**-A CRITICAL REVIEW-**

# The vulnerability to HIV/AIDS among Mexican rural and indigenous women in the context of gender and sexuality: challenging the limitations of the existent gender and vulnerability models for HIV transmission

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# Chapter I
*Introduction, background, problem statement and rationale*

## I.I Introduction

My experience as a medical doctor in urban and rural communities in Mexico alarmed me of the inequalities produced by social relations. I felt impelled to understand why Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) cases among Mexican women in indigenous and rural populations are increasing in recent years.[1,2,3,4,5]

The present work will discuss the effect of gendered power relations and sexuality in the vulnerability to HIV infection among Mexican women in rural areas and indigenous populations. In order to provide a framework to guide the discussion, I will discuss the utility of current vulnerability frameworks in the understanding of the AIDS epidemic. Then I will adapt one particular model drawing on the international literature on vulnerability, gender and development. With the resulting framework I will explore the gendered vulnerabilities to HIV among women in rural areas and indigenous communities in Mexico. A brief discussion will follow each main chapter. Finally I will conclude with recommendations to the Health Ministry of Mexico based on the study findings.

## 1.2 Background

Mexico is a country located in North America that occupies a territory of 1,964,375 sq km.[6] It borders the United States of America (USA) to the north and Belize and Guatemala to the south, to the West the Pacific Ocean and to the East the Caribbean Sea and the Gulf of Mexico.

Mexico has a population of 103,263,388 (49% men and 51% women),[7] from which 76.5% live in urban areas and 23.5% lives in rural areas.[8] The concept of rural is applied to those communities with less than 2 500 inhabitants.[8] Most of the population is literate (illiterate rate 7%: 10% women and 7% men).[7] The population composition in 2010 is as follows: 0-14 years: 28.7% (male 16,469,087/female 15,786,614), 15-64 years: 64.9% (male 35,290,051/female 37,723,834), 65 years and over: 6.4% (male 3,238,802/female 3,960,467).[9]

By 2009 the Gross Domestic Product (GDP) was US$874.9 billion.[6] The economy is divided in three major sectors: industry (23.4%), agriculture (13.7%) and services (62.8%).[6] The unemployment rate was 5% at the end of 2009.[10] In 2008, 18.2% of the Mexican population was poor.[9*]

### I.2.1 Health and health system

Similar to most developed countries, mortality rates due chronic diseases have increased in recent decades.[8] *(For specific health statistics and health system structure refer to table 1 and text box 1)* The prevalence of HIV among the Mexican adult population is 0.37% concentrated in the group of men who have sex with men (MSM).[1]

By 2005, 46.9% of the total population had access to health services through social security or private health services while the rest of the population had access to services provided by the Health Ministry.[8] From the population with access to social security 47.7% are women and 46.1% men.[8] Health care coverage is available to 57.6% of people in urban areas while it is accessible for only 29.6% of people in rural communities.[8] The public sector has 86.8% of the national health facilities while the private sector has 13.2%.[8] The health work force is primary distributed in the public sector

[*] Food-based poverty. Asset based poverty amounted to more than 47%.[9]

(70.2% of doctors and 84.2% of nurses work in the public sector and the remaining in private institutions).[8]

| Table 1. Health statistics | |
|---|---|
| Fertility rate | 2.05 births per woman.[9] |
| Mortality rate | 5.0 per 1000 people.[9] |
| Infant mortality rate | 14.2 per 1000.[9] |
| Life expectancy of the general populations | 75.4 years (73.1 men, 77.8 women)[8] |
| Maternal mortality ratio | 55.8 deaths per 100 thousand live births.[11] |
| (8) SINAIS. Sistema Nacional de Información en Salud [Online] 2010 Jul 12 Available from http://www.sinais.salud.gob.mx/mortalidad/index.html [Accessed on May 21 2010]<br>(9) CONAPO. Consejo Nacional de la Población [Online] 2010 Available from http://www.conapo.gob.mx [Accessed on May 20 2010]<br>(11) Instituto Nacional de Geografía y Estadística (INEGI). Mujeres y hombres en México 2009. México; 2009. p. 55-57 | |

