

NGO Parallel Report on the United States of Mexico's Combined Fifth/Sixth Report on the Implementation of the International Covenant on Economic, Social and Cultural Rights

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MEXICO – EXECUTIVE SUMMARY

This “parallel report” has been prepared by the International Human Rights Clinic of Loyola Law School, Los Angeles, and the Luca Coscioni Association for the Freedom of Scientific Research. The goal is to assist the Committee on Economic, Social and Cultural Rights in the formulation of the List of Issues leading to the discussion of Mexico’s combined Fifth/Sixth Periodic Reports.

The report focuses mostly on Mexico’s obligation to guarantee everyone’s “Right to Science,” which is articulated in Article 15 of the Covenant on Economic, Social and Cultural Rights (Articles 15.1.b, 15.2, 15.3 ad 15.4 to be precise). However, a number of other articles of the Covenant related to the “Right to Science,” including Article 12 (Right to Health), as well as other international legal instruments, both global and regional, are also discussed.

The report concentrates on three specific issues under the umbrella of the Right to Science: i) Mexico’s so-called “Genomic Sovereignty Amendments,” ii) the continuing criminalization of abortion; and iii) the failure to implement enhanced standards for diesel engines.

I) In 2008, Mexico became the first state in the world to adopt laws to nationalize the genetic material of its population by adopting a series of amendments known as the “Genomic Sovereignty Amendments” to the General Health Law (*Ley General de Salud*). The Amendments state that Mexican-derived human genome data are the property of Mexico’s government, and prohibit and penalize data collection and utilization in research without prior government approval. The Amendments seek to prevent other nations from analyzing Mexican genetic material, especially when results can be patented, and come with a formidable bite in the form of prison time and lost wages. Since their adoption, a number of developing countries, such as India, Thailand, South Africa, China, and others have issued policy statements or passed legislation that seeks to develop genomics infrastructure explicitly to benefit only their national populations.

The Genomic Sovereignty Amendments violate the Right to Benefit from Scientific Progress because they inhibit international scientific cooperation necessary for scientists to perform their work, prevent Mexican individuals from receiving the full benefits of genomic medicine, and infringe on the rights of scientists to perform genomic data projects. The Genomic Sovereignty Amendments also violate the Right to Health because the requirements imposed on scientists to perform large-scale population

genomic research delay any medical breakthroughs and therefore delay access to genomic medicine by the Mexican people. Additionally, the Genomic Sovereignty Amendments impinge on the Right to Work because the requirements for government approval and limitations on international collaboration prevent scientists from performing the amount of research necessary to complete these projects. Finally, the Genomic Sovereignty Amendments discriminate against Mexicans who reside outside of Mexico because their genomes are not included in samples used in genomics research and because the amendments restrict international collaboration so the results gleaned in Mexico may not be shared with diasporic populations.

II) In Mexico, abortion has been a crime since 1931. Although in recent years there have been attempts to decriminalize abortion, both at the national and state level, abortion remains a crime in a majority of Mexican states. In January 2016, the Mexican Supreme Court declared that decriminalization efforts are unconstitutional, effectively halting any progressive reforms in line with an effort to fully comply with international human rights obligations.

In some states in Mexico, there have been active efforts to decriminalize abortion. In Baja California Sur, for example, the law was reformed in 2005 to allow for legal abortion in cases where the woman's life is in danger and after rape, and penalties for abortions were reduced. In 2007, abortion was decriminalized entirely in the Federal District (Mexico City). However, there has been significant backlash both at the level of the Federal Government and of the governments of Mexico's federated states to undo what progress has been made toward decriminalization and prevent any further steps from being taken in that direction. For example, after the 2007 reform, 17 of the 31 Mexican states amended their constitutions to "protect life from the moment of conception" in order to prevent any attempts at decriminalization in those areas. Also, in January 2016, the Mexican Supreme Court declared that decriminalization efforts are unconstitutional, effectively halting any progressive reforms in line with an effort to fully comply with international obligations.

There are 31 States and one Federal District in the United Mexican States, and each regulates abortion differently. This "confusing patchwork of legislation" has made it difficult for women to know, understand, and advocate for their rights, and has created a vacuum in which fear and misinformation have directed decision-making. For example, most states permit abortions when a woman's life is in danger, but three states do not. Fourteen states allow abortion if there are severe fetal deformities, but

eighteen states do not.

III) Finally, Mexican cities have been infamous for their abysmal air quality for decades, causing countless deaths and economic damage each year. Although Mexico has the means and capacity to implement more stringent emission standards for truck diesel engines (the greatest polluters), it has not done so. On 1 December 2014, Mexican regulators approved amendments to diesel truck emission standards but, to date, these so-called “Proposed Amendments” have not been implemented into law.

Under the current standards (NOM-044-SEMARNAT-2006), truck engines in Mexico are required only to meet or exceed the EURO IV and EPA 2004 standards. EURO IV was the standard of the European Union for diesel engines adopted in 2005. It was replaced by EURO V in 2009. The current EU standard is Euro VI, which was adopted in 2014.

The modification proposed on 1 December 2014 (called PROY-NOM-044-SEMARNAT-2014) by COMARNAT, Mexico’s national regulatory committee of the SEMARNAT, raises standards: diesel engines will have to comply with either EPA 2010 or EURO VI. However, to date, the proposed modifications have not yet entered into force. They are blocked in COMARNAT because they require a second vote. The trucking industry has effectively lobbied the COMARNAT not to take this second vote.

This Honorable Committee has previously called the attention of Mexico to its air-quality problems and it has emphasized the need for Mexico to take steps to address the problem in the past, namely in the context of the Third and Fourth, Periodic Reviews. However, the issues were raised in the context of Article 12 (Right to Health) and not in the context of Article 15 (Right to Science).

For each of these three issues, this report first presents facts and background information. Second, it details what Mexico’s international legal obligations are on those issues. Third, it proposes a legal analysis of how Mexico is in violation of its obligations under the Covenant as well as other international legal instruments. Finally, it puts forward a List of Issues for consideration by the Committee.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	5
ABOUT THE AUTHORS OF THIS REPORT AND ITS PURPOSE.....	7
BACKGROUND AND FACTS	8
I) MEXICO AND THE RIGHT TO SCIENCE	8
II) MEXICO AND SCIENCE	10
<i>A. Insufficient investment in science and technology</i>	11
<i>B. Poorly drafted, overreaching, and badly implemented laws</i>	13
ONE: MEXICO AND GENOMIC SOVEREIGNTY.....	15
I) INTRODUCTION.....	15
II) BACKGROUND	16
III) MEXICO AND GENOMIC SOVEREIGNTY.....	18
IV) MEXICO’S INTERNATIONAL OBLIGATIONS AND APPLICATION TO THE GENOMIC SOVEREIGNTY	
AMENDMENTS	23
<i>A. The Genomic Sovereignty Amendments Violate Mexico’s Obligation to Guarantee the Right to Benefit from Scientific Progress (CESCR, Art. 15.1.b; UDHR, Art. 27)</i>	24
<i>B. The Genomic Sovereignty Amendments Violate the Duty to Take Steps Necessary for the Conservation, Development, and Diffusion of Science (CESCR, Art. 15.2)</i>	27
<i>C. The Genomic Sovereignty Amendments Violate the Duty to Respect the Freedom Indispensable for Scientific Research (CESCR, Art. 15.3)</i>	28
<i>D. The Genomic Sovereignty Amendments Violate the Duty to Encourage and Develop International Contacts and Co-operation in the Scientific and Cultural Fields (CESCR, Art. 15.4)</i>	29
<i>E. The Genomic Sovereignty Amendments Violate Mexico’s Obligation to Guarantee the Right to Health (CESCR, Art. 12)</i>	31
<i>F. The Genomic Sovereignty Amendments Violate the Right to Work (CESCR, Art. 6.1)</i>	33
<i>G. The Genomic Sovereignty Amendments Violate the Overall Duty to Achieve Progressively Full Realization of the Rights (CESCR, Art. 2.1) and the Prohibition of Non-Discrimination (CESCR, Art. 2.2; UDHR, Art. 2 and 7)</i>	34
1. <i>The Genomic Sovereignty Amendments Are Retrogressive and Therefore Violate the Obligation to Achieve Progressively Full Realization of the Rights (CESCR, Art. 2.1)</i>	35
2. <i>The Genomic Sovereignty Amendments Violate the Duty not to Discriminate (CESCR, Art. 2.2; UDHR, Art. 2 and 7)</i>	36
V) RECOMMENDATIONS.....	38
TWO: MEXICO AND ABORTION.....	42
I) INTRODUCTION.....	42
II) BACKGROUND.....	42

III) MEXICO AND ABORTION.....	43
IV) MEXICO'S INTERNATIONAL OBLIGATIONS AND APPLICATION TO THE CRIMINALIZATION OF ABORTION.....	46
<i>A. The Criminalization of Abortion Violates Mexico's Obligation to Guarantee the Right to Benefit from Scientific Progress (CESCR Art.15.1.b).....</i>	48
<i>B. The Criminalization of Abortion Violates Mexico's Obligation to Guarantee the Right to Health (CESCR, Art. 12.1).</i>	49
<i>C. The Criminalization of Abortion Violates Mexico's Obligation to Guarantee the Right to Life (UDHR, Art. 3; CCPR, Art. 6).....</i>	50
<i>D. The Criminalization of Abortion Violates Mexico's Obligation to Guarantee the Right to Religious Freedom (CCPR, Art. 18.1).....</i>	51
<i>E. The Criminalization of Abortion Violates Mexico's Obligation to Guarantee the Right to Non-Discrimination (CESCR, Art. 2.2 and Art. 3).....</i>	53
<i>F. The Criminalization of Abortion Violates Mexico's Obligation to Guarantee the Right to Privacy and Reproductive Autonomy (CEDAW, Art. 16.1.e).....</i>	54
<i>G. The Criminalization of Abortion Violates Mexico's Obligation to Guarantee the Right to Liberty (CCPR, Art. 9).....</i>	55
<i>H. The Criminalization of Abortion Violates Mexico's Obligation to Guarantee the Right to Information (CCPR, Art. 19; UDHR, Art. 19).....</i>	55
<i>I. The Criminalization of Abortion Violates Mexico's Obligation to Guarantee the Right to be Free from Cruel, Inhuman, and Degrading Treatment (CCPR, Art. 7; UDHR, ART. 5; CAT).....</i>	56
V) RECOMMENDATIONS.....	57
THREE: MEXICO AND DIESEL ENGINE EMISSIONS.....	60
I) INTRODUCTION.....	60
II) BACKGROUND.....	60
III) MEXICO AND DIESEL EMISSIONS.....	61
IV) MEXICO'S INTERNATIONAL OBLIGATIONS AND APPLICATION TO PROPOSED MODIFICATIONS.....	67
<i>A. The Delay in Implementing the Proposed Modifications Violates Mexico's Obligation to Ensure Everyone Enjoys the Benefits of Scientific Progress and Its Applications (CESCR, Art. 15.1.b).....</i>	67
<i>B. The Delay in Implementing the Proposed Modifications Violates Mexico's Obligation to Take Steps Towards the Realization of the Right to Science (CESCR, Art. 15.2).....</i>	68
<i>C. The Delay in Implementing the Proposed Modifications Violates Mexico's Obligation to Guarantee the Right to Health and Right to a Healthy Environment (CESCR, Article 12.1).....</i>	69
<i>D. The Delay in Implementing the Proposed Modifications Violates Mexico's Obligation to Guarantee the Right to a Healthy Environment (Stockholm and Rio Declarations, Principle 1) and Climate Change Obligations (Paris Agreement).</i>	70
<i>E. The Delay in Implementing the Proposed Modifications Violates Mexico's Duty to Progressively Realize its Obligations Under the Covenant (CESCR, Art. 2.1).....</i>	71

<i>F. The Delay in Implementing the Proposed Modifications Violates Mexico's Own Constitution and Laws and, Therefore, Violates the Covenant (CESCR, Article 2.1)</i>	72
V) RECOMMENDATIONS.....	73
COMPILATION OF RECOMMENDATIONS FOR THE LIST OF ISSUES.....	75

EXECUTIVE SUMMARY

This “parallel report” has been prepared by the International Human Rights Clinic of Loyola Law School, Los Angeles, and the Luca Coscioni Association for the Freedom of Scientific Research. The goal is to assist the Committee on Economic, Social and Cultural Rights in the formulation of the List of Issues leading to the discussion of Mexico’s combined Fifth/Sixth Periodic Reports under the Covenant on Economic, Social and Cultural Rights.

The report focuses mostly on Mexico’s obligation to guarantee everyone’s “Right to Science,” which is articulated in Article 15 of the Covenant on Economic, Social and Cultural Rights. However, a number of other articles of the Covenant related to the “Right to Science,” including Article 12 (Right to Health), as well as other international legal instruments, both global and regional, are also discussed.

The report concentrates on three specific issues under the umbrella of the Right to Science: i) Mexico’s so-called “Genomic Sovereignty Amendments,” ii) the continuing criminalization of abortion; and iii) the failure to implement enhanced standards for diesel engines.

i) In 2008, Mexico became the first state in the world to adopt laws to nationalize the genetic material of its population by adopting a series of amendments known as the “Genomic Sovereignty Amendments” to the General Health Law (*Ley General de Salud*). The Amendments state that Mexican-derived human genome data are the property of Mexico’s government, and prohibit and penalize data collection and utilization in research without prior government approval. The Amendments seek to prevent other nations from analyzing Mexican genetic material, especially when results can be patented, and come with a formidable bite in the form of prison time and lost wages. Since their adoption, a number of developing countries, such as India, Thailand, South Africa, China, and others have issued policy statements or passed legislation that seeks to develop genomics infrastructure explicitly to benefit only their national populations.

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Mexican regulators approved amendments to diesel truck emission standards but, to date, these so-called “Proposed Amendments” have not been implemented into law.

For each of these three issues, this report first presents facts and background information. Second, it details what Mexico’s international legal obligations are on those issues. Third, it proposes a legal analysis of how Mexico is in violation of its obligations under the Covenant as well as other international legal instruments. Finally, it puts forward a List of Issues for consideration by the Committee.

ABOUT THE AUTHORS OF THIS REPORT AND ITS PURPOSE

1) This “parallel report” has been prepared by the International Human Rights Clinic of Loyola Law School, Los Angeles —directed by Professor Cesare Romano and Adjunct Professor Mary Hansel—¹ and by the Luca Coscioni Association for Freedom of Scientific Research. The purpose is to assist the Committee on Economic, Social and Cultural Rights in the formulation of the List of Issues during the 60th Pre-Sessional Working Group (27 February - 3 March 2017), leading to the discussion of Mexico’s combined Fifth/Sixth Periodic Reports on its implementation of the Covenant on Economic, Social and Cultural Rights during the 62nd Session of the Committee on Economic, Social and Cultural Rights (18 September – 6 October 2017).

2) The International Human Rights Clinic of Loyola Law School, Los Angeles is committed to achieving the full exercise of human rights by all persons, and seeks to maximize the use of international and regional political, judicial, and quasi-judicial bodies through litigation, advocacy, and capacity-building.² Loyola Law School, Los Angeles is the school of law of Loyola Marymount University, a Jesuit university.

3) The Luca Coscioni Association for the Freedom of Scientific Research was founded in 2002 by Dr. Luca Coscioni, an Italian economist affected by Amyotrophic Lateral Sclerosis, who launched a national campaign to promote freedom of scientific research on embryonic stem cells.³ Since its foundation, the Association has been active on a range of issues, including the rights of persons afflicted with illness and disabilities, the right to die, reproductive health, and freedom of scientific research.

4) This parallel report focuses on Mexico’s obligation to guarantee everyone’s “Right to Science,” which is articulated in Article 15 of the Covenant on Economic, Social and Cultural Rights. However, a number of other articles of the Covenant related to the “Right to Science,” including Article 12 (Right to Health), as well as other international legal instruments, both global (e.g. Universal Declaration of Human Rights or Covenant on Civil and Political Rights) and regional (e.g. American Declaration of Human Rights or Protocol of San Salvador to the American Convention of Human Rights), will also be referred to.

5) This parallel report will also focus on three specific issues under the umbrella of the Right to Science: Mexico’s so-called “Genomic Sovereignty Law;” the continuing criminalization of abortion; and the failure to implement enhanced standards for diesel engines. For each of these three issues, first, we will present facts and background information. Second, we will detail what Mexico’s international legal obligations on those issues are. Third, we

¹ This communication was written, in part, by the following students under the supervision of Prof. Romano and Prof. Hansel: Amber Fountain; Erin Gonzalez; and Mher Cholakhyan.

² See <<http://www.lls.edu/academics/clinicexperientiallearning/internationalhumanrightscclinic/>> (site last visited Jan. 14, 2017).

³ See <<http://www.associazionelucacoscioni.it>> (site last visited Jan. 14, 2017).

will propose a legal analysis of how Mexico is in violation of its obligations under the Covenant as well as other international legal instruments. Finally, we will put forward recommendations to Mexico and a List of Issues for Consideration by the Committee on Economic, Social and Cultural Rights (hereinafter “CESCR Committee”, or “this Honorable Committee”).

BACKGROUND AND FACTS

I) MEXICO AND THE RIGHT TO SCIENCE

6) Mexico acceded to the Covenant on Economic, Social and Cultural Rights (hereinafter “CESCR” or “Covenant”) on 23 March 1981.⁴ It is currently undergoing its combined 5th/6th periodic review.

7) Article 15 of the Covenant reads:

“1. The States Parties to the present Covenant recognize the right of everyone:

(a) To take part in cultural life;

(b) To enjoy the benefits of scientific progress and its applications;

(c) To benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

2. The steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right shall include those necessary for the conservation, the development and the diffusion of science and culture.

3. The States Parties to the present Covenant undertake to respect the freedom indispensable for scientific research and creative activity.

4. The States Parties to the present Covenant recognize the benefits to be derived from the encouragement and development of international contacts and co-operation in the scientific and cultural fields.”⁵

8) Article 15 of the Covenant is an umbrella article, grouping together three very different, but also interrelated, rights: the right to take part in cultural life; the “right to science;” and the right to benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production. The “right to science” is a broad expression that encompasses the right of everyone to enjoy the benefits of scientific progress (including

⁴ International Covenant on Economic, Social and Cultural Rights, Art. 15(1)(b), Dec. 16, 1966, S. Treaty Doc. No. 95-19, 6 I.L.M. 360 (1967), 993 U.N.T.S. 3 [hereinafter CESCR]. *States Party to the International Covenant on Economic, Social and Cultural Rights*, United Nations Treaty Collection, <https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=IV-3&chapter=4&clang=en> (last visited Jan. 14, 2017).

⁵ *Ibid.*, at Art. 15.

technology) and its applications (Art. 15.1.b); the right of scientists and researchers to enjoy the freedom indispensable for scientific research and creative activity, and, implicitly, the right of everyone to participate in scientific research (Art. 15.3); the right of scientists, inventors and researchers to benefit from the protection of the moral and material interests resulting from their work (Art. 15.1.c); the obligation States have to take steps to achieve the full realization of these rights, including those necessary for the conservation, development, and diffusion of science (Art. 15.2); and the obligation to encourage and develop international contacts and co-operation in the scientific field (Art. 15.4).

9) Overall, States party to the Covenant are required to respect, protect, and fulfill the human rights obligations contained therein.⁶ The obligation to respect “means that States should refrain from interfering in the enjoyment of the right.”⁷ States also have the obligation to protect, requiring them “to take the necessary measures to prevent violations of this right...”⁸ Third, States must also fulfill the obligation, or “take measures to ensure the right.”⁹ Finally, the elements of the right to benefit from scientific progress have also been defined as availability, accessibility, acceptability, and quality.¹⁰

10) Although the Right to Science imposes on States an obligation of means, and not one of result, States must fulfill their obligations under the Covenant within some clear parameters. Namely, under Article 2.1, States must:

“take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of [their] available resources, with a view to achieving progressively the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures.”¹¹

11) Arguably, of all the rights enshrined in the Covenant, the right to science is the most frequently overlooked and least discussed.¹² To date, this Honorable Committee has not yet issued a General Comment to this specific right, and States party to the Covenant frequently omit a discussion concerning measures taken to implement it in their periodic reports. Mexico is no exception. Although it addresses Article 15 in its Fifth/Sixth Periodic

⁶ United Nations Economic and Social Council, Statement on the Obligations of States Parties regarding the Corporate Sector and Economic, Social and Cultural Rights, E/C.12/2011/1, par. 3, Forty-Sixth Session, (May 20, 2011).

⁷ Yvonne Donders, *The Right to Enjoy the Benefits of Scientific Progress: In Search of State Obligations in Relation to Health*, 41 Med. Health Care and Phil. 371, 376 (2011).

⁸ *Ibid.*, at 376; United Nations Economic and Social Council, *supra* note 6, at par. 4.

⁹ Donders, *supra* note 7, at 376; United Nations Economic and Social Council, *supra* note 6, at par. 5.

¹⁰ Donders, *supra* note 7, at 376; United Nations Committee on Economic, Social and Cultural Rights, General Comment 14, E/C.12/2000/4, par. 12 (Twenty-Second Session, Aug. 11, 2000), available at <http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=E%2fC.12%2f2000%2f4&Lang=en> (last visited Jan. 24, 2017).

¹¹ CESCR, *supra* note 4, at Art. 2.1.

¹² See, in general, Mikel Mancisidor, *Is There Such a Thing as a Human Right to Science in International Law?* 4 European Society of Int'l Law 1 (2015).

Report, it mostly reports on measures taken to discharge obligations under paragraph (a) (right to take part in cultural life) and makes only a very generic mention of what it is doing to implement the right to science, without entering into any specifics.¹³

12) Be that as it may, although the exact contours of the right to science are still being discussed, several elements of it have already been clarified in the context of other rights contained in the Covenant, including: the right not to be discriminated against; the right to work; the right to a family and the rights of the family; the right to adequate standards of living; the right to health; and the right to education.

II) MEXICO AND SCIENCE

13) The United Mexican States (Mexico) is a large country (population of 126 million (est. 2016) and in size the 5th largest country in the Americas)¹⁴ that is organized internally as a federal state. It is comprised of 31 federated states and a Federal District containing the capital of the Union: Mexico City.¹⁵

14) Contemporary Mexico has been described as a country with two faces, souls and trajectories.¹⁶ On the one hand, there is the modern Mexico, a politically stable nation with a rapidly growing economy and a young, educated population (55 million Mexicans under the age of 25). It is a country interconnected with the global economy and is a member of all major international organizations, including the Organization of Economic Cooperation and Development (OECD), an association of the wealthiest and most developed nations of the world. On the other hand, there is the old Mexico, where half of the population remains in poverty, and another quarter risks slipping back into penury. Low literacy rates prevail, and many lack opportunities to achieve a better quality of life. Moreover, lawlessness, corruption, and conflicts of interest prevail among the police, courts, and politicians who are supposed to implement national laws and international human rights standards.

15) Despite being one of the richest countries in Latin America, Mexico has made little headway in developing its own science and technology. According to Arturo Menchaca-Rocha, president of the Mexican Academy of Sciences, between 2000 and 2010, purchases of imported high-technology goods increased ten-fold, royalty

¹³ Committee on Economic, Social and Cultural Rights, *Consideration of reports submitted by States parties under articles 16 and 17 of the International Covenant on Economic, Social and Cultural Rights, Combined fifth and sixth periodic reports of States parties due in 2012 (Mexico)*, 21 July 2016, E/C.12/MEX/5-6, para. 233.-243.

¹⁴ Central Intelligence Agency, The CIA Factbook, Mexico, available at <<https://www.cia.gov/library/publications/the-world-factbook/geos/mx.html>> (last visited Jan. 14, 2017).

¹⁵ The States are: Aguascalientes, Baja California, Baja California Sur, Chihuahua, Colima, Campeche, Coahuila, Chiapas, Durango, Guerrero, Guanajuato, Hidalgo, Jalisco, Mexico, Michoacán, Morelos, Nayarit, Nuevo León, Oaxaca, Puebla, Querétaro, Quintana Roo, Sinaloa, San Luis Potosí, Sonora, Tabasco, Tlaxcala, Tamaulipas, Veracruz, Yucatán, Zacatecas.

