49

e: Estimated figure

Source: Conacyt (2012).

### 1.3 LEADERSHIP IN UNIVERSITIES AND RESEARCH

Of the total members in the National Researcher System (SNI), one third were women in 2012, mostly in such areas as Humanities and Behavioral Sciences (48%), and Medicine and Health Sciences (45%).

**Table 64. National Researcher System (SNI) by Sex and Discipline, 2012-2013**

Discipline	Men		Women	
	2012	2013	2012	2013
Humanities and Behavioral Sciences	0.52	0.51	0.48	0.49
Medicine and Health Sciences	0.55	0.55	0.45	0.45
Biology and Chemistry	0.59	0.60	0.41	0.40
Social Sciences	0.65	0.65	0.35	0.35
Biotechnology and Agricultural Sciences	0.7	0.73	0.3	0.27
Engineering	0.8	0.81	0.2	0.19
Physics, Math and Earth Sciences	0.81	0.82	0.19	0.18

Note: preliminary data.

Source: Conacyt (2014).

As one moves up the hierarchy of the SNI, the percentage of female researchers decreases. Nationwide, they represent 33.3 percent of current researchers and only 19.1 percent of those included in SNI Level III. The main problem is the number of opportunities for women, since one requirement to join SNI is to occupy a full time position. To

**48** Five leading women scientists and 15 promising young researchers were honored on March 18th, 2015 by the 17th L'Oréal-UNESCO For Women in Science Ceremony at the historic Grand Amphitheatre of the Sorbonne University in Paris. Irina Bokova, Director General of UNESCO, set the tone of the event: «we don't celebrate women scientists, we celebrate exceptional scientists who happen to be women». A Mexican is also among the promising young researchers: Dr. Matilde Jimenez Coello. She is being honored for her project on the expression and validation of potential cardiac biomarkers in an animal model infected with *Trypanosoma cruzi* (DTU I and VI) during acute and chronic phases of Chagas disease (L'ORÉAL, 2015).

increase the rate of female participation, specific programs are needed to retain and repatriate Mexican female scientists. It is also instrumental to encourage girls to view sciences, such as engineering and technology, as a viable vocation and life choice.

**Table 65. National Researcher System (SNI) by Sex and Category, 1990 and 2013**

	Candidates	Level 1	Level 2	Level 3
Men 1990	0.80	0.76	0.84	0.88
Men 2013	0.62	0.63	0.71	0.80
Women 1990	0.20	0.24	0.16	0.12
Women 2013	0.38	0.37	0.29	0.20

Note: preliminary data.

Source: Conacyt (2014).

To address this situation, Inmujeres and the National Council of Science and Technology (Conacyt) have called upon universities and research centers in the country to conceive of an equality strategy to develop a higher education system that offers the same opportunities to men and women. In recent decades, the UNAM has created and transformed several instances in the university system devoted to gender studies, in order to promote programs with a gender perspective and implement equality affirmative actions for both men and women.

<b>GENDER EQUALITY INITIATIVES AT THE UNAM</b>
<i>Faculty at the School of Philosophy and Letters (FFyL) - International Federation of University Women</i> <i>Center for Women's Studies at the Faculty of Psychology</i> <i>Mexican Federation of Universities</i> <i>University Program for Gender Studies</i> <i>Gender Academy of the Faculty of Higher Studies, Campus Zaragoza</i> <i>Center for Women's Studies at the National School for Social Work</i> <i>Program for Victims and Survivors of Sexual Assault, School of Psychology</i> <i>Gender Studies Program in Health, Faculty of Medicine</i> <i>Feminist Research Program of the Center for Interdisciplinary Research in Science and Humanities</i> <i>College of University Academic</i> <i>Graduate "Gender Relations. Building equity between women and men" (PUEG)</i> <i>International Diploma "Feminism, development and democracy" (CEIICH)</i>

Along with many other institutions of higher learning in the world, The National Autonomous University of Mexico, driving motor and main actor of many great trans-



formations of Mexico, is committed to include gender equality in their daily work. In this context, an initiative pushed to reform the General Statutes of the UNAM was accepted in March 2005 by the University Council. A second paragraph added to the second article, states that “in all cases, women and men of the University shall enjoy the same rights, obligations and privileges, recognized and guaranteed by the rules and regulations that constitute university legislation”.

Following this major change, a Monitoring Committee on Gender Equality Reform was created and now operates at the UNAM. Emphasis was placed on the importance of incorporating a gender perspective the processes of gathering, analyzing and disseminating data and statistical information. A cross-cutting strategy was outlined to implement a gender perspective for formal and non-formal study plans and programs, perform research on cultural interconnection and extension, as well as in publications, research jobs and teaching assistance.

According to Scientific and Technological Indicators, just over 30 percent of SNI members are female. The majority of researchers are based in Mexico City, followed by Edomex, Jalisco and Morelos. Table 66 shows that, in 2012, the percentage of female members was 34 compared to 66 percent males. Although the number of researchers increased from 2007 (13,485) to 2012 (18,476), the ratio of males and females remains substantially unchanged. Further progress needs to be made, as it is undeniable that higher education in the twenty-first century must occur in a context of equity that traverses all tasks and functions, whether academic, administrative or operational.

**Table 66.** SNI Researchers by Sex and State in four Fields of Specialization, 2012

Federal Entity	W	M	Total	Health Sciences	Life Sciences	Physics	Medicine and Human Pathology
Aguascalientes	33	73	106	–	7	4	9
Baja California	146	420	566	4	31	66	6
Baja California Sur	61	156	217		85		
Campeche	25	76	101	1	19	7	6
Coahuila de Zaragoza	53	136	189	1	38	10	7
Colima	81	197	278		16	17	11
Chiapas	60	213	273	1	10	8	7
Chihuahua	52	104	156	1	20	8	18
Distrito Federal	2,629	4,224	6,853	39	1,061	594	859
Durango	27	85	112	1	20		16
Guanajuato	151	458	609		93	106	23
Guerrero	23	38	61	3	5		8
Hidalgo	68	154	222	2	23	10	13
Jalisco	339	620	959	7	133	52	130

México	328	684	1012	2	84	57	26
Michoacán de Ocampo	138	386	524		79	35	9
Morelos	319	545	864	14	242	73	75
Nayarit	21	45	66		5		4
Nuevo Leon	234	465	699	2	104	34	72
Oaxaca	68	159	227		36	21	4
Puebla	204	479	683	2	32	139	28
Queretaro	131	322	453	1	70	38	21
Quintana Roo	36	58	94		36	1	2
San Luis Potosi	113	306	419	4	58	60	33
Sinaloa	65	184	249		40	10	8
Sonora	135	266	401	1	43	47	10
Tabasco	29	71	100		7	5	6
Tamaulipas	43	128	171		16	8	5
Tlaxcala	49	60	109		31	5	3
Veracruz de Ignacio de la Llave	179	351	530	2	147	20	16
Yucatan	139	288	427	4	98	37	20
Zacatecas	34	119	153	1	6	21	5
Unavailable	207	465	672	2	187	78	51
Total	6,220	12,335	18,555	95	2,882	1,571	1,511

Source: Conacyt (2015b).

## 2. WOMEN IN THE KNOWLEDGE ECONOMY

According to occupation and employment indicators for the third quarter of 2013 provided by INEGI, Mexico's total population had reached 118,564,007 inhabitants that year; a year later that number had increased to 119,715,000 inhabitants (Datosmacro, 2014). The female population is a majority, with 63,063,487, which represents 52.67 percent of the total; men account for 49.50 percent with 59,268,912. The number of employed females in 2013 was established at 18,967,754, compared to 30,608,980 employed men.

Mexicans with employment work in three main sectors. The primary sector (basic production) is made up by agriculture, stockbreeding, fishing, mining and energy, and occupies 6,095,445 males and 746,900 females. The secondary sector (production of goods) is represented by industry, construction and manufacturing, and provides jobs for 8,744,660 males and 3,132,344 females. The largest percentage of workers are employed in the third sector (services), which includes banks, commerce, education, culture and personal services, providing employment to 15,567,232 males and 14,996,581 females.