**Text Box 1. Health System**

Social security provides health services to the workers and their families who are enrolled to the system. The institutions who work under this scheme are the Mexican Institute of Social Security (IMSS) who gives services to workers of the private sector; the Institute of Services and Social Security of the State Workers (ISSSTE) for government workers; Nationalized Mexican Oil Company (PEMEX), Marine Ministry (SEMAR) and the National Defense Ministry (SEDENA). Each state government and universities give services to their workers.

In 2005 14.7%, of the total national population receive health services from the Social Health Protection System, *Seguro Popular* (Popular Insurance Scheme).[8] This health care program created in 2003 targets families who are not affiliated to the national social security institutions.[12] This program aims to increase health care coverage and reduce health care costs with a voluntary insurance paid annually according to the household's resources. The services are preventive and curative; including surgery and medications.[12]

Made with information from:

- SINAIS. Sistema Nacional de Información en Salud [Online] Available at http://www.sinais.salud.gob.mx/mortalidad/index.html [Accessed on May 21 2010][8]
- Popular Insurance scheme. [Online] Available from http://www.seguro-popular.gob.mx/index.php?option=com_content&view=article&id=100&Itemid=137 Accessed on March 19, 2010.[12]

### I.2.2 Indigenous population

Mexico has the largest number of indigenous people in the Latin America Region (LAR) and the Caribbean.[13] All 32 Mexican states have indigenous population. *(For information about mapping and identification of indigenous regions refer to text box 2)* The indigenous population ratio of men to women is almost 1:1.[14] There are two characteristics used in Mexico to define indigenous: ones to speak an indigenous language and the self-perception of being indigenous.[14] This definition is ambiguous because the individual's perception of being or not indigenous is dynamic and changes according to the cultural, economic and social situations surrounding that person.[14]

The challenge to define *indigenous population* is also an obstacle to quantify the population at national and regional levels. For example the numbers provided by the National Institute of Statistics and Geography (INEGI) and the National Committee for Indigenous Communities Development (CDI) show differences. The INEGI identifies 6 million indigenous people, 6% of the total national population[11] while CDI counts 10.2 million, 11% of the Mexican population.[14] INEGI considers only the variable language to categorize indigenous population, while the CDI factures language, place of

origin, place of residence, traditions and individual identity (people who consider themselves indigenous but do not speak an indigenous language).[14] In this work, I will use the CDI definition for indigenous populations since it incorporates the complexity and diversity of such groups.