¹⁶ The Economist, *The Two Mexicos*, September 19, 2015, available at <<http://www.economist.com/news/leaders/21665027-its-combination-modernity-and-poverty-mexico-provides-lessons-all-emerging>> (last visited Jan. 24, 2017).

payments for technology went up by a factor of five, and royalties from home-grown Mexican technologies decreased by 50 percent.¹⁷ In 2011, it was reported that 94 percent of technology in Mexico was imported; only six percent was invented and produced internally.¹⁸

16) There are several reasons why Mexico is failing overall to foster scientific research and development and is therefore failing to fulfill its obligations under the Covenant. Arguably, the main reasons are: 1) insufficient investment in science and technology and 2) laws that are poorly drafted, overreaching, and badly implemented.

4. Insufficient investment in science and technology

17) When measured by Gross Domestic Product (GDP), Mexico is the world's 11th largest economy, and it is growing at a remarkable rate of at least 3.5 percent each year.¹⁹ However, Mexico spends only 0.5% of its GDP on scientific research and development, which is the second lowest percentage among OECD states after Chile. That is less than economically troubled and smaller nations such as Greece.²⁰ When measured by patent production and inventive capacity, Mexico ranks last among OECD countries.

18) Although politicians at the federal and state level stress the importance of science in Mexico's development, they rarely follow through when it comes to approving budgets.²¹ According to Javier Castell, coordinator of the Science and Technology Commission at the Mexican Congress, support for science does not translate in the Mexican budget.²² Congress is just not interested enough in the subject of scientific research.²³

19) Inadequate funding inevitably causes Mexico to struggle both to produce and to retain scientists. In Mexico, only one in 10,000 people has a doctoral degree.²⁴ On average, Mexicans only receive 7.2 years of schooling.²⁵ Furthermore, due to the scarcity of funding, Mexican scientists are often forced to conduct research abroad.²⁶ In

¹⁷ *Ibid.*

¹⁸ Cecilia Rosen, *Rebuilding Mexico's science and technology capacity*, Science Development Network, par. 3, May 30, 2011, available at <www.scidev.net/global/migration/feature/rebuilding-mexico-s-science-and-technology-capacity-1.html> (last visited Jan. 20, 2017).

¹⁹ Erik Vance, *Why Can't Mexico Make Science Pay Off?*, American Science, October 2013, 67, 68 available at <<http://www.erikvance.com/wp-content/uploads/2013/09/vance-tweaks-in-final.pdf>> (last visited Jan. 20, 2017).

²⁰ Greece spent 0.81% of its GDP on research and development in 2013. Research and Development Expenditure (% of GDP), The World Bank, UNESCO Institute for Statistics <http://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS> (last visited Jan. 20, 2017).

²¹ See, in general, Marion Lloyd, *In Mexico, Science Goes Begging*, The Chronicle of Higher Education, available at <http://www.ses.unam.mx/integrantes/uploadfile/mlloyd/Lloyd_InMexicoScienceGoesBegging.pdf> (last visited Jan. 20, 2017). See also, Rosen, *supra* note 18, at para. 23-31.

²² *Ibid.*, at par. 12.

²³ *Ibid.*

²⁴ Jesus Velasco, *Academic Brain Drain*, American Quarterly, Summer 2014, par. 13, available at <<http://www.americasquarterly.org/content/academic-brain-drain>> (last visited Jan. 24, 2017).

²⁵ *Ibid.*, at par. 5.

²⁶ Vance, *supra* note 19, at 70.

2011, Mexico had only 0.8 researchers per 1,000 participants in the workforce.²⁷ That number is very small, especially when compared to 11.9 in South Korea, 10.2 in Japan, 9.9 in Portugal, 9.5 in the U.S., and 2.4 in Argentina (in 2010). For every 19 Mexican scientists living in Mexico with a BA or higher degree, one lives in United States, and this number is increasing.²⁸

20) Mauricio Terrones was a rising scientist in the Mexican research industry.²⁹ When the Mexican government offered him a coveted research position at the National Autonomous University of Mexico — where half of all scientific research in Mexico is conducted — he jumped at the chance.³⁰ However, the project failed to get off the ground because of a lack of financial backing from the Mexican government.³¹ Terrones had one million dollars of materials in his possession that sat idle because he lacked the required money to complete his research.³² Regarding scientific research in Mexico, Terrones stated, “You can’t get anything done. It’s very depressing.”³³ Terrones’ experience is indicative of a generalized and severe lack of support for scientific research in Mexico, despite growing recognition that the country’s economic future depends on its ability to generate homegrown technology.³⁴

21) Other problems include small-scale (and often marginal or isolated) production of local technology and a marked division between academia (where basic research is done) and industry, despite initiatives such as innovation offices at public universities and tax incentives for companies.³⁵ For instance, Physicist Horatio Montes de Oca wanted to conduct scientific research in a Mexican university laboratory in the state of Querétaro.³⁶ However, the university had no idea how to work with him, and there were no procedures or rules to partner with an outside entrepreneur.³⁷ He received similar answers from other universities in Mexico.³⁸

22) It is difficult to reconcile the scarce and decreasing level of investment in science in Mexico with its obligation to achieve “progressively the full realization of the rights recognized in the present Covenant,” including the right to science.³⁹ As this Honorable Committee noted in General Comment 3, although these rights are to be realized over time, the Covenant should not be “misinterpreted as depriving the obligation of all meaningful content.”⁴⁰

²⁷ Velasco, *supra* note 24, at par. 9.

²⁸ *Ibid.*, at par. 4.

²⁹ Lloyd, *supra* note 21, at par. 1.

³⁰ *Ibid.*, at par. 2.

³¹ *Ibid.*, at par. 4.

³² *Ibid.*

³³ *Ibid.*, at par. 5.

³⁴ *Ibid.*, at par. 7.

³⁵ Vance, *supra* note 19, at 70.

³⁶ *Ibid.*

³⁷ *Ibid.*

³⁸ *Ibid.*

³⁹ CESCR, *supra* note 4, at Art 2.1.

⁴⁰ United Nations Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 3: The Nature of States*

The notion of “progressive realization” not only strongly bars “retrogressive measures,”⁴¹ but it also demands some sort of progression, no matter how little it might be.

B. Poorly drafted, overreaching, and badly implemented laws

23) It is not just a matter of scarce funding for science. When it comes to the right to science, the three issues identified in this report reflect the dual-nature of contemporary Mexico. First, while the Federal Government and several states have taken steps to empower women and give them the chance to choose when to have children and how many, several states of the United States of Mexico still criminalize abortion. Second, while technology to reduce polluting emissions from large trucks is readily available, Mexicans in the nation’s cities are breathing the worst air in decades because industry lobbies are pushing to delay the introduction of much-needed enhanced standards. Thirds, while Mexico is legitimately concerned about protecting its national resources and identity, and has been at the vanguard to take steps to protect them, it adopted overreaching laws that will end up cutting out Mexican scientists from developments in the field of genomics and deny its population the benefit of genomic medicine.

24) Unfortunately, these are just three of the many possible examples of how Mexico is falling short of international standards when it comes to the “right to science.” The bill that is currently finding its way through the legislature’s lower house, the Chamber of Deputies, to amend the national health law to ban research on human embryos is another disturbing example of the overreaching and anti-science attitude of many of its legislators and those in government.⁴² The amendments will regulate assisted reproduction, including the payment of surrogate mothers. Unfortunately, Mexico has a thriving reproductive tourism industry, which has few protections for surrogate mothers. However, the proposed amendments go far beyond this legitimate concern: it would also ban the creation of human embryos for any purpose except reproduction and any research with existing human embryos. The amendments have the backing of the National Action Party (PAN) and President Peña Nieto’s Institutional Revolutionary Party (PRI).⁴³

25) In April 2016, Mexico made world headlines when the first baby with DNA from three different individuals was born. The operation was done to prevent a baby from inheriting a disease that would otherwise be passed

Parties' Obligations, 14 December 1990, E/1991/23, available at <http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=INT%2fCESCR%2fGEC%2f4758&Lang=en> (site last visited Nov. 27, 2016).

⁴¹ *Ibid.*

⁴² Sara Reardon, *Mexico Proposal to ban Human-Embryo Research Would Stifle Science*, *Nature Intl. J.*, par. 4 (Dec. 7, 2016), available at <<http://www.nature.com/news/mexico-proposal-to-ban-human-embryo-research-would-stifle-science-1.21109>> (last visited Jan. 24, 2017).

⁴³ *Ibid.*, at par. 6.

down through his mother's mitochondrial DNA.⁴⁴ It was done in Mexico, by researchers of the New Hope Fertility Center in New York City, and it was a scientific breakthrough. The proposed amendments would ban similar future operations, nullifying the advantages Mexico has in having facilitated this new medical technique.

⁴⁴ Sara Reardon, *Three-Parent Baby Claim Raises Hope – and Ethical Concerns*, Nature Intl. J (Sep. 29, 2016), available at <<http://www.nature.com/news/three-parent-baby-claim-raises-hopes-and-ethical-concerns-1.20698>> (last visited Jan. 24, 2017).

ONE: MEXICO AND GENOMIC SOVEREIGNTY

I) INTRODUCTION

26) Genomic Sovereignty is a political movement that arose in the early 2000's in post-colonial countries, which encourages nationalizing the population's genetic material (i.e., the genome). In 2008, Mexico became the first state in the world to adopt laws to nationalize the genetic material of its population by adopting a series of amendments known as the "Genomic Sovereignty Amendments" to the General Health Law (*Ley General de Salud*). The Genomic Sovereignty Amendments state that Mexican-derived human genome data are the property of Mexico's government, and they prohibit and penalize data collection and utilization in research without prior government approval. The amendments seek to prevent other nations from analyzing Mexican genetic material, especially when results can be patented, and comes with a formidable bite in the form of prison time and lost wages.⁴⁵ Since then, a number of developing countries, such as India, Thailand, South Africa, China, and others⁴⁶ have issued policy statements or passed legislation that seeks to develop genomics infrastructure explicitly to benefit only their national populations.⁴⁷

27) The Mexican Sovereignty Amendments (and their progeny in other developing countries) are an exercise in self-determination in a time of increasing globalization. They "implicitly 'brand' national populations as biologically distinct from other populations."⁴⁸ The "national genome" is regarded as a natural resource, and the State asserts its sovereignty over it to ensure it reaps the economic and medical benefits that may result from population genomic studies.⁴⁹ However, if not properly implemented, the controversial concept of Genomic Sovereignty can result in a violation of a number of internationally protected human rights, including the Right to Benefit from Scientific Progress, the Right to Health, and the Right to Work and Protection from Discrimination. These rights are established under the International Covenant on Economic, Social, and Cultural

⁴⁵ Beátrice Según, Billie-Jo Hardy, Peter A. Singer, & Abdallah S. Darr, *Genomics, Public Health, and Developing Countries: The Case of the Mexican National Institute of Genomic Medicine (INMEGEN)*, 9 *Nature R. Genetics*, 85-89 (2008), available at <http://www.nature.com/nrg/journal/v9/n10_supp/full/nrg2442.html> (last visited Jan. 23, 2017).

⁴⁶ In India, six separate academic research institutes founded the Indian Genome Variation Database. The Government of India funded this database and it plans to sample 15,000 individuals who are unrelated and are from different subpopulations. Scientists will research seventy-two common disease genes within the Indian population and then make these results available to other researchers.

In South Africa, the University of Cape Town is studying genetic bases of diseases and the ancestry of indigenous populations. There have been movements to start a type of national genotyping system but because of a lack of political will, this has not yet occurred. Billie Jo Hardy, *Bridging the Genomics Gap: The Role of Large Scale Genotyping Projects in the Developing World and the Importance of Genomic Sovereignty* 1, 70 (Sept. 11, 2011), (unpublished Ph.D. dissertation, University of Toronto) available at <https://tspace.library.utoronto.ca/bitstream/1807/42497/6/hardy_billie-jo_201111_PhD_thesis.pdf> (last visited Jan. 23, 2017).

⁴⁷ Según, *supra* note 45, at 85-89.

⁴⁸ Ruha Benjamin, *A Lab of their Own: Genomic Sovereignty as a Postcolonial Science Policy*, 28 *Pol'y & Soc'y* 341, 355 (2009) available at <http://www.ruhabenjamin.com/a/wp-content/uploads/2015/08/Genomic-Sovereignty_Ruha-Benjamin.pdf> (last visited Jan. 23, 2017).

⁴⁹ CESCR, *supra* note 4, at Art. 11.

Rights and other international legal instruments, including the Organization of American States' Protocol of San Salvador, the Universal Declaration of Human Rights, the United Nations Educational, Cultural and Scientific Organization's Universal Declaration on the Human Genome and Human Rights, and the International Declaration on Human Genetic Data.

28) The Genomic Sovereignty Amendments violate the Right to Benefit from Scientific Progress because they inhibit international scientific cooperation necessary for scientists to perform their work, prevent Mexican individuals from receiving the full benefits of genomic medicine, and infringe on the rights of scientists to perform genomic data projects. The Genomic Sovereignty Amendments also violate the Right to Health because the requirements imposed on scientists to perform large-scale population genomic research delay any medical breakthroughs and therefore delay access to genomic medicine by the Mexican people. Additionally, the Genomic Sovereignty Amendments impinge on the Right to Work because the requirements for government approval and limitations on international collaboration prevent scientists from performing the amount of research necessary to complete these projects. Finally, the Genomic Sovereignty Amendments discriminate against Mexicans who reside outside of Mexico because their genomes are not included in samples used in genomics research and because the amendments restrict international collaboration so the results gleaned in Mexico may not be shared with diasporic populations.

II) BACKGROUND

29) According to the World Health Organization, a genome is “the sum total of genetic information of an individual, which is encoded in the structure of deoxyribonucleic acid (DNA).”⁵⁰ Genomic research is a relatively new field of biology and medicine, and is full of promise.⁵¹ Drugs could be customized to match specific genotypes (“pharmacogenomics”).⁵² Individualized therapies for various drugs could be developed to combine diagnostic and therapeutic capabilities into a single agent (“theragnostics”).⁵³ Thus, “genomic medicine” is more cost effective than traditional “trial and error” style medicine because it wastes less time and money treating the patient.⁵⁴

30) The concept of “Genomic Sovereignty” was first floated during discussions within the framework of the 1992 Convention on Biological Diversity.⁵⁵ Although the Convention focuses on the protection of non-human

⁵⁰ Genomics and World Health: Report of the Advisory Committee on Health Research, Geneva, WHO, par. 6 (2002), available at <http://www.who.int/rpc/genomics_report.pdf> (last visited Jan. 23, 2017).

⁵¹ Hardy, *supra* note 46, at 14.

⁵² *Ibid.*

⁵³ *Ibid.*

⁵⁴ *Ibid.*

⁵⁵ Convention on Biological Diversity, June 5, 1992, 31 I.L.M. 4. Mexico ratified it on March 11, 1993 available at <<https://www.cbd.int/information/parties.shtml>> (last visited Jan. 23, 2017).

biodiversity, there have been discussions about its applicability to the human species as well.⁵⁶ Since the inception of Biodiversity Convention, developing countries, particularly post-colonial countries, have been vocal about the need to protect their biological resources from “bio-piracy,” or the “unauthorized and uncompensated removal of genetic resources from a source country.”⁵⁷

31) When it comes to the human genome, several developing countries have asserted the need to protect their human biogenetic wealth, and, to this end, they have created institutes focused on researching genetics and its relation to diseases, and have enacted laws to protect the human biogenetic diversity of the ethnic populations currently living on their territory.⁵⁸ They are also determined to reap the economic benefits of their own “national genome.”

32) The study of the genome of entire populations (also known as “population genomic research”) can potentially provide information that both treats and prevents future diseases.⁵⁹ Population genomic research has many advantages, including addressing localized healthcare needs more efficiently, reducing healthcare costs, and stimulating economic growth in developing countries. It can identify a population’s predisposition to illnesses and drug response.⁶⁰ Although developing countries currently focus more on infectious diseases, these research studies show promise for identifying predispositions and drug responses for chronic illnesses as well.⁶¹

33) Population genomic studies can also stimulate economic growth, especially in developing countries.⁶² They can help identify patterns in genotypes, and pharmaceutical companies can utilize these patterns to develop drugs for specific populations with limited side effects.⁶³ Given the great economic potential, it is no wonder that States, in particular developing countries, have eyed the possibility of foreign pharmaceutical companies to take advantage of this opportunity.⁶⁴

34) The potential benefits are numerous. However, many have argued that there are problems with the notion of genomic sovereignty and population genomic research.⁶⁵ For instance, anthropologists argue it is inappropriate

⁵⁶ Hardy, *supra* note 46, at 124.

⁵⁷ *Ibid.*, at 122.

⁵⁸ Ernesto Schwartz-Marin, *Genomic Sovereignty and the “Mexican Genome”: An Ethnography of Post-Colonial Biopolitics* (October 2011), (unpublished Ph.D. dissertation, University of Exeter – EGENIS ESRC Centre for Genomics in Society), available at <<https://ore.exeter.ac.uk/repository/bitstream/handle/10036/3500/SchwartzMarinE.pdf?sequence=2>> (last visited Jan. 23, 2017).

⁵⁹ Hardy, *supra* note 46, at 14.

⁶⁰ *Ibid.*, at 14.

⁶¹ Genomics and World Health: Report of the Advisory Committee on Health Research, *supra* note 50 at 81.

⁶² Hardy, *supra* note 46, at 54.

⁶³ *Ibid.*, at 61.

⁶⁴ *Ibid.*, at 134.

⁶⁵ Benjamin, *supra* note 48, at 342.

to assume a shared culture correlates with a shared genetic makeup.⁶⁶ While nationalized large-scale population genomic research studies can provide information that can be used to increase public scrutiny and improve governance, at the same time they put scientists under pressure to analyze the resulting data not in a scientifically objective way, but with an eye to satisfy the demands of the government and the public, or a specific political agenda.⁶⁷ Indeed, population genomic studies can reinforce a pre-existing social hierarchy or cultural segregation providing “scientific evidence” of genetic differences that explain socio-economic segregation.⁶⁸

35) Also, population genomic research projects often receive pushback from indigenous groups. While indigenous populations, for their genetic insularity, are frequently selected for studies and are asked to donate tissue samples from which DNA can be extracted and studied, they often cannot reap the benefits of this research.⁶⁹ Scientists who perform this type of research have been called “helicopter scientists.” They collect samples, but then leave without following up or sharing the results with that indigenous population. Additionally, for some indigenous groups, this type of research can challenge their spiritual notions of life and existence.

III) MEXICO AND GENOMIC SOVEREIGNTY

36) In 2004, Mexico created the National Institute of Genomic Medicine (*Instituto Nacional de Medicina Genómica* - “INMEGEN”) to develop Mexican genome projects and to implement their results into public health measures.⁷⁰ Additionally, government officials promised INMEGEN’s projects would eventually bolster Mexico’s bio-economy. However, as of 2015, there has not been much growth in this economic sector.⁷¹

37) Soon after the creation of INMEGEN, it became obvious that there is a tension between the social and political use of the results of population genomic research. For example, the first major population genomic research project carried out under the auspices of INMEGEN showed the diversity between different Mexican regions. Newspapers reported this as a diversity in “race,” highlighting percentages of global ethnic groups.⁷² However, the scientists objected to this classification and argued that instead of race, the phrase “population” should have been used. In a later project, newspapers published a comparison between ethnic makeup of various regions and the allocation of economic resources.⁷³

⁶⁶ *Ibid.*

⁶⁷ Benjamin, *supra* note 48, at 343.

⁶⁸ *Ibid.*, at 344.

⁶⁹ *Ibid.*, at 353.

⁷⁰ Schwartz-Marin, *supra* note 48, at 53.

⁷¹ Augusto Rojas-Martinez, *Confidentiality and Data Sharing: Vulnerabilities of the Mexican Genomic Sovereignty Act*, 6(3) J. of Community Genetics 313, 316 (Jul. 2015), available at <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4524836/>> (last visited Jan. 23, 2017).

⁷² Schwartz-Marin, *supra* note 58, at 236-237.

⁷³ Benjamin, *supra* note 48, at 344-345.

38) During the early 2000's, a number of other developing countries created similar institutes and launched population genomic studies.⁷⁴ For instance, because of high rates of infectious disease and increasing rates of chronic diseases, India developed the first large-scale genomic diversity for Indian populations to study genomic medicine.⁷⁵ South Africa launched projects of genomic research on tuberculosis and HIV but, because of a lack of political will and funds, it has been unable to carry out any large-scale population genomic research.⁷⁶ Genomic sovereignty caught headlines when, in 2006, Indonesia refused to give the World Health Organization blood samples of its citizens infected with H5N1, also known as Asian Avian Influenza A, out of fear Indonesia would not reap any benefits of the research, such as a vaccine.⁷⁷

39) In 2008, in response to growing support from the nationalist and genomic sovereignty movements, Mexico passed a series of amendments to its General Law of Health (*Ley General de Salud*) known as the Genomic Sovereignty Amendments (*Decreto por el que se reforma la fracción V del artículo 100 y el artículo 461, y se adicionan los artículos 317 Bis y 317 Bis 1, todos de la Ley General de Salud*).⁷⁸ The key parts are the amendments of Articles 100, 317, and 461.⁷⁹

40) According to the legislative history, the Mexican legislators noted the potential and promise of population genomic research and its development into genomic medicine.⁸⁰ The legislators also noted that “there is a high

⁷⁴ Ernesto Schwartz-Marin & Alberto Arellano Méndez, *The Law of Genomic Sovereignty and the Protection of “Mexican Genetic Patrimony”*, Med L. 1, 2 (2011) (on file with the United States National Library of Medicine and National Institutes of Health), available at https://www.academia.edu/2037018/The_law_of_genomic_sovereignty_and_the_protection_of_Mexican_genetic_patrimony > (last visited Jan. 23, 2017).

⁷⁵ Hardy, *supra* note 46, at 79.

⁷⁶ *Ibid.*, at 99.

⁷⁷ *Ibid.*, at 134.

⁷⁸ Schwartz-Marin & Arellano, *supra* note 74, at 7.

⁷⁹ Article 100 provides “La investigación en seres humanos se desarrollará conforme a las siguientes bases ... V [s]ólo podrá realizarse por profesionales de la salud en instituciones médicas que actúen bajo la vigilancia de las autoridades sanitarias competentes. La realización de estudios genómicos poblacionales deberá formar en parte de un proyecto investigación.” Article 317 states “El traslado fuera del territorio nacional de tejidos de seres humanos referido en el artículo 375 fracción VI de esta Ley que puede ser fuente de material genético (ácido desoxirribonucleico) y cuyo propósito sea llevar a cabo estudios genómicos poblacionales, estará sujeto a:

- I. Formar parte de un proyecto de investigación aprobado por una institución mexicana de investigación científica y conforme a lo establecido en el artículo 100 de la Ley, al Reglamento de la Ley General de Salud en Materia de Investigación y demás disposiciones aplicables, y
- II. Obtener el permiso al que se refiere en artículo 375 de esta Ley.
- III. Para efectos de esta Ley, se entiende por estudio genómico poblacional al que tiene como propósito el análisis de uno o más marcadores genéticos en individuos no relacionado que describen la estructura genómica de una población determinada, identifican a un grupo étnico o identifican genes asociados a un rasgo, una enfermedad o la respuesta a fármacos.”

Article 461 provides “Al que saque o pretenda sacar del territorio nacional, órganos, tejidos y sus componentes de seres humanos vivos o de cadáveres, sin permiso al Secretaría de Salud, se le impondrá prisión de cuatro a quince años y multa por el equivalente de trescientos a setecientos días de salario mínimo general vigente en la zona económica de que se trate.”