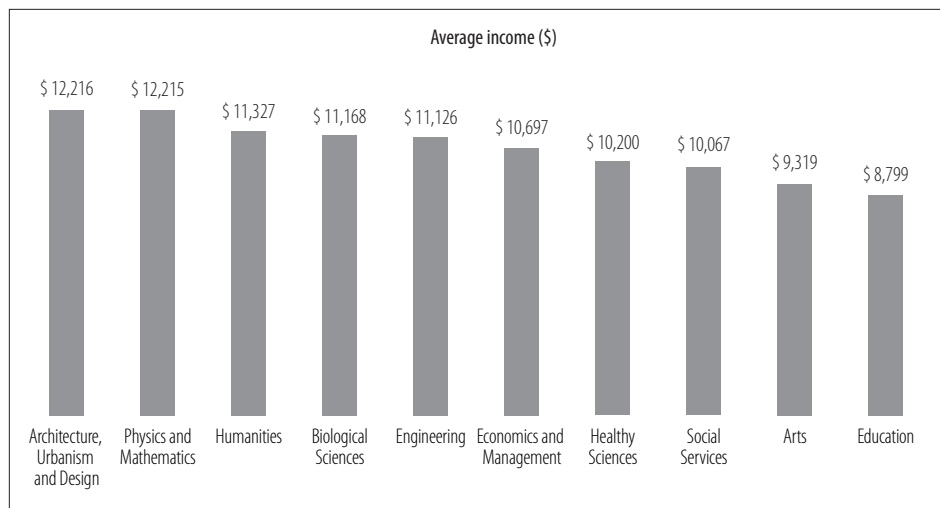
**Table 67. Population Employed, 2013**

Indicator	Total	Women	Men
Total Population	118,564,077	61,219,826	57,344,251
Population 14 and older	88,151,969	46,305,312	41,846,657
Economically Active Population	52,309,335	20,046,713	32,262,622
Employed	49,576,734	18,967,754	30,608,980
Unemployed	2,732,601	1,078,959	1,653,642
Population employed by Economic Sector	49,576,734	18,967,754	30,608,980
Primary	6,860,345	764,900	6,095,445
Secondary	11,877,004	3,132,344	8,744,660
Tertiary	30,563,813	14,996,581	15,567,232
Unspecified	275,572	73,929	201,643

Source: INEGI (2013a).

The average daily wage for working employees is \$70.10 pesos in 2015. In this category a gender based distinction is made, as men make \$0.50 an hour more than women: 32.20 vs.31.70 pesos. Figures for the fourth quarter of 2014 show that the average monthly income for working professionals in Mexico is \$10,334 pesos (SNE, n.d.).

From data collected by the National Survey of Occupation and Employment (ENOE, in Spanish), and analyzed by INEGI, 95.9 percent of total employed females combine their paid work with domestic chores.

**Figure 3. Average income according to discipline**

Source: Tecnológico de Monterrey (2015).

## 2.1. WOMEN IN PROFESSIONAL AND TECHNICAL POSITIONS

Since the mid-19th century until the first decades of the 20th century, in different countries of the world –as Germany, France, England, United States, Argentina and Mexico– there was a debate about whether women could enroll and graduate from universities. Admission approval of women to universities led to a series of readjustments of what the University environment –which had been conceived as a predominantly male space– was now supposed to be, and what kind of education should women have before entering university, and if their university title would have the same recognition as the certification given to male graduates (Fernández-Acevedes, 2005).

The choice of field of study –almost 130 years after the first female physician graduated in Mexico– continues to be predominantly oriented to the “gentler” professions, among other, education, health and child care, arts and crafts, and, interestingly enough, pharmacology, as women’s feminine qualities of perfection, care, and dedication were highly valued during the preparation of drugs and medication in XIX century Mexico and even today most pharmacy attendants are women.

Blázquez Graf & Flores (2005), have edited a most excellent compilation on the subject of Science, Technology and Gender in Ibero America. This book is the first effort from Mexico to gather the best of Latin American thought on the study of relationships between science, technology and gender, including the more radical feminist and left-wing perspectives on the subject.

The higher ingress of women to higher education in comparison with men does not mean that the vision of female vs. male careers has disappeared. Although increasingly more women are admitted to all different areas of knowledge, still the higher percentage is found in the arts, humanities and social sciences. Therefore, there are fewer graduates in mathematics and engineering-related fields and more in education, health and welfare due primarily to high female enrolment, but also due to the persistent belief that women are the main caretakers of dependent family members and can thus apply the knowledge obtained during their studies for the benefit of family members.<sup>49</sup>

In Mexico, nearly one million 200 thousand graduates under 25 years have no work, unemployed professionals increased in one year from 235 to 391 thousand, and 2 million 300 thousand professionals are working in activities unrelated to their field of study. For example, graduates of the National School of Vocational Education (CONALEP), the institution par excellence for training technical cadres, must face, as

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<sup>49</sup> The first woman medical student graduated in Mexico in 1887.

well as their university counterparts, scarce employment opportunities. According to available figures, albeit somewhat outdated, 42 percent of the graduates of technical computing careers, 48 percent of health related studies and 39 percent of commerce and administration students, were unemployed (Avilés, 2010).

According to the WEF Global Gender Gap Report 2013, 28 percent of women and 29 percent of men are enrolled in tertiary education in Mexico; only 15 percent of these tertiary level students each year graduate in technical fields like engineering, manufacturing, construction, physical sciences, mathematics and statistics, relative to the OECD average of 25 percent.

**Table 68.** Distribution of new Participants into Tertiary programs, by Field of Education (2009)

Humanities, arts and education	Health and welfare	Social sciences business and law	Services	Engineering, manufacture and construction	Science	Agriculture	Not known or unspecified
15.0	9.6	36.9	4.2	19.8	11.7	2.5	0.4

Source: OECD (2011a).

Forty-two percent of women were employed in professional and technical positions in 2011, the highest percentage of female representation to date. An economic downturn and shrinking budgets are pushing governments to invest in fields of education that respond to labor market needs.

**Table 69.** Year women received a right to:

Vote	1947
Stand for election	1953
Year a woman became Presiding Officer of Congress or of one of its houses for the first time	1994
Women in ministerial positions (% of total)	16

Source: WEF (2013).

## 2.2. WOMEN WITH HIGH-LEVEL COMPUTER SKILLS

The Broadband Commission (BC) “was created in 2010 by the ITU and UNESCO in response to UN Secretary-General Ban Ki-moon’s call to step up efforts to accelerate progress towards meeting the Millennium Development Goals (MDGs)” (BCWG, 2013, p.4). This commission’s Working Group prepared a report titled “Doubling Digital Opportunities: Enhancing the Inclusion of Women & Girls in the Information Society”. In

it Helen Clark, Chair of the commission, stated that “it shows ways in which we can further advance the sustainable development agenda by promoting the use of new technologies in support of gender equality and women’s empowerment” (BCWG, 2013, p.2).

In Mexico, computer skills are identified for the types of applications that women and men can use. Men tend to have an instrumental use of the Internet, while women use it basically for training, communications and caregiving (or more recently, for shopping). Computer applications for communications are the most used both by females and males, with 50.3 and 48.4 percent respectively. However, higher-level computer applications in general are used less by women— albeit with no significant difference, For example, database programs are used by 19 percent of men compared with 16.7 percent of women. There is also a small difference (1 percent) between the percentage of women and men that use management programs (the total percentage is higher than 100 percent because the user population can make use of more than one type of computer program).

**Table 70. Percentile Distribution of Computer Users, by Sex and Applications employed, 2012**

Type of computer programs	Men	Women
Communications	48.4	50.3
Word processing	30.6	36.0
Teaching and learning support	31.8	34.2
Video games	33.3	24.0
Data base management	19.0	16.7
Spreadsheets	11.5	10.33
Image Editing	8.6	6.8
Management Programs	4.7	3.7

Source: INEGI (2013g).

### 2.3. WOMEN AMONG INFORMATION TECHNOLOGY WORKERS

Significant advancements in Information and Communications Technologies were reported at the Beijing+15 meeting. On the occasion, the report of the Secretary-General of the United Nations recognized the contribution of ICT to vocational training, which has benefited women in rural areas with advice, information and training services. Technology is an important tool for development to which women have a right to equal access. A 2012 report by ECLAC (CEPAL, in Spanish) researched the participation and contribution of women to work and the economy in the field of information and

communications technology. In the General Overview (Peña, Goñi & Sabanes, 2012) are concerned because “women are still sub-represented in science and technology training efforts, although the increase in the number of female students in these fields of study appears similar to that in non-traditional careers that include technical studies”.

Users of Internet in Latin America and the Caribbean have grown substantially in recent years. In 2010, they had reached 187 million, which amounted to a penetration of 31.9% of the population. This figure represents 10.4% of users in the world, which already exceed 1.8 billion. The ten countries with greater Internet penetration in Latin America and the Caribbean region are Brazil, Mexico, Argentina, Colombia, Chile, Peru, Venezuela, Dominican Republic, Ecuador and Costa Rica. Altogether, Argentina, Colombia, Mexico and Brazil exceed 2018 million Internet users. A forecast for 2015 predicts a penetration throughout the region that will reach 60%, which translates into an incorporation of 120 million new Internet users to the network.<sup>50</sup>

The Twentieth Century has been characterized by a great progress in science and technology (S&T) and Mexico has not been the exception; however, gender integration in this area still faces significant challenges, considering the existence of variables such as inequality of resources, low quality education, environmental degradation, silicone ceiling, brain drain, etc. These issues need to be addressed if the full potential of S&T in Mexico is to be attained. Women’s responsibilities to perform domestic chores, have children and, in many cases, contribute to the family income, are some of the reasons that their participation in research and development (R&D) has fallen behind. However, the past decade has seen an increase in the demand for qualified labor within the public sectors of health, welfare and education; in every each one of them familiarity with information technology and its tools has become a basic necessity, one that has served to increase the employment rate for qualified workers, many of them women.

