



Gender into Urban Climate Change Initiative Status Quo of Pilot Cities – Tlaxcala, México

1. OVERVIEW

Gender Into Urban Climate Change Initiative (GUCCI) & Planned Gender Assessment

The city of Tlaxcala de Xicohténcatl was founded in 1520 during that conquest and colonization, on a previously populated territory. In 1525, bull of Pope Clement VII confirmed the city’s foundation. Since 1986, Tlaxcala was declared as an area of historical monuments, with 123 civil and religious architectural monuments dating from the sixteenth to the nineteenth century; three archaeological sites: Tizatlán, Ocotelulco and Tepeticpac; in addition to seven museums. In present time, the city of Tlaxcala and its historic center have a high level of accessibility and connectivity especially with Puebla and the metropolitan area of Mexico City. The distance with the latter is 118 km.

Because of these circumstances, Tlaxcala population is small, and the city functions mostly as an administrative center for the state. These conditions offer the opportunity to meet with authorities and arrange meetings among different stakeholders at the time.

2. PILOT CITY TLAXCALA

2.1. General information

Tlaxcala de Xicohténcatl is located in the central region of Mexico, within the Trans-Mexican Volcanic Belt (between parallels 19° 15' and 19° 22' north latitude and meridians 98° 11' and 98° 17' west longitude), with an altitude between 2,300 and 2,500 m above sea level. The climate that predominates in the municipal polygon is mild sub-humid. Seen globally, the hub is part of the Pacific Ring of Fire, a chain of active and dormant volcanoes that borders the Pacific Ocean, from Tierra de Fuego to New Zealand, passing through Alaska and Japan. Referred to as “Tlaxcala” only, the city is located in the municipality and state of the same name.

The municipality covers an area of 51.94 km², being one of the smallest in Mexico. While the urban area covers 27.39% of the land, a larger share of it, 57.41%, is used for agriculture, both annual and temporary, and semi-permanent. The characteristics of the agricultural uses of the municipality are as follows:

Agricultural lands (ha). Municipality of Tlaxcala

Description	Area (ha)	Percentage
Annual and semi-permanent	163.64	3.15%

irrigation agriculture		
Annual rainfall agriculture¹	201.08	3.87%
Water	2617.39	50.39%
Oak forest	61.65	1.19%
Induced grasslands²	292.06	5.62%
Urban built	244.97	4.72%
Shrub vegetation of táscate forest	1422.57	27.39%
Annual and semi-permanent irrigation agriculture	191.20	3.68%
Total	5194.56	100%

Also, the municipality of Tlaxcala includes 366 of 600 hectares of the Xicohtécatl National Park (protected natural area). This surface represents 7.1% of the municipality. However, Tlaxcala is considered completely urban because of its inhabitants' living standards.

As a municipality, Tlaxcala is subdivided into 16 localities, with the city Tlaxcala de Xicohtécatl being one of them and capital of the State. These localities were previously separated, but due to urban sprawl, they have conurbated into a single urban unit, which extends to the neighbouring municipalities of Apizaco and to 19 contiguous municipalities. This zone constitutes the Metropolitan Area of Tlaxcala-Apizaco and has the municipality of Tlaxcala serving as its core; providing services such as media, financial services, accommodation, education, business support, real estate, health, leisure and recreation, as well as professional, scientific and technical services.

"Territorially, the horizontal growth trend of the city of Tlaxcala has caused a process of conurbation with semi-rural municipalities of very low population density, forming a physical-spatial, cultural and urban entity of regional character, whose dimensions reach even the conurbated area of the city of Puebla, forming a highly urbanized region that has grown in an extraordinarily disorganized, dispersed and unsustainable manner, seriously affecting forest resources, landscape and agricultural areas. In 2015, this conurbated area has an urban area of 42.0 km²."³

The urban sprawl that lead to the conurbated metropolitan area has forced changes of land uses, from agricultural and forestry to urban uses. Hence, inhabitants are occupying either

¹ The vegetative cycle of the crops depends on rainwater, so its success depends on the precipitation and the capacity of the soil to retain the water.

² The induced pasture appears because of the clearing of any type of vegetation; it can also grow in abandoned agricultural areas or as a product of areas that frequently catch fire.