⁸⁰ Ley General de Salud [LGS], Exposición de Motivos par. 1, *Diario Oficial de la Federación [DOF]*, DOF 14-07-2008 (Mex.)

economic benefit in the long term.”⁸¹ Another recurring theme expressed in the legislative history is the fear of foreign intervention and “avoiding a dependency on other countries” in genomic research.⁸² The legislators recount the story of a North American company researching and developing a treatment for breast cancer after finding a gene in Ashkenazi Jewish woman in Israel.⁸³ Mexico lawmakers feared similar foreign researchers performing projects on genes on Mexican indigenous communities without the participants receiving payment or the benefits of the research.⁸⁴ Overall, the main purpose of the Genomic Sovereignty Amendments is to:

*“safeguard the national sovereignty over the access and distribution of the scientific benefits of genomic medicine, in accordance with public order and general interest, because it requires an effort to control the sovereignty over samples of genetic material extracted by foreigners of the Mexican population and in particular the indigenous populations.”*⁸⁵

41) As to the specific amendments, translated into English, Article 100 provides:

*“The research on human beings will be carried out according to the following bases: (V) it may only be carried out by healthcare professionals in medical institutions acting under the supervision of competent health authorities. The realization of genomic population studies should form a part of a research project”.*⁸⁶

42) Article 317 of the Genomic Sovereignty Amendments states:

“the transfer outside the national territory of human tissues referred to in Article 375 section V of this law that may be a source of genetic material (deoxyribonucleic acid) and whose purpose is to carryout genomic population studies will be subject to:

- I To form part of a research project approved by a Mexican research institution and in accordance with what is established in Article 100 of the Law, the Regulations of the General Law of Health in the Field of Research and other applicable dissipations, and*
- II To obtain the permit referred to in article 375 of this law*
- III For the purposes of this Law, a population genomic study is defined as the purpose of the analysis of one or more of the genetic marker in individuals... to describe the genomic*

⁸¹ “El nuevo paradigma de la medicina genómica ofrece grandes beneficios potenciales para la salud individual y colectiva, con un alto beneficio económico en el largo plazo.” *Ibid.*

⁸² *Ibid.*, at par. 9.

⁸³ Ley General de Salud [LGS], Exposición de Motivos, par. 7, *Diario Oficial de la Federación [DOF]*, DOF 14-07-2008 (Mex.)

⁸⁴ *Ibid.*, at par. 11.

⁸⁵ *Ibid.*, at par. 13.

⁸⁶ Ley General de Salud [LGS], Artículo 100, *Diario Oficial de la Federación [DOF]*, DOF 14-07-2008 (Mex.)

*structure of a specific...population, identify an ethnic group or identify genes associated to a specific feature, a disease, or the reactions to drugs.*⁸⁷

43) In sum, Article 317 provides that transferring tissue that could contain genetic material out of Mexico for the purpose of performing population genomic studies is subject to several restrictions. First it must be part of a research project approved by the Mexican institution for scientific research in conformity with Article 100 of this law, to the General Health Law regulation and to all dispositions applicable. Second, those who want to carry out the study must obtain approval by receiving a permit from the Ministry of Health.⁸⁸

44) Article 461 discusses the sanctions imposed on those who violate Article 317. It provides that:

*“those who transfer or attempt to transfer out of the national territory organs, tissues, or components from alive human beings or from corpses without approval of the health secretary, will suffer from four to fifteen years of prison and a bail from 300 to 700 days of minimum salary effective in the economic zone where it happens.”*⁸⁹

45) The same sanction will be applied to those who transfer or attempt to transfer human tissue that can be a source of genetic material (DNA), destined to population genomic studies contrary to Article 317, out of the national territory.⁹⁰ However, if the person responsible for the illegal transfer is a professional or technician, or an assistant of any of the health disciplines, the previous sanction will be added to the suspension of her or his professional practice up to seven years.⁹¹ To understand the severity of the sanctions, they are similar to those given in Mexico for manslaughter during a brawl (*homocida “en riña”*).⁹²

46) As previously mentioned, Mexico’s Genomic Sovereignty Amendments were the first of their kind in the world. Mexico is the first country to declare genomic sovereignty.⁹³ Soon after the Genomic Sovereignty Amendments were enacted, the President of Mexico’s Health Commission, Mr. Ernesto Saro, went on the record noting that the genomic data gathered from Mexico’s ethnic populations is property of Mexico.⁹⁴ He also stated the reason for the harsh punishment for those who violate the law is to protect against foreign patents, or piracy,

⁸⁷ Ley General de Salud [LGS], Artículo 317, *Diario Oficial de la Federación [DOF]*, DOF 14-07-2008 (Mex.)

⁸⁸ *Ibid.*

⁸⁹ Ley General de Salud [LGS], Artículo 461, *Diario Oficial de la Federación [DOF]*, DOF 14-07-2008 (Mex.)

⁹⁰ *Ibid.*

⁹¹ *Ibid.*

⁹² Código Penal Federal [CPF], Artículo 320, *Diario Oficial de la Federación [DOF]*, 18-02-1997 (Mex.)

⁹³ Schwartz-Marin & Arellano, *supra* note 74, at 2.

⁹⁴ Andrea Becerril, *Aprueba el Senado sanciones a quienes trasladan tejido humano fuera de México*, La Jornada, Mar. 28, 2008, available at <<http://www.jornada.unam.mx/2008/03/28/index.php?section=sociedad&article=046n1soc>> (last visited Oct. 15, 2016).

and to prevent companies from developing pharmaceuticals based on this research in other countries.⁹⁵ Critics argued it was too reactionary and “exaggerated” in response to bio-piracy fears. Some legislators even said this law was designed to “manipulate congressmen and control scientists working in the field of molecular biology.”⁹⁶

47) In 2014, INMEGEN along with 229 other research organizations from thirty countries signed a letter of intent with the Global Alliance for Genomics and Health — a non-governmental organization focusing on accelerating medical breakthroughs with genomic medicine — to facilitate global cooperation in genomics research.⁹⁷ However, since this group is comprised of national organizations rather than states, it is still bound by domestic laws and regulations. The Genomic Sovereignty Amendments prevent INMEGEN from actually fulfilling the commitment it entered into when it joined the Global Alliance for Genomics and Health.⁹⁸

48) Mexico’s Genomic Sovereignty Amendments are flawed in many regards. First, while they successfully protect an individual’s data within Mexico and consider confidentiality concerns,⁹⁹ they do not protect the data outside of Mexico.¹⁰⁰

49) Second, they do not account for the fact that large populations of Mexicans live in other countries (“diasporic populations”),¹⁰¹ and that these populations can freely donate genomic samples to various projects.¹⁰² When asked by journalists about the role diasporic populations play in population genomic projects, Mexican lawmakers noted a difference between “natural” and “diasporic” samples and stated that these individual’s genetic makeup reflect differences caused by varying environmental and social factors.¹⁰³

50) Third, the Amendments may prevent foreign and international research organizations from investing in genomic projects in Mexico. Most of these institutions require reliable data protection systems and opportunities to participate with other organizations. The Amendments’ insistence that data samples are kept within Mexico inhibits international research projects.¹⁰⁴ To bypass these limitations, scientists are forced to look for “other legal

⁹⁵ *Ibid.*

⁹⁶ Schwartz-Marin & Arellano, *supra* note 74, at 7.

⁹⁷ Global Alliance for Genomics & Health, *Creating a Global Alliance to Enable Responsible Sharing of Genomic and Clinical Data*, Jun. 3, 2013 available at <<https://genomicsandhealth.org/about-the-global-alliance/key-documents/white-paper-creating-global-alliance-enable-responsible-shar>> (last visited Jan. 23, 2017).

⁹⁸ Global Alliance for Genomics & Health, *Constitution of the Global Alliance for Genomics and Health*, 2014, available at <<https://genomicsandhealth.org/ga-constitution-about>> (last visited Jan. 23, 2017).

⁹⁹ Augusto Rojas-Martinez, *supra* note 71, at 315.

¹⁰⁰ *Ibid.*, at 316.

¹⁰¹ It is estimated that at least 11,000,000 Mexicans live in the United States alone. United States Demographics and Social, Migration Policy Institute, available at <<http://www.migrationpolicy.org/data/state-profiles/state/demographics/US>> (last visited Jan. 23, 2017).

¹⁰² Benjamin, *supra* note 48, at 352.

¹⁰³ *Ibid.*

¹⁰⁴ Rojas-Martinez, *supra* note 71, at 316-317.

options” to work on necessary international projects, but these work arounds could open the door to research and biological sample management malpractice.¹⁰⁵

51) Fourth, the Genomic Sovereignty Amendments seek to protect the “Mexican Genome,” or exclusive genomic data retrieved from Mexico’s various ethnic populations. However, scientists do not believe population genome and national boundaries overlap, and regard the notion of “national genome” as scientifically dubious, if not useless.¹⁰⁶ Instead, the Amendments’ purpose is to monopolize genomic research projects in Mexico.¹⁰⁷

52) Fifth, the Amendments cannot be enforced practically. They bar transfers of any genetic material that could be used in a population-genomic study. However, that includes blood. Many physicians and researchers have to send blood to other institutions, some abroad, to receive results for all kinds of tests or storage. Indeed, Oxford and Harvard universities are known to have the largest “Mexican blood” banks.¹⁰⁸ Unsurprisingly, more than eight years since the Mexican Senate passed the Genomic Sovereignty Amendments, they have not yet been enforced.¹⁰⁹

IV) MEXICO’S INTERNATIONAL OBLIGATIONS AND APPLICATION TO THE GENOMIC SOVEREIGNTY AMENDMENTS

53) Although, to the best of our knowledge, the Genomic Sovereignty Amendments have not yet been enforced, they have a clear potential to erode the rights of Mexicans under several legal instruments. These include: the Covenant on Economic, Social, and Cultural Rights; the Universal Declaration of Human Rights; the Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social, and Cultural Rights (Protocol of San Salvador); the Covenant on the Elimination of Racial Discrimination; as well as under soft-law instruments such as the Universal Declaration on the Human Genome and Human Rights; and the International Declaration on Human Genetic Data. Moreover, in addition to the right to benefit from scientific progress, other human rights are implicated by the Genomic Sovereignty Amendments policies including the right to health, protection from non-discrimination, and the right to work.

54) States have the obligation to respect, protect, and fulfill human rights.¹¹⁰ The obligation to respect means States must not interfere with the right. The obligation to protect requires States to “take the necessary measures

¹⁰⁵ Jesús Mario Sisqueiros-García, Pablo Francisco Olivia-Sánchez & Garbine Saruwatari-Zavala, *Genomic Sovereignty or the Enemy Within*, 19 Acta Bioethica 2, 269, 272 (2013), available at < <http://www.scielo.cl/pdf/abioeth/v19n2/art11.pdf> > (last visited Jan. 23, 2017).

¹⁰⁶ Schwartz-Marin & Arellano, *supra* note 74, at 2.

¹⁰⁷ *Ibid.*, at 3.

¹⁰⁸ *Ibid.*, at 7.

¹⁰⁹ *Ibid.*, at 8.

¹¹⁰ Donders, *supra* note 7, at 376.

to prevent violations of the right by third parties, including individuals or private entities.” The obligation to fulfill requires States take affirmative “...measures to realize and ensure the right.”¹¹¹

A. The Genomic Sovereignty Amendments Violate Mexico’s Obligation to Guarantee the Right to Benefit from Scientific Progress (CESCR, Art. 15.1.b; UDHR, Art. 27)

55) The Genomic Sovereignty Amendments violate the “right to science” protected by the Covenant. As it was detailed above, the right to science includes the right of everyone to benefit from scientific progress and the right of scientists to do their work without arbitrary and unnecessary regulations.¹¹² Mexico’s obligation to guarantee it citizens the right to benefit from scientific progress primarily stems from Article 15 of the Covenant on Economic, Social, and Cultural Rights. Article 15.1.b provides “The States Parties to the present Covenant recognize the right of everyone ... to enjoy the benefits of scientific progress and its applications.”¹¹³

56) The Universal Declaration of Human Rights (“UDHR”), regarded as customary international law, also establishes international obligations for Mexico. Article 27 provides, “Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.”¹¹⁴

57) Mexico also has an obligation to respect the right to enjoy the benefits of scientific and technological progress by virtue of its membership in the Organization of American States. The Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights (“Protocol of San Salvador”) establishes the right to enjoy the benefits of scientific and technological progress in Article 14(1)(b), which states that “[t]he States Parties to this Protocol recognize the right of everyone ... to enjoy the benefits of scientific and technological progress.”¹¹⁵

58) Therefore, because of Mexico’s ratification of the Covenant, its membership in the Organization of American States, and customary international law, Mexico has the obligation to respect, protect, and fulfill the right of the Mexican people to enjoy the benefits of scientific progress. As such, Mexico must provide opportunities to its people to enjoy the benefits of population genomic research, primarily through genomic medicine, and permit scientists to freely participate in this research as well.

¹¹¹ *Ibid.*

¹¹² CESCR, *supra* note 4, at Art. 15.3.

¹¹³ *Ibid.*, at Art. 15.1.b.

¹¹⁴ G.A. Res. 217 (III) A, Universal Declaration of Human Rights, Art. 27 (Dec. 10, 1948).

¹¹⁵ Inter-American Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social, and Cultural Rights “Protocol of San Salvador,” Art. 14(1)(b), Nov. 17, 1988. Mexico ratified it on 8 March 1996, *available at* <<http://www.oas.org/juridico/english/sigs/a-52.html>> (last visited Jan. 23, 2017). [hereinafter Protocol of San Salvador]

59) Some soft law instruments provide guidelines for genomic research in a human rights context. In 1997, the United Nations Educational, Social and Cultural Organization (“UNESCO”) adopted the Universal Declaration on the Human Genome and Human Rights.¹¹⁶ The declaration suggests methods and policies to draft legislation affecting genomic research to ensure it conforms to international human rights standards. Article 12(a) of the Declaration provides that “benefits from advances in biology, genetics and medicine, concerning the human genome, shall be made available to all, with due regard for the dignity and human rights of each individual.”¹¹⁷ Article 12(b) states “[f]reedom of research, which is necessary for the progress of knowledge, is part of freedom of thought. The applications of research, including applications in biology, genetics and medicine, concerning the human genome, shall seek to offer relief from suffering and improve the health of individuals and humankind as a whole.” Additionally, Article 14 declares “[S]tates should take appropriate measures to foster the intellectual and material conditions favorable to freedom in the conduct of research on the human genome and to consider the ethical, legal, social and economic implications of such research, on the basis of the principles set out in this declaration.”¹¹⁸

60) A few years later, in 2003, UNESCO supplemented and expanded the Universal Declaration on the Human Genome and Human Rights with the International Declaration on Human Genetic Data. Article 4 provides that human genetic data should be given special status because:

(i) it “can be predictive of genetic predispositions concerning individuals”; (ii) “it may have a significant impact on the family, including offspring, extending over generations, and in some instances on the whole group to which the person concerned belongs”; (iii) it “may contain information the significance of which is not necessarily known at the time of the collection of the biological samples”; and (iv) it “may have cultural significance for persons or groups.”

61) Additionally, Article 6(a) establishes that

“it is ethically imperative that human genetic data and human proteomic data be collected, processed, used and stored on the basis of transparent and ethically acceptable procedures. States should endeavor to involve the society at large in the decision-making process concerning broad policies for the collection, processing, use and storage of human genetic data and human proteomic data and the evaluation of their management, in particular in the case of population-based genomic studies. This decision-making

¹¹⁶ UNESCO, Universal Declaration on the Human Genome and Human Rights, Art. 12(a) (Nov. 11, 1997) available at <<http://www.unesco.org/new/en/social-and-human-sciences/themes/bioethics/human-genome-and-human-rights/>> (last visited Jan. 23, 2017).

¹¹⁷ *Ibid.*, at Art. 12.a.

¹¹⁸ *Ibid.*, at Art. 14.

process, which may benefit from international experience, should ensure the free expression of various viewpoints.”¹¹⁹

62) In this declaration, UNESCO emphasizes the necessity for international collaboration in population-based genomic studies to share methods, data, and medical technology because results can be better understood by including diasporic populations and by comparing to other populations. Additionally, international research projects have the potential for more cost-effective and efficient healthcare. International collaboration in population-based genomic studies can lead to quicker, more accurate results, giving populations access to better healthcare sooner.

63) Scientific knowledge, which includes information, scientific literature, data, samples and materials, must be accessible to both the public and scientists. The state fulfills its obligation to make scientific knowledge accessible by providing adequate funding, education, training, and access to information and communication technologies.¹²⁰ However, the Genomic Sovereignty Amendments limit accessibility to scientific knowledge both domestically and internationally.

64) Overall, Mexico’s Genomic Sovereignty Amendments violate its obligation to respect, protect, and fulfill the right to benefit from scientific progress. Mexico did not respect nor refrain from interfering with this right, nor did it take necessary measures to allow for its enjoyment. The need to acquire a permit from the government and the inability to access international samples or collaborate with scientists abroad hampers research and limits the amount of large-scale population genomic research projects that can be performed. As a result, Mexicans will gain access to genomic medicine and other benefits from this research slower than they otherwise could.

65) Additionally, Mexico does not fulfil its obligation to protect the right to benefit from scientific progress because the Genomic Sovereignty Amendments hinder large-scale genomic research instead of creating opportunities for more research projects. Mexico also failed to discharge its obligations by not providing adequate access to both the general public and to scientists engaged in large-scale population genomic research. Mexico’s Genomic Sovereignty Amendments limit access by scientists to the full spectrum of potential samples and technologies that are available through international collaboration.

¹¹⁹ UNESCO, International Declaration on Human Genetic Data, Arts. 4 and 6(a), (Oct. 16, 2003) *emphasis added*, available at < <http://www.unesco.org/new/en/social-and-human-sciences/themes/bioethics/human-genetic-data/> > (last visited Jan. 23, 2017).

¹²⁰ AAAS Science and Human Rights Coalition, *Defining the Right to Enjoy the Benefits of Scientific Progress and its Application: American Scientist’s Perspective*, (Report Prepared by Dr. Margaret Weigers Vitullo and Jessica Wyndham), 1, 7-8, October 2013, available at < http://www.aaas.org/sites/default/files/content_files/UNReportAAAS.pdf > (last visited Jan. 24, 2017).

66) Mexico does not fulfill, or take measures to ensure, the right to benefit from scientific progress. Instead, Mexico does the opposite, and takes affirmative steps to deny the Mexican people the right to benefit from scientific progress in relation to population genomic research projects. Although the creation of INMEGEN in 2004 was a step toward ensuring Mexicans the right to benefit from scientific research through population genomic studies, the Genomic Sovereignty Amendments restrict Mexican scientists' collaboration with foreign scientists and research institutes, and limit the number of projects that can be performed. Thus, with the Amendments, the Mexican Government deliberately took a step backward.

B. The Genomic Sovereignty Amendments Violate the Duty to Take Steps Necessary for the Conservation, Development, and Diffusion of Science (CESCR, Art. 15.2)

67) Mexico violated its duty under Article 15.2 to take necessary steps to conserve, develop and diffuse science by passing the Genomic Sovereignty Amendments.¹²¹ The Special Rapporteur in the field of Cultural Rights, Farida Shaheed, expanded on these definitions in her report on the right to enjoy the benefits of scientific progress and its applications. She defined the obligation to “conserve” as requiring “the identification and safeguarding of scientific knowledge, products and tools, including literature, specimens and equipment.”¹²² Development involves “...an explicit commitment to the development of science and technology for human benefit.”¹²³ This typically includes “...adoption of programs to support and strengthen publicly funded research, to develop and strengthen publicly funded research, to develop partnerships with private enterprises and other actors, ... and to promote freedom of scientific research.”¹²⁴ “Diffusion” references “...the dissemination of scientific knowledge and applications both within the scientific community and in society at large.”¹²⁵

68) The Genomic Sovereignty Amendments neither conserve, develop, nor diffuse science. Instead, the Amendments isolate large scale population genomic research in Mexico. The need to acquire a permit prevents conservation because it limits the number of studies performed. Additionally, the strict sanctions for transporting biological samples outside of Mexico discourage scientists from engaging in large scale population genomic research with international researchers which excludes samples, thus preventing conservation the sanctions also limit international collaboration, since Mexico focuses on internal research. Consequently, Mexico violates its duty to take necessary steps for the conservation, development, and diffusion of science.

¹²¹ CESCR, *supra* note 4, at Art. 15.2.

¹²² Farida Shaheed, *Report of the Special Rapporteur in the Field of Cultural Rights: The Right to Enjoy the Benefits of Scientific Progress and its Applications to the Human Rights Council*, A/HRC/20/26, ¶ 46, (Twentieth Session, May 14, 2012).

¹²³ *Ibid.*, at par. 47.

¹²⁴ *Ibid.*

¹²⁵ *Ibid.*, at par. 48.

C. The Genomic Sovereignty Amendments Violate the Duty to Respect the Freedom Indispensable for Scientific Research (CESCR, Art. 15.3)

69) The Amendments violate the rights of Mexican scientists by arbitrarily regulating and limiting their work. Indeed, the Amendments violate Article 15.3 of the Covenant, or the obligation that states will “respect the freedom indispensable for scientific research and creative activity.”¹²⁶

70) Articles 100 and 317 of the Genomic Sovereignty Amendments require scientists to seek approval and a permit from the Ministry of Health and require population genomic studies to be performed at specific facilities.¹²⁷ The restrictions imposed by the Amendments are not only arbitrary but are also superfluous. They are easily bypassed because they apply only to research performed in Mexico. In the United States, various large-scale population genomic research projects on diasporic populations, including Mexicans, have already been carried out, side-stepping any type of genomic sovereignty legislation.¹²⁸ Additionally, this limits the number of projects performed because scientists cannot simply decide to research the “Mexican Genome;” instead, they must seek Government approval, which delays projects and may discourage scientists from this type of research since it imposes limitations on their academic freedom.

71) Additionally, Article 461 of the Genomic Sovereignty Amendments threatens scientists who transfer genetic data that can be used in a population genomic study outside of Mexico with stiff criminal penalties. There are many benefits to international collaboration in population genomic studies, including better technology and a more thorough analysis of patterns and discoveries, and this provision limits the ability of scientists to accurately and thoroughly perform population genomic studies. It discourages them from cooperating internationally.

72) Also, the penalties for transferring samples abroad are excessive. Article 461 of the Genomic Amendments states “those who transfer or attempt to transfer out of the national territory organs, tissues, or components from

¹²⁶ CESCR, *supra* note 4, at Art. 15.3.

¹²⁷ Translated into English, Article 100 provides: “The research on human beings will be carried out according to the following bases: V it may only be carried out by healthcare professionals in medical institutions acting under the supervision of competent health authorities. The realization of genomic populations studies should form a part of a research project. Article 317 of the Genomic Sovereignty Amendments states “the transfer outside the national territory of human tissues referred to in Article 375 section V of this law that may be a source of genetic material (deoxyribonucleic acid) and whose purpose is to carryout genomic population studies will be subject to:

- I. To form part of a research project approved by a Mexican research institution and in accordance with what is established in Article 100 of the Law, the Regulations of the General Law of Health in the Field of Research and other applicable dissipation, and
- II. To obtain the permit referred to in article 375 of this law
- III. For the purposes of this Law, a population genomic study is defined as the purpose of the analysis of one or more of the genetic marker in individuals... to describe the genomic structure of a specific...population, identify an ethnic group or identify genes associated to a specific feature, a disease, or the reactions to drugs.”

¹²⁸ Benjamin, *supra* note 48, at 351.

alive human beings or from corpses without approval of the health secretary, will suffer from four to fifteen years of prison and a bail from 300 to 700 days of minimum salary effective in the economic zone where it happens”.¹²⁹ The punishment is comparable to the one given in Mexico for manslaughter during a brawl (*homocida “en riña”*).¹³⁰

D. The Genomic Sovereignty Amendments Violate the Duty to Encourage and Develop International Contacts and Co-operation in the Scientific and Cultural Fields (CESCR, Art. 15.4).

73) Cross-border cooperation always facilitates the work of scientists and speeds up scientific progress, but it is plainly indispensable for viable, large-scale population genomic research.¹³¹ The Genomic Sovereignty Amendments prevent any type of international collaboration, precluding more skilled researchers from accessing the samples, and disallowing research from being performed utilizing better technology abroad.