Speaking about UNESCO’s latest global figures on women in science, Dr. Gloria Bonder, Coordinator of the Global Network of UNESCO Chairs on Gender and of the UNESCO Regional Chair on Women, Science and Technology in Latin America, has described the changes that need to take place in both policy and education, and the necessity for more qualitative research on women who are successfully developing careers in engineering, technology and science. Their existence and the importance of their work has not been sufficiently publicized and promoted among the upcoming generation of young women. Scientists are rarely born with a proclivity for science; this inclination needs to be cultivated from an early age, at home and in school, open-

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<sup>50</sup> See more at <http://www.marketingdirecto.com/especiales/latinoamerica-especiales/la-penetracion-de-internet-en-latinoamerica-alcanzara-el-60-en-2015/#sthash.H4G8raml.dpuf>

ing the children’s senses to the world, developing their imagination, and stimulating their creativity. Mexico’s present-day schooling and education programs still need to be enriched with curricula that promote curiosity over rote-learning.

Identifying the factors that have enabled women scientist to be successful in their area of work, as Bonder suggests, may provide some insight as to the causal circumstances of their success. Of equal, if not greater, importance is trying to establish a personal connection between young girls and successful women in STI, most assuredly in the form of national mentoring networks that lend support and encourage youth to manage their own learning in order they may maximize their potential, develop their skills, improve their performance and become the person they have dreamt and want to be. Mentoring is a powerful personal development and empowerment tool and an effective way of helping people to progress in their careers. There are many international initiatives, national networks and circles, including women scientist’s organizations involved with the subject of mentoring (e.g., in Canada, the United States, Europe).<sup>51</sup> Incipient efforts are being developed in Mexico to promote mentoring initiatives that serve to attract young girls –and boys– to the world of STEM.

Previous comments notwithstanding, the percentage of human resources in S&T has increased in Mexico during the last few years, as shown by Table 71. While 5,492,800 persons were involved in 2008 in S&T activities, by 2013 this number had increased to 10,923,500. When analyzed by sex, 2,536,000 women were involved in 2008; the data by 2013 show that the number reached 5,412,800. Mexico has pioneered a program “Women in Science” promoted by the Mexican Academy of Sciences, whose goal is to increase women participation in different areas of R&D.

**Table 71. Distribution of Population in Activities related to Science and Technology (RHyTO), 2008-2013**

	Thousands of persons						% of the PEA occupied					
	2008	2009	2010	2011	2012	2013 e/	2008	2009	2010	2011	2012	2013 e/
Total	9,540.25	9,816.91	10,118.83	10,370.23	10,646.88	10,923.54	20.90	20.96	22.78	20.92	20.91	20.94
Sex												
Male	4,932.25	5,047.95	5,176.29	5,279.36	5,395.06	5,510.77	10.80	10.78	11.65	10.65	10.60	10.57
Female	4,608.00	4,768.95	4,942.54	5,090.86	5,251.82	5,412.78	10.10	10.18	11.13	10.27	10.32	10.38
Occupation												
Directive	849.73	892.72	909.42	930.19	930.19	942.68	1.80	1.91	2.05	1.88	1.83	1.81
Professional	3,240.93	3,373.33	3,475.28	3,666.54	3,666.53	3,764.27	7.10	7.20	7.82	7.40	7.20	7.22

<sup>51</sup> The EU project “eument-net – Building a European Network of Academic Mentoring Programmes for Women Scientists” began in January 2007.



Technician	1,402.09	1,470.82	1,509.10	1,573.03	1,573.03	1,607.10	3.20	3.14	3.40	3.17	3.09	3.08
Other categories	2,553.71	2,608.86	2,701.49	2,874.12	2,874.11	2,962.53	5.60	5.57	6.08	5.80	5.65	5.68
Unemployed	152.53	118.07	121.09	114.52	114.51	113.33	0.30	0.25	0.27	0.23	0.22	0.22
Inactive	1,341.26	1,353.12	1,402.46	1,488.52	1,488.51	1,533.65	2.90	2.89	3.16	3.00	2.92	2.94
Education												
Postgraduate	552.12	574.83	601.75	642.96	642.96	665.67	1.20	1.23	1.35	1.30	1.26	1.28
Graduate	6,079.16	6,282.92	6,490.89	6,894.19	6,894.19	7,097.95	13.30	13.41	14.61	13.91	13.54	13.61
Technical	902.13	921.26	944.61	978.66	978.66	997.80	1.90	1.97	2.13	1.97	1.92	1.91
Pre-technical	1,935.85	1,962.13	1,992.61	2,040.95	2,040.96	2,067.23	4.20	4.19	4.49	4.12	4.01	3.96
Without instruction	38.43	40.52	46.82	46.79	46.79	48.88	0.10	0.09	0.11	0.09	0.09	0.09
Not specified	32.55	35.25	42.15	43.32	43.32	46.01	0.10	0.08	0.09	0.09	0.09	0.09

e: Estimated

Source: Conacyt (2014).

### 2.3.1 TERTIARY EDUCATION ENROLMENT

Tertiary education in Mexico has undergone significant change in the past 25 years; probably among the more notable has been the increasing number of women enrolled in higher education. In the areas of science and technology, though, female presence has been rather sparse. One reason may be the persistent stereotypes on the roles women should play. But globalization is provoking many changes; among them, higher proportions of women in tertiary education, as shown in Table 72 (50 percent of total enrolment in 2010).

**Table 72.** Undergraduate Enrolment Distribution by Sex, Subsystem and Field of Study, School year 2012-2013

Discipline	Public Subsystem		Private Subsystem		Total	
	Man	Women	Man	Women	Man	Women
Agriculture	65.9	34.1	62.4	37.6	65.8	34.2
Health	34.4	65.6	34.9	65.1	34.6	65.4
Natural and Exact Sciences	57.4	42.6	63.9	36.1	58.2	41.8
Social and Administrative Sciences	42.6	57.4	45.5	54.5	43.8	56.2
Education and Humanities	33.9	66.1	31.4	68.6	32.9	67.1
Engineering and Technology	73.1	26.9	73.6	26.4	73.2	26.8
<b>Total</b>	51.7	48.3	46.1	53.9	49.9	50.1

Source: ANUIES (2014).

Entry of females into some careers is still low, such as engineering and programming, where gender inequality is overwhelming. Of the 1,991 researchers in engineering, 84.2 percent (1,677) are male and the remaining 15.8 percent (314) are female. The

probable reason: engineering has been traditionally considered an area in which men are more highly interested. As Table 72 shows, women's representation in engineering and technology is 26.8 percent, in comparison to 73.2 percent for men; these figures are similar in both public and private educational systems.

### 2.3.2 TERTIARY EDUCATION ENROLMENT BY DISCIPLINES

The number of female students in tertiary education has barely changed in the past decade. In 2005, there were more women enrolled in Social and Administrative Sciences, followed by Engineering and Technology, and Health Sciences in third place. However, the largest differences between female and male enrolment were found in Social and Administrative studies. Data on Table 73 clearly illustrate this point.

**Table 73. Undergraduate Enrolment Distribution by Sex and Field of Study 2005, 2011 & 2013 (in thousands)**

Field of Study	2005			2011			2013		
	M	W	T	M	W	T	M	W	T
Agricultural Sciences	31.2	15.2	46.4	42.4	23.5	65.9	45.8	23.8	69.6
Health Sciences	68	119.7	187.7	96.2	176.6	272.7	106.1	201.0	307.2
Exact & Natural Sciences	20.5	19.8	40.3	26.5	26.1	52.7	113.9	81.9	195.8
Social & Management	405.4	570	975.4	472.7	646.4	1,119.1	630.6	808.1	1,438.6
Education & Humanities	39.4	83.4	122.8	92.9	201.3	294.3	159.1	323.8	482.9
Engineering and Technology	484.2	213.5	697.7	667.2	301.2	968.4	596.5	218.6	815.1
Total	1,049	1,022	2,070	1,398	1,375	2,773	1,652	1,657	3,309

Source: ANUIES (2014).

The overall picture was not very different in 2010. Indeed, the highest numbers of female students are concentrated in Social and Administrative Sciences, followed by Engineering and Technology and last by Education and Humanities. Table 72 shows more than twice the number of female students than males in Education and the Humanities.

## 2.4 SCIENCE AND ENGINEERING WORKFORCE

The National Registry of Scientific and Technological Institutions and Companies (RE-NIECyT, in Spanish), is an instrument that provides support for scientific research, technological development and innovation in Mexico. It is administered by Conacyt, and

it identifies institutions, centers, organizations, companies and individuals in public, social and private sectors that are involved in activities related to science and technology research and development. The highest number of research institutions is located in the capital city –32 of them. There are 77 formally established research centers in Mexico, but there are states that lack registered research facilities (see Table 74).

**Table 74. Research Centers by State, 2013**

Federal Entity	Research centers	Higher Education Institutions
Aguascalientes		9
Baja California	2	8
Baja California Sur	1	6
Campeche		5
Coahuila de Zaragoza	2	9
Colima		3
Chiapas	1	9
Chihuahua	2	14
Distrito Federal	31	40
Durango		8
Guanajuato	3	15
Guerrero		9
Hidalgo	1	15
Jalisco	2	15
México	4	27
Michoacán de Ocampo	2	13
Morelos	3	7
Nayarit		6
Nuevo Leon		11
Oaxaca		13
Puebla	2	29
Queretaro	4	7
Quintana Roo		9
San Luis Potosí	2	7
Sinaloa		3
Sonora	2	15
Tabasco		12
Tamaulipas	1	15
Tlaxcala	1	6
Veracruz de Ignacio de la Llave	1	34
Yucatan	2	11
Zacatecas		11
Total general	67	401

Source: Conacyt (2015a).