³ UAT (2018). *Atlas de Riesgos y/o Peligros del Municipio de Tlaxcala*, México, p.47

productive lands or areas that are linked to hydrological or geological phenomena, particularly prone to detachments of soil and rocks, and floods.⁴

2.2. Socioeconomic factors

The demographic dynamics of the municipality of Tlaxcala follows a growth rate higher than the state average. In 1970, the municipality of Tlaxcala had 21.8 thousand inhabitants, which increased to 35.3 thousand in 1980 and to 50.5 thousand in 1990. In the 2000s, they increased to 73 thousand; 89.7 thousand in 2010 and in 2015, the municipality has 95,051 inhabitants. By 2020, the projected population will be 103,837. The population density is low with an average of 54.4 inhabitants per hectare.

The population structure of the municipality is characterized by a slight gender imbalance in the total population (men-women ratio of 89.98%) that is accentuated in the economically active population (men-women ratio is 86.9%), reflecting an emigration process of the economically active male population.

Regarding the population age structure, the median age increased from 25 to 27 years, while the aging index is 31.1%. There is a decrease in the relative weight of the population under 14 years of age, compared to the population in active age (67.3% of the total population in 2010). All of the above translates into a lower demographic dependency.

Education, literacy and other variables that affect the quality of life are as follows⁵:

- Illiterate population of 15 years or more: 1.35% (the highest incidence is concentrated in men, 80.3%. Illiterate women concentrate in the older age groups)
- Population aged 15 or older without complete primary education: 5.67%
- Occupants in dwellings without sewage or toilet: 0.22%
- Occupants in dwellings without electric power: 0.29%
- Occupants in dwellings without piped water: 0.93%
- Dwellings with some level of overcrowding⁶: 17.48%
- Occupants in dwellings with dirt floors: 0.6%
- Population whose health services are provided by public institutions: 77.6 thousand beneficiaries (that is, 82.1%; less than the state average: 83.6%)
- Population living in poverty: 33.6%
- Marginalization index: -1,687
- Degree of marginalization: Very low
- Place in the national context: 60/2457

⁴ Ídem.

⁵ Base year is 2015, unless specified.

⁶ Up to 2.4 occupants per room: no overcrowding; from 2.5 to 4.9 occupants per room: average overcrowding; more than 5.0 occupants per room: critical overcrowding.

- 1.7 thousand inhabitant have limitations to walk or move and must be considered in emergencies that could arise in the municipality (2010).

1.4 thousand Residents belong to indigenous Peoples, most of them bilingual. Only a small amount of the population does not speak Spanish as a second language, mostly older adults.

As of Tlaxcala's economy, the main support are secondary activities. However, in terms of income and employment, commerce and services are the dominating activities with 21,799 employed personnel (10,332 women and 11,467 men). Retail trade stands out with 5,748 employed persons (3,263 women and 2,485 men), which represent 27.83% of the total municipal employment.⁷

Due to the level of disaggregation, it was not possible to identify certain gender statistics that are collected only for the national level or major cities, such as female-headed households.

3. CLIMATE CHANGE IN TLAXCALA

3.1. Climate hazards affecting Tlaxcala

In 2018, the *Atlas of Hazards and Risks of the Municipality of Tlaxcala* was published. This Atlas presents the risks posed by geological and hydrometeorological causes and briefly mentions that the perilous effects could be intensified by climate change. The document states that the more significant hydrometeorological phenomena for Tlaxcala, Tlaxcala are floods and thunderstorms, while hailstorms and low temperatures appear in second place. However, frigid waves have had greater presence and intensity recently, and therefore a greater impact on the population. The phenomena that present hazards of lesser degree are drought, warm waves, snowfall and tropical cyclones. Furthermore, according to the *Atlas*, floods have a predominantly anthropic origin, dealing with faulty storm drainage system (or the complete absence of it).

In addition to climate change, the municipality faces risks derived from its settlement over an area of medium seismicity, but close to fault lines that could reactivate. The area is susceptible to ash and pumice falls emitted from volcanoes Popocatepetl and La Malinche, with thicknesses of importance that, combined with rain, can collapse weak roofs, hinder road traffic, in addition to health problems caused by the fine ash aspiration.

⁷ INEGI (2014). *Censos económicos*, México.