**Text box 2. Mapping and identification of indigenous regions**

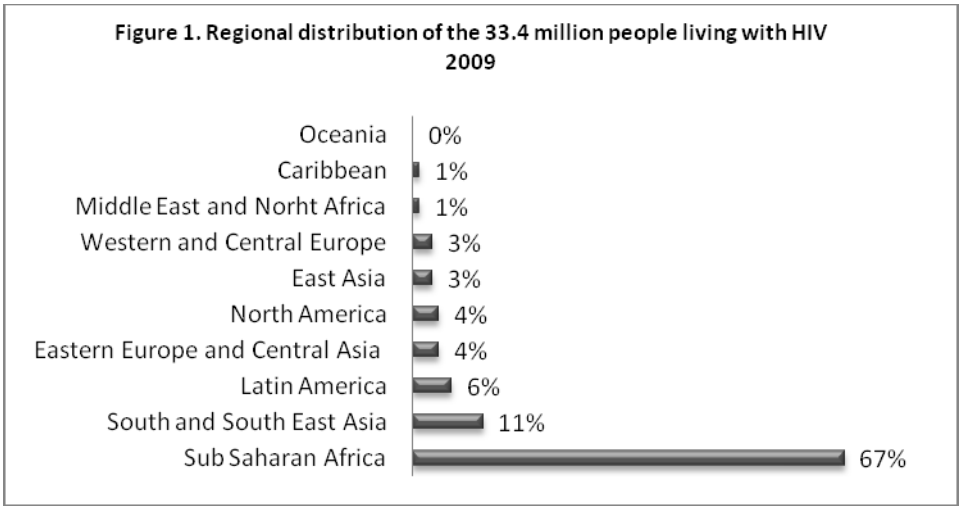
The CDI current identification and mapping of indigenous regions is based on cultural and linguistic similarities among a specific population, but also the political divisions of municipalities in order to facilitate the access to information.[14] The CDI uses three categories to show the distribution of the indigenous population: indigenous municipalities, municipalities with indigenous presence and disperse indigenous.[14] An indigenous municipality is where indigenous population represents 40% or more of the total inhabitants; 58.8% of the total indigenous population lives in these communities.[14] The municipalities with indigenous presence have more than 5 thousand indigenous people or more in the households but they represent less than 40% of the population; 32.1% of the indigenous population corresponds to this category.[14] Only 9% of the indigenous population live in municipalities of disperse indigenous population where they are less than 5 thousand inhabitants.[14] This distribution reflects an economical situation that represents the internal migration of people from the small villages to the big cities in search of a better economic opportunity.[14]

*Made with information from: Comisión Nacional para el Desarrollo de los Pueblos Indígenas (CDI) Indicadores con perspectiva de género para los pueblos indígenas. México; 2006. p. 12,16-21,27-29,39-40,87-89,127-128,159-160*

### I.3 HIV/AIDS in the world

The worldwide number of people living with HIV (PLWH) at the end of 2008 was 33.4 million ( 31.3 million adults and 2.1 million children under 15 years).[2] From the 31.1 million adults more than half (15.7 million) are women.[2] At the end of 2008, 2 million people died of AIDS.[2] The region of sub-Saharan Africa is the most affected with the AIDS epidemic with 67% of all HIV infections in the world, accounting for 72 % of the world's AIDS-related deaths in 2008.[2] The second most affected region is Southern and Southeastern Asia and in third place is LAR.[2] The Caribbean and Oceania are the least affected regions.[2] *See figure 1.* In 2008, 2.7 million new HIV cases among adults and children were detected worldwide.[2] *See figure 2.*

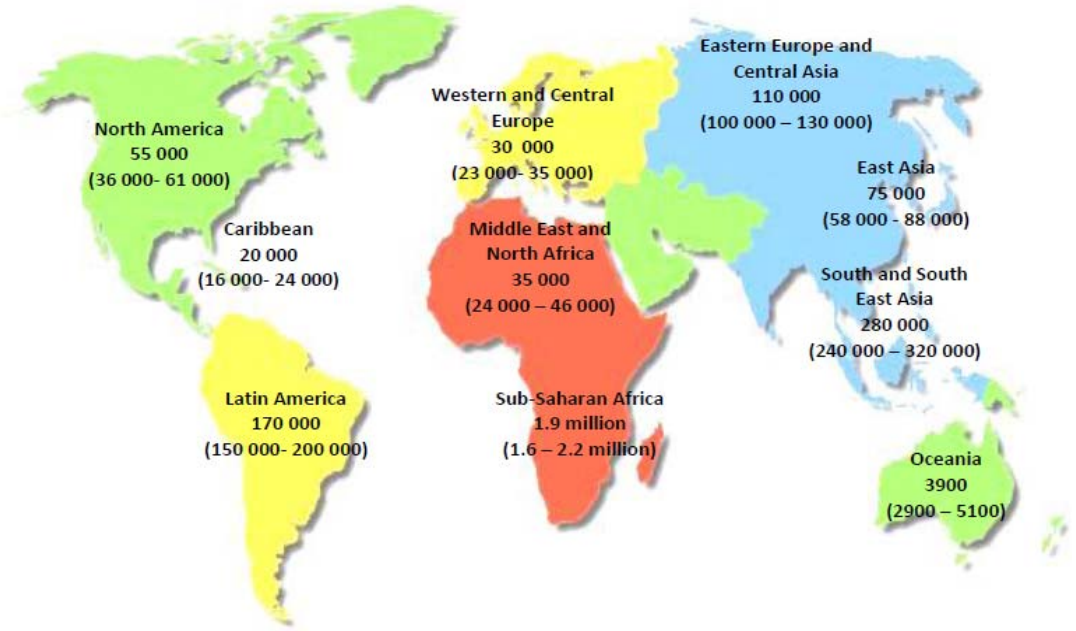
**Figure 1. Regional distribution of the 33.4 million people living with HIV 2009**