In Mexico, only 16 of every 10,000 inhabitants enroll in a graduate program. An analysis by the Mexican Academy of Sciences found that national research centers hire around 100 young researchers each year, a very low number when considering that in 2010 three thousand Mexican graduate students obtained their doctoral degree. Extrapolating these figures to present, of 15,000 Ph.D.'s, only 500 were incorporated to a research institution: a regrettable waste of time, money and effort that Mexico can ill afford. Part of this trained and educated human capital does find alternative sources of work and employment in Mexico.

However, in part due to the lack of interesting work offers, many thousands of Mexican graduate students stay abroad after finishing their studies or avail themselves of opportunities to become part of a research team outside the country. This scientific *diaspora* has been going on for quite a while –at least for the past four decades. Among Latin American countries, Mexico and Brazil have been the largest exporters of highly skilled emigrants.

So much so that a point was reached in 1991, when the Conacyt decided to create a program to retain and repatriate Mexican researchers and reverse the brain drain. Between 1991 and 1997, the program achieved the repatriation and retention of 1,859 researchers, a number equivalent to almost half the research fellows and one third of the members of the National Researcher System (Licea, 2001; Tigau, 2011). Most assuredly, there is a need for wiser and more efficient talent management in Mexico. Although no data were found, it can be expected that mainly male graduate students left Mexico in higher proportion in search of better opportunities for development.

**Table 75. Women in the National Researcher System, 2007 - 2013**

Year	Total	%Women	%Men
2007	13,485	32	68
2008	14,681	33	67
2009	15,565	33	67
2010	16,598	33	67
2011	17,637	34	66
2012	18,476	34	66
2013	19,747	34	66

Note: Includes candidates and SNI level 1, 2 and 3 researchers

Source: INEGI (2013f) and Conacyt (2012).

Conacyt coordinates a system of research centers, 27 institutions that cover the main fields of scientific and technological knowledge. Their purpose and specialties are arranged by three main areas: ten for exact and natural sciences, eight for social sciences and the humanities, eight specializing in technological development and innovation, and one specializing in economy graduate programs.

342,542 students in the 2014-2015 school cycle

28,018 Post graduate

201,206 Undergraduate

112,576 High-school

742 Music Conservatory Preparatory course

The UNAM, the largest Higher Education and Research center in the country, administers a considerable number of institutes devoted to different knowledge related work: 32 institutes (21 for sciences /11 for humanities research), 15 centers (9 for sciences /6 for humanities research), and 11 university programs (UNAM, 2015). As shown on Table 76, from a total 16 Institutes, only the Institute of Geography has experience with a high percentage (44%) of female Directors, while most of the remainder –e.g., the Institutes of Physics, Engineering, and Chemistry–, have never been directed by a woman.

**Table 76. Women and Men Directors at UNAM's Scientific Research Institutes (2013)**

Specialty	Male (%)	Female (%)
Physics	100	0
Engineering	100	0
Applied Mathematics	100	0
Chemistry	100	0
Geophysics	100	0
Mathematics	100	0
Materials	100	0
Physical	100	0
Ecology	100	0
Geology	93	7
Biology	89	11
Cellular Physiology	75	25
Astronomy	75	25
Oceanography and Limnology	75	25
Biomedicine	70	30
Geography	56	44

Source: Blázquez-Graf (2013).

Echoing Bonder's ideas on the need for a profound change in teaching methods and the *curricula*, and of more interconnected and multidisciplinary ways of learning science and technology as a means of promoting more creative and engaging ways to attract women to a career in science and technology, Mexico clearly needs to engen-

der and promote more mentoring programs and scholarships for young women, particularly from less advantaged backgrounds, to enter science and technology. Bonder concludes, “more cooperation is needed between the universities, the private sector and the state in developing a whole program that not only increases access for women to go into those fields, but supports them along their career path”. We could not agree more. It is not enough to be there... one needs to be heard!

Furthermore, our globalized planet is very much in need of what characteristically have been considered female attributes to succeed in a changing environment. The vast majority of educational institutions still do not prepare students adequately to lead and cooperate with other colleagues working for positive change in the world. Skills such as problem solving, leadership, teamwork, empathy and social and emotional intelligence are still kept outside most school programs, which only serves to increase the skills deficit (Banerjee, 2014).

As we have wandered gradually from an industrial economy to a service economy, and more recently are rushing into at an objectives-based economy, new ways and means on how to administer our society are emerging: it is clear we need a cooperative effort by companies, educational leaders and other interested stakeholders to design guidelines for the future of education, with a multilateral feedback that supports the entire process.

As never before, new cross cutting fields of knowledge are emerging along the borders of traditional disciplines (e.g., nanotechnology, microbial resistome management, innovative neuro-technologies, etc), pushing the demand of a workforce with skills and attitudes that enable them to adapt constantly and quickly. Therefore, leaders of educational policies and University systems and industries must work together to develop a “talent management” strategy at the national level that strives to “cultivate” creative and capable work teams, able to perform with specialized skills and empathy in today’s—and tomorrow’s—highly competitive work market. Proactively instilling the soft “change” skills such as empathy, creativity and leadership among current and future employees, and reinforcing the education system to provide the hard technical skills that can prevail in the face of competition, we may be able to put an end to Mexico’s increasing deficit of appropriate talent to build a sustainable...(take your pick: society, environment, industry, S&T basis, etc).

## 2.5. TECHNICAL WORKFORCE

Data for the fourth quarter of 2014 from the National Survey on Occupation and Employment (ENOE) shows that the number of professionals employed in Mexico amounted to 7.5 million people; they represent 15.1 percent of the total employed population.

Professional technicians represent 35.8 percent of students that finish Middle School between the ages of 18 to 20 years (ENILEMS<sup>52</sup>, 2012). At the end of 2014 somewhere over 35 percent women students completed a professional technical program and, at that time, 44.5 percent of working professionals were women (STPS, n.d.). Many girls and young women are not attracted to technology oriented careers because, apparently, they think they are too manly, they are not aware of the importance of technology to our daily lives and humanity's very survival, or they believe STEM disciplines are too complicated and they do not like the work environment. These fallacies need to be confronted. So, in order to attract, retain and develop female talent in the technology sector, among other efforts, the industry in Mexico is promoting the program "Women in Technology" (WIT) supported by some 40 companies affiliated to the Mexican Association of the Information Technologies Industry (AMITI, for its acronym in Spanish) reported Claudia Ocaranza (2013).

The presence of women in engineering, mechatronics and other technical careers does not reach half of total student registration. For the 2011-2012 cycle, 201,484 women enrolled in Mexico in this sort of professions, i.e., 27.2% of total future engineers, according to the Statistical Yearbook on Higher Education 2012.

**Table 77. Percentage of Middle School Graduates (18-20 years old) according to next Educational Choice, by Sex in 2012**

Education	Male	Female	Total
Professional Technician and Technological Middle Higher Education	36.1	35.6	35.8
Middle Higher Education	63.9	64.4	64.2

Source: INEGI (2013b).

Additionally, over 3.7 million professionals, technicians and art workers are involved in economical activities, such as agriculture, construction work and commerce; about 40 percent are female. The larger participation is found in the services sector, which is represented by barely over 85 percent females, and 35 percent of both female and male professionals, technicians and art workers.

<sup>52</sup> ENILEMS: Is a joint project between the Ministry of Public Education (SEP) by conduct of the Undersecretary of Higher Secondary Education (SEMS) and the National Institute of Statistics and Geography (INEGI). Its purpose is to collect data on educational background and labor market participation of people between 18 and 20 years of age who finished their schooling, in order to assess the relevance of the curriculum offer for that education level.

**Table 78. Professionals, technicians and art workers by economical activity, 2010**

Sector	Male	Female	Total
Agriculture	18,753	2,678	21,431
Construction	137,134	27,228	164,362
Manufacture	219,114	83,671	302,785
Commerce	95,318	80,345	175,663
Services	1,719,054	1,329,136	3,048,190
Others	33,943	9,346	43,289
Unspecified	14,375	6,586	20,961
Total	2,237,691	1,538,990	3,776,681

Source: INEGI (2011b).

## 2.6. PERCENTAGE OF FEMALE AND MALE NEW BUSINESS ENTREPRENEURSHIP

Only 4.7 percent of the total employed population consists of females who own their own business— a token percentage. According to data provided by INEGI and ENOE in 2012, there are 2,117,984 employers in the country, of those 404,790 are female and 1,713,194 are male. This disparity has remained so between 2006 and 2010. Less than one fifth of employers are women, most of them managing micro-businesses in commerce and services (Inmujeres, 2012c).

**Table 79. Women as Employers 2006-2014**

Year	Women (in %)	Men (in %)
2006	17.7	82.3
2007	18.9	81.1
2008	18.6	81.4
2009	18.9	81.1
2010	19.1	80.9
2013	19.0	81.0
2014	20.0	80.0

Source: INEGI (2015b and 2015f).