Most important effects of climate change in Tlaxcala

Type	Phenomenon	Level of danger
Hydrometeorological	Heat waves	Very low
	Low temperatures	Moderate
	Droughts	Low
	Hail storms	Moderate
	Snowfall	Low
	Tropical Cyclones	Very low
	Electric storms	High
	Floods	High

Source: Secretaría de Gobernación-CENAPRED. *Atlas Nacional de Riesgos*. Consultado en:

<http://www.atlasnacionalderiesgos.gob.mx/>

3.2. Greenhouse gas emissions of Tlaxcala

By legal ordinance, each state of the country has a *State Action Program on Climate Change*. The Autonomous University of the State of Tlaxcala prepared the document and presented it in 2014. The Program introduces the "State Inventory of Greenhouse Gas Emissions for the State of Tlaxcala (IEEGEI) 2005-2009", whose base year is 2005 and was developed based on the methodologies of the Intergovernmental Panel on Climate Change (IPCC), version 1996 and its Good Practice Guidance, for the six greenhouse gases listed in Annex A of the Kyoto Protocol. The information presented below refers to the state of Tlaxcala as a whole, that is, the city of Tlaxcala, in addition to other cities in the state.

Over the 2005-2009 term, the inventory shows an increase in GHG emissions of approximately 20.9%, reaching 3,593.2 CO₂ eq Gg in 2009, which means an average annual growth rate of 4.9%. In terms of CO₂ eq, GHG per-capita emissions augmented in 13.8% over the same period (annual growth rate of 3.3%: 2.8 CO₂ eq tons in 2005 and 3.2 CO₂ eq tons in 2009).

The main sources of emissions, categories and subcategories, are stated in the following table.

Greenhouse gas emissions per source and CO₂ eq. (Gg). State of Tlaxcala, 2009

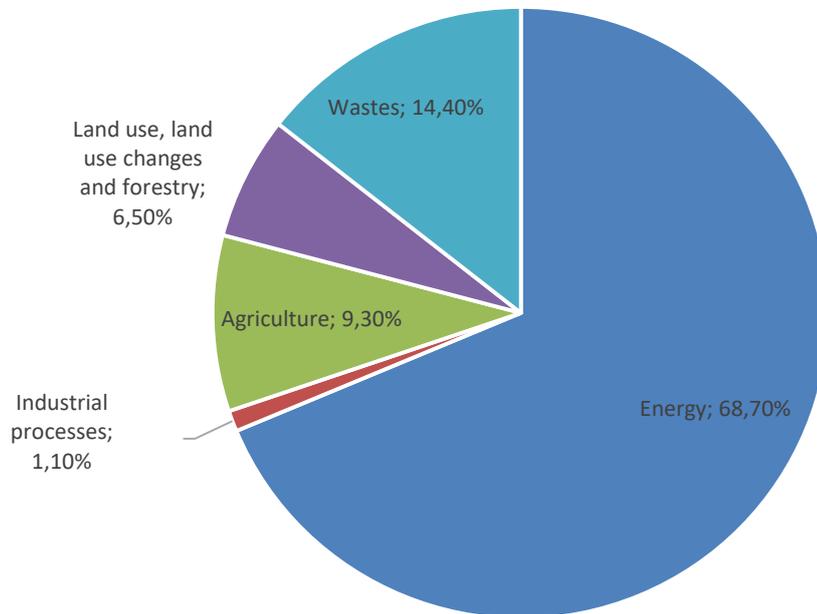
Emission category	CO ₂	CH ₄	N ₂ O	Total CO ₂ eq.	%
Tlaxcala state total emissions	2,707.3	643.4	242.5	3,593.2	
Energy	2,435.1	24.7	9.0	2,468.8	68.7%
Fossil fuels	2435.1	24.7	9.0	2,468.8	
Manufactures	888.5	1.1	1.6	891.2	
Transport	1,193.0	5.7	3.1	1,201.8	
Other sectors	353.5	17.8	4.3	375.7	
Households				(326.6)	
Business				(48.1)	
Agriculture				(1.1)	
Industrial processes	40.0			40.0	1.1%
Mineral commodities	11.0			11.0	
Metal production	28.9			28.9	
Agriculture		131.1	203.9	335.1	9.3%
Enteric fermentation		121.8		121.8	
Manure management		4.4	0.0	4.4	
Farmland			200.5	200.5	
Agricultural residue burning		4.9	3.4	8.4	
Land use, land use changes and forestry	232.2	0.7	0.1	233.0	6.5%
Changes in forests and other reservoirs of timber biomass	132.8			132.8	
Conversions of forests & grasslands	108.4	0.7	0.1	109.2	
Farmland abandonment	-9.0			-9.0	
Wastes		487.0	29.5	516.5	14.4%
Disposal of solid residues		434.2		434.2	
Sewage treatment		52.8	29.5	82.3	
Biomass burning CO₂ emissions	142.0			142.0	

Source: IEEGEI, 2005-2009 (*Tlaxcala State Action Program on Climate Change*, 2014).