74) The International Covenant on Economic, Social, and Cultural Rights recognizes the necessity for international collaboration for scientific advancement in Article 15.4, which states “[t]he States Parties to the present Covenant recognized the benefits to be derived from the encouragement and development of international contacts and co-operation in the scientific and cultural fields.”¹³² Additionally, Article 6.a of the International Declaration on Human Genetic Data states that:

*“it is ethically imperative that human genetic data and human proteomic data be collected, processed, used and stored on the basis of transparent and ethically acceptable procedures. States should endeavor to involve the society at large in the decision-making process concerning broad policies for the collection, processing, use and storage of human genetic data and human proteomic data and the evaluation of their management, in particular in the case of population-based genomic studies. This decision-making process, which may benefit from international experience, should ensure the free expression of various viewpoints.”*¹³³

75) In this declaration, UNESCO recognizes the need to include society at large and the need for international collaboration in population genomic studies, and instructs States to include opportunities for international research within the regulations for population genomic research studies.

76) Finally, Article 14.4 of the Protocol of San Salvador recognizes the importance of international cooperation and its benefits on scientific research and states:

¹²⁹ [Ley General de Salud [LGS], Artículo 100, *Diario Oficial de la Federación [DOF]*, DOF 14-07-2008 (Mex.)

¹³⁰ Código Penal Federal [CPF], Artículo 320, *Diario Oficial de la Federación [DOF]*, 18-02-1997 (Mex.)

¹³¹ Hardy, *supra* note 46, at 24.

¹³² CESCR, *supra* note 4, at Art. 15.4

¹³³ International Declaration on Human Genetic Data, *supra* note 119, at Arts. 4 and 6.a. *emphasis added*.

“[t]he States Parties to this Protocol recognize the benefits to be derived from the encouragement and development of international cooperation and relations in the fields of science, arts and culture, and accordingly agree to foster greater international cooperation in these fields.”¹³⁴

77) Mexico’s Genomic Sovereignty Amendments limit international collaboration and, instead, prioritize a non-existent nationalist bio-economy and fear of foreign pharmaceutical patenting the “Mexican Genome” over any breakthroughs in genomic medicine that are to be gained from international cooperation in population genomic research studies. An examination of the legislative history demonstrates that, although the legislature had an intent to maintain both national and international collaboration in genomic medicine, the legislature also expressed fear over foreign involvement in the development of Mexican Genomic medicine. Translated into English, the legislative history states

“The above illustrates the great importance of strictly regulating the management of genomic information of Mexicans, while stimulating international scientific collaborations, does not expose the population to human, economic, or other abuses of the Mexican population.”¹³⁵

78) Again, Article 461 imposes a significant prison sentence on scientists who transfer samples that could be used in population genomic research projects out of the country.¹³⁶ This Article effectively discourages scientists from attempting to bring samples to nearby countries, including the United States, which has a significant Mexican diasporic population, to collaborate and find solutions and patterns between the two countries. Instead, this encourages scientists to ignore these populations and focus their research internally without consulting with other foreign research institutions.

79) Articles 100 and 317 require that all research projects performed on the Mexican Genome receive approval and a permit from the Mexican Ministry of Health and a Mexican research institution, and be performed in approved facilities.¹³⁷ Although the Mexican Government intended these provisions to benefit Mexican scientists

¹³⁴ Protocol of San Salvador, *supra* note 115, at Arts. 14.1.b. and 14.4.

¹³⁵ Ley General de Salud [LGS], Exposición de Motivos, par. 7, *Diario Oficial de la Federación [DOF]*, DOF 14-07-2008 (Mex.).

¹³⁶ Ley General de Salud [LGS], Artículo 461, *Diario Oficial de la Federación [DOF]*, DOF 14-07-2008 (Mex.).

¹³⁷ Translated into English, Article 100 provides: “The research on human beings will be carried out according to the following bases: V it may only be carried out by healthcare professionals in medical institutions acting under the supervision of competent health authorities. The realization of genomic populations studies should form a part of a research project. Article 317 of the Genomic Sovereignty Amendments states “the transfer outside the national territory of human tissues referred to in Article 375 section V of this law that may be a source of genetic material (deoxyribonucleic acid) and whose purpose is to carryout genomic population studies will be subject to:

- I. To form part of a research project approved by a Mexican research institution and in accordance with what is established in Article 100 of the Law, the Regulations of the General Law of Health in the Field of Research and other applicable dissipations, and
- II. To obtain the permit referred to in article 375 of this law
- III. For the purposes of this Law, a population genomic study is defined as the purpose of the analysis of one or more of the genetic marker in individuals... to describe the genomic structure of a

and pharmaceutical companies, by preventing foreign scientists with better technology from studying the Mexican Genome, this slows the development of genomic medical treatments and prevents the Mexican people from accessing a cheaper and more effective form of healthcare.

80) Additionally, INMEGEN's willingness to participate in international population genomic data sharing through the Global Alliance for Genomics and Health along with other foreign research institutions indicates that scientists recognize a need for international collaboration and the potential for medical development.¹³⁸ Unfortunately, until the Genomic Sovereignty Amendments are changed or abolished, INMEGEN's participation in these type of organizations will be limited.

E. The Genomic Sovereignty Amendments Violate Mexico's Obligation to Guarantee the Right to Health (CESCR, Art. 12)

81) The Genomic Sovereignty Amendments also violate the right to health as established in the Covenant and the Protocol of San Salvador. Article 12.1 of the Covenant states "[t]he States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health."¹³⁹ Additionally, Articles 12.2.c and 12.2.d guarantee the State take all steps necessary to achieve both "the prevention, treatment and control of epidemic, endemic, occupational and other diseases" and "the creation of conditions which would assure to all medical service and medical attention in the event of sickness."¹⁴⁰ Article 10 also establishes obligations under a right to health, and provides in Article 10.2.d: "In order to ensure the exercise of the right to health, the States Parties agree to recognize health as a public good and, particularly, to adopt the following measures to ensure that right [including the] prevention and treatment of endemic, occupational and other diseases."¹⁴¹ Since Mexico is bound by the Covenant, Mexico is obligated to take necessary steps to give its people the highest attainable level of health and not take any direct action to impede access to medical breakthroughs or healthcare.

82) In General Comment 14, this Honorable Committee established a four-part framework for the State's obligations with respect to the right to health: "availability," "accessibility," "acceptability," and "quality."¹⁴² "Availability" entails "functioning public health-care facilities, goods and services, as well as programs, have to be in sufficient quantity within the State party." "Accessibility" has four dimensions: "non-discrimination"

specific...population, identify an ethnic group or identify genes associated to a specific feature, a disease, or the reactions to drugs."

¹³⁸ Global Alliance for Genomics & Health, *Constitution of the Global Alliance for Genomics and Health*, *supra* note 98.

¹³⁹ CESCR, *supra* note 4, at Art. 12.

¹⁴⁰ *Ibid.*

¹⁴¹ Protocol of San Salvador, *supra* note 15, at Art. 10.

¹⁴² United Nations Committee on Economic, Social and Cultural Rights, *supra* note 10, at par. 12.

(“health facilities, goods and services must be accessible to all... without any discrimination on any of the prohibited grounds”), “physical accessibility,” “economic accessibility,” and “information accessibility” (“the right to seek, receive and impart information and ideas concerning health issues”). “Acceptability” requires that “[a]ll health facilities, goods and services must be respectful of medical ethics and culturally appropriate... [and] designed to respect confidentiality and improve the health status of those concerned.” Finally, “quality” requires that “[h]ealth facilities, goods and services must also be scientifically and medically appropriate and of good quality.”

83) The Genomic Sovereignty Amendments violate the right to health in all of its dimensions. Since “availability” requires sufficient quantity of health-care services and programs, the changes to Articles 100 and 317 or the Ministry of Health’s requirement that population genetic researchers receive government approval before beginning projects limits the number of projects performed and, thereby, limits results. Further, the threat of a prison sentence for transferring material that could be used in population genomic studies as discussed in Article 461 discourages Mexican scientists from working with foreign scientists and research institutions and also results in limited medical development and limits availability to Mexicans.

84) By preventing its citizens from benefiting from genomic medicine as soon as they would without hindrances on genomic research, Mexico violates the right of its citizens to enjoy the highest attainable standard of physical and mental health. Additionally, by limiting the number of projects and preventing Mexican scientists from collaborating abroad, the Genomic Sovereignty Amendments restrict information accessibility because they prevent the seeking of information and ideas dealing with genomic medicine.

85) The Genomic Sovereignty Amendments also create an unacceptable genomic healthcare environment. The limit on the number of projects and the inability of scientists to collaborate with other scientists does not respect the importance of different cultures and the role this plays in genomic medicine especially in analyzing and comparing results across populations. Additionally, the Amendments are not designed to create the highest quality of health through genomic medicine, but rather to foster a successful bio-economy and genomic pharmaceutical industry within Mexico. To create an environment to focus on the highest standards of health through genomic medicine, Mexico should amend the current Genomic Sovereignty Amendments to allow for international collaboration and encourage an increase in the number of population genomic research studies to glean more accurate results faster.

86) Finally, Mexico’s genomic medicine is not of sufficient quality. The Genomic Sovereignty Amendments limit sample sizes by not including diasporic populations, which skews results. Additionally, by not working together with scientists abroad, Mexican scientists and healthcare developers are not aware of the global context of population genomic research, which could indicate geographic patterns that would streamline development and

eliminate redundant research for Mexican scientists. By passing the Genomic Sovereignty Amendments, Mexico sacrificed developing the highest level of genomic healthcare for possibly invigorating a new economic sector, a gambit that, as of today, has not paid off.

87) Large-scale population genomic research projects lead to medical breakthroughs and open the door to more effective and cheaper treatments for diseases. Therefore, any impediment on this type of research will not only slow the progress but also limit the quality and accuracy of results. The Genomic Sovereignty Amendments delay the beginning of research projects, limit Mexican large-scale population genomic research projects to utilize only samples existing in Mexico, and impose harsh sanctions for transferring biological samples that impede international scientific cooperation. The Genomic Sovereignty Amendments prevent IMEGEN from sharing results of genomic research internationally despite its willingness to do so, and the fact that a large part of Mexico's "national genome" is to be found outside of Mexico's borders means that populations in Mexico may not benefit from studies based on accurate samples. As other nations progress scientifically at a quicker speed since they have less restriction on research, Mexico will lag behind and its people will suffer because their healthcare will be more expensive and less efficient than healthcare in other countries.

F. The Genomic Sovereignty Amendments Violate the Right to Work (CESCR, Art. 6.1)

88) The Covenant, the Universal Declaration of Human Rights, and the Protocol of San Salvador all include a right to work. Article 6.1 of the Covenant provides "[t]he States Parties to the present Covenant recognize a right to work, which includes the right of everyone to the opportunity to gain his living by work which he freely chooses or accepts, and will take appropriate steps to safeguard this right." Article 6.2 states that:

*"[t]he steps to be taken by a State Party to the present Covenant to achieve the full realization of this right shall include technical and vocational guidance and training programs, policies and techniques to achieve steady economic, social, and cultural development and full and protective employment under conditions safeguarding fundamental political and economic freedoms to the individual."*¹⁴³

89) The Universal Declaration on Human Rights also includes a right to work. Article 23.1 states that "[e]veryone has the right to work, to free choice of employment, to just and favorable conditions of work and to protection against unemployment."¹⁴⁴

¹⁴³ CESCR, *supra* note 4, at Art. 2.2.

¹⁴⁴ Universal Declaration of Human Rights, *supra* note 114, at Art. 23.1.

90) Thus, both the Covenant and Universal Declaration require that Mexico provide adequate opportunity for individuals to find safe and just employment. The Protocol of San Salvador further develops the right to work in Article 7.b which states that:

“[t]he States Parties to this Protocol recognize that the right to work Presupposes that everyone shall enjoy that right under just, equitable, and satisfactory conditions, which the States Parties undertake to guarantee to their internal legislation, particularly with respect to ... [t]he right of every worker to follow his vocation and to devote himself to the activity that best fulfils his expectations...”¹⁴⁵

91) Mexico does not respect, or refrain from interfering with, the scientists’ right to work. Article 461, which imposes prison time and lost wages for transferring genetic data out of Mexico, prevents scientists from collaborating with foreign researchers, which is a necessary component of population genomic research. The threat of harsh prison sentences on scientists who transfer samples outside of Mexico prevents them from doing their job. Articles 100 and 317, which require scientists to seek approval from the Ministry of Health before beginning any population genomic research study, force scientists to jump through superfluous hoops to perform their desired research. This interferes with their ability to do their job and to fulfill the expectations of their vocation.

92) In passing the Genomic Sovereignty Amendments, the Mexican government sacrificed the ability of Mexican genomic scientists to be on the cutting-edge of genomic discoveries and scientific breakthroughs in order to develop a potential Mexican bio-economy (which has not yet come into fruition). Therefore, Mexico is preventing these scientists from reaching their full potential and performing their projects thoroughly to benefit another hypothetical industry, and this violates the right of genomic scientists to work.

G. Mexico’s Genomic Sovereignty Amendments Violate the Overall Duty to Achieve Progressively Full Realization of the Rights (CESCR, Art. 2.1) and the Prohibition of Non-Discrimination (CESCR, Art. 2.2; UDHR, Art. 2 and 7)

93) Finally, Mexico’s Genomic Sovereignty Amendments violate two key overall obligations States party to the Covenant have: the duty to achieve progressively the full realization of all rights protected in the Covenant and the duty not to discriminate.

¹⁴⁵ Protocol of San Salvador, *supra* note 115, at Art. 7.b.

1. Mexico's Genomic Sovereignty Amendments Are Retrogressive and Therefore Violate the Obligation to Achieve Progressively Full Realization of the Rights (CESCR, Art. 2.1)

94) Article 2.1 of the Covenant states

“Each State Party to the Present Covenant undertakes to take steps, individually and through international assistance and cooperation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures.”¹⁴⁶

95) Similar to the International Covenant on Economic, Social, and Cultural Rights, the Protocol of San Salvador also requires progressive implementation. Article 2 provides:

“[i]f the exercise of the rights set forth in this Protocol is not already guaranteed by legislative or other provisions, the States Parties undertake to adopt, in accordance with their constitutional processes and the provisions of this Protocol, such legislative or other measures as may be necessary for making those rights a reality.”¹⁴⁷

96) This Honorable Committee recognized that automatic full realization of the rights enshrined in the Covenant may not be possible, but explained in paragraph nine of General Comment 3 (“The Nature of State Parties’ Obligations”) that:

“...any deliberative retrogressive measures in that regard would require the most careful consideration and would need to be fully justified by reference to the totality of rights provided for in the Covenant and in the context of the full use of the maximum available resources.”¹⁴⁸

97) Economic, social, and cultural rights must be implemented progressively rather than automatically because they typically require more infrastructure and government oversight than other international human rights. However, as discussed in General Comment 3, progressive implementation also comes with a requirement that there is no retrogressive movement in respect to human rights implementation, and States must constantly move forward while utilizing maximum available resources.

¹⁴⁶ CESCR, *supra* note 4, at Art. 2.1.

¹⁴⁷ Protocol of San Salvador, *supra* note 115, at Art. 2.

¹⁴⁸ United Nations Committee on Economic, Social and Cultural Rights, *supra* note 40, at par. 9.

98) Here, Mexico surpassed its obligation in 2004 in its unprecedented creation of INMEGEN and nationalizing genomic research. However, by passing the Genomic Sovereignty Amendments in 2008, Mexico limited the potential of INMEGEN and its ability to collaborate with other research institutions and limited the number of projects genomic scientists could perform. Therefore, this act is retrogressive and violates the requirement to implement rights progressively.

2. The Genomic Sovereignty Amendments Violate the Duty not to Discriminate (CESCR, Art. 2.2; UDHR, Art. 2 and 7)

99) The International Covenant on Economic, Social, and Cultural Rights, the Universal Declaration of Human Rights, the Convention on the Elimination of Racial Discrimination, and the Protocol of San Salvador all require Mexico to fulfill its international obligations without discriminating based on protected class, including national or social origin.

100) The Covenant provides, in Article 2.2, that “[t]he State Parties to the present Covenant will be exercised without discrimination of any kind as to race, color, sex, language, religion, political or other opinion, *national or social origin*, property, birth or other status.”¹⁴⁹

101) The Universal Declaration of Human Rights states in Article 2 that:

*“[e]veryone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status. Furthermore, no distinction shall be made on the basis of the political, jurisdictional or international status of the country or territory to which a person belongs, whether it be independent, trust, non-governing or under any other limitation of sovereignty.”*¹⁵⁰

102) Further, Article 7 provides that “[a]ll are equal before the law and are entitled without any discrimination to equal protection against any discrimination in violation of this Declaration and against any incitement to such discrimination.”¹⁵¹

103) The Protocol of San Salvador states in Article 3:

¹⁴⁹ CESCR, *supra* note 4, at Art. 2.2.

¹⁵⁰ Universal Declaration of Human Rights, *supra* note 114, at Art. 2. *Emphasis added.*

¹⁵¹ *Ibid.*, at Art. 7.

“[t]he State Parties to this Protocol undertake to guarantee the exercise of the rights set forth herein without discrimination of any kind for reasons related to race, color, sex, language, religion, political or other opinions, national or social origin, economic status, birth or any other social condition.”¹⁵²

104) Mexico’s obligation to respect, protect, and fulfill human rights without discrimination also stems from the Convention on the Elimination of Racial Discrimination.¹⁵³ First, Article 1 requires State parties not to distinguish between citizen and non-citizen in the application of human rights. Then, paragraph 1 of Article 1 states:

“[i]n this Convention, the term ‘racial discrimination’ shall mean any distinction, exclusion, restriction or preference based on race, color, descent, or national or ethnic origin which has the purpose or effect of nullifying or impairing the recognition, enjoyment or exercise, on an equal footing, of human rights and fundamental freedoms in the political, economic, social, cultural or any other field of public life.”

105) Article 1.2 provides that “[t]his Convention shall not apply to distinctions, exclusions, restrictions or preferences made by a State Party to this Convention between citizens and non-citizens.”¹⁵⁴

106) The Convention also requires eliminating national policies that encourage racial discrimination. Article 2.1.c provides:

“State Parties condemn racial discrimination and undertake to pursue by all appropriate means and without delay a policy of eliminating racial discrimination in all its forms and promoting understanding among all races, and, to this end ... [e]ach State Party shall take effective measures to review governmental, national, and local policies, and to amend, rescind or nullify any laws and regulations which have the effect of creating or perpetuating racial discrimination wherever it exists.”¹⁵⁵

107) Additionally, the Convention requires non-discrimination in the application of all rights. Article 5.e.iv provides:

“In compliance with the fundamental obligations laid down in Article 2 of this Convention, States Parties undertake to prohibit and to eliminate racial discrimination in all its forms and to guarantee the right of everyone, without distinction as to race, color, or national or ethnic origin, to equality

¹⁵² Protocol of San Salvador, *supra* note 115 at Art. 3. *emphasis added*

¹⁵³ United Nations Covenant on the Elimination of Racial Discrimination, Jan. 4, 1969, 5 I.L.M. 350. Mexico ratified this covenant in 1975, available at <<http://www.ohchr.org/EN/ProfessionalInterest/Pages/CERD.aspx>> (last visited Jan. 24, 2017).

¹⁵⁴ *Ibid.*, at Arts. 1.1 and 1.2.

¹⁵⁵ *Ibid.*, at Art. 2.1.c.

before the law, notably in the enjoyment of the following rights ... economic, social, and cultural rights in particular: ... [t]he right to public health, medical care, social security and social services.”¹⁵⁶

108) Mexico’s Genomic Sovereignty Amendments discriminate against Mexican diasporic populations, meaning those of Mexican descent who reside outside of Mexico. Specifically, the changes to Article 461, which impose lengthy prison sentences on scientists who transfer potential samples that could be used in a population genomic study outside of Mexico, and Articles 100 and 317, which require a permit from the Ministry of Health to perform population genomic projects in Mexico, essentially prohibit Mexican scientists from collaborating with scientists in foreign countries (including those which may have large Mexican diasporic populations) or including diasporic population genetic samples in domestic projects. It denies diasporic Mexicans access to any genomic healthcare developments made in Mexico and prevents scientists in their new country from accessing results determined from population genomic studies performed in Mexico.

109) The largest samples of Mexican genomic data are located in blood banks at Oxford and Harvard Universities.¹⁵⁷ Also, considering large populations of Mexicans live outside of Mexico, and INMEGEN’s inability to work on research internationally, populations in Mexico may not benefit from studies due to inaccurate samples, and diasporic populations may not receive as efficient or cost-effective healthcare as their peers back in the home-country, resulting in a violation of Article 12 (i.e., the right to the highest attainable standards of physical and mental health) and Article 15.2 (i.e., the right to benefit from scientific progress).

V) RECOMMENDATIONS

110) In conclusion, by passing the Genomic Sovereignty Amendments in 2008, Mexico violated many of its human rights obligations imposed by the Covenant as well as other international instruments including the Universal Declaration on Human Rights, the Universal Declaration on the Human Genome and Human Rights, the International Declaration on Human Genetic Data, the Protocol of San Salvador, and the Covenant on the Elimination of Racial Discrimination. Specifically, the Genomic Sovereignty Amendments violate the right to science because they prevent international collaboration, deny the Mexican people the right to benefit from scientific progress, and impose superfluous restrictions on scientists. The Amendments also violate the right to health and the right to work. Finally, the Amendments violate the Covenant’s requirement for progressive implementation because they are retrogressive policies that violate Mexico’s human rights obligations and the right to non-discrimination because they exclude diasporic populations.

¹⁵⁶ *Ibid.*, at Art. 5.e.iv.

¹⁵⁷ Schwartz-Marin & Arellano, *supra* note 74, at 8.

111) As the Amendments currently stand, they sacrifice human rights for a misplaced claim over sovereign resources and concerns over bio-piracy. Although it seems Mexico has not yet enforced the provisions of the Genomic Sovereignty Amendments, its policies still violate its obligations under the Covenant and several other international legal instruments.¹⁵⁸ Actually, the fact that Mexico has not yet enforced the Genomic Sovereignty Amendments signals the Mexican legislature is aware of the fact that the Amendments are problematic, if not deeply flawed.

112) Therefore, we urge the Committee to include the following questions in its List of Issues:

CESCR, Art. 2.1 (Duty to Achieve Progressively Full Realization of the Rights Protected in the Covenant)

- Please, explain how the addition of the Genomic Sovereignty Amendments to the General Health Law (*Ley General de Salud*) in 2008 is a step forward toward the progressive, full realization of the rights protected in the Covenant.

CESCR, Art. 2.2 (Prohibition of Discrimination)

- Please, indicate what steps the State has taken to ensure the Genomic Sovereignty Amendments do not violate the prohibition of discrimination, particularly with regard to national origin and country of residence.
- Please, indicate what steps the State has taken to ensure that the population genomic studies authorized under the Genomic Sovereignty Amendments include diasporic populations (Mexicans, or persons of Mexican descent living abroad) whenever scientifically appropriate.
- Please, indicate what steps the State has taken to ensure diasporic populations enjoy the benefits of population genomic studies performed in the State.

CESCR, Art. 6.1 (Right to Work)

- Please, indicate what steps the State has taken to ensure the Genomic Sovereignty Amendments do not violate the right of scientists to work and fulfill the functions of their vocation.

CESCR, Art. 12 (Right to Health)

¹⁵⁸ Since States have an obligation to prevent human rights violations simply having a policy that would encourage or could create human rights violations is considered a violation of its own. Rep. of the Human Rights Council to the G.A. in its Thirtieth Session, *The Role of Prevention in the Promotion and Protection in Human Rights*, U.N. Doc. A/HRC/30/20 (2015).

- Please, indicate what steps the State has taken to ensure the Genomic Sovereignty Amendments promote, protect and fulfill everyone's right (both inside and outside of the State) to enjoy the highest attainable standard of physical and mental health.