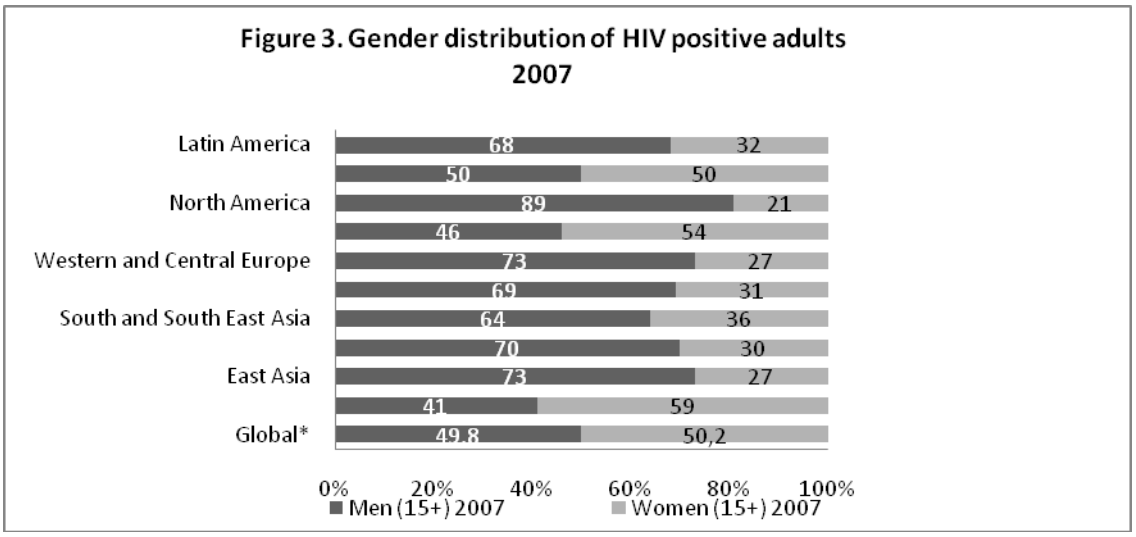

Adapted from: UNAIDS. AIDS update 2009. Geneva (Switzerland): Joint United Nations Programme on HIV/AIDS and World Health Organization; 2009. p. 83

Worldwide 50.2% of the total AIDS cases affect women *(see figure 3)*, and it is linked to gender inequality, economic instability and migration.[15] Women are the most affected in the Sub Saharan region (59% of the total cases) due to biological vulnerabilities, social, economic and legal inequalities[2] similar to other countries around the world. In Central America the burden of HIV among women and among indigenous populations is increasing.[16]

**Figure 2. Estimated number of adults and children newly infected with HIV, 2008**
**Total: 2.7 million (2.4-3.0 million)**




Adapted from: UNAIDS. AIDS update 2009. Geneva (Switzerland): Joint United Nations Programme on HIV/AIDS and World Health Organization; 2009. p. 83




Made with information from: UNAIDS. AIDS update 2009. Geneva (Switzerland): Joint United Nations Programme on HIV/AIDS and World Health Organization; 2009. p. 6, 7,11,57,83