As seen in the following graph, energy is the category that contributes the most to GHG emissions, alike climate change patterns around the globe. In second place, the wastes

category contributes with a large share of emissions. This is a great opportunity for action within the city.

GhG emissions, per category. State of Tlaxcala, 2009



Source: IEEGEI, 2005-2009 (*Tlaxcala State Action Program on Climate Change, 2014*).

4. THE CITY'S RESPONSE TO CLIMATE CHANGE

4.1. Governance and services

The city of Tlaxcala is governed by the city council, body headed by the municipal president Anabell Ávalos Zempoalteca (2017-2021). Municipal president Ávalos presented the *Municipal Development Plan for Tlaxcala 2017-2021*, organized around five topics for economic development and wellbeing. Topic four is titled "Inclusive Social Development for the Wellbeing of Tlaxcaltecas", and one of its objectives is to promote gender equality⁸ as a value. The Directorate of Public Works, the Directorate of Public Services, the Directorate for Social Development, the Directorate of Education, the Directorate of Health, the Sports Coordination, Sports Centres and the Taurine Directorate are involved in order to reach this goal.

In the present municipal administration, there is no openly stated commitment to climate change, unlike the previous administration. However, some issues related to mitigation, adaptation, such as air quality, wastes management, responsible management of natural

⁸ It is noteworthy that the plan refers to gender equality and gender equity indistinctively.

resources, territorial planning, responsible water management, responsible soil management, and environmental education are included in topic fifth "Environmental and Territorial Development for the Future of Tlaxcala". The Department of Ecology, the Directorate of Public Works, the Directorate of Public Services and the Water and Sewerage Commission of the Municipality of Tlaxcala (CAPAM) carry out these duties.

Regarding air quality control, there is a federal program known as ProAire, in force in Tlaxcala for the years 2014-2023. It is an air quality management instrument that establishes measures and actions in the short, medium and long term, to prevent and reverse the tendencies of the air quality deterioration. Among its objectives are to define measures and actions focused on reducing emissions, institutional strengthening, health protection, communication strategies and environmental education. That is to say, it focuses on control of pollution and health.

Tlaxcala urban sprawl was accompanied by the expansion of the coverage of utilities. However, most of the infrastructure exhibit lack of maintenance that causes deficiencies in the provision of the service.

*"In the case of the potable water service, the provision is variable, in some cases the supply is daily but dosed for only three to four hours on average, while in others it is distributed every third day, so it is important to provide integral maintenance and overall improvement for the provision of the service."*⁹

Water is provided through two modalities: piped service, with greater stability in the supply, and a system of 149 deepwater wells and 23 springs that supply a larger region with 47,225 thousand m³ of potable water. The municipality of Tlaxcala receives 26% of the total, equivalent to 12,268 thousand m³. During the kick-off meeting of the Gender into Urban Climate Change Initiative in Mexico, it was mentioned that there is an important hotel development in the city of Tlaxcala that consumes and contaminates large amounts of water. However, the most serious issue is the presumption of its connection with the trafficking of women for sexual exploitation.

Sewage coverage in the municipality ranges between 91.1% and 99% of the households. However, the lack of maintenance caused the collapse of a set of households, near to the Acuitlapilco lagoon, which was contaminated because of the collapse.¹⁰

The Atlas of Risks also mentions that in the municipality there is a public wastewater treatment plant that is out of service.

⁹ UAT (2018) p.45.

¹⁰Idem.

Finally, electricity is provided by the public company CFE. The company possesses a mixed generating infrastructure, though based on fossil fuels. Other sources of electricity generation include hydroelectric generation, geothermal generation and wind power, plus a very small percentage of nuclear energy. There is an ongoing process to privatize the electric power generation service, prioritizing wind power private generators. However, this process, part of the reform of the energy sector, is irregular. Regarding the final user, the CFE company is in charge of supplying homes with electricity (either generated by the own company or purchased from private generators) and it is characterized by a steady supply and heavy subsidies.