## 2.7. BUSINESS LEADERSHIP

According to the World Economic Forum, “we are rapidly moving from capitalism to “talentism”. In such a world, gender parity can no longer be treated as superfluous.



Women make up half of the potential human capital available in any economy, and the efficient use of this talent pool is a key driver of competitiveness” (WEF). It will be interesting to study the findings for Mexico in the upcoming WEF *Industry Gender Gap Report* that will provide industry-level analysis on the gender gap in the world’s largest economies.

Data reported by INEGI (2012b) show that there are some 461,500 women employers in Mexico—19% of women are entrepreneurs and have a higher studies degree— and about 4.3 million more are self-employed, which altogether represents 26% of the total employed female population. Although there are still many challenges, they are transforming their businesses and markets, according to Ilse Maubert Roura (Maubert, 2013).

According to words expressed by the Pan American Institute for High Business Direction (IPADE, for its acronym in Spanish), “women exercise a kind of leadership that is responsive to the needs of the new social and economic dynamics by being more supportive, flexible, cooperative, participative and transcending mere economic interests”. However, and despite the previous statement, only 25% of female talent in Mexico occupies senior management positions; the figure drops to 7% when dealing with seats on Boards of Directors, according to figures from the IPADE. In Mexico, 55 percent of companies headed by women have up to 10 employees (micro enterprise), 39 percent hire between 10 and 100 employees (small enterprise) and 6 percent have more than 100 employees (medium and large enterprise).

Data from INEGI find that 60.5% of women entrepreneurs in Mexico are married. And the Chamber of Small-scale Commerce, Services and Tourism of Mexico City (CANACOPE) indicates that 80 percent of women entrepreneurs in the sector have two to three children (46 and 24 percent, respectively). Thus, for most women, family remains a priority.

## 2.8. WOMEN-RUN ENTERPRISES

As Table 80 shows, the largest percentage of female entrepreneurs is concentrated in the services sector (41.2%), followed by commerce, restaurants and hotels (26.6%). A smaller proportion runs enterprises in the construction sector (6.8%), communications and transportation (6.8%), and in agriculture-related activities (2.3%) (Table 80).

The Association of Mexican Women Entrepreneurs, A.C. (AMMJE, for its acronym in Spanish) classifies female entrepreneurs, owners and stockholders that participate in managing micro, small, medium and large enterprises. The Association, founded November 15<sup>th</sup>, 1965, is the Mexican branch of the international organiza-

tion “*Les Femmes Chefs d’Entreprises Mondiales*”. Besides fighting against discriminatory situations faced by female entrepreneurs, its objectives are: to unify, bring together and represent Mexico’s entrepreneur women, helping them achieve their economic, political and social objectives and common goals.<sup>53</sup>

**Table 80. Women-owned businesses by economic activity, 2010 and 2014**

Economic activity	2010		2014	
	(%)	Total	(%)	Total
Agriculture-related activities	2.7	10,787	3.22	13,295
Construction	0.7	2,859	1.07	4,401
Manufacturing	12.4	50,240	11.94	49,286
Commerce	30.2	122,361	32.51	134,170
Services	69.5	281,160	51.15	211,100
Others	0.016	64	0.00	0
Not specified	0.079	319	0.11	439
<b>Total</b>	<b>100</b>	<b>404,790</b>	<b>100</b>	<b>412,691</b>

Source: INEGI (2011b) and (2015c).

**53** Additional AMMJE objectives include:

- Promote the active participation of women in the economic development and the search of social well being through their full integration and incorporation to society, encouraging equality of opportunities.
- Promote, develop and encourage professional training for entrepreneur women, as well as for the female staff and work teams in their companies.
- To stimulate and promote women entrepreneurs, facilitating access to resources, training, knowledge and the necessary contacts to encourage the amount, quality and competitiveness of women’s corporate activities helping them achieve professional success.
- To create synergies between companies, promoting the collaborative spirit between the members.
  - To consolidate as a meeting and communications center, where women can come to seek answers and alternatives to economic and social development, offering their opinions to relevant issues that concern the collective progress of women.
- To coordinate isolated efforts of different women corporate organizations in Mexico that focus on advancement and progress, recommending activities and common projects that multiply daily actions, overcoming isolation and strengthening solidarity.
- To favor the creation of structures that help expand the role of women in development through the improvement of their living conditions, so they can fully participate in productive activities and community development, removing the obstacles that difficult their total economic, political and social integration.
- To support all actions and programs from public and private institutions to help fully incorporate women into society.
- To establish, maintain and promote relationships with Mexican, Foreign and International organizations.

## CONCLUSIONS

Science, technology, innovation and entrepreneurship have a positive impact on competitiveness, productivity and job creation, and are important mechanisms for sustainable growth (OECD, 2013a). With population size increases projected at 8.3 to 10.9 thousand million inhabitants within the next 35 years (UN News Centre, 2013), promoting new sources of growth has become a priority for global policy. Recognizing the progress achieved by Mexico in closing the gender gap, in large part due to advances in Health and Education sectors, we still need to admit that, as of 2012, Mexico ranks 84<sup>th</sup> out of 135 countries on the Global Gender Gap Index (Hausmann, Tyson & Zahidi, 2012), but in the WEF Report 2015 (WEF, 2015), Mexico ranks 58<sup>th</sup> out of 124 countries, with a 68.5 score.

<b>WEF Human Capital Index 2015</b>	
<b>Key Indicators</b>	
<b>Mexico</b>	
Total population (1,000s)	125,236
Working age population (1,000s)	82,369
Tertiary-educated population (1,000s)	10,358
Aged dependency ratio (%)	9.4
Child dependency ratio (%)	47.0
Median age of population (years)	26
GDP per capita (constant '11 US\$, PPP)	17,925
Labor force participation rate (%)	61.6
Employment-to-population ratio (%)	58.5
Unemployment rate (%)	4.9

It is thus with no small interest that notice has been taken of the Program established by the World Economic Forum on "Collaboration to Close Gender Gaps: Gender Parity Task Forces", which aims to provide the neutrality of this convening platform, benchmarking tools and best practice analysis to promote solutions-oriented, systemic approaches for closing gender gaps (WEF, 2014). The Program launched four Gender Parity Task Forces, three-year, country-level, multi-stakeholder collaborations, committed to identifying and implementing concrete measures for closing the economic gender gap by 10 percent at the local level. Japan, Mexico, Turkey, and the Republic of Korea have been selected as pilot countries to demonstrate country-level success on closing economic gender gaps.

The Global Gender Gap Report provides a framework for capturing the magnitude and scope of gender-based disparities around the world. Mexico hosted the World Economic Forum on Latin America this year (6-8 May, Cancun, Mexico 2015). Among this year's attendees was Rosario Pérez, President and CEO of Pro Mujer. We agree with her statement: "Women and their talent can drive the well-being of economies. Gender equality in Latin America is not only a human right; it is good economic practice (Perez, 2015)."

Enrique Cabrero, General Director of CONACyT, stated that Mexico still lags behind many countries in terms of the number of researchers per 1,000 inhabitants: where Mexico has only 1 researcher, South Korea has 12; the United States, 9; Canada, 8; and Spain, 6. Another indicator shows that Mexico needs to catch up on its volume of published articles and registered patents (FCCyT, 2015b).

According to estimates made by Conacyt, the number of people working in the Science and Technology sector in Mexico amounted to 10.6 million in 2012, an increase of around 200 thousand workers compared to 2011; 50.7 percent were men and 49.3 percent women. According to the same report, out of 10.6 million people working in Mexico's Science and Technology sector in 2012, only around 3.3 million had a degree in sciences. The majority had a bachelor's degree (87.1%), followed by those with a master's degree (11.9%). Students with a Ph.D represented only 1 percent (PwC, 2014)

President Peña Nieto formalized the creation of the General Council on Scientific Investigation, Technological Development and Innovation in September 2013, therewith announcing a renewed support for technology and innovation in the country. Historically, Mexico's public investment in Science, Technology and Innovation has hovered at around 0.4 percent of the country's GDP. The budget of Conacyt, which provides scholarships, research funds, and more, has also been steadily increasing in the past decade (op. cit., PwC 2014).

Peña Nieto also confirmed the goal of his Administration to bring STI investment to around 1 percent of the GDP, placing it near the average for other developing countries. However, this should only be considered the first step for Mexico, taking into account that OECD average investment in 2011 stood at 2.3 percent, and countries like Finland, Japan and Korea invested over 3.5 percent of their GDP in the sector.

Mexicans have not shared equally the improvements attained in the past two decades; southern Mexico has consistently lagged behind the rest of the nation in quality-of-life indicators. Furthermore, and though remarkable progress has been made, rural living conditions countrywide still pale in comparison to those found in urban areas. Furthermore, the assumption that a) accessing well-paid jobs currently held mainly by men will improve gender equality; and b) the use of new technologies will help women to get a fair share of highly-valued jobs, still remains to be proven for Mexico.

## CONCLUSIONS

It does not seem fortuitous, somehow, that the thematic debate at the 69th General Assembly of the United Nations (2015a) focuses primarily on two aspects for promoting gender equality and empowerment of women, important for their contribution to sustainable development: 1) women's economic and political empowerment, including access to decent work and control over economic and productive resources and active participation in governance and decision-making and, 2) access to quality education and skills development as tools for empowerment of women and girls.