∗The global gender distribution of PLWH is updated from: UNAIDS. 2008 Report on the global AIDS epidemic. Status of the global HIV epidemic. AIDS epidemic update. Geneva (Switzerland): United Nations Joint Programme on HIV and AIDS; 2008. p. 214

### I.3.1 HIV/AIDS in Latin America

Among LAR countries, in 2007 Brazil occupied the first place of PLWH with 730 000, followed by Mexico with 200 000, Colombia 170 000, Argentina 120 000 and Peru 76 000.[3] If the prevalence of HIV among the adult population is considered, Mexico occupies the 10th place (0.3%) compared to neighboring countries which have higher prevalence (Belize 2.1%, Guatemala 0.8% and USA 0.6%).[3]

### I.3.2 HIV/AIDS in Mexico

Mexico has a concentrated AIDS epidemic.[1] The prevalence of HIV among the Mexican adult population from 15 to 49 years old is 0.37% with the highest prevalence in the group of MSM (11%).[1] Data from 2009 reports 220,000 PLWH in Mexico of whom 60% are MSM, 23% women and 6% heterosexual men.[1] *See figure 4.* The main transmission mechanism is sexual followed by blood transmission among intravenous drug users (IDUS).[1] The main transmission mechanism for women living in urban and rural areas is heterosexual (63.9% rural and 59.8% urban).[17] Data from 2009 (s*ee table 2)*, show that new AIDS cases among heterosexual people in the age groups of 15-30 years and over 30 are increasing compared with homosexual people.[1] The most affected group is between 30 to 44 years old with 78.5% of the AIDS cases.[1] *See figure 5.* The overall AIDS mortality rate is 4.8 per 100 000 inhabitants.[1] In 2009 data shows that after one year of High Active Antiretroviral Therapy (HAART) 97.6% of women and 96.2% of men survived.[1] The situation of the PLWH in Mexico is as follows: 27% are under ARV treatment, 14% are HIV positive but do not require ARV yet, and according to estimations 59% of HIV positive people are unaware of their serostatus.[1]

**Figure 4. Distribution of the 220 000 people living with HIV in Mexico 2009**

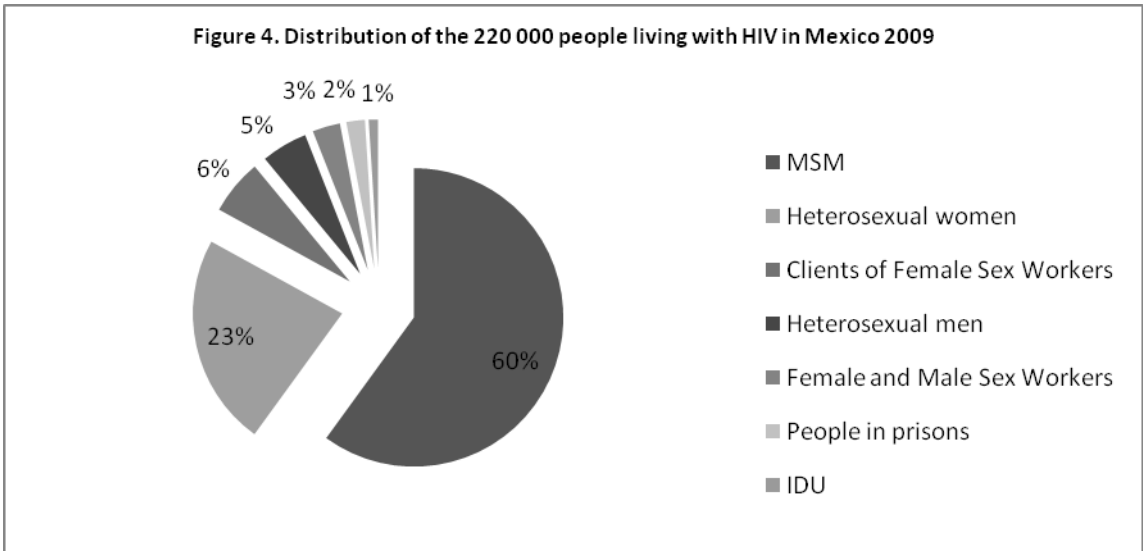



Figure made with information from: CENSIDA. El VIH/SIDA en México 2009. México: Centro Nacional para la Prevención y Control del SIDA; 2009. p.11