CESCR, Art. 15.1.b (Right to Benefit from Scientific Progress)

- Please, indicate what steps the State has taken to ensure benefits from advances in biology, genetics and medicine, deriving from the study of the human genome, are made available to all, with due regard for the dignity and human rights of each individual, both in Mexico and abroad.
- Please, indicate how many applications for a permit to carry out population genomic studies the State has received since the enactment of the Genomic Sovereignty Amendments in 2008. How many have been approved by State agencies? How many of those approved projects involved foreign scientists and institutions? How many have been denied? How many of those projects denied involved foreign scientists and institutions?
- Please, indicate what steps the State has taken to involve the Mexican society at large in the decision-making process which lead to the adoption of the Genomic Sovereignty Amendments.

CESCR, Art. 15.2 (Duty to Take Steps Necessary for the Conservation, Development, and Diffusion of Science)

- Please, indicate what steps the State has taken to create the intellectual and material conditions favorable to the freedom to conduct research on the human genome.
- Please, indicate what steps the State has taken to make scientific literature, data, samples and materials resulting from or necessary for population genomic studies accessible to both the public and to scientists, domestically and internationally.
- Please, indicate what steps the State has taken to facilitate large-scale population genomic research, and create opportunities for similar research projects.
- Please, indicate in how many agreements INMEGEN has entered into with foreign institutions to date. Please, provide information on the outcomes of these agreements.
- Please, describe the requirements to obtain approval for a population genomic study under Article 375 of the Genomic Sovereignty Amendments.

CESCR, Art. 15.3 (Duty to Respect the Freedom Indispensable for Scientific Research)

- Please, indicate what steps the State has taken to respect the freedom indispensable for scientific research and creative activity in the field of population genomic studies.
- Please, indicate how many persons have been sanctioned to date under Article 461 and Article 317 of the Genomic Sovereignty Amendments. Please, indicate also who they are and what were they sanctioned for.
- Please, indicate whether the State intends to mitigate sanctions for violations of the Genomic Sovereignty Amendment and/or replace criminal sanctions with administrative ones.

CESCR, Art. 15.4 (Duty to Encourage and Develop International Contacts and Co-operation in the Scientific and Cultural Fields).

- Please, indicate what steps the State has taken to encourage and develop international contacts and cooperation between Mexican scientists and institutions and foreign ones in the field of population genomic research.
- Please, indicate what steps the State has taken to encourage foreign and international research organizations to carry out population genomic studies in Mexico.

TWO: MEXICO AND ABORTION

I) INTRODUCTION

113) The right to benefit from scientific progress includes the right to benefit from scientific procedures and methods that help improve health and safety, including controlled, medical abortion procedures. However, there has been long-standing cultural and institutional opposition to abortion in Mexico, and, in several states in Mexico, the law has gone so far as to criminalize the procedure. Criminalization notwithstanding, the reality is that some women will undergo an abortion, and the illegality of it only forces them to turn to unsafe methods. Those who do make the difficult decision to terminate their pregnancy should not be punished for their personal decision about their body, and those who truly had a natural miscarriage should not live in fear that they will be accused of intentionally ending the pregnancy and be prosecuted. Furthermore, doctors who help women by performing abortions should not be punished for using and sharing their medical knowledge and expertise. Access to legal and safe abortion procedures falls within the rights Mexico has guaranteed to its citizens under the Covenant of Economic, Social, and Cultural Rights. However, for every step forward in guaranteeing this right, Mexico takes two steps backward.

II) BACKGROUND

114) There are many reasons why women make the difficult decision to have an abortion. Especially for adolescent girls, it can be dangerous to carry a pregnancy to full term. In fact, the risk of death from abortion through the middle of the second trimester is lower than the risk of death in childbirth.¹⁵⁹ When pregnancy is a result of rape, the woman may not want a reminder of the horrible events that took place. Women may not be financially stable enough to feed and take care of a baby. Women may have their own health problems that make pregnancy dangerous. They may discover the fetus has crippling developmental abnormalities. Whatever the reason, the woman should be in charge of her decision, without the influences of the government.

115) Scholars estimate that up to one million pregnancies (30 percent of total pregnancies) end in abortion in Mexico each year.¹⁶⁰ Yet, in Mexico, there has been some level of criminalization of abortion since 1931.¹⁶¹ When Mexico's abortion laws are compared with those of other countries worldwide, Mexico is better than some states but not as good as many. There are six countries worldwide that criminalize abortion under all circumstances:

¹⁵⁹ Rachel N. Pine, *Achieving Public Health Objectives through Family Planning Services*, 1 Reproductive Health Matters 2 (November 1993) at 79, available at <[http://www.rhm-elsevier.com/article/0968-8080\(93\)90010-Q/abstract](http://www.rhm-elsevier.com/article/0968-8080(93)90010-Q/abstract)> (last visited Jan. 26, 2017).

¹⁶⁰ Human Rights Watch, *The Second Assault: Obstructing Access to Legal Abortion After Rape in Mexico*, Volume 18 No. 1(B), March 2006, at 27 available at <<https://www.hrw.org/report/2006/03/06/mexico-second-assault/obstructing-access-legal-abortion-after-rape-mexico>> (last visited Jan. 26, 2017).

¹⁶¹ *Ibid.*

Chile, Dominican Republic, El Salvador, Nicaragua, the Holy See, and Malta.¹⁶² Indeed, Latin America is known for having stricter abortion laws. In that respect, Mexico is not necessarily an outlier. However, while the regional and global trends move toward decriminalization and liberalization of abortion laws, Mexico is moving in the opposite direction.

III) MEXICO AND ABORTION

116) In some states in Mexico, there have been active efforts to decriminalize abortion. In Baja California Sur, for example, the law was reformed in 2005 to allow for legal abortion in cases where the woman's life is in danger and after rape, and penalties for abortions were reduced. In 2007, abortion was decriminalized entirely in the Federal District (Mexico City).¹⁶³ However, there has been significant backlash both at the level of the Federal Government and of the governments of Mexico's federated states to undo what progress has been made toward decriminalization and prevent any further steps from being taken in that direction. For example, after the 2007 reform, 17 of the 31 Mexican states amended their constitutions to "protect life from the moment of conception" in order to prevent any attempts at decriminalization in those areas.¹⁶⁴ Also, in January 2016, the Mexican Supreme Court declared that decriminalization efforts are unconstitutional, effectively halting any progressive reforms in line with an effort to fully comply with international obligations.¹⁶⁵

117) There are 31 States and one Federal District in the United Mexican States, and each regulates abortion differently.¹⁶⁶ This "confusing patchwork of legislation" has made it difficult for women to know, understand, and advocate for their rights, and has created a vacuum in which fear and misinformation have directed decision-making.¹⁶⁷ For example, most states permit abortions when a woman's life is in danger, but three states do not.¹⁶⁸ Fourteen states allow abortion if there are severe fetal deformities, but eighteen states do not.¹⁶⁹

¹⁶² United Nations Dep't of Econ. and Soc. Affairs, Population Division, *Abortion Policies and Reproductive Health Around the World*, U.N. Doc. ST/ESA/SER.A/343, at 5 (2014) available at <<http://www.un.org/en/development/desa/population/publications/pdf/policy/AbortionPoliciesReproductiveHealth.pdf>> (last visited Jan. 26, 2017).

¹⁶³ Mexico, Federal District, *Decree Reforming the Federal District Penal Code and Amending the Federal District Health Law*. Official Gazette of the Federal District, (70): 2-3. April 26, 2007.

¹⁶⁴ *Ibid.*

¹⁶⁵ Univision y Agencias, *Suprema corte de México rechaza un proyecto para despenalizar el aborto*, Univision Noticias, par. 2, Jun. 30 2016, available at <<http://www.univision.com/noticias/abortos/suprema-corte-de-mexico-rechaza-un-proyecto-para-despenalizar-el-aborto>> (last visited Jan. 26, 2017).

¹⁶⁶ Marta Llamas, *La Despenalización del Aborto en México*, Nueva Sociedad No. 220, Mar.-Apr. 2009, available at <<http://genomexico.colmex.mx/textos/La%20despenalizaci%C3%B3n%20del%20aborto%20en%20M%C3%A9xico.pdf>> (last visited Jan. 26, 2017).

¹⁶⁷ Kari Paul, *The Criminalization of Abortion Continues in Mexico*, Ms. Magazine, par. 7, May 2013, available at <<http://msmagazine.com/blog/2013/05/30/the-criminalization-of-abortion-continues-in-mexico/>> (last visited Jan. 26, 2017).

¹⁶⁸ *Ibid.*, at par. 9.

¹⁶⁹ *Ibid.*

118) Not only is the law different, but punishments vary widely by jurisdiction: from fines and community service in Baja California Sur, to over 25 years in prison in Guerrero.¹⁷⁰ In many states, such as Aguascalientes, a woman who undergoes an abortion risks both jail time and fines.¹⁷¹ These laws are enforced. Between 2009 and 2011, at least 679 women were reported or sentenced for the crime of abortion.¹⁷² One hundred twenty-seven women have been convicted and done time in prison.¹⁷³

119) One indigenous woman from the state of Guerrero was accused by her own family of intentionally aborting her baby and was convicted of homicide of a family member and sentenced to 27 years in prison.¹⁷⁴ She did not speak Spanish, and did not have an interpreter or effective counsel at her trial. She was eventually released after several years in prison through the help of a local non-governmental organization. Another woman went to a local hospital after experiencing severe pains, and found out she was pregnant. She asked to use the restroom where she delivered an undeveloped fetus involuntarily and suddenly before passing out. She was reported to law enforcement, and was charged with first-degree murder. A local organization intervened and got the charges dismissed, but not before she spent several months in prison awaiting trial.¹⁷⁵

120) In addition to affecting women who seek to have abortions and women who are improperly accused of having an abortion, the laws also negatively affect doctors who seek to aid them. A doctor could receive anywhere from one to eight years in prison for assisting a woman in having an abortion, and their license to practice medicine can be suspended anywhere from two to five years.¹⁷⁶

121) Even in those Mexican states where the legal framework exists to allow for legal abortion under various circumstances, women have tremendous barriers to overcome to access these services. First, many women are unaware that abortion is a legal option. Surveys show that almost half of the overall female population and 75% of the indigent indigenous women had no idea that legal abortion is sometimes a legal option.¹⁷⁷ Second, there is tremendous opposition from many state governments and an intentional lack of resources to aid those seeking an abortion. For example, in Jalisco, even when girls do go to seek help and ask for an abortion, state funded programs implement zealous techniques to change their minds, such as forcing them to watch anti-abortion

¹⁷⁰ Grupo de Información en Reproducción Elegida, *Women and Girls without Justice: Reproductive Rights in Mexico*, at 98-101 (2016), available at <<http://informe2015.gire.org.mx/en/#/Home>> (last visited Jan. 26, 2017).

¹⁷¹ *Ibid.*

¹⁷² *Ibid.*, at 105.

¹⁷³ Anayeli García Martínez, *Por abortar, sentencian a 127 mujeres en los últimos cinco años*, Proceso, par. 2, Apr. 22, 2013, available at <<http://www.proceso.com.mx/339789/por-abortar-sentencian-a-127-mujeres-en-los-ultimos-cinco-anos>> (last visited Jan. 26, 2017).

¹⁷⁴ Grupo de Información en Reproducción Elegida, *supra* note 171, at 112.

¹⁷⁵ *Ibid.*

¹⁷⁶ Human Rights Watch, *supra* note 160, at 18.

¹⁷⁷ *Ibid.*, at 62.

videotapes and undergo anti-abortion psychological counseling.¹⁷⁸ Third, undue delays in authorizing abortion procedures or allowing access to abortion procedures force women and girls to wait so long for an abortion that it is no longer a viable option.¹⁷⁹ Additionally, the overall influence of the “machismo” culture and the stigmatization surrounding anything having to do with the female reproductive system creates a suppressive environment in which women’s rights are not a priority.

122) Furthermore, the lack of information and timing limitations are exacerbated by the widespread stigma surrounding abortion and a general reluctance of doctors and organizations to have their name associated with the performance of abortion procedures. Fear of harsh consequences keeps doctors from being able to perform their duties. A doctor could receive anywhere from one to eight years in prison for assisting a woman in having an abortion, and their license to practice medicine can be suspended anywhere from two to five years.¹⁸⁰ When doctors have families of their own to support, this puts them in a tough position. A few doctors carry out covert procedures, performing abortions in a location other than the hospital they normally work in, with no paperwork and without admitting the women so that it cannot be traced.¹⁸¹ However, this is a less-than-ideal situation and, because of the secrecy, women often do not know where to go or how to find doctors who are willing to do this. Even where the law allows doctors to perform an abortion, surveys showed that as high as 33 percent of doctors did not know that the law allowed abortion in certain circumstances such as rape.¹⁸² Furthermore, where abortion is only allowed after rape, the woman must get authorization from the government for the abortion, and doctors are liable if they perform an abortion and later find out the authorization was not authentic.¹⁸³ Skepticism and risk discourages doctors from performing abortions even where the law permits it. Also, a significant number of doctors conscientiously object to performing abortions due to their own personal beliefs.¹⁸⁴ These factors combined do not leave many options for women in procuring an abortion.

123) These problems are particularly troubling in cases of rape. Women have a legal right to abortion after rape in all Mexican states, but the hurdles women must jump through in order to have access to the procedure make the practicality of having an abortion nearly impossible. First, the woman must report the rape. However, in Mexico, the under-reporting of crimes generally, and especially rape, is endemic. Studies suggest that the numbers of reported rapes that the government presents and the actual rates of sexual violence are severely mismatched.¹⁸⁵

¹⁷⁸ Human Rights Watch, *supra* note 160, at 3.

¹⁷⁹ *Ibid.*, at 48.

¹⁸⁰ *Ibid.*, at 82.

¹⁸¹ *Ibid.*, at 62.

¹⁸² *Ibid.*, at 38.

¹⁸³ *Ibid.*, at 61.

¹⁸⁴ *Ibid.*, at 59.

¹⁸⁵ *Ibid.*, at 11.

Experts estimate that 4 million women and girls were victims of sexual violence in 2003 alone.¹⁸⁶ Women fear that they will be blamed or stigmatized for being raped, or that no one will take them seriously. However, some women overcome these concerns if they find out they are pregnant as a result of the rape. Once the rape is reported, they then have to have someone from the prosecution's office actually file a case against the perpetrator, which they are often reluctant to do. Additionally, they may file a charge other than rape, if in a jurisdiction where that would preclude the victim from obtaining a legal abortion. Once there is a case filed, the victim has to take it upon herself to ask the prosecutor for information about abortion and where to go to receive one. However, prosecutors often try to talk the woman out of having an abortion, or there are provisions in place to delay the process.¹⁸⁷ For example, in some states, prosecutors tell women they cannot access a legal abortion until a full investigation into the rape case has taken place, and in others they hold off until the trial has been completed.¹⁸⁸ Regardless, both of these processes take months, and by then it is too late for an abortion. Even if prosecutors cooperate and provide the victim with information and direct her where to go to get abortion services, the victims often do as they are told only to have the directors of those organizations and clinics direct them to another one who will refer them to someone else until the pregnancy has progressed past the point where it is safe and legal to perform an abortion. In the course of five years, only 1/3 of the women who filed cases were legally allowed to have abortions.¹⁸⁹

IV) MEXICO'S INTERNATIONAL OBLIGATIONS AND APPLICATION TO THE CRIMINALIZATION OF ABORTION

124) Ultimately, for the purposes of determining Mexico's obligations under the Covenant, it does not matter whether decriminalization efforts are deemed unconstitutional by the Mexican Supreme Court; criminalization of abortion is in violation of Mexico's obligations under the Covenant as well as a broad range of international legal instruments.

125) Human rights often intersect and overlap. In the context of abortion, the right to benefit from scientific progress intersects with many other rights which are also implicated in the analysis and policy development of abortion law, including: the right to health, the right to life, the right to freedom of religion, the right to non-discrimination, the right to privacy and reproductive autonomy, the right to physical integrity, the right to liberty, the right to information, and the right to be free from cruel, inhuman, or degrading treatment.¹⁹⁰

¹⁸⁶ Instituto Nacional de Estadística, Geografía e Informática, *Encuesta nacional sobre la dinámica de las relaciones en los Hogares 2003: Estados Unidos Mexicanos*, (2004).

¹⁸⁷ Human Rights Watch, *supra* note 160, at 12.

¹⁸⁸ *Ibid.*

¹⁸⁹ *Ibid.*

¹⁹⁰ See *supra* para. 12.

126) Besides the Covenant, these rights are protected in several other international agreements Mexico has ratified, including: the International Covenant on Civil and Political Rights (ICCPR); the Convention on the Elimination of Discrimination against Women (CEDAW); the Universal Declaration on Human Rights; the American Convention on Human Rights; the Additional Protocol to the American Convention on Human Rights in the area of Economic, Social, and Cultural Rights (Protocol of San Salvador); the American Declaration on the Rights and Duties of Man; the Declaration on the Elimination of All Forms of Intolerance and of Discrimination Based on Religion and Belief; the Inter-American Convention on the Prevention, Punishment, and Eradication of Violence Against Women; and the Convention against Torture and Other Cruel, Inhuman, or Degrading Treatment or Punishment.¹⁹¹ Mexico is bound by all of these international legal instruments.¹⁹² Although this Honorable Committee has jurisdiction only over the Covenant, the Covenant cannot be interpreted in clinical isolation from Mexico's other human rights obligations.

127) To repeat, Article 2 of the Covenant calls for the *progressive* implementation of rights, stating:

*"Each State Party to the present Covenant undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures."*¹⁹³

128) Decriminalization of abortion is an important first step in ensuring that Mexico complies with its international legal obligations. The actions taken by several states within Mexico to further restrict abortion rights and the recent Supreme Court ruling declaring decriminalization efforts unconstitutional have been regressive in

¹⁹¹ United Nations International Covenant on Civil and Political Rights ("ICCPR"), Mar. 23, 1976, 999 U.N.T.S. 171; United Nations Convention on the Elimination of Discrimination Against Women ("CEDAW"), Dec. 3, 1981, 1249 U.N.T.S. 13; the Universal Declaration on Human Rights, *supra* note 114; Organization of American States, American Convention on Human Rights, Nov. 22, 1969, O.A.S.T.S. No. 36, 1144 U.N.T.S. 123; Protocol of San Salvador, *supra* note 115; Organization of American States, American Declaration on the Rights and Duties of Man, O.A.S. Res., adopted by the Ninth International Conference of American States (1948), reprinted in Basic Documents Pertaining to Human Rights in the Inter-American System, OEA/Ser.L.V/II.82 doc.6 rev.1 at 17 (1992); G.A. Res. 36/55, Declaration on the Elimination of All Forms of Intolerance and of Discrimination Based on Religion or Belief (Nov. 25, 1981); Organization of American States, Convention on the Prevention, Punishment, and Eradication of Violence Against Women, Mar. 5, 1995, 33 I.L.M. 1534; United Nations Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment ("CAT") or Punishment, Jun. 26, 1987, 1465 U.N.T.S. 85.

¹⁹² Mexico ratified the ICCPR in 1981, CEDAW in 1981, and CAT in 1986, *information available at* <http://indicators.ohchr.org/> (last visited Jan. 26, 2017). Mexico ratified the American Convention on March 21, 1981, the Protocol of San Salvador on March 8, 1996, and the OAS Convention on the Prevention, Punishment and Eradication of Violence Against Women on June 19, 1998, *information available at* http://www.oas.org/dil/treaties_signatories_ratifications_member_states_mexico.htm (last visited Jan. 26, 2017).

¹⁹³ CESCR, *supra* note 4, at Art. 2.

terms of providing individuals with the rights they are guaranteed under international law, and are in direct violation of the Covenant.

129) States have an obligation to *respect, protect, and fulfill* all human rights.¹⁹⁴ The obligation to respect requires states to refrain from “interfering with the enjoyment of the right” through laws or policy; the obligation to protect means that states need to make sure there are no violations of this right; the obligation to fulfill calls on states to actively take measures to ensure the right can be realized by all of its people.¹⁹⁵

A. The Criminalization of Abortion Violates Mexico’s Obligation to Guarantee the Right to Benefit from Scientific Progress (CESCR Art.15.1.b).

130) Article 15.1.b of the Covenant guarantees everyone the right “to enjoy the benefits of scientific progress and its applications.”¹⁹⁶ Article 2 of the Covenant demands the progressive implementation of all of the rights the Covenant lays out,¹⁹⁷ and the United Nations Human Rights Committee, commenting on the similar Article 2 in the Covenant on Civil and Political Rights, has emphasized that all States must also *enable* the enjoyment of those rights.¹⁹⁸ Therefore, under the Covenant, Mexico has a duty not only to respect the right to science, but also to protect and fulfill it. Mexico must provide the legal framework allowing women to fully enjoy their right to benefit from scientific progress in the abortion context. However, the state’s obligations do not stop there: they must also enable enjoyment of those rights by allowing people to access the resources they need to enjoy them. Thus, not only must Mexico’s laws allow for women to benefit from the scientific methodologies and medical benefits of abortion, but the government must ensure that women can easily access safe abortion procedures so that they can enjoy their right to benefit from scientific progress.

131) By criminalizing abortion, Mexico is restricting its citizens’ rights to enjoy the benefits of safe, medical abortion procedures. Instead of allowing those who are set on having an abortion to enjoy the medical and scientific technologies that make the procedure safe, criminalization of the procedure is pushing it underground and out of sight into secret and unregulated arenas. A lack of information about the existence of safe, regulated abortion effectively precludes women from seeking the safe alternative and the benefits of a regulated, medical abortion, and those who do know that option are afraid to do it out of fear of severe punishment. Also, the prevalent reluctance of doctors to perform abortions due to fear of prosecution is in itself a major barrier to

¹⁹⁴ Donders, *supra* note 7, at 376.

¹⁹⁵ *Ibid.*

¹⁹⁶ CESCR, *supra* note 4, at Art. 15.1.b.

¹⁹⁷ *Ibid.*, at Art. 2.

¹⁹⁸ United Nations Human Rights Committee, *General Comment No. 3: Article Implementation at the National Level*, 1981, U.N. Doc. HRI/GEN/1/Rev.1, para. 1, available at <http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=INT%2fCCPR%2fGEC%2f6632&Lang=en> (last visited Jan. 27, 2017).

accessing abortions. Each time a doctor refers the woman to someone else who would be more willing to do it, the woman quickly approaches the time limitations for legal abortion, and this wild goose chase for a doctor willing to perform the abortion may prevent the woman from having the option to have it done safely.

B. The Criminalization of Abortion Violates Mexico's Obligation to Guarantee the Right to Health (CESCR, Art. 12.1).

132) Article 12.1 of CESCR recognizes “the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.”¹⁹⁹ States must take all necessary judicial, administrative, economic, and legislative measures to ensure protection of the right to health. In General Comment 14, this Honorable Committee established a four-part framework for the State's obligations in respect to the right to health: “availability,” “accessibility,” “acceptability,” and “quality.”²⁰⁰

133) The right to health is also guaranteed under Article 4 of the Mexican Constitution, which states in part that “every person has the right to health protection.”²⁰¹

134) Also, Article 10 of the Protocol of San Salvador states:

- “1. Everyone shall have the right to health, understood to mean the enjoyment of the highest level of physical, mental, and social well-being.*
- 2. In order to ensure the exercise of this right to health, the States Parties agree to recognize health as a public good and, particularly, to adopt the following measures to ensure that right:*
 - a. Primary health care, that is, essential health care made available to all individuals and families in the community;*
 - b. Extension of the benefits of health services to all individuals subject to the State's jurisdiction;*
 - c. Universal immunization against the principal infectious diseases;*
 - d. Education of the population on the prevention and treatment of health problems, and*
 - f. Satisfaction of the health needs of the highest risk groups and of those whose poverty makes them most vulnerable.”*²⁰²

and Article 12 of the Convention to Eliminate Discrimination Against Women (CEDAW) says:

¹⁹⁹ CESCR, *supra* note 4, at Art. 12.1.

²⁰⁰ United Nations Committee on Economic, Social, and Cultural Rights, *supra* note 10, at par. 12.

²⁰¹ Artículo 4 Constitución Política de los Estados Unidos Mexicanos states, in part: “Every person has the right to health protection.” Constitución Política de los Estados Unidos de Mexicanos, CP, art. 4, *Diario Oficial de la Federación [DOF]*, 05-02-1917, últimas reformas DOF 10-02-2014 (Mex).