The city council is organized in the commissions stated in the following table. For the gender evaluation, it is planned to address as many of the city council staff as possible and members of the state council of climatic change too.

City council of Tlaxcala		
Participant city council units	Secretary / or representative	Position
H. Ayuntamiento de Tlaxcala	Lic. Anabell Ávalos Zempoalteca –	President
Commission for Urban Development, Public Works and Ecology	Lic. Silvia García Chávez	President
	Christian Vaslaf Santacruz Montealegre	Secretary
	Gabriela Esperanza Brito Jiménez	Member
	Giovanni Sánchez Castillo.	Member
Agricultural Development Commission	Christian Vaslaf Santacruz Montealegre	President
	Víctor García Lozano	Secretary
	Silvia García Chávez	Member
Commission on Human Rights and Gender Equality	Víctor García Lozano	President
	Silvia García Chávez	Secretary
	Gabriela Esperanza Brito Jiménez	Member
	Juan Cabera Zempoalteca.	Member

The directory of the cross-sectional state council for climate change is presented as follows.

State council of climatic change		
Participant city council units	Secretary / or representative	Position
Autonomous University of Tlaxcala (UATx)	Dr. Luis Armando González Placencia	Rector
Faculty of Agro Biology - Research Center on Climate Change (CICC)	Q.B.P José Adrian René Grada Yahutentzi	Director
Ministry of Environment and Natural Resources (SEMARNAT)	Josefa González Blanco Ortiz	Minister
Federal Attorney for Environmental Protection (PROFEPA)	Ricardo Heredia Campuzano	Delegate
Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA)	Jaime Garza Elizondo	Delegate
Secretariat of Economic Development (SEDECO)	Jorge Luis Vázquez Rodríguez	Director
General Coordination of Ecology (CGE)	Efraín Flores Hernández	Chief coordinator
Radio, Film and Television Coordination of Tlaxcala (CORACYT)	Ing. Héctor Jesús Parker Vásquez	Chief coordinator
Secretariat of Tourism of the State	Roberto Núñez Baleon	Director
National Water Commission, Local Address Tlaxcala	Epifanio Gómez Tapia	Local Director
Ministry of the Interior	José Aarón Pérez Carro	Secretary
Secretariat of Agricultural Development (SEFOA)	José Luis Ramírez Conde	Secretary
Ministry of Social Development (SEDESOL)	Mariana González Foullon	State Delegate
Secretariat of Communications and Transportation (SCT)	Dr. Noé Rodríguez Roldan	Secretary
Local Administrator of the Tax Service	Eric Escobar Villa	
General Superintendence of the Tlaxcala Pipelines Sector		Rector
National Institute of Statistics and Geography (INEGI)		director
National Institute of Forestry, Agriculture and Livestock Research (INIFAP)		Secretary
O.P.D Health Tlaxcala	Dr. Alejandro Guarneros Chumacero	Delegate

Federal Electricity Commission (CFE)	Manuel Bartlet	
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4.2. Climate policies/action plans

4.2.1. National framework

Mexico has developed a solid national framework for adaptation and mitigation of climate change. Though designed at the federal level, the framework provides guidelines to design local plan and policy on the subject matter. In our opinion, the most relevant quality of this framework is that most of its instruments include a certain level of gender dimensions, which will be commented in subsection 4.31.

General Law on Climate Change (2012). Its aimed to: I. Guarantee the right to a healthy environment and establish the concurrence of powers of the federation, the states and municipalities in the development and implementation of public policies for the adaptation to climate change and the mitigation of emissions of greenhouse gases and compounds; II. Regulate emissions of greenhouse gases and compounds [...]. III. Regulate actions for mitigation and adaptation to climate change. IV. Reduce the vulnerability of the country's population and ecosystems against the adverse effects of climate change, as well as create and strengthen national capacities to respond to the phenomenon. V. Promote education, research, development and transfer of technology, innovation, and dissemination in terms of adaptation and mitigation to climate change. VI. Establish the bases for the agreement with society. VII. Promote the transition towards a competitive, sustainable, low carbon economy and resilient to extreme hydrometeorological phenomena associated with climate change, and VIII. Establish the bases for Mexico to contribute to the fulfillment of the Paris Agreement [...].