These priorities are echoed with the statements presented by Alicia Bárcena, Executive Secretary of the ECLAC (CEPAL in Spanish), during the recent round table held at CEPAL Headquarters in Chile on March 2, 2015, with the participation of high-level officials of the United Nations and representatives from governments, universities and society. Bárcena spoke about the Equality Trilogy, presented in the last three position papers of ECLAC, which propose that equality is the underlying ethical principle and ultimate goal of development; but to achieve equality, it is not enough to implement social policies. Structural change needs to be promoted in such a way that it allows to diversify the economy, develop industry, raise productivity and increase investment. "The policy is the instrument to achieve this", she remarked.

Along these lines, the Commission proposes a new equation between State, markets and society that is reflected in social pacts in seven areas, including the fiscal. "The State must keep placing greater progressivity to fiscal policies and public spending", stressed Alicia Bárcena, adding that reducing inequality also reduces poverty, which in 2014 has been estimated to affect 167 million people in Latin America.

As an undeniable sign of Mexico's firm engagement to global gender equality let us remember that, when the latest list of 20 top donors to UN Women (2015) appeared last year, there was only one country outside the wealthier nations of the world among them: Mexico. The Mexican commitment to the women's agency reflects the strides that the country has made in promoting women's rights in recent years, powered by government policies and its own proactive nongovernmental organizations, often working in partnership with the United Nations. Mexico may have ranked 19th out of the Top 20 (UN Women, 2013), but on top were only the wealthier industrial countries of North America and Europe, plus South Korea and the United Arab Emirates. (Norway was the biggest donor).

The opening statement from the President of the 67th General Assembly of the UN, while addressing the Inaugural Ceremony of the High-Level Thematic Debate on Advancing Gender Equality and Empowerment of Women and Girls for a Transformative Post-2015 Development Agenda, underlined the importance of confronting and changing deep-seated norms, beliefs and practices that contribute to gender-based discrimination. For when we support the fundamental freedoms of women and girls, they are able to realize their full potential to engage in, contribute to and benefit from sustainable development.

So also does Mexico need to renew and strengthen its efforts to fully accomplish the goals established in the National Development Plan 2013-2018, orienting its actions to fulfill the commitments accepted under the MDGs on gender equality and the empowerment of women and girls.

In the words of Sam Kahamba Kutesa, President elect of the United Nations Sixty-ninth session UN General Assembly: "Continuing commitments will be critical to realizing a truly people-centered and transformative post-2015 development agenda".

And to that end, first and foremost, we all need to learn to communicate coherently, participate responsibly, and fully recognize that men and women together have the power to create a world where all of humanity can hope for a brighter and better future in which creativity, curiosity, confidence and care for each other will open new, sustainable portals to our development. A world where all disadvantaged people can clearly envision getting to a better place, closing not only the so-called gender gap, but also indeed all the gaps that weaken the magnificent tapestry of life.

# ANNEX

## 1. ON DATA:

Monitoring progress in the key dimensions of gender equality requires the collection of data across a range of topics. Below is a list of international organism and/or initiatives that have developed indicators exclusively being used to track countries' performance on gender equality. The list would seem endless. No wonder many countries have not been able to comply with their international reporting engagements.

Nevertheless, when a country's statistical capacity improves and policy makers use accurate statistics to inform their decisions, this results in better development policy design. The World Bank Outcome Statistical Capacity Indicator (SCI) provides an overview of the statistical capacity of over 140 developing countries. It is based on a diagnostic framework developed with a view to assessing the capacity of national statistical systems and monitoring progress in statistical development over time. The framework has three dimensions: statistical methodology; source data; and periodicity and timeliness. For each dimension, a country is scored against specific criteria, using information available from the World Bank, IMF, UN, UNESCO, and WHO (<http://datatopics.worldbank.org/statisticalcapacity/>). A composite score for each dimension and an overall score combining all three dimensions are derived for each country on a scale of 0-100. A score of 100 indicates that the Overall level of statistical capacity (scale 0 - 100). Anyone interested in detailed data on Mexico is referred to this data bank where visiting the sections on Gender, Science & Technology and Education for Mexico can be accessed.

## 2. RECOMMENDED CORE LIST OF GENDER INDICATORS

The Inter-Agency and Expert Group on Gender Statistics has recommended improving the availability of gender-relevant data on a core list of gender indicators. These are:

- Economic structures, participation in productive activities and access to resources
- Education
- Health and related services
- Public life and decision-making
- Human rights of women and girl children

At present countries collect and report data on very few of these recommended indicators. However, international efforts are underway to support countries to collect a wider range of key gender-relevant data in the future. For data availability of the core list of gender indicators, by the International Development Association, (IDA) International Bank for Reconstruction and Development (IBRD) and Organisation for Economic Co-operation and Development (OECD) countries (See: [http://datatopics.worldbank.org/gender/files/Data\\_availability\\_core\\_list\\_gender\\_indicators.xlsx](http://datatopics.worldbank.org/gender/files/Data_availability_core_list_gender_indicators.xlsx)).

### 3. GENDER EQUALITY INDICATORS

MEXICO: Core list of gender indicators		
	2000	2013
<b>I. Economic Structure, participation in productive activities and access to resources</b>		
1. Average number of hours spent on unpaid domestic work (housework and child care), female	..	..
1. Average number of hours spent on unpaid domestic work (housework and child care), male	..	..
1. Average number of hours spent on unpaid housework, female	..	..
1. Average number of hours spent on unpaid housework, male	..	..
1. Average number of hours spent on unpaid child care, female	..	..
1. Average number of hours spent on unpaid child care, male	..	..
2. Average number of hours spent on paid and unpaid work combined (total work burden), female	..	..
2. Average number of hours spent on paid and unpaid work combined (total work burden), male	..	..
3. Labor participation rate, female (% of female population ages 15+)	39	45
3. Labor participation rate, male (% of male population ages 15+)	82	80
4. Own-account workers, female (% of females employed)	21	..
4. Own-account workers, male (% of males employed)	25	..
5. Contributing family workers, female (% of females employed)	13	9
5. Contributing family workers, male (% of males employed)	6	4
6. Employers, female (% of employment)	2	..
6. Employers, male (% of employment)	6	..
7. Firms with female participation in ownership (% of firms)	..	26
8. Employees, agriculture, female (% of female employment)	7	4
8. Employees, agriculture, male (% of male employment)	24	19
8. Employees, industry, female (% of female employment)	22	16
8. Employees, industry, male (% of male employment)	29	29
8. Employees, services, female (% of female employment)	71	80
8. Employees, services, male (% of male employment)	47	51



9. Informal employment, female (% of total nonagricultural employment)	..	59
9. Informal employment, male (% of total nonagricultural employment)	..	51
10. Unemployment, youth female (% of female labor force ages 15-24)	6	11
10. Unemployment, youth male (% of male labor force ages 15-24)	5	9
11. Account at a formal financial institution, female (% age 15+)	..	22
11. Account at a formal financial institution, male (% age 15+)	..	33
12. Land owners, female (% of adult population)	..	..
12. Land owners, male (% of adult population)	..	..
13. Wage equality between women and men for similar work (ratio)	..	..
14. Part time employment, female (% of total female employment)	26	29
14. Part time employment, male (% of total male employment)	7	14
15. Employment rate of persons aged 25-49 with a child under age 3 living in a household, female (%)	..	..
15. Employment rate of persons aged 25-49 with a child under age 3 living in a household, male (%)	..	..
15. Employment rate of persons aged 25-49 with no children living in the household, female (%)	..	..
15. Employment rate of persons aged 25-49 with no children living in the household, male (%)	..	..
16. Children under age 3 in formal care (%)	..	..
17. Internet users, female (%)	..	..
17. Internet users, male (%)	..	..
19. Access to mass media (ICT), female (%)	..	..
19. Access to mass media (ICT), male (%)	..	..
<b>II. Education</b>		
20. Literacy rate, youth female (% of females ages 15-24)	96	99
20. Literacy rate, youth male (% of males ages 15-24)	97	99
21. Adjusted net enrolment, primary, female (%)	97	99
21. Adjusted net enrolment, primary, male (%)	100	97
22. School enrolment, secondary, female (% gross)	70	89
22. School enrolment, secondary, male (% gross)	70	82
23. School enrolment, tertiary, female (% gross)	19	28
23. School enrolment, tertiary, male (% gross)	20	30
24. Ratio of female to male primary enrolment (%)	94	100
24. Ratio of female to male secondary enrolment (%)	100	108
24. Ratio of female to male tertiary enrolment (%)	95	96
24. Share of graduates in science in tertiary level, female (%)	46	47
25. Share of graduates in engineering, manufacturing, and construction, female (%)	22	28
26. Tertiary education, teachers (% female)	..	..