²⁰² Protocol of San Salvador, *supra* note 115, at Art. 10.

“1. States Parties shall take all appropriate measures to eliminate discrimination against women in the field of health care in order to ensure, on a basis of equality of men and women, access to health care services, including those related to family planning.

2. Notwithstanding the provisions of paragraph 1 of this article, States Parties shall ensure to women appropriate services in connection with pregnancy, confinement and the post-natal period, granting free services where necessary, as well as adequate nutrition during pregnancy and lactation.”²⁰³

135) The United Nations Special Rapporteur on the Right to the Highest Attainable Standard of Health has urged states to take measures to ensure that public health systems have the training and resources necessary to make sure that where abortions are legal, they are safe and accessible.²⁰⁴

136) If women cannot access a safe abortion procedure due to a prohibitive legal framework, a lack of information of where to go, and a lack of doctors willing to perform the procedure, they turn to unsafe remedies to try to have an abortion anyway. Additionally, women are often afraid to seek medical treatment at hospitals when there is a botched abortion procedure, or even when there is a natural miscarriage and medical emergency in their pregnancy, for fear of prosecution. Illegal abortion is the fourth leading cause of maternal mortality.²⁰⁵ States with less restrictive abortion laws consistently show significantly lower maternal mortality rates than those with strict laws; as of 2011, the United Nations estimates that the maternal mortality rate in states with less restrictive abortion laws averages about 77 out of every 100,000 births, whereas the average rates in more restrictive countries nearly triples, averaging 223 out of 100,000 pregnancies.²⁰⁶ Thus, strict abortion laws put women at risk, and violate their right to health, or even their right to life.

C. The Criminalization of Abortion Violates Mexico’s Obligation to Guarantee the Right to Life (UDHR, Art. 3; CCPR, Art. 6)

137) The right to life is laid out in the Article 3 of the Universal Declaration of Human Rights and Article 6 of the International Covenant on Civil and Political Rights. At the regional level, it is protected under Article 4 of

²⁰³ Convention to Eliminate Discrimination Against Women, *supra* note 192 at Art. 12.

²⁰⁴ Paul Hunt, *The Right of Everyone to the Enjoyment of the Highest Attainable Standard of Physical and Mental Health: Report of the Special Rapporteur*, Paul Hunt, U.N. E/CN.4/2004/49, para. 30, February 16, 2004.

²⁰⁵ Human Rights Watch, *Punished for Abortion in Mexico*, 2009, available at <<https://www.hrw.org/video-photos/audio/2009/02/26/punished-abortion-mexico>> (last visited Jan. 27, 2017).

²⁰⁶ Leila Darabe, *Despite Being Largely Illegal, Abortion in Mexico is Far More Prevalent Than in the United States*, Guttmacher Institute News Release (Feb. 2, 2009), available at <<https://www.guttmacher.org/news-release/2009/despite-being-largely-illegal-abortion-mexico-far-more-prevalent-united-states>> (last visited Jan. 27, 2017).

the American Convention on Human Rights, and Article 1 of the American Declaration of Rights and Duties of Man.²⁰⁷

138) Article 6.1 of the International Covenant on Civil and Political Rights protects the right to life, stating: “Every human being has the inherent right to life.”²⁰⁸ This right can be violated when a woman’s life is put in jeopardy due to restrictive abortion laws.²⁰⁹ The idea that life is protected from the moment of conception has been specifically rejected by the Human Rights Committee and, under international law, the right to life does not extend to prenatal life.²¹⁰

139) Article 1 of the Universal Declaration of Human Rights states that “all human beings are born free and equal in dignity and rights.”²¹¹ The word “born” was included intentionally, and attempts to remove it from the text have failed; thus, rights are inherent from the moment of birth, but not sooner.²¹²

140) The Human Rights Committee has also held that forcing the continuation of an unwanted pregnancy inflicts severe mental and physical trauma on a pregnant woman and violates their right to be free from cruel, inhuman, or degrading treatment.²¹³ Indeed, if a woman’s life is at risk either through physical challenges or due to mental despair because of a pregnancy that they cannot legally terminate, the right to life is being violated.

D. The Criminalization of Abortion Violates Mexico’s Obligation to Guarantee the Right to Religious Freedom (CCPR, Art. 18.1).

141) The right to Religious Freedom is laid out in Article 18.1 of the Covenant on Civil and Political Rights, which states:

²⁰⁷ Universal Declaration on Human Rights, *supra* note 114, at Art. 3; ICCPR, *supra* note 192, at Art. 6; American Convention on Human Rights, *supra* note 192, at Art. 4; American Declaration, *supra* note 192, at Art. 1.

²⁰⁸ ICCPR, *supra* note 192, at Art. 6.1.

²⁰⁹ **Error! Main Document Only.** See e.g., Human Rights Committee, Concluding Observations to: Argentina, 14, U.N. Doc. CCRP/CO/70/ARG (2000); Bolivia, 22, U.N. Doc. CCPR/C/79/Add.74 (1997); Costa Rica, 11, U.N. Doc. CCPR/C/79/Add.107 (1999); Chile, 211, U.N. Doc. A/54/40 (1999), El Salvador, 14, U.N. Doc. CCPR/CO/78/SLV (2006); Ecuador, 11 U.N. Doc. CPR/C/79/Add.92 (1998); Guatemala, 19, U.N. Doc. CCPR/CO/72/GTM (2001); Honduras, 8, U.N. Doc. CCPR/C/HND/CO/1 (2006); Peru, 20, U.N. Doc. CCPR/CO/70/PER (2000); Venezuela, 19, U.N. Doc. CCPR/CO/71/VEN (2001).

²¹⁰ G.A. Res. 2200a (XXI), U.N. GAOR, 21st Sess., Supp. No. 16, U.N. Doc. A/6316 (1966), 999 U.N.T.S. 171 (entered into force Mar. 23, 1976).

²¹¹ Universal Declaration of Human Rights, *supra* note 114, at Art. 1.

²¹² U.N. GAOR 3rd Comm., 99th mtg., A/C.3/SR.99.

²¹³ *K.L. v. Peru*, Communication 1153/2003, Views, Human Rights Committee, U.N. Doc. CCPR/C/85/D/1153/2003 (2005); *L.M.R. v. Argentina*, Communication 1608/2007, Human Rights Committee, U.N. Doc. CCPR/C/101/D/1608/2007 (2011).

*“Everyone shall have the right to freedom of thought, conscience and religion. This right shall include freedom to have or to adopt a religion or belief of his choice, and freedom, either individually or in community with others and in public or private, to manifest his religion or belief in worship, observance, practice and teaching.”*²¹⁴

142) Additionally, Article 1.1 of the Declaration on the Elimination of All Forms of Intolerance and of Discrimination Based on Religion and Belief guarantees to everyone:

*“the right to freedom of thought, conscience and religion”, including the “freedom to have a religion or whatever beliefs of his choice, and freedom, either individually or in community with others and in public or private, to manifest his religion or belief in worship, observance, practice and teaching.”*²¹⁵

143) Article 2.1 makes clear:

*“No one shall be subject to discrimination by any State institution, group of persons, or person on grounds of religion or other beliefs.”*²¹⁶

144) In 2012, the Inter-American Court of Human Rights issued a landmark decision in *Artavia Murillo et al v. Costa Rica* in which it clarified that the right to life is compatible with women’s rights. The court recognized the need to balance rights of the embryo with rights of pregnant women, and ultimately concluded that “the regulatory trends in international law do not lead to the conclusion that the embryo should be treated in the same way as a person, or that it has a right to life.”²¹⁷ This has opened the door to further expansion of women’s rights, specifically with regard to access to legal abortion.

145) Catholicism has been a powerful force within Mexico, and a fundamental teaching of this religion is that life is sacred from the moment of conception. While pro-life beliefs are strongly held by many, the right to religious freedom protects individuals from having the beliefs of others dictate their choices and beliefs. Even religious leaders within the Catholic Church have emphasized the need to unwed personal ethical beliefs from the legal framework of a state, which would allow for the reconciliation of moral, religious opposition to abortion and decriminalization efforts.²¹⁸

²¹⁴ ICCPR, *supra* note 192, at Art. 18.1.

²¹⁵ Declaration on the Elimination of All Forms of Intolerance and of Discrimination Based on Religion and Belief, *supra* note 192, at Art. 1.1.

²¹⁶ *Ibid.*, at Art. 2.1.

²¹⁷ *Artavilla Murillo et al. (“Fecundación in Vitro”) v. Costa Rica*, Preliminary Objections, Merits, Reparations, and Costs, Judgment, Inter-Am. Ct. H.R. (ser. C) No. 257, par.. 253. (Nov. 28, 2012).

²¹⁸ Richard Hare, *Moral Thinking. Its Level, Method, and Point*, Oxford University Press, Oxford, 1982.

E. The Criminalization of Abortion Violates Mexico's Obligation to Guarantee the Right to Non-Discrimination (CESCR, Art. 2.2 and Art. 3).

146) Article 2.2 of the International Covenant on Economic, Social and Cultural Rights guarantees:

*"the rights enunciated in the present Covenant will be exercised without discrimination of any kind as to race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status."*²¹⁹

147) Article 3 specifically addresses women, and the obligation of States Parties to the Covenant:

*"to ensure the equal right of men and women to the enjoyment of all economic, social and cultural rights set forth in the present Covenant."*²²⁰

148) The right to non-discrimination is also outlined in Article 7 the Universal Declaration of Human Rights and Article 1 of the CEDAW. In the Americas, it is protected under Article 3 of the Protocol of San Salvador; and Article 6 of the Inter-American Convention on the Prevention, Punishment, and Eradication of Violence against Women. Also, both Article 7 of the Universal Declaration of Human Rights and Article 24 of the American Convention on Human Rights guarantee equality before the law and equal protection under the law.²²¹

²¹⁹ CESCR, *supra* note 4, at Art. 2.2.

²²⁰ *Ibid.*, at Art. 3.

²²¹ Universal Declaration of Human Rights, *supra* note 114, at Art. 7 states:

"All are equal before the law and are entitled without any discrimination to equal protection of the law. All are entitled to equal protection against any discrimination in violation of this Declaration and against any incitement to such discrimination."

The Convention on the Elimination of all Forms of Discrimination against Women, *supra* note 192, at Art. 1 states:

"For the purposes of the present Convention, the term "discrimination against women" shall mean any distinction, exclusion or restriction made on the basis of sex which has the effect or purpose of impairing or nullifying the recognition, enjoyment or exercise by women, irrespective of their marital status, on a basis of equality of men and women, of human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field."

The Protocol of San Salvador, *supra* note 115, at Art. 3 states:

"The State Parties to this Protocol undertake to guarantee the exercise of the rights set forth herein without discrimination of any kind for reasons related to race, color, sex, language, religion, political or other opinions, national or social origin, economic status, birth or any other social condition."

The Inter-American Convention on the Prevention, Punishment, and Eradication of Violence against Women, *supra* note 192, at Art. 6 states:

"The right of every woman to be free from violence includes, among others:

- a. the right to be free from all forms of discrimination; and
- b. the right of women to be valued and educated free from stereotyped patterns of behavior and social and cultural practices based on concepts of inferiority or subordination."

American Convention on Human Rights, Article 24 states:

"all persons are equal before the law. Consequently, they are entitled, without discrimination, to equal protection of the law."

149) The strict abortion laws in many Mexican States discriminate against women by particularly targeting and punishing only women. There is no such equivalent for males, especially for the male partners of women who have undergone abortions. Furthermore, not only is there discrimination against women in general, but also geographic and socioeconomic discrimination by having particularly harsh consequences on women in rural areas and women of lower socioeconomic status. Women with money to spare often overcome the abortion restrictions by traveling to other nearby countries with less restrictive laws, such as the United States, to have an abortion there. Within Mexico, metropolitan areas are much more likely to have clinics and resources for women, leaving poorer women in rural areas with no way to access these services. Since Mexico City decriminalized abortion in 2007, 73 percent of the women who took advantage of abortion services were from Mexico City, and only 23 percent had come from other parts of Mexico.²²² Thus, people who do not live in Mexico City and do not have easy access to the city really do not have access to legal abortion, and it is most the rural states that have doubled down in their efforts to prevent similar decriminalization efforts.²²³

F. The Criminalization of Abortion Violates Mexico's Obligation to Guarantee the Right to Privacy and Reproductive Autonomy (CEDAW, Art. 16.1.e).

150) Article 16.1.e of the Convention on the Elimination of Discrimination against Women guarantees men and women equal rights to “decide freely and responsibly on the number and spacing of their children and to have access to the information, education and means to enable them to exercise these rights.”²²⁴ Articles 11.2, 17.2 and 24 of the American Convention on Human Rights also address the right to privacy in family life.²²⁵

151) Pregnancy and parenthood (especially the decision about how many children to have and raise, and decisions about family) are intensely personal matters, and should be left up to the woman whose body, schedule, and finances have to accommodate the birth of a child. By criminalizing abortion, Mexico is essentially demanding that a woman add another child into the household. This is directly contradictory to the right of women to decide freely the spacing and number of their children.

²²² Paul, *supra* note 167.

²²³ *Ibid.*

²²⁴ CEDAW, *supra* note 192, at Art. 16.1.e. This article reads: “States Parties shall . . . ensure, on a basis of equality of men and women . . . (e) The same rights to decide freely and responsibly on the number and spacing of their children and to have access to the information, education and means to enable them to exercise these rights.”).

²²⁵ American Convention on Human Rights, *supra* note 192, at Art. 11.2 states: “No one may be the object of arbitrary interference with his private life, his family, his home, or his correspondence, or of unlawful attacks on his honor or reputation.” Art. 17(2) states: “The right of men and women of marriageable age to marry and to raise a family shall be recognized, if they meet the conditions required by domestic laws, insofar as such conditions do not affect the principle of nondiscrimination established in this Convention.”

Art. 24 states: “All persons are equal before the law. Consequently, they are entitled, without discrimination, to equal protection of the law.”

152) If a pregnancy is unwanted, and a woman is forced to continue the pregnancy, this undermines her right to privacy regarding her own body, and undermines her physical integrity.

153) A woman's right to privacy is also violated when doctors and healthcare professionals report either confirmed or suspected cases of abortion to police and prosecutors for legal action. Women should be able to seek medical assistance with the assurance that the doctors have their best interest in mind, which is currently not the case.

G. The Criminalization of Abortion Violates Mexico's Obligation to Guarantee the Right to Liberty (CCPR, Art. 9).

154) Article 9 of the International Covenant on Civil and Political Rights lays out the right to liberty: "everyone has the right to liberty and security of person."²²⁶ The liberty of movement and the liberty of parents are mentioned in Articles 12 and 18, respectively.²²⁷

155) Subjecting women to prison sentences simply for seeking out healthcare needs, either when they are seeking an abortion or when a pregnancy has had natural complications, is a violation of this right.

H. The Criminalization of Abortion Violates Mexico's Obligation to Guarantee the Right to Information (CCPR, Art. 19; UDHR, Art. 19).

156) The right to information is guaranteed by Article 19 the International Covenant on Civil and Political Rights, and Article 19 of the Universal Declaration of Human Rights.²²⁸ Article 19 of the International Covenant on Civil and Political Rights states:

*"Everyone shall have the right to freedom of expression; this right shall include freedom to seek, receive and impart information and ideas of all kinds, regardless of frontiers, either orally, in writing or in print, in the form of art, or through any other media of his choice."*²²⁹

157) Article 19 of the Universal Declaration of Human Rights states:

²²⁶ ICCPR, *supra* note 192, at Art. 9.

²²⁷ *Ibid.*, at Art. 12.1 states: "Everyone lawfully within the territory of a State shall, within that territory, have the right to liberty of movement and freedom to choose his residence," which is impaired when anti-abortion laws force people to relocate. Art. 18 states, in part: "The States Parties to the present Covenant undertake to have respect for the liberty of parents..."

²²⁸ *Ibid.* at Art. 19, Universal Declaration of Human Rights, *supra* note 114, at Art. 19.

²²⁹ ICCPR, *supra* note 192, at Art. 19.

*“Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.”*²³⁰

158) Domestically, Mexico has been a pioneer in laws supporting transparency of information; in 2003, the Federal Government implemented Mexico’s access to information law, which guaranteed the public’s right to request and receive information from the Federal Government.²³¹ However, this does not go far enough in protecting and fulfilling this right in the context of abortion procedures. The fact that a majority of the population does not know the law in their state on abortion or where to go to have one or that there are safe abortion methods is problematic, especially when the government is the one providing propaganda against abortion, as in the Mexican State of Jalisco (pop 7.3 million, 2016 est.).²³²

I. The Criminalization of Abortion Violates Mexico’s Obligation to Guarantee the Right to be Free from Cruel, Inhuman, and Degrading Treatment (CCPR, Art. 7; UDHR, ART. 5; CAT).

159) The right to be free from cruel, inhuman, and degrading treatment is protected in Article 7 of the International Covenant on Civil and Political Rights and Article 5 of the Universal Declaration of Human Rights, as well as, in general, by the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment.²³³

160) In 2016, the Human Rights Committee found against Ireland and in favor of the complainant on this issue (*Mellet v. Ireland*).²³⁴ In this case, a woman found out 21 weeks through her (very much wanted) pregnancy that the fetus had a fatal heart condition, and wanted to have an abortion to prevent unnecessary suffering. Because abortion is criminalized in Ireland, she was told that her options were to continue the pregnancy to full term or go abroad for the procedure. Notwithstanding extreme financial hardship, she was able to go abroad. However,

²³⁰ Universal Declaration of Human Rights, *supra* note 114, at Art. 19.

²³¹ Ley Federal de Transparencia y Acceso a la Información Pública Gubernamental (LFATIPG), Diario Oficial de la Federación [DOF] 11-06-2002, últimas reformas DOF 14-07-2014.

²³² Human Rights Watch, *supra* note 160, at 3.

²³³ CAT, *supra* note 192, at Art.1, defines torture as: “... any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person for such purposes as obtaining from him or a third person information or a confession, punishing him for an act he or a third person has committed or is suspected of having committed, or intimidating or coercing him or a third person, or for any reason based on discrimination of any kind, when such pain or suffering is inflicted by or at the instigation of or with the consent or acquiescence of a public official or other person acting in an official capacity.” The Universal Declaration of Human Rights, *supra* note 114, at Art. 5 states: “No one shall be subjected to torture or to cruel, inhuman or degrading treatment or punishment”

The International Covenant on Civil and Political Rights, Art. 7 states: “No one shall be subjected to torture or to cruel, inhuman or degrading treatment or punishment. In particular, no one shall be subjected without his free consent to medical or scientific experimentation.”

²³⁴ *Amanda Mellet v. Ireland*, Communication 2324/2013, Views, Human Rights Committee, U.N. Doc. CCPR/C/116/2324/2013 (2016).

she was separated from her family and emotional support system, and was forced to travel home only a few hours after she gave birth to a stillborn, still bleeding and traumatized. The Human Rights Committee found that these facts, the extreme stigma and criminalization of abortion, the denial of healthcare available to other women, and the lack of information she was given about how to access a safe abortion procedure, under the totality of the circumstances, amounted to cruel, inhuman, and degrading treatment, in violation of Article 7 of the International Covenant on Civil and Political Rights.²³⁵

161) Similarly, in the case of *K.L. v. Peru*, the Committee held that the denial of abortion procedures where the continuation of the pregnancy posed serious risks to the life and mental health of the woman constitutes a violation of the woman's right to be free from cruel, inhuman, or degrading treatment.²³⁶ The Human Rights Committee reaffirmed this decision in the case of *L.M.R. v. Argentina*, holding that the denial of a legal abortion for a rape victim inflicts physical and mental suffering, which violates the woman's right to be free from cruel, inhuman, or degrading treatment, as well as the right to privacy.²³⁷

162) The dilemmas faced by the victims in these cases are the same dilemmas faced by the millions of women in Mexico where abortion is criminalized. Denying someone healthcare where they live and forcing them to travel long distances (often when travel is too expensive for the woman to afford) to be in an unfamiliar setting with no emotional support in order to access a safe abortion procedure, while still being subjected to shame and criticism for choosing to do so, causes unnecessary mental and physical anguish on women in a very vulnerable position. Women in rural areas of Mexico where abortion is criminalized are particularly vulnerable.

V) RECOMMENDATIONS

163) The criminalization of abortion in Mexico is preventing Mexico from complying with its international human rights obligations listed above. These rights are interconnected and of vital importance to upholding the values of progressive society. The criminalization of abortion is unfairly discriminatory against women (particularly those in rural areas), creates unnecessary mental and physical anguish for those directly affected by these outdated policies, denies women and healthcare practitioners the freedom and ability to make the best decisions regarding healthcare, and is contradictory to privacy rights and principles of self-determination. Where safe methods of abortions exist due to scientific advancements and studies worldwide and within Mexico itself, all people should be able to know about them and benefit from them instead of putting themselves or others at increased risk. Safe

²³⁵ *Ibid.*, at para 7.4 and 7.5.

²³⁶ *K.L. v. Peru*, *supra* note 214.

²³⁷ *L.M.R. v. Argentina*, *supra* note 214.

and legal abortion procedures should be available to all, accessible to all, accepted by state governments and in Mexican society as a whole, and adapted to suit various regional and cultural needs.

164) Therefore, we urge the Committee to include in its List of Issues the following questions:

CESCR, Art. 2.1 (Duty to Achieve Progressively Full Realization of the Rights Protected in the Covenant)

- Please, describe what steps the State has taken to decriminalize abortion, both at the Federal and State level.
- Please, report how many women have been prosecuted for the crime of abortion since the 4th Periodic Report. Please, report how many women have served time in prison for the crime of abortion and/or paid fines. Please, also report on the average length of detention for the crime of abortion and the average amount of fines paid.
- Please, explain how the decision of the Mexican Supreme Court of January 2016, which declared that decriminalization of abortion is unconstitutional, can be reconciled with the duty the State has to achieve progressively the full realization of the rights protected in the Covenant.

CESCR, Art. 2.2 (Prohibition of Discrimination)

- Please, explain how the fact that only women are punished for abortion and not the biological fathers can be reconciled with the prohibition of discrimination on all grounds.
- Please, explain what steps the State has taken to ensure access to abortion is equal for all women in the State regardless of socioeconomic or ethnic conditions.

CESCR, Art. 6.1 (Right to Work)

- Please, explain how the fact that doctors who perform abortion are subject to criminal and administrative sanctions can be reconciled with their right to work and fulfill the ethical duties of their profession.
- Please, report how many doctors have been prosecuted since the 4th Periodic Report for assisting a woman in having an abortion. Please, report how many doctors have had their license to practice suspended or terminated for assisting a woman in having an abortion.

CESCR, Art. 12 (Right to Health)

- Please, explain how the criminalization of abortion can be reconciled with the right of women to enjoy the highest attainable standard of physical and mental health.

CESCR, Art. 15.1.b (Right to Benefit from Scientific Progress)

- Please, explain how the criminalization of abortion is consistent with the right to benefit from scientific progress and its applications.
- Please, describe what steps the State has taken, at the Federal and State level, to ensure that all women can readily access safe abortion procedures, whenever they choose to do so.
- Please, describe what steps the State has taken, at the Federal and State level, to ensure that all women who have been victims of rape can access abortion in a timely, safe, non-threatening, and non-stigmatizing way.

CESCR, Art. 15.2 (Duty to Take Steps Necessary for the Conservation, Development, and Diffusion of Science)

- Please, describe what steps the State has taken, at the Federal and State level, to ensure dissemination of information about the existence of legal, safe, and regulated abortion procedures.
- Please, describe what steps the State has taken to prevent the governments of the various Mexican States to hinder the diffusion of information about abortion.