National System of Climatic Change. The System is a mechanism of governmental interinstitutional coordination (federal, state and municipal), to guarantee the operation and feedback of the national policy in the matter.

National Climate Change Strategy (2013). Is the governing instrument of national policy in the medium and long term to face the effects of climate change and move towards a competitive, sustainable and low carbon economy. It is prepared by the Ministry of Environment and Natural Resources, approved by the Inter-Secretariat Commission on Climate Change and reviewed every ten years in the matter of mitigation and every six years in the matter of adaptation.

Special Climate Change Program 2014-2018. (PECC) It establishes the objectives, strategies, actions and goals to address climate change by defining priorities in terms of adaptation, mitigation, research, as well as the assignment of responsibilities, times of execution, coordination of actions and results and estimation of costs, in accordance with the National Climate Change Strategy. Through this program, Mexico seeks to demonstrate that it is possible to mitigate GHG emissions, without compromising development. In a long-term vision, the PECC sets as a goal to reduce 50% of its GHG emissions by the year 2050, in relation to the year 2000, and a flexible convergence towards a global average of emissions per capita of 2.8 tons of CO₂ eq, in 2050.

National Institute of Ecology and Climate Change. Decentralized public body of the federal public administration (which falls under the sector of Environment and Natural Resources), whose purpose is: to I. Coordinate and carry out studies and projects of scientific or technological research on change climate change, protection of the environment and preservation and restoration of the ecological balance; II. Provide technical and scientific support to the secretariat to formulate, conduct and evaluate the national policy on ecological balance and protection of the environment; III. Promote and disseminate criteria, methodologies and technologies for the conservation and sustainable use of natural resources; IV. Assist in the preparation of qualified human resources, in order to address the national problems with regard to the environment and climate change; V. Collaborate in the preparation of strategies, plans, programs, instruments, contributions determined at the national level and actions related to sustainable development, the environment and climate change [...]; IV. Evaluate the fulfillment of the adaptation and mitigation objectives foreseen in the law, as well as the goals and actions contained in the National Strategy, the Program and the programs of the federative entities (states) referred to in this regulation, and VII. Issue recommendations on policies and actions to mitigate or adapt to climate change.

Information system on climate change. The Information System on Climate Change integrates, updates and makes available to the public the statistical, geographic and indicators information that is generated and available in Mexico on the following topics: climate, soil, ecosystems, water resources, climate change, emissions of gases and greenhouse compounds, mitigation, vulnerability, population and biodiversity projects, among others.

Fund for Climate Change. It was created with the aim of capturing and channeling public, private, national and international financial resources to support the implementation of

actions to face climate change. Actions related to adaptation are a priority in the application of the fund's resources.

National Inventory of Emissions of Greenhouse Gases and Compounds. An instrument contains the estimation of anthropogenic emissions of greenhouse gases and compounds and absorption by sinks in Mexico. The inventory of GHG emissions in the state of Tlaxcala (IEEGEI 2005-2009) previously mentioned has been carried out in compliance to the National Climate Change Strategy of Mexico. This strategy sets up a reference framework for the adoption of policies, programs and instruments for mitigation of GHG emissions and adaptation to the effects of climate change, which yet needs to be translated into local action with a gender perspective.

4.2.2. City-level commitments, strategies, e.g. mitigation and adaptation in various sectors

The current level of development of strategies and commitments in the city and municipality of Tlaxcala is incipient. Institutions are in a phase of definition of goals. It is still necessary to build capacities and develop instruments to enforce regulations and programs. To date, most of the city's resources are concentrated in attending disasters, and are listed below (based on the municipality's Risk Atlas).

- communication channels for alerts in case of danger
- evacuation routes and access
- temporary shelters
- civil protection committee
- drills and dissemination of information
- emergency plan

Regarding the shortcomings, the study that supports the *Atlas* points out that it is necessary to adopt or acquire:

- agreements for the operation of shelters and distribution of food
- mobile communication equipment
- municipal council that integrates authorities and civil society

4.2.3. Implementation status

Due to the aforementioned incipient degree of development of climate change strategies in Tlaxcala, it is difficult to track progress of the implementation. The Municipal Development Plan for Tlaxcala presents titles for indicators on environment protection topics that still need to be developed.