27. Net intake rate in grade 1, female (% of official school-age population)	84	73
27. Net intake rate in grade 1, male (% of official school-age population)	86	73
28. Primary completion rate, female (% of relevant age group)	93	101
28. Primary completion rate, male (% of relevant age group)	97	98
29. Graduation at lower secondary, female (%)	..	..
29. Graduation at lower secondary, male (%)	..	..
30. Progression to secondary school, female (%)	89	96
30. Progression to secondary school, male (%)	92	97
31. Educational attainment, at least completed primary, population 25+ years, female (%) (cumulative)	..	76
31. Educational attainment, at least completed primary, population 25+ years, male (%) (cumulative)	..	79
31. Educational attainment, at least completed lower secondary, population 25+, female (%) (cumulative)	..	56
31. Educational attainment, at least completed lower secondary, population 25+, male (%) (cumulative)	..	61
31. Educational attainment, at least completed upper secondary, population 25+, female (%) (cumulative)	..	32
31. Educational attainment, at least completed upper secondary, population 25+, male (%) (cumulative)	..	36
31. Educational attainment, at least completed post-secondary, population 25+, female (%) (cumulative)	..	..
31. Educational attainment, at least completed post-secondary, population 25+, male (%) (cumulative)	..	..
31. Educational attainment, completed tertiary, population 25+, female (%) (cumulative)	..	14
31. Educational attainment, completed tertiary, population 25+, male (%) (cumulative)	..	19
<b>III. Health and related services</b>		
32. Contraceptive prevalence (% of women ages 15-49)	70	..
33. Mortality rate, under-5, female (per 1,000)	23	13
33. Mortality rate, under-5, male (per 1,000)	28	16
34. Maternal mortality ratio (modeled estimate, per 100,000 live births)	67	49
35. Pregnant women receiving prenatal care (%)	..	98
36. Births attended by skilled health staff (% of total)	86	96
37. Smoking prevalence, females (% of adults)	..	8
37. Smoking prevalence, males (% of adults)	..	27
38. Prevalence of obesity, female (% of female population ages 20+)	..	..
38. Prevalence of obesity, male (% of male population ages 20+)	..	..
39. Female adults with HIV (% of population ages 15+ with HIV)	17	21
39. Access to anti-retroviral drugs, female (%)	..	53

40. Access to anti-retroviral drugs, male (%)	..	50
41. Life expectancy at age 60, female (years)	22	24
41. Life expectancy at age 60, male (years)	21	22
42. Cause of death, by communicable diseases, ages 15-34, female (% of relevant age group)	24	19
42. Cause of death, by communicable diseases, ages 15-34, male (% of relevant age group)	11	7
42. Cause of death, by non-communicable diseases, ages 15-34, female (% of relevant age group)	51	48
42. Cause of death, by non-communicable diseases, ages 15-34, male (% of relevant age group)	28	23
42. Cause of death, by injury, ages 15-34, female (% of relevant age group)	26	33
42. Cause of death, by injury, ages 15-34, male (% of relevant age group)	61	70
42. Cause of death, by communicable diseases, ages 35-59, female (% of relevant age group)	8	8
42. Cause of death, by communicable diseases, ages 35-59, male (% of relevant age group)	8	8
42. Cause of death, by non-communicable diseases, ages 35-59, female (% of relevant age group)	86	85
42. Cause of death, by non-communicable diseases, ages 35-59, male (% of relevant age group)	69	66
42. Cause of death, by injury, ages 35-59, female (% of relevant age group)	6	6
42. Cause of death, by injury, ages 35-59, male (% of relevant age group)	23	26
<b>IV. Public life and decision-making</b>		
43. Proportion of women in ministerial level positions (%)	..	21
44. Proportion of seats held by women in national parliaments (%)	16	37
45. Women in managerial post (% of total)	..	..
46. Female police officers (% of total)	..	..
47. Female judges (% of total)	..	..
V. Human rights of women and girl children		
48. Proportion of women aged 15-49 subjected to physical or sexual violence in the last 12 months by an intimate partner (%)	..	..
49. Proportion of women aged 15-49 subjected to physical or sexual violence in the last 12 months by persons other than an intimate partner (%)	..	..
50. Prevalence of FGM/C (for relevant countries only)	..	..
51. Women who were first married by age 18 (% of women ages 20-24)	..	..
52. Adolescent fertility rate (births per 1,000 women ages 15-19)	77	62

Figures in italics refer to periods other than those specified.

## 4. EDUCATION INDICATORS

Children out of school, primary, female	Primary completion rate, male (% of relevant age group)
Children out of school, primary, male	Primary completion rate, total (% of relevant age group)
Government expenditure on education, total (% of GDP)	Progression to secondary school, female (%)
Government expenditure on education, total (% of government expenditure)	Progression to secondary school, male (%)
Government expenditure per student, primary (% of GDP per capita)	Pupil-teacher ratio, primary
Government expenditure per student, secondary (% of GDP per capita)	Ratio of female to male primary enrolment (%)
Government expenditure per student, tertiary (% of GDP per capita)	Ratio of female to male secondary enrolment (%)
Gross intake ratio in first grade of primary education, female (% of relevant age group)	Ratio of female to male tertiary enrolment (%)
Gross intake ratio in first grade of primary education, male (% of relevant age group)	Ratio of girls to boys in primary and secondary education (%)
Labor force, total	Repeaters, primary, female (% of female enrolment)
Literacy rate, adult total (% of people ages 15 and above)	Repeaters, primary, male (% of male enrolment)
Literacy rate, youth female (% of females ages 15-24)	School enrolment, preprimary (% gross)
Literacy rate, youth male (% of males ages 15-24)	School enrolment, primary (% gross)
Literacy rate, youth total (% of people ages 15-24)	School enrolment, primary (% net)
Mortality rate, under-5 (per 1,000 live births)	School enrolment, secondary (% gross)
Persistence to last grade of primary, female (% of cohort)	School enrolment, secondary (% net)
Persistence to last grade of primary, male (% of cohort)	School enrolment, tertiary (% gross)
Population ages 0-14 (% of total)	Trained teachers in primary education (% of total teachers)
Population ages 15-64 (% of total)	Unemployment, female (% of female labor force) (modeled ILO estimate)
Prevalence of HIV, total (% of population ages 15-49)	Unemployment, male (% of male labor force) (modeled ILO estimate)
Primary completion rate, female (% of relevant age group)	Unemployment, total (% of total labor force) (modeled ILO estimate)

Source: The World Bank (2015c).

## 5. SCIENCE & TECHNOLOGY/WORLD BANK INDICATORS (WITH ACTIVATED LINKS)

Charges for the use of intellectual property, payments (BoP, current US\$)	Research and development expenditure (% of GDP)
Charges for the use of intellectual property, receipts (BoP, current US\$)	Researchers in R&D (per million people)
High-technology exports (current US\$)	Scientific and technical journal articles
High-technology exports (% of manufactured exports)	Technicians in R&D (per million people)
Patent applications, nonresidents	Trademark applications, direct nonresident
Patent applications, residents	Trademark applications, direct resident



# GLOSSARY

International Organizations		
ECLAC	<i>Comisión Económica para América Latina y el Caribe (CEPAL)</i>	Economic Commission for Latin America and the Caribbean
CWDI	<i>Agrupación Internacional de Mujeres Directoras en Corporaciones</i>	Corporate Women Directors International
UNIFEM	<i>Fondo de Naciones Unidas para el Desarrollo de las Mujeres</i>	United Nations Development Fund for Women

Acronyms for National Institutions		
AMC	<i>Academia Mexicana de las Ciencias</i>	Mexican Academy of Sciences
CENSIDA	<i>Centro Nacional para la Prevención y el Control del VIH/SIDA</i>	National Center for the Prevention and Control of HIV/AIDS
CONAMPROS	<i>Comité Nacional Mixto de Protección al Salario</i>	National Mixed Committee for Salary Protection
CONAPO	<i>Consejo Nacional de Población</i>	National Council for Population
CONAVIM	<i>Comisión Nacional para Prevenir y Erradicar la Violencia contra la Mujeres</i>	National Commission to Prevent and Eradicate Violence against Women
CONEVAL	<i>Consejo Nacional de Evaluación de la Política de Desarrollo Social</i>	National Council for Evaluation of the Social Development Policy
DGCFT	<i>Dirección General de Capacitación y Formación para el Trabajo</i>	Directorate-General for Training and Education for Work
FPGC	<i>Fondo de Protección contra Gastos Catastróficos</i>	Protection Fund against Catastrophic Expenses
IMSS	<i>Instituto Mexicano del Seguro Social</i>	Mexican Institute for Social Security
INEA	<i>Instituto Nacional de Educación para Adultos</i>	National Institute for Adult Education
INEGI	<i>Instituto Nacional de Estadística, Geografía e Informática</i>	National Institute of Statistics and Geography
INP	<i>Instituto Nacional de Psiquiatría</i>	National Institute of Psychiatry
INSP	<i>Instituto Nacional para la Salud Pública</i>	National Institute of Public Health