THREE: MEXICO AND DIESEL ENGINE EMISSIONS

I) INTRODUCTION

165) Since the second half of the twentieth century, air pollution caused by vehicle engine emissions has been a major environmental and human rights problem affecting every State in the world. The populations of developing countries are particularly affected because of the cumulative effect of large populations, often living in megacities, driving vehicles with sub-standard or faulty emission reduction systems. Mexico is no exception. However, Mexico is unique in that, although it has the environmental problems typical of poorer countries, it has the economy and the technology of a developed, industrialized country.²³⁸

166) During the past decade, levels of harmful pollutants in the atmosphere of Mexico's main cities have risen, even though technological progress has made it possible to produce better and less polluting engines. Succumbing to lobbying by the trucking industry, Mexico has been slow to enhance its engine standards, causing unnecessary environmental degradation and suffering to its population. Not only is Mexico's delay in enhancing its engine standards, particularly those of trucks, a violation of the right of Mexicans' to benefit from scientific progress, but it is also a violation of their right to health, established under the Covenant, and the Protocol of San Salvador, as well as a violation of the international environmental obligations Mexico has by virtue of both treaties and customary international law.

167) This Honorable Committee has previously called the attention of Mexico to its air-quality problems and has emphasized the need for Mexico to take steps to address the problem in the past, namely in the context of the Third²³⁹ and Fourth,²⁴⁰ Periodic Reviews. However, the issues were raised in the context of Article 12 (Right to Health) and not in the context of Article 15 (Right to Science).

II) BACKGROUND

168) Reducing pollution from vehicle engines, and trucks in particular, has become a priority for many developed States. Trucks are particularly polluting because they have much larger engines than cars (and consequently emit more exhausts per mile driven) and typically these engines use diesel as fuel. Thus, trucks emit more noxious emissions than cars.

169) Diesel-engine exhausts are quite dangerous for human health. They contain black carbon, particulate matter (PM), and nitrogen oxide (NOx). Black carbon is one of the most toxic. It is the most strongly light-absorbing

²³⁸ See *supra*, p. XXX.

²³⁹ E/C.12/Q/MEX/1, 30 December 1998, para. 43.

²⁴⁰ E/C.12/Q/MEX/Q/4/Add.1, 23 March 2006, para. 213-220.

component of particulate matter, and is formed by the incomplete combustion of fossil fuels, biofuels, and biomass. It contains hundreds of chemical elements, including but not limited to: sulfates, ammonium, nitrates, elemental carbon, condensed organic compounds (some of them carcinogenic), and heavy metals such as arsenic, selenium, cadmium, and zinc.²⁴¹ Moreover, it is so small that it can penetrate deep into people's lungs,²⁴² irritate the eyes, nose, and throat, contribute to respiratory and cardiovascular illnesses, and even cause premature death.²⁴³ Nitrogen Oxide is no less dangerous, as it contributes to the formation of ground level ozone, "which irritates the respiratory system, causing coughing, choking, and reduced lung capacity."²⁴⁴ It is no wonder, then, that studies have shown that exposure to high levels of diesel exhaust can cause lung cancer or mortality.²⁴⁵

III) MEXICO AND DIESEL EMISSIONS

170) On 1 December 2014, the National Consultative Committee for the Normalization of the Environment and Natural Resources (COMARNAT — *Comité Consultivo Nacional de Normalización de Medio Ambiente y Recursos Naturales*), Mexico's national regulatory committee of the Secretariat of the Environment and Natural Resources (SEMARNAT - *Secretaría de Medio Ambiente y Recursos Naturales*), approved a proposed modification of the engine-emission standards in Mexico (i.e., NOM-044-SEMARNAT-2006).²⁴⁶ The Proposed Modifications, called PROY-NOM-044-SEMARNAT-2014, establish:

*"...maximum permissible emissions limits of total hydrocarbons, non-methane hydrocarbons, carbon monoxide, nitrogen oxides, and particles from tailpipes of new motors that use diesel fuel and that are used in new vehicles with a gross vehicle weight greater than 3,857 kilograms, as well as new complete vehicles with gross vehicle weight greater than 3,857 kilograms that are equipped with these motors."*²⁴⁷

171) The Proposed Modifications require manufacturers of new vehicles to equip their products with diesel particulate filters (DPFs), advanced NO_x after-treatment, full on-board diagnostics (OBD) systems, and falsifiers

²⁴¹ Union of Concerned Scientists, *Diesel Engine and Public Health*, available at <http://www.ucsusa.org/clean_vehicles/why-clean-cars/air-pollution-and-health/trucks-buses-and-other-commercial-vehicles/diesel-engines-and-public.html#.WCkk_Vdlo4> (last visited Nov. 27, 2016).

²⁴² AirNow, *Particle Pollution (PM)*, available at <<https://www.airnow.gov/index.cfm?action=aqibasics.particle>> (last visited Nov. 27, 2016).

²⁴³ *Ibid.*

²⁴⁴ Union of Concerned Scientists, *supra* note 243, at par. 4.

²⁴⁵ *Ibid.*, at par. 5.

²⁴⁶ Policy Update, *Mexico Heavy-Duty Vehicle Emissions Standards* (Dec. 1, 2014) (on file with International Council on Clean Transportation), available at <http://www.theicct.org/sites/default/files/publications/ICCTupdate_NOM-044_20141222_updated.pdf> (last visited Jan. 27, 2016).

²⁴⁷ *Ibid.*, par. 1.

to ensure the correct operation of emission control systems.²⁴⁸

172) Mexico has a population of about 122 million people. As of 2013, there were about 660,000²⁴⁹ heavy trucks on roads of Mexico. Under the current standards (NOM-044-SEMARNAT-2006), truck engines in Mexico are required only to meet or exceed the EURO IV and EPA 2004 standards.²⁵⁰

173) EURO IV was the standard of the European Union for diesel engines adopted in 2005.²⁵¹ It was replaced by EURO V in 2009.²⁵² The current EU standard is Euro VI, which was adopted in 2014.²⁵³

174) EPA is the standard set by the U.S. Environmental Protection Agency. Standards are numbered by year of adoption. Thus, EPA 2004 is the standard introduced in the U.S. in 2004. It was replaced in 2007 by EPA 2007. EPA increased the standards again in 2010, which is the current standard.²⁵⁴ It should be noted that although fuel efficiency of trucks had steadily improved since the 1970s, in terms of pollution EPA 2004 was a step back compared to previous standards.²⁵⁵ In the attempt to reduce NOx emissions, causing ground level ozone, EPA mandated a less efficient engine-tuning standard, which in turn led to the increase of other kinds of emissions. Thus, within just three years, EPA 2004 was replaced by EPA 2007,²⁵⁶ with overall more stringent standards.²⁵⁷ The current standard in the United States is EPA 2010.²⁵⁸

175) The reason Mexico relies on European and American standards to regulate its own trucks is that the overwhelming majority of these trucks are made by EU or U.S. companies. That being said, although trucks in Mexico need to meet either standard, more than 90% of the trucks in Mexico have EPA 2004-complaint engines, which is, a far inferior standard.²⁵⁹ Indeed, EPA 2004-complaint engines are known for being one of the least-efficient engines in the world today. These engines operate with diesel fuel in which the sulfur content is 500-ppm. In contrast, under the standards currently used in the U.S. or EU, the sulfur content of the diesel cannot

²⁴⁸ *Ibid.*, at par. 2.

²⁴⁹ *TSTES SA de CV & Integrated Transport Planning Ltd*, Mexico International Freight Study Research into GHG Mitigation Measures in the Small Carrier Freight Sector, at p. 5, (Nov. 2013).

²⁵⁰ Norma Oficial Mexicana [NOM], NOM-044-SEMARNAT-2006, *Diario Oficial de la Federación [DOF]*, DOF 12-10-2006 (Mex.)

²⁵¹ Policy Update, *supra* note 248, at 2.

²⁵² *Ibid.*

²⁵³ *Ibid.*

²⁵⁴ *Ibid.*

²⁵⁵ Kate Blumberg & Josh Miller & Francisco Posada, *Revising Mexico's NOM 044 Standards: Consideration for Decision-Making* (International Council on Clean Transpiration, Working Paper 2014-5), available at <http://www.theicct.org/sites/default/files/publications/ICCT_NOM-044_proposal_20140530.pdf> (last visited Jan. 27, 2017).

²⁵⁶ *Ibid.*, at 4.

²⁵⁷ *Ibid.*

²⁵⁸ *Ibid.*

²⁵⁹ *Ibid.*, at 1.

exceed 15-ppm.²⁶⁰ In Mexico, EPA 2004 is more popular than EURO IV because engines meeting EPA 2004 are cheaper than those meeting Euro IV. Also, since neither EPA 2004 nor EURO IV require filters for particulate matter control,²⁶¹ it is no surprise that heavy-duty trucks are responsible for 46% of all transport-related nitrogen oxides in Mexico and 80% of transport-related particulates, or black carbon pollution.²⁶²

176) Truck emissions leave a burdensome testament to the violation of the human rights of Mexicans. It is estimated that about 20,000 premature deaths per year are attributable to engine emissions.²⁶³ Many of those who do not die suffer from asthma, bronchitis, stroke, heart attack, and other cardio and pulmonary disorders.²⁶⁴ Air pollution caused by engine emissions is a notoriously severe problem in Mexico, and is becoming increasingly worse.

177) In March 2016, the first air pollution alert in 11 years was issued in Mexico City.²⁶⁵ More than one million vehicles were banned from entering the city.²⁶⁶ By August 2016, Mexico City officials had already issued 10 smog alerts due to unacceptable ozone levels.²⁶⁷ These subsequent alerts saw 40% of the cars and motorbikes removed from the roads for up to three days.²⁶⁸ What is even more alarming is that some of these environmental epidemics leading to smog alerts came at a very unusual time of the year: the rainy season (June – September). Generally, during the rainy season, thunderstorms cause atmospheric pollution to abate and prevent smog accumulations.²⁶⁹ Even for a metropolis like Mexico City, it is very unusual to have smog alerts during the rainy season.

178) Mexico City has been in the environmental spotlight for decades. As a result, even the slightest environmental change is well-monitored, acknowledged, and somewhat addressed. However, other Mexican cities significantly lack the sophistication of the capital in all aspects. If other Mexican metropolises were monitored and studied to the same extent and detail as the Federal District, perhaps the results would have been more

²⁶⁰ *Ibid.*, at 5.

²⁶¹ *Ibid.*, at 2.

²⁶² Mark Browne, *Mexico City Pollution Blamed on Gov't Failure to Enforce Law on Truck Emission Standards*, (Apr. 7, 2016), available at <<http://www.cnsnews.com/news/article/mark-browne/mexico-city-pollution-blamed-govt-failure-enforce-law-truck-emission>> (last visited Nov. 27, 2016).

²⁶³ Stephen Edelstein, *Mexico urges to pass strong emissions limits for heavy trucks; 20,000 deaths cited*, (Mar 31, 2016), available at <http://www.greencarreports.com/news/1103173_mexico-urged-to-pass-strong-emissions-limits-for-heavy-trucks-20000-deaths-cited> (last visited Nov. 27, 2016).

²⁶⁴ Blumberg, *supra* note 257, at 9.

²⁶⁵ A.B., *Why Mexico City's Pollution Problem is so Hard to Solve*, *Economist*, (May 10, 2016), available at <<http://www.economist.com/blogs/economist-explains/2016/05/economist-explains-7>> (last visited Nov. 27, 2016).

²⁶⁶ *Mexico City Bans 1.1M Cars in 1st Smog Alert in 11 years*, (Mar. 03, 2016), available at <<http://www.foxnews.com/world/2016/03/16/mexico-city-bans-11m-cars-in-1st-smog-alert-in-11-years.html>> (last visited Nov. 27, 2016).

²⁶⁷ *Mexico City Sees Smog Alert, Unusual for Summer Rainy Season*, (Aug. 11, 2016), available at <<http://www.foxnews.com/world/2016/08/11/mexico-city-sees-smog-alert-unusual-for-summer-rainy-season.html>> (last visited Nov. 27, 2016).

²⁶⁸ A.B., *supra* note 267, at par. 1.

²⁶⁹ *Mexico City Sees Smog Alert, Unusual for Summer Rainy Season*, *supra* note 269, at para. 3-4.

disturbing. In fact, in the year 2009, Monterrey “clocked a higher reading than Mexico City on its index particles smaller than 10 microns, a form of pollution that is no less dangerous than ozone.”²⁷⁰

179) The General Law on Ecological Equilibrium and Environmental Protection (LGEEP – *Ley General de Equilibrio Ecológico y de Protección al Ambiente*),²⁷¹ Mexico’s primary environmental law, assigns a wide range of powers to the SEMARNAT. SEMARNAT is Mexico’s federal agency in charge of regulating air emissions.²⁷² Under Article 111 of the General Law on Ecological Equilibrium and Environmental Protection, SEMARNAT has powers to control, reduce, or prevent pollution of the atmosphere, including issuing the Official Mexican Standards (*Norma Oficial Mexicana*) on engine emissions.²⁷³

180) In addition, in 2012, to comply with its obligations under the UN Framework Convention on Climate Change and its subsequent protocols, Mexico enacted the General Law on Climate Change,²⁷⁴ which acknowledges the right to a healthy environment and implements policies and measures to reduce a broad range of emissions.²⁷⁵ Article 32 of the General Law on Climate Change establishes gradual implementation process and gives priority to sectors that have the greatest potential for reduction.²⁷⁶

181) Since 2006, emission standards in Mexico regulating particulate matter (PM), nitrogen oxides (NO_x), hydrocarbons (HC) and carbon monoxide (CO) from heavy-duty diesel engine and vehicles, including trucks, buses and large pickups and vans, are regulated by NOM-044-SEMARNAT-2006 standards.²⁷⁷ As previously mentioned, under these standards diesel engines can comply with either EPA 2004 or EURO IV.²⁷⁸

182) The modification proposed on 1 December 2014 (called PROY-NOM-044-SEMARNAT-2014) by COMARNAT, Mexico’s national regulatory committee of the SEMARNAT, raises standards: diesel engines will have to comply with either EPA 2010 or EURO VI. Following either of the two standards could reduce black carbon emissions from new vehicles by 99 percent, particulate matter emissions by 98 percent, and Nitrogen Oxide by 95 percent.²⁷⁹ The effect “is expected to reduce heavy-duty vehicle emission of PM_{2.5} (i.e. particulate

²⁷⁰ *A Breath of Fresh Air*, Economist (Jul. 29, 2010), available at <<http://www.economist.com/node/16706385>> (last visited Nov. 27, 2016).

²⁷¹ Ley General de Equilibrio Ecológico y Protección al Ambiente [LGEEP], Diario Oficial de la Federación [DOF] 22-12-1988, últimas reformas DOF 04-06-2010 (Mex.).

²⁷² *Ibid.*

²⁷³ *Ibid.* at Art. 111.

²⁷⁴ Ley General de Cambio Climático [LGCC], Diario Oficial de la Federación [DOF], 06-06-2012.

²⁷⁵ *Ibid.*

²⁷⁶ *Ibid.*, at Art. 32.

²⁷⁷ Policy Update, *supra* note 248, at 2.

²⁷⁸ Blumberg, *supra* note 257, at 2.

²⁷⁹ Press Release, Mexico’s New World-Class Heavy-Duty Vehicle Emission Standards Show vision and Leadership (Dec. 22, 2014) (on file with International Council on Clean Transportation) available at <<http://www.theicct.org/news/press-release-mexico-nom-044-dec2014>> (last visited Jan. 27, 2017).

matter that has a diameter less than 2.5 micrometers, which is about 3 percent of the diameter of a human hair)²⁸⁰ by 225 thousand metric tons, black carbon by 160 thousand metric tons, and Nitrogen Oxide by 4.0 million metric tons cumulatively between 2018 and 2037.”²⁸¹

183) As a result of these reductions, over the same period of time, “55,000 premature mortalities from cardiopulmonary disease, lung cancer, and acute respiratory disease caused by diesel vehicle emission”²⁸² will be avoided. Moreover, the state would incur net benefit of up to \$123 billion, in addition to health benefits valued at \$22 to \$30 billion, by only spending \$1.8 billion on incremental operating and technology costs.²⁸³ If implemented, Mexican standards would be in line with those of major developed countries, such as the United States, European Union, Japan, and South Korea.²⁸⁴

184) The Proposed Modifications are supposed to enter into effect no later than 1 January 2018. As required by law, they have already been published in the official federal diary of Mexico (*Diario Oficial de la Federación*) on 17 December 2014.²⁸⁵ Publication opened a 60-day public comment period, after which, by law, the Proposed Amendments would become law, but only if COMARNAT approved them with another vote.²⁸⁶ However, to date, COMARNAT has not yet voted because of industry pressures. Instead, the deadline has been pushed back to 2020, and it is rumored that SEMARNAT, under the pressures of the trucking industry, is considering the possibility of weakening the language of the Proposed Modifications.²⁸⁷

185) The trucking industry claims that the Mexican fuel market will not be ready for the changes in 2018 and that compliance with the Proposed Modifications will cause great challenges, including an increase in the price of trucks and the unavailability of Ultra-Low Sulfur Diesel.²⁸⁸ However, while real, the problems created by the implementation of the Proposed Modifications seem to be exaggerated. First, Pemex, Mexico’s state-owned petroleum company and industry giant, has already begun the process of upgrading its refineries, and by 1 July 2018, it will be ready to distribute the type of fuel required under the Proposed Modifications (Ultra-Low Sulfur Diesel), and provide 100 percent of the on-road diesel supply.²⁸⁹ In the meantime, as Pemex continues to increase

²⁸⁰ Wee Peng Ho, *What is PM2.5 and Why You Should Care*, Available at <[https://blissair.com/what-is-pm-2->](https://blissair.com/what-is-pm-2-) (last visited Nov. 27, 2016).

²⁸¹ Blumberg, *supra* note 257, at 9.

²⁸² *Ibid.*

²⁸³ Policy Update, *supra* note 248, at 8.

²⁸⁴ *Ibid.*

²⁸⁵ *Ibid.*, at 1.

²⁸⁶ *Ibid.*

²⁸⁷ Amanda Maxwell, *Climate Priority # 1 for Mexico in 2016*, NRDC Expert Blog (Mar. 14, 2016) Available at <<https://www.nrdc.org/experts/amanda-maxwell/climate-priority-1-mexico-2016-adopt-strong-emissions-standards-heavy-duty>> (last visited Jan. 27, 2017).

²⁸⁸ Natalie Schachar, *Mexico to have tougher truck emissions rule from 2020*, Reuters, (Jul. 22, 2016) Available at <<http://www.reuters.com/article/us-mexico-emissions-idUSKCN10303P>> (last visited Nov. 27, 2016).

²⁸⁹ Climate Priority # 1 for Mexico in 2016, *supra* note 289, par. 9.

its production, more than 30 percent of the diesel fuel sold in Mexico is already compatible.²⁹⁰ Second, although adoption of EPA 2010-compliant engines will result in a higher cost for trucks produced in Mexico, it is only a marginal increase. The exact monetary value of the compliance would depend on the size of the engine, ranging from \$3,700 to \$8,500.²⁹¹ Overall, the move to EPA 2010 is expected to increase costs to the consumer by only 3 percent.²⁹²

186) Indeed, although 83 percent of all goods are moved by trucks in Mexico,²⁹³ only 30,000 Class 4 (6351-7257 kg) and Class 8 (14969 kg +) trucks are sold annually. Given the size of the Mexican economy and its dependency on truck logistics, that number should have been close to 50,000 to 60,000 units.²⁹⁴ However, in general, Mexico's truck fleet, composed of mostly American imports, is very old. In fact, out of 660,000²⁹⁵ trucks, 170,000 are at least 21 years and older.²⁹⁶ Moreover, every year about 30,000 trucks are imported to Mexico from U.S as scrap, but then are put back on the road and used.

187) Although switching to the new standards is a challenge and it has costs, not everyone in the trucking industry is opposed to the Proposed Modifications. In fact, the director of the Daimler-Mercedes assembly plant in Santiago, Mexico, in response to a question as to when they will start making EPA 2010 complaint trucks for the Mexican market, stated that if Ultra-Low Sulfur Diesel was immediately available, Mercedes could start selling these vehicles in Mexico "tomorrow."²⁹⁷

188) Also, because EPA 2010-compliant engines consume less fuel, the higher cost of the engines will be offset by fuel savings in just two years.²⁹⁸ With a mere 3 percent increase in prices, the state, the industry, and the consumers will make a profitable health investment. The health benefits to be derived from the adoption are valued at \$22–30 billion dollars, compared with combined incremental operating and technology costs of \$1.8 billion.²⁹⁹

²⁹⁰ Blumberg, *supra* note 257, at 11.

²⁹¹ *Ibid.*, at 3.

²⁹² Edelstein, *supra* note 265.

²⁹³ Jim Mele, *Mexico Truck Sales Ending 2015 Up*, (Dec. 10, 2015) Available at <<http://fleetowner.com/fleet-management/mexican-truck-sales-ending-2015>> (last visited Nov. 29, 2016).

²⁹⁴ *Ibid.*, at par. 2.

²⁹⁵ TSTES SA de CV & Integrated Transport Planning Ltd, *supra* note 297.

²⁹⁶ David Cullen, *Trucking Inside Mexico*, (Dec. 14, 2015) Available at <<http://www.truckinginfo.com/blog/passing-zone/story/2015/12/trucking-inside-mexico.aspx>> (last visited Nov. 27, 2016).

²⁹⁷ Blumberg, *supra* note 257, at 1.

²⁹⁸ Edelstein, *supra* note 265.

²⁹⁹ Policy Update, *supra* note 248, at 7.

IV) MEXICO'S INTERNATIONAL OBLIGATIONS AND APPLICATION TO PROPOSED MODIFICATIONS

189) Several international legal obligations incumbent on Mexico suggest the government should not delay implementation of the Proposed Modifications, nor water them down. As a State party to the Covenant, as well as the Protocol of San Salvador, and by virtue of being a member of the Organization for Economic Co-operation and Development (OECD), and party to the Paris Agreement, Mexico has several international obligations when it comes to regulating emissions from vehicles. Moreover, in addition to the right to benefit from scientific progress, other human rights are implicated by the failure to adopt the Proposed Modifications, including the right to health and the right to a healthy environment.

A. The Delay in Implementing the Proposed Modifications Violates Mexico's Obligation to Ensure Everyone Enjoys the Benefits of Scientific Progress and Its Applications (CESCR, Art. 15.1.b)

190) Under Article 15.1.b. of the Covenant, Mexico recognizes the right of everyone “to enjoy the benefits of scientific progress and its applications.”³⁰⁰ The same obligation is repeated, almost verbatim, in the Protocol of San Salvador to the American Convention on Human Rights, to which Mexico is also party, where it recognized “...the right of everyone to enjoy the benefits of scientific and technological progress.”³⁰¹

191) The key terms are “benefits” and “science.” The term “science” in the Covenant encompasses technology, too. In 2009, a group of experts met in Venice, Italy, to adopt a statement on the right to enjoy the benefits of scientific progress and its applications (i.e. the Venice Statement).³⁰² The meeting was co-sponsored and jointly organized by the European Inter-University Centre for Human Rights and Democratization and UNESCO. According to the Venice Statement, the right to enjoy the benefits of scientific progress and its applications “is applicable to all fields of science and its applications.”³⁰³ It further asserts that “enjoyment of the application of the benefits of scientific progress, ... [also includes] technology transfer and capacity building.”³⁰⁴ The second key term is “benefits.” While quite broad, “the term benefits is to be understood as material benefits that every person should be able to enjoy in everyday life.”³⁰⁵

192) Echoing this Honorable Committee's views about the whole Covenant,³⁰⁶ the Venice Statement asserts that

³⁰⁰ CESCR, *supra* note 4, at Art. 15.1.

³⁰¹ Protocol of San Salvador, *supra* note 115, at Art. 14.

³⁰² Venice Statement, *Right to Enjoy the Benefits of Scientific Progress and its Applications*, (Jul. 16-7, 2009), available at <https://www.aaas.org/sites/default/files/VeniceStatement_July2009.pdf> (last visited Nov. 27, 2016).

³⁰³ *Ibid.*, at 2.

³⁰⁴ *Ibid.*, at 4.

³⁰⁵ Audrey R. Chapman, *Towards an Understanding of the Right to Enjoy the benefits of Scientific Progress and Its Applications*, 8 J. Human Rights 1, 9 (2009).

³⁰⁶ United Nations Economic and Social Council, *supra* note 6.