4.3. Gender considerations

4.3.1. Relevant policy frameworks

At the national level, there is a robust normative and institutional framework to promote equality between women and men and non-discrimination. The main approach is gender mainstreaming, which has earmarked funds, in addition to gender budgeting instruments. This framework has a high degree of development, which includes laws, programs and plans, as well as institutions and cross-sectional committees, besides to the assigned funds.

In terms of legislation, gender equality policies are framed in Article 1 of the Political Constitution of the United Mexican States, the Law of Equality between Women and Men (2006), the General Law on Women's Access to a Life Free of Violence, the Law of Planning and the Federal Budget and Fiscal Responsibility Law; all of them federal.

Part of the strategy to promote equality between women and men is to replicate the federal rights and demands at the state and local levels. In this context, each state has the responsibility to adequate gender equality laws and programs to their particular environment and guarantee their enforcement. For these (and other) reasons, the attainment of gender equality varies deeply in Mexico, between one region and another.

In compliance of the Platform for Action of the Fourth World Conference on Women in Beijing (1995), Mexico set in place institutional mechanisms for the advancement of women. Following its administrative tradition, there is a federal institution for the advancement of women and 32 similar institutions, one per state. These state mechanisms for the advancement of women try to set an office in each of their municipalities. However, when reaching this level, the gender mainstreaming strategy fades off because of imperative necessities, forcing most of the local mechanisms to focus on the protection of victims of gender violence and their children.

Gender in climate change policy

The **General Law on Climate Change** states, in its article 26, that the national policy on the subject matter must observe, among other principles that of respecting "gender equality, the empowerment of women and intergenerational equity." The Article 71 states that the programs of the states must seek gender equity.

The **National Strategy on Climate Change**, Vision 10-20-40 (2013) is organized into "Pillars of national climate change policy", actions of "Adaptation to the effects of climate change", and actions of "Low carbon development / Mitigation". The Strategy includes lines of action such as: "Consider in the design of all policies of climate change the aspects of gender,

ethnicity, disability, inequality, health status and inequity in access to public services and involve in its instrumentation to the different sectors of society "; "Design and implement an effective communication strategy in all sectors of society, taking into account the diversity of contexts (cultural, economic, political, ethnic, gender and others)" and "Design and include the gender approach in the strategies of reducing social vulnerability. "

The **Special Climate Change Program 2014-2018** (PECC) included strategies and lines of action of the National Program for Equal Opportunities and Non-Discrimination against Women (PROIGUALDAD) of the past administration and integrated gender elements into the following lines of action:

- Consolidate the National Risk Atlas, integrating gender indicators.
- Promote, with a gender perspective, projects of sustainable community tourism in natural protected areas and / or vulnerable areas.
- Operate the Climate Change Fund and other financial resources with priority criteria: gender equity, transparency and efficiency.
- Identify social factors of gender vulnerability in the prevention and attention to risks of natural and anthropogenic disasters;
- Incorporate cultural and gender aspects linked to the use and exploitation of territorial resources in communities affected by disasters;
- Incorporate the needs and risks of women and girls in the design of evacuation or eviction plans;
- Incorporate the gender perspective in Civil Protection programs;
- Promote the integration of civil protection committees in disaster risk areas with the participation of women of all ages;
- Ensure the integrity and human rights of women and girls, in shelters and shelters of people affected by disasters;
- Respect women's right to privacy during evacuation, care and emergency;
- Encourage the construction, conservation and remodeling of public space with adequate and safe conditions for women, girls and children.
- Promote compact urban designs with a gender perspective to promote reconciliation, family coexistence, co-responsibility and recreation;
- Strengthen the coordination and cooperation between the three levels of government and society in favor of safe mobility.
- Incorporate a gender perspective in the National Climate Change Strategy;

- Align and coordinate federal programs and induce inclusive green growth with an intercultural and gender approach;
- Incorporate civil organizations in the ecological ordering, development and sustainable use of natural resources with a gender perspective;
- Promote programs aimed at reducing gender gaps in the access, use and exploitation of natural resources;
- Promote gender equality in the use and sustainability of natural resources including water, fishing, agriculture, livestock, renewable energies;
- Promote sustainable fishing and aquaculture activities for women in coastal and river areas;
- Promote sanitation and supply of water for human consumption and domestic use, in rural areas where women supply their households;
- Ensure that financial instruments for mitigation, adaptation and reduction of vulnerability benefit women and girls equally;
- Promote an information system on climate change that generates data and indicators disaggregated by sex.
- Transversal objective 6: Incorporate gender equality policies in the three levels of government and strengthen their institutionalization in the organizational culture.