IPN	<i>Instituto Politécnico Nacional</i>	National Polytechnic Institute
ISSSTE	<i>Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado</i>	Institute of Social Security for Government Employees
MC	<i>Movimiento Ciudadano</i>	Citizen Movement
NA	<i>Nueva Alianza</i>	New Alliance
PAN	<i>Partido Acción Nacional</i>	National Action Party
PEMEX	<i>Petróleos Mexicanos</i>	Mexican Petroleum
PRD	<i>Partido de la Revolución Democrática</i>	Democratic Revolution Party
PRI	<i>Partido Revolucionario Institucional</i>	Institutional Revolutionary Party
PROCADIST	<i>Programa de Capacitación a Distancia</i>	Distance Training Program
PT	<i>Partido del Trabajo</i>	Labor Party
PVEM	<i>Partido Verde Ecologista de México</i>	Green Ecologist Party of Mexico
SEDENA	<i>Secretaría de la Defensa Nacional</i>	Ministry of National Defense
SEDESOL	<i>Secretaría de Desarrollo Social</i>	Ministry of Social Development
SEMAR	<i>Secretaría de Marina</i>	Ministry of Navy
SEP	<i>Secretaría de Educación Pública</i>	Ministry of Public Education
SINAIS	<i>Sistema Nacional de Información en Salud</i>	National Health Information System
SPSS	<i>Sistema de Protección Social en Salud</i>	Social Protection System in Health
STPS	<i>Secretaría del Trabajo y Previsión Social</i>	Ministry of Labor and Welfare

<b>National Surveys on Gender and related aspects</b>		
<b>Acronym</b>	<b>Survey name in Spanish</b>	<b>Survey name in English</b>
EMIF	<i>Encuesta sobre Migración en la Frontera Norte de México</i>	Survey on Migration along the northern Border of Mexico
ENADID	<i>Encuesta Nacional de la Dinámica Demográfica</i>	National Survey on Demographic Dynamics
ENADIS	<i>Encuesta Nacional sobre Discriminación en México</i>	National Survey on Discrimination in Mexico
ENASEM	<i>Estudio Nacional sobre Salud y Envejecimiento en México</i>	National Study on Health and Aging in Mexico
ENCASU	<i>Encuesta Nacional sobre Capital Social en el Medio Urbano</i>	National Survey on the Social Capital in a Urban Environment
ENCOVIS	<i>Encuestas en ciudades mexicanas sobre Calidad de Vida, Competitividad y Violencia Social</i>	Survey in Mexican cities on Life Quality, Competitiveness and Social Violence
ENCUP	<i>Encuesta Nacional sobre Cultura Política y Prácticas Ciudadanas</i>	National Survey on Political Culture and Citizen Practices
ENDIFAM	<i>Encuesta Nacional de Dinámica Familiar</i>	National Survey on Family Dynamics
ENDIREH	<i>Encuesta Nacional sobre la Dinámica de los Hogares</i>	National Survey on Home Dynamics



## GLOSSARY

ENDUTIH	<i>Encuesta Nacional sobre Disponibilidad y Uso de tecnologías de la Información en los Hogares</i>	National Survey on the Availability and Use of Information Technologies at Home
ENE	<i>Encuesta Nacional de Empleo</i>	National Survey on Employment
ENECE	<i>Encuesta Nacional de Educación, Capacitación y Empleo</i>	National Survey on Education, Training and Employment
ENEU	<i>Encuesta Nacional de Empleo Urbano</i>	National Survey on Urban Employment
ENFAVU	<i>Encuesta Nacional de Familia y Vulnerabilidad</i>	National Survey on Family and Vulnerability
ENHRUM	<i>Encuesta Nacional a Hogares Rurales en México</i>	National Survey on Rural Homes in Mexico
ENIGH	<i>Encuesta Nacional de Ingresos y Gastos de los Hogares</i>	National Survey on Home Income and Spending
ENJUVE	<i>Encuesta Nacional de la Juventud</i>	National Survey on Youth
ENL	<i>Encuesta Nacional de Lectura</i>	National Survey on Reading
ENN	<i>Encuesta Nacional de Nutrición</i>	National Survey on Nutrition
ENNVIH	<i>Encuesta Nacional sobre Niveles de Vida en los Hogares</i>	National Survey on Life Levels at Home
ENOE	<i>Encuesta Nacional de Ocupación y Empleo</i>	National Survey on Occupation and Employment
ENPCC	<i>Encuesta Nacional de Prácticas y Consumo Culturales</i>	National Survey on Cultural Practices and Consuming
ENSA	<i>Encuesta Nacional de Salud</i>	National Health Survey
ENSANUT	<i>Encuesta Nacional de Salud y Nutrición</i>	National Survey on Health and Nutrition
ENSAR	<i>Encuesta Nacional de Salud Reproductiva</i>	National Survey on Reproductive Health
ENSI	<i>Encuesta Nacional sobre Inseguridad</i>	National Survey on Insecurity
ENSUN25	<i>Encuesta de línea de base y seguimiento para 25 ciudades</i>	Base Line Survey and Follow-up for 25 cities
ENUT	<i>Encuesta Nacional sobre Uso del Tiempo</i>	National Survey on the Use of Time
ESCOVIS	<i>Encuestas en ciudades mexicanas sobre Calidad de Vida, Competitividad y Violencia Social</i>	Surveys in Mexican cities on Quality of Life, Competitiveness and Social Violence
LQLP	<i>Encuesta Lo que Dicen los Pobres</i>	Survey what the poor say
MCENSO	<i>Censo General de Población y Vivienda</i>	General Census
MPS	<i>Módulo sobre Programas Sociales</i>	Social Programs Module
MTI	<i>Módulo de Trabajo Infantil</i>	Child Labor Module

Source: Inmujeres (2015b).



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## INTERNET SOURCES OF INTEREST

Organization	Available at
Asociación Mexicana de Mujeres Empresarias	<a href="http://www.ammjenacional.org">www.ammjenacional.org</a>
Centro Nacional para la Prevención y el Control de VIH/SIDA	<a href="http://www.censida.salud.gob.mx">www.censida.salud.gob.mx</a>
Consejo Nacional de Población	<a href="http://www.conapo.gob.mx">www.conapo.gob.mx</a>
Instituto Federal Electoral	<a href="http://www.ife.org.mx">www.ife.org.mx</a>
Instituto Nacional de Estadística y Geografía	<a href="http://www.inegi.org.mx">www.inegi.org.mx</a>
Instituto Nacional de la Mujer	<a href="http://www.inmujeres.gob.mx">www.inmujeres.gob.mx</a>
Instituto Nacional de Desarrollo Social	<a href="http://www.indesol.gob.mx">www.indesol.gob.mx</a>
Portal Feminista para la igualdad de las Mujeres	<a href="http://www.emujeres.gob.mx">www.emujeres.gob.mx</a>
Secretaría de Educación Pública	<a href="http://www.sep.gob.mx">www.sep.gob.mx</a>
Secretaría de Trabajo y Previsión Social	<a href="http://www.stps.gob.mx">www.stps.gob.mx</a>
Seguro Popular de Salud	<a href="http://www.seguro_popular.salud.gob.mx/contenidos/">www.seguro_popular.salud.gob.mx/contenidos/</a>
Sistema Integrado de Información sobre Investigación Científica, Desarrollo Tecnológico e Innovación (SIICYT)	<a href="http://www.siicyt.gob.mx">www.siicyt.gob.mx</a>
Sistema Nacional de Información sobre Salud (SINAIS)	<a href="http://www.sinais.salud.gob.mx/basesdedatos/muertesmaternas.html">http://www.sinais.salud.gob.mx/basesdedatos/muertesmaternas.html</a>
Internet site	Available at
Inter American Network of Academies of Sciences	<a href="http://www.ianas.org/members/">www.ianas.org/members/</a>
International Research and Training Institute for the Advancement of Women (INSTRAW)	<a href="http://www.unfoundation.org">http://www.unfoundation.org</a>
United Nations Development Fund for Women (UNIFEM)	<a href="http://www.unwomen.org">www.unwomen.org</a>
World Economic Forum	<a href="http://www.weforum.org/">http://www.weforum.org/</a>
UNWOMEN	<a href="http://www.unwomen.org/en">http://www.unwomen.org/en</a>

## OTHER SITES CONSULTED

Organization	Available at
Sistema de información de los Objetivos de Desarrollo del Milenio	<a href="http://www.objetivosdesarrollodelmilenio.org.mx">http://www.objetivosdesarrollodelmilenio.org.mx</a>
Secretaría de Salud	<a href="http://portal.salud.gob.mx/">http://portal.salud.gob.mx/</a>
Comisión Nacional de Arbitraje Médico	<a href="http://dgdi-conamed.salud.gob.mx/modulo_uno/files/muertematerna_alterna.pdf">http://dgdi-conamed.salud.gob.mx/modulo_uno/files/muertematerna_alterna.pdf</a>
Urban dictionary	<a href="http://www.urbandictionary.com/">http://www.urbandictionary.com/</a>
Datos.gob	<a href="http://datos.gob.mx/">http://datos.gob.mx/</a>
Suprema Corte de Justicia de la Nación	<a href="https://www.scjn.gob.mx">https://www.scjn.gob.mx</a>
UN Women	<a href="http://www.unwomen.org/en">http://www.unwomen.org/en</a>
United Nations	<a href="http://www.un.org/pgs/">http://www.un.org/pgs/</a>
Academia Mexicana de las Ciencias	<a href="http://www.amc.edu.mx/amc/">http://www.amc.edu.mx/amc/</a>