Article 15.1.b imposes specific duties on States: the duty to respect, to protect, and to fulfill.³⁰⁷ The duty to fulfill is of particular interest in the context of the Proposed Modifications. States have a duty “to adopt a legal and policy framework and to establish institutions to promote the development and diffusion of science and technology in manner consistent with fundamental human rights.”³⁰⁸ While in most cases States already do have some sort of established framework and institutions, since there is a constant need to ensure their adequacy, the Venice Statement adds that “the relevant policies should be periodically reviewed on the basis of participatory and transparent process.”³⁰⁹ This is consistent with the overall obligation States have to make progress under Article 2.1 of the Covenant.³¹⁰

193) As discussed, the Proposed Modifications are an administrative and legislative tool that will result in a certain and quantifiable decrease in noxious emissions from diesel engines, improving the health of countless of Mexicans and their environment. Although Mexico presently does have emissions regulating standards (EPA 2004), the fact that better standards have been adopted by COMARNAT and that the technical conditions to implement them now exist suggests that Mexico is unnecessarily and arbitrarily delaying taking steps that are required if the rights of Mexicans are to be respected, protected, and fulfilled.

B. The Delay in Implementing the Proposed Modifications Violates Mexico’s Obligation to Take Steps Towards the Realization of the Right to Science (CESCR, Art. 15.2)

194) Under Article 15.2, States parties are required to take steps toward the realization of the right to science. These steps include measures “necessary for the conservation, the development and the diffusion of science and culture.”³¹¹ The United Nations Special Rapporteur on the Right to the Enjoyment of the Highest Attainable Standard of Physical and Mental Health fleshed out this obligation.³¹² First, “conservation of science includes retaining scientific discoveries as well as the data behind them, which must be preserved in a form that allows replication of those discoveries.”³¹³ Second, “development demands an explicit commitment to the development of science and technology for human benefit.”³¹⁴ Third, “diffusion encompasses the dissemination of scientific knowledge and application both within the scientific community and in society at large.”³¹⁵ Moreover, Mexico, as member of the Organization for Economic Co-operation and Development (OECD), has agreed that “in the scientific and technological field, [it will] promote the development of their resources, encourage research and

³⁰⁷ Venice Statement, *supra* note 304, at 4-5.

³⁰⁸ *Ibid.*, at 5.

³⁰⁹ *Ibid.*

³¹⁰ CESCR, *supra* note 4, at Art. 2.1.

³¹¹ *Ibid.*, at Art. 15.2.

³¹² AAAS Science and Human Rights Coalition, *supra* note 120.

³¹³ *Ibid.*, at 5.

³¹⁴ *Ibid.*, at 4.

³¹⁵ *Ibid.*, at 5.

promote vocational training.”³¹⁶

195) The Proposed Modifications require the adoption of a technology that is already well known and tested and that has clear material benefits that will affect the everyday life of Mexicans. One of those benefits is the reduction of numerous dangerous particulates. For instance, if the Proposed Modifications are implemented, PM2.5, a thin particulate matter that can easily get into the lungs of humans, will be reduced by 225 thousand metric tons. The resulting effect on the lives of Mexicans will be tremendous: it is expected that, as a consequence of that and other reductions, “55,000 premature mortalities from cardiopulmonary disease, lung cancer, and acute respiratory disease caused by diesel vehicle emission”³¹⁷ will be avoided. Moreover, the Proposed Modifications are expected to have unquantified, but no less tangible, health benefits, such as reduction in asthma, bronchitis, stroke, heart attack, and other cardio and pulmonary disorders.³¹⁸

C. The Delay in Implementing the Proposed Modifications Violates Mexico’s Obligation to Guarantee the Right to Health and Right to a Healthy Environment (CESCR, Article 12.1).

196) The Right to Science is related to the Right to Health. Under Article 12.1 of the Covenant:

*“The States Parties ... recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.”*³¹⁹

197) One of the steps to be taken under Article 12.2.b toward the full realization of the right is “the improvement of all aspects of environmental and industrial hygiene.”³²⁰

198) As this Honorable Committee said in General Comment 14, the concept of the “highest attainable standard of health” includes the “right to the enjoyment of a variety of facilities, goods, services and conditions necessary for the realization of the highest attainable standard of health.”³²¹ The notion of “conditions” is of particular interest because it once again encompasses a wide spectrum, including the idea of healthy environment.

199) As to “the improvement of all aspects of environmental and industrial hygiene,” under Article 12.2.b,

³¹⁶ Convention on the Organisation for Economic Co-operation and Development, Art. 12, (Dec. 14, 1960) *Available at* <<http://www.oecd.org/general/conventionontheorganisationforeconomicco-operationanddevelopment.htm>> (last visited Jan. 27, 2017).

³¹⁷ Blumberg, *supra* note 257, at 9.

³¹⁸ Policy Update, *supra* note 248, at 8.

³¹⁹ CESCR, *supra* note 4, at Art. 12.1.

³²⁰ *Ibid.*, at 12.2.

³²¹ UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 14: The Right to the Highest Attainable Standard of Health*, 11 December 2000, E/C. 12/2000/4, <http://www.refworld.org/pdfid/4538838d0.pdf> (last visited Nov. 27, 2016).

General Comment 14 also asserts that States should strive to prevent and reduce “...the population’s exposure to harmful substances such as radiation and harmful chemicals or other detrimental environmental condition that directly or indirectly impact upon human health.”³²²

200) By not implementing the Proposed Modifications, the Mexican government is denying Mexicans a chance to achieve the highest attainable standard of health. Mexico already suffers 20,000 premature deaths annually due to transportation emissions.³²³ Moreover, Mexico City’s ozone levels are well beyond the recommended limits of the World Health Organization, and its inhabitants are at risk of suffering lung tissue damage, not to mention the constant breathing difficulties.³²⁴ In this reality, implementing the Proposed Modifications is both urgent and mandatory. Again, the Proposed Modifications will reduce Black Carbon emissions from new vehicles by 99 percent, PM emission by 98 percent, and NOx by 95 percent.³²⁵ It is worth noting that the diesel exhaust from which these chemicals originate has been categorized as carcinogen by World Health Organization.

D. The Delay in Implementing the Proposed Modifications Violates Mexico’s Obligation to Guarantee the Right to a Healthy Environment (Stockholm and Rio Declarations, Principle 1) and Climate Change Obligations (Paris Agreement).

201) It is important to note that full realization of the right to health under Article 12 of the Covenant is directly dependent upon the realization of the “right to a healthy environment.” The right to a healthy environment was first recognized by the 1972 United Nations Conference on the Human Environment in the so-called Stockholm Declaration. Principle 1 of the Stockholm Declaration states that “man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being.”³²⁶ The Stockholm Declaration was echoed by the 1992 Rio Declaration.³²⁷ The right to a healthy environment is customary international law.

202) Mexico has gone even further, and has recognized the right to a healthy environment in its Constitution. Article 4 of the Mexican Constitution states, “Any person has the right to a healthy environment for his/her own development and well-being. The State will guarantee the respect to such right.”³²⁸

203) More recently, with the ratification of the so-called Paris Agreement of the UN Framework Convention on

³²² *Ibid.*, at Art. 12.2.

³²³ Edelstein, *supra* note 265.

³²⁴ A.B., *supra* note 267.

³²⁵ Press Release, *supra* note 281.

³²⁶ Stockholm Declaration, U.N. Doc. A/Conf.48/14/Rev. 1(1973); 11 ILM 1416 (1972).

³²⁷ Rio Declaration on Environment and Development, UN Doc. A/CONF.151/26 (vol. I); 31 ILM 874 (1992).

³²⁸ Constitución Política de los Estados Unidos Mexicanos, CP, art 4, *Diario Oficial de la Federación [DOF]*, 05-02-1917, últimas reformas DOF 27-01-2016 (Mex.).

Climate Change, Mexico undertook to reduce greenhouse gas emissions by 22 percent below usual levels and, crucially, black carbon emissions by 51 percent by 2030.³²⁹ Mexico is the first developing nation to meet the United Nations' challenge to publish a road map for combating climate change.³³⁰ Implementing the proposed amendments is an important piece of the puzzle.

204) Thus, the failure to take a significant step toward the full realization of the right to science by not adopting the Proposed Modifications infringes upon the right to a healthy environment.³³¹

E. The Delay in Implementing the Proposed Modifications Violates Mexico's Duty to Progressively Realize its Obligations Under the Covenant (CESCR, Art. 2.1)

205) It is important to recognize that, under Article 2 of Covenant, States are to realize their obligations "individually and through international assistance and co-operation, especially economic and technical...to the maximum of its available resources...[and]with a view to achieving progressively the full realization of the rights recognized in the Covenant by all appropriate means."³³² In other words, the Covenant imposes only an obligation of means and not one of result. However, as this Honorable Committee noted in General Comment 3, the fact that realization of the rights contained in the Covenant is due over time does not mean the Covenant should be "misinterpreted as depriving the obligation of all meaningful content."³³³ The notion of "progressive realization" not only strongly restrains "retrogressive measures,"³³⁴ but also demands some sort of progression, no matter how little it might be.

206) Granted, the Covenant asserts that the right to science is subject to progressive realization. One could argue that Mexico would be in violation of its obligations only if it adopted regressive measures, for instance adopting standards older than EPA 2004 or EURO IV. However, progress toward the implementation of the rights of the Covenant is not measured statically; it needs to take into account changing circumstances. Because of Mexico's booming economy and an increasing number of vehicles on the roads, the environment is constantly deteriorating. Since 2014, car sales in Mexico have grown by 30 percent.³³⁵ The recent smog alerts issued in Mexico City, after

³²⁹ Carolina Herrera, Mexico Announces Ambitious Emission Reduction Target in Lead up to Paris, NRDC Expert Blog (Mar. 27, 2015), Available at <<https://www.nrdc.org/experts/carolina-herrera/mexico-announces-ambitious-emission-reduction-target-lead-paris>> (last visited Nov. 27, 2016).

³³⁰ Mac Margolis, *The Realities of Mexico's Climate-Change Promises*, (Apr. 15, 2015) Available at <<http://www.sddt.com/Government/article.cfm?Sourcecode=20150409ct&t=The+realities+of+Mexicos+climatechange+promises#.WGWK8Fdln-Y>> (last visited Nov. 27, 2016).

³³¹ Tony Barboza, *Air Pollution Causes Lung Cancer*, L.A. Times, (Oct. 17, 2013) Available at <<http://articles.latimes.com/2013/oct/17/science/la-sci-sn-air-pollution-causes-lung-cancer-20131017>> (last visited Jan. 27, 2017).

³³² CESCR, *supra* note 4, at Art. 2.

³³³ General Comment No. 3, *supra* note 40, par. 9.

³³⁴ *Ibid.*

³³⁵ Climate Priority # 1 for Mexico in 2016, *supra* note 289, par. 4.

nearly a decade of absence, raised the alarm about a deteriorating environmental condition. Thus, it could be argued that Mexico's delay in implementing the proposed amendments is a retrogressive measure, in violation of its obligation to realize the rights under the covenant progressively.

F. The Delay in Implementing the Proposed Modifications Violates Mexico's Own Constitution and Laws and, Therefore, Violates the Covenant (CESCR, Article 2.1)

207) By not implementing the Proposed Modifications, Mexico falls short of complying with its international and domestic legal obligations. Under Article 2.1 of the Covenant, Mexico has a duty to fulfill the right to science, which includes the creation of legal and policy framework that promotes the diffusion of science and technology.

208) Article 111 of the General Law on Ecological Equilibrium and Environmental Protection directs SEMARNAT to control, reduce, or prevent pollution of the atmosphere, and arms the secretariat with the powerful tool of setting emission standards.³³⁶ The power of issuing standards also includes the right and duty to constantly review and upgrade those standards to ensure they can meet challenges of a changing environment.. Thus, by not modifying the standards, Mexico is failing to comply with the Article 111 of the General Law on Ecological Equilibrium and Environmental Protection.

209) Article 32 of the General Law on Climate Change mandates that responsible state agencies prioritize sectors that have the greatest potential for greenhouse gas reduction.³³⁷ Through this legislation, as well the Paris Agreement, Mexico has given itself a long-term target of reducing its greenhouse gas emission by 30 percent by 2020, and 50 percent by 2050.³³⁸ As noted by experts, for Mexico to comply with these goals, it “needs to prioritize enacting new standards to regulate emissions from heavy duty vehicles and implement the new standard regulating fuel quality.”³³⁹

210) In general, the Proposed Modifications align perfectly with the objectives of Mexico's General Law on Climate Change to greatly reduce dangerous emissions. Between the years 2018 and 2037, their enactment is expected to reduce heavy-duty vehicle emission of PM2.5 by 225 thousand tons, black carbon by 160 thousand tons, and nitrogen oxide by 4.0 million metric tons.³⁴⁰ The Proposed Modifications introducing stricter emissions standards could do more to move Mexico toward those goals than any other measure. Therefore, if the Proposed Modifications are not adopted, Article 32 of the General Law on Climate Change risks being violated, too.

³³⁶ LGEEP, *supra* note 273, at Art. 111.

³³⁷ LGCC, *supra* note 276, at Art. 32.

³³⁸ *Ibid.*

³³⁹ Amanda Maxwell, *Mexico Ratifies the Paris Agreement*, NRDC Expert Blog (Mar. 14, 2016), *available at* <<https://www.nrdc.org/experts/amanda-maxwell/mexico-ratifies-paris-agreement>> (last visited Jan. 10, 2017).

³⁴⁰ Blumberg, *supra* note 257, at 9.

211) Failure to comply with the obligations under the General Law on Ecological Equilibrium and Environmental Protection and the General Law on Climate Change will also undermine Article 4 of the Mexican Constitution, which states: “Any person has the right to a healthy environment for his/her own development and well-being. The State will guarantee the respect to such right.”³⁴¹ Without fulfilling the specific requirements under these legislations, the state will not be able to guarantee Mexicans’ right to a healthy environment. When dangerous chemicals that could be reduced in a cost-effective manner are left in the Mexican air, Mexicans’ right to a healthy environment is violated.

V) RECOMMENDATIONS

212) Mexico already is one of the leading economies in the world, ranking 11th by GDP.³⁴² Since 2014, car sales in the country have grown by 30 percent. Considering the growth of the Mexican economy and the tremendous increase in vehicle sales, there is a good chance that the rate of future smog alerts will increase, leading to more bans and roads closures. Traffic bans and road closures likely will be costlier than the adoption of the new standards. In contrast, assuming the standards are to be enforced by 2018, the adoption would enable Mexico to incur a net benefit of up to \$123 billion between the years 2018 and 2037.³⁴³ Mexico has the technology to adopt the new standards and the industry is ready. Delays in implementing the Proposed Standards are unjustifiable.

213) Therefore, we urge the Committee to include in its List of Issues the following questions:

CESCR, Art. 2.1 (Duty to Achieve Progressively Full Realization of the Rights Protected in the Covenant)

- Please, explain why the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards, adopted by the National Consultative Committee for the Normalization of the Environment and Natural Resources (COMARNAT) on 1 December 2014, has not been implemented and become law, yet.
- Please, explain what is preventing COMARNAT from voting and adopting the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards.

³⁴¹ Constitución Política de los Estados Unidos Mexicanos, *supra* note 331, Art. 4.

³⁴² George Friedman, *Mexico Could Be the Next Great Power*, (Mar. 30, 2016) Available at <<http://www.newsmax.com/Finance/GeorgeFriedman/mexico-power-economy-invest/2016/03/29/id/721358/>> (last visited Nov. 27, 2016).

³⁴³ Policy Update, *supra* note 248, at 8.

- Please, explain how the delay in implementing the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards can be reconciled with the duty to achieve full realization of the rights protected in the Covenant.
- Please, explain how the delay in implementing the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards can be reconciled with the right to a healthy environment enshrined in Article 4 of the Mexican Constitution, Article 111 of the General Law on Ecological Equilibrium and Environmental Protection, and Article 32 of the General Law on Climate Change.

CESCR, Art. 12 (Right to Health)

- Please, explain how the delay in implementing the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards can be reconciled with the right of everyone to enjoy the highest attainable standard of physical and mental health.
- Please, report on whether the State has carried out a cost/benefit analysis of implementing the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards. If such an analysis has been done, please, share the results with the Committee.
- Please, report on how many lives are estimated to be lost every year due to the delay in implementing the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards.
- Please, report on the estimated reduction in chronic respiratory and cardiac diseases that would result if the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards were implemented without delay.

CESCR, Art. 15.1.b (Right to Benefit from Scientific Progress)

- Please, explain how the delay in implementing the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards can be reconciled with the right to benefit from progress in science and technology.

CESCR, Art. 15.2 (Duty to Take Steps Necessary for the Conservation, Development, and Diffusion of Science)

- Please, explain how the delay in implementing the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards can be reconciled with the duty of the State to take steps necessary for the diffusion of science and technology.

COMPILATION OF RECOMMENDATIONS FOR THE LIST OF ISSUES

214) Given the fact that Mexico completely overlooked the right to science in its 5th-6th periodic report, we believe it is critical this Committee takes this occasion to remind Mexico that it is bound to give full effect to *all* obligations arising from the CESCR. To this effect, concerning the issues raised in this report, we respectfully recommend to the Committee to include at least some of the following questions in the List of Issues:

CESCR, Art. 2.1 (Duty to Achieve Progressively Full Realization of the Rights Protected in the Covenant)

- Please, explain how the addition of the Genomic Sovereignty Amendments to the General Health Law (*Ley General de Salud*) in 2008 is a step forward toward the progressive, full realization of the rights protected in the Covenant.
- Please, describe what steps the State has taken to decriminalize abortion, both at the Federal and State level.
- Please, report how many women have been prosecuted for the crime of abortion since the 4th Periodic Report. Please, report how many women have served time in prison for the crime of abortion and/or paid fines. Please, also report on the average length of detention for the crime of abortion and the average amount of fines paid.
- Please, explain how the decision of the Mexican Supreme Court in January 2016, which declared that decriminalization of abortion is unconstitutional, can be reconciled with the duty the State has to achieve progressively the full realization of the rights protected in the Covenant.
- Please, explain why the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards, adopted by the National Consultative Committee for the Normalization of the Environment and Natural Resources (COMARNAT) on 1 December 2014, has not been implemented and become law, yet.
- Please, explain what is preventing COMARNAT from voting and adopting the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards.
- Please, explain how the delay in implementing the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards can be reconciled with the duty to achieve full realization of the rights protected in the Covenant.

- Please, explain how the delay in implementing the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards can be reconciled with the right to a healthy environment enshrined in Article 4 of the Mexican Constitution, Article 111 of the General Law on Ecological Equilibrium and Environmental Protection, and Article 32 of the General Law on Climate Change.

CESCR, Art. 2.2 (Prohibition of Discrimination)

- Please, indicate what steps the State has taken to ensure the Genomic Sovereignty Amendments do not violate the prohibition of discrimination, particularly with regard to national origin and country of residence.
- Please, indicate what steps the State has taken to ensure that the population genomic studies authorized under the Genomic Sovereignty Amendments include diasporic populations (Mexicans, or persons of Mexican descent living abroad) whenever scientifically appropriate.
- Please, indicate what steps the State has taken to ensure diasporic populations enjoy the benefits of population genomic studies performed in the State.
- Please, explain how the fact that only women are punished for abortion and not the biological fathers can be reconciled with the prohibition of discrimination on all grounds.
- Please, explain what steps the State has taken to ensure access to abortion is equal for all women in the State, regardless of socioeconomic or ethnic conditions.

CESCR, Art. 6.1 (Right to Work)

- Please, indicate what steps the State has taken to ensure the Genomic Sovereignty Amendments do not violate the right of scientists to work and fulfill the functions of their vocation.
- Please, explain how the fact that doctors who perform abortions are subject to criminal and administrative sanctions can be reconciled with their right to work and fulfill the ethical duties of their profession.
- Please, report how many doctors have been prosecuted since the 4th Periodic Report for assisting a woman in having an abortion. Please, report how many doctors have had their license to practice suspended or terminated for assisting a woman in having an abortion.

CESCR, Art. 12 (Right to Health)

- Please, indicate what steps the State has taken to ensure the Genomic Sovereignty Amendments promote, protect, and fulfill everyone's right (both inside and outside of the State) to enjoy the highest attainable standard of physical and mental health.
- Please, explain how the criminalization of abortion can be reconciled with the right of women to enjoy the highest attainable standard of physical and mental health.
- Please, explain how the delay in implementing the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards can be reconciled with the right of everyone to enjoy the highest attainable standard of physical and mental health.
- Please, report on whether the State has carried out a cost/benefit analysis of implementing the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards. If such an analysis has been done, please, share the results with the Committee.
- Please, report on how many lives are estimated to be lost every year due to the delay in implementing the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards.
- Please, report on the estimated reduction in chronic respiratory and cardiac diseases that would result if the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards were implemented without delay.

CESCR, Art. 15.1.b (Right to Benefit from Scientific Progress)

- Please, indicate what steps the State has taken to ensure benefits from advances in biology, genetics, and medicine, deriving from the study of the human genome, are made available to all, with due regard for the dignity and human rights of each individual, both in Mexico and abroad.
- Please, indicate how many applications for a permit to carry out population genomic studies the State has received since the enactment of the Genomic Sovereignty Amendments in 2008. How many have been approved by State agencies? How many of those approved projects involved foreign scientists and institutions? How many have been denied? How many of those projects denied involved foreign scientists and institutions?
- Please, indicate what steps the State has taken to involve the Mexican society at large in the decision-making process which lead to the adoption of the Genomic Sovereignty Amendments.
- Please, explain how the criminalization of abortion is consistent with right to benefit from scientific progress and its applications.

- Please, describe what steps the State has taken, at the Federal and State level, to ensure that all women can readily access safe abortion procedures, whenever they choose to do so.
- Please, describe what steps the State has taken, at the Federal and State level, to ensure that all women who have been victims of rape can access abortion in a timely, safe, non-threatening, and non-stigmatizing way.
- Please, explain how the delay in implementing the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards can be reconciled with the right to benefit from progress in science and technology.

CESCR, Art. 15.2 (Duty to Take Steps Necessary for the Conservation, Development, and Diffusion of Science)

- Please, indicate what steps the State has taken to create the intellectual and material conditions favorable to the freedom to conduct research on the human genome.
- Please, indicate what steps the State has taken to make scientific literature, data, samples, and materials resulting from or necessary for population genomic studies accessible both to the public and to scientists, domestically and internationally.
- Please, indicate what steps the State has taken to facilitate large-scale population genomic research, and to create opportunities for similar research projects.
- Please, indicate how many agreements INMEGEN has entered into with foreign institutions to date. Please, provide information on the outcomes of these agreements.
- Please, describe the requirements to obtain approval for a population genomic study under Article 375 of the Genomic Sovereignty Amendments.
- Please, describe what steps the State has taken, at the Federal and State level, to ensure dissemination of information about the existence of legal, safe, and regulated abortion procedures.
- Please, describe what steps the State has taken to prevent the governments of the various Mexican States to hinder the diffusion of information about abortion.
- Please, explain how the delay in implementing the proposed modification PROY-NOM-044-SEMARNAT-2014 of engine-emission standards can be reconciled with the duty of the State to take steps necessary for the diffusion of science and technology.

CESCR, Art. 15.3 (Duty to Respect the Freedom Indispensable for Scientific Research)

- Please, indicate what steps the State has taken to respect the freedom indispensable for scientific research and creative activity in the field of population genomic studies.
- Please, indicate how many persons have been sanctioned to date under Article 461 and Article 317 of the Genomic Sovereignty Amendments. Please, indicate also who they are and what they were they sanctioned for.
- Please, indicate whether the State intends to mitigate sanctions for violations of the Genomic Sovereignty Amendment and/or replace criminal sanctions with administrative ones.

CESCR, Art. 15.4 (Duty to Encourage and Develop International Contacts and Co-operation in the Scientific and Cultural Fields).

- Please, indicate what steps the State has taken to encourage and develop international contacts and cooperation between Mexican scientists and institutions and foreign ones in the field of population genomic research.
- Please, indicate what steps the State has taken to encourage foreign and international research organizations to carry out population genomic studies in Mexico.