Strategy 6.5 Orient and promote institutional capacities to comply with the National Policy on Equality between Women and Men.

Lines of action:

- Promote technical cooperation in the international arena to exchange knowledge and good gender practices;
- Strengthen the international presence of Mexico in forums, organizations and mechanisms linked to gender [...].

Marco legal e instrumentos de política

Tlaxcala no cuenta con Ley de cambio climático, Estrategia Estatal de cambio climático ni un Fondo para éste. Sólo cuenta con el Programa Estatal de Acción ante el Cambio Climático (2014) y el Inventario Estatal de Emisiones de Gases de Efecto Invernadero 2005-2009.

Género en los instrumentos de política

En el Programa Estatal de Tlaxcala se incluye un apartado de Género y cambio climático, en éste se establece que “Para integrar la perspectiva de género dentro del análisis del cambio climático, en específico en la adopción de medidas de adaptación y mitigación, se propone que en nuestra entidad se impulsen liderazgos de mujeres en la promoción para la adopción de prácticas sustentables.

Los sectores en los que se observa una mayor injerencia de mujeres son: la categoría de desechos en donde es fundamental su participación en el manejo integral de residuos sólidos desde los hábitos de consumo, separación, reutilizar, reciclaje y composteo. Otra categoría clave es la energía, en la subcategoría de emisiones de biomasa dónde uno de los propósitos fundamentales es impulsar la adopción de estufas ahorradoras de leña que, además se considera como una medida de adaptación ya que previene enfermedades respiratorias. Otra esfera de acción es aquella relacionada con la emisión de GEI derivado del uso energético y residencial donde el ahorro en el consumo de energía eléctrica es fundamental por lo que la incidencia en la modificación de los patrones de consumo y cambio tecnológico (electrodomésticos, focos) es clave.

En la categoría de USCUS (Uso de Suelo, Cambio de Uso de Suelo y Silvicultura), las mujeres pueden llegar a convertirse en promotoras del uso integral del bosque eficientando los residuos de aprovechamientos forestales, previniendo incendios, disminuyendo el combustible del área forestal lo que a la larga minimizaría el cambio de uso de suelo.”

4.3.2. Possible gender dimensions of climate change in city X

To date, the recurrent appearance of gender dimensions arises when discussing adaptation measures, especially in the topic of water supply. Because of gender roles and stereotypes, the responsibility of the provision of water in households, both for personal hygiene and for domestic cleaning, is a duty that falls on women in Tlaxcala and the rest of the country. In second place, women’s health was frequently discussed as a gender dimension of climate change. Women in Tlaxcala undergo abrupt changes in temperature and are exposed to weather, even during cold fronts, because of the sexual division of labor. For example, tortillas are prepared outdoors and require very high temperatures. The contrast between the heat of cooking and chilly weather is uncomfortable and related to joint pain.

5. KNOWLEDGE GAPS/CHALLENGES

Lack of data or current information, any concerns about lack of transparency or difficulty of contacting relevant stakeholders, or expected challenges in the assessment process

One of the major challenges was to identify recent information at the local level, due to the traditional process of data collection from federal institutions. Within this strategy,

collecting information at the municipal level is extremely costly for national institutions; hence, there is very little data disaggregated at the municipal level, most of it collected during the National Census of 2010, not related to climate change. However, we believe that there is very useful information in the hands of local authorities and citizens of Tlaxcala. Undoubtedly, the development of the GAMMA methodology will provide light on the matter.

6. PRELIMINARY CONCLUSIONS

Potentially key questions or priorities, or other stakeholders identified for outreach. Not necessarily recommendations at this point, as these will follow from the assessment.

It was observed that, for political and cultural reasons, the Autonomous University of Tlaxcala maintains a close relationship with local authorities. In this relationship we identified a potential ally in the rector, Dr. Luis Armando González Placencia, with whom Equidad is already in touch.

On the other hand, our main interest is to foster dialogue between the personnel of the mechanism for the advancement of women, the city council Commission on Human Rights and Gender Equality and the rest of the stakeholders, already identified for mitigation and adaptation issues, such as public works and utilities.

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