Since the first case of AIDS diagnosed in Mexico in 1983, the actions taken to control the epidemic have successfully maintained a low prevalence of HIV among adults (0.37%) concentrated in MSM.[1] The epidemic is stable but in the last decade the patterns of transmission have been changing and with them the number of PLWH among certain groups like young women in rural areas and indigenous communities.[1,3,4] The distribution of AIDS cases in Mexico is different depending on the region.[5] In the northern states HIV transmission is among IDUs while in the southern states the transmission pattern is related to heterosexual and bisexual practices.[5,17]

| Table 2. Incidence and prevalence of AIDS cases in the Mexican age group of 15-29 years old | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Transmission categories** | **Men** | | | | **Women** | | | |
| | **Incidence 2009** | | **Prevalence 1983-2009** | | **Incidence 2009** | | **Prevalence 1983-2009** | |
| | Number | % | Number | % | Number | % | Number | % |
| **Sexual** | 868 | 97.4 | 21,562 | 95.9 | 239 | 99.2 | 5,385 | 93 |
| **Homosexual** | 314 | 35.2 | 8,182 | 36.4 | 0 | 0 | 0 | 0 |
| **Bisexual** | 183 | 20.5 | 5,011 | 22.3 | 0 | 0 | 0 | 0 |
| **Heterosexual** | 371 | 41.6 | 8,369 | 37.2 | 239 | 99.2 | 5,385 | 93 |
| **Blood transmission** | 23 | 2.6 | 809 | 3.6 | 2 | 0.8 | 404 | 7 |
| **Blood transfusion** | 0 | 0 | 253 | 1.1 | 0 | 0 | 333 | 5.8 |
| **Hemophiliacs** | 0 | 0 | 105 | 0.5 | 0 | 0 | 0 | 0 |
| **Blood donors** | 0 | 0 | 91 | 0.4 | 0 | 0 | 12 | 0.2 |
| **IDU** | 23 | 2.6 | 359 | 1.6 | 2 | 0.8 | 57 | 1 |
| **Occupational** | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| **Homosexual/IDU** | 0 | 0 | 116 | 0.5 | 0 | 0 | 0 | 0 |
| **Total** | 900 | 100 | 32,2776 | 100 | 241 | 100 | 7935 | 100 |
| Table made with data available at: INEGI/SS. Registro Nacional de Casos de SIDA [Online] 2009 Available from: http://www.censida.salud.gob.mx/descargas/2009/cifras/Nov2009/05_casoNuevAcumJoven.pdf [Accesed on July 8, 2010] | | | | | | | | |

Six of the 32 Mexican states host 55.3% of the HIV/AIDS cases: Mexico City (16.6%), State of Mexico (11%), Veracruz (9.1%), Jalisco (7.8%), Puebla (4.8%) and Baja California (4.7%).[1] The first AIDS cases in the rural areas were diagnosed in 1986 in Guerrero, Jalisco, Nuevo León, Sinaloa and Veracruz.[17] The cases of AIDS in rural areas have increased from 2.7% in 1990 to 6.7% in 2000.[17] The cumulated AIDS cases among rural populations have increased from 1572 in 2000[17] to 1786 in 2004 distributed in the municipalities with 70% or more indigenous populations.[18] In 2006, 20.7% of the AIDS cases in indigenous populations were in women compared with 16.5% in non indigenous populations.[17,18] The main transmission mechanism among indigenous populations is heterosexual (54.1% compared with 43.1% in non indigenous populations).[18] More than 80% the total AIDS cases among indigenous populations are in four states: Quintana Roo, Hidalgo, Yucatán y Oaxaca.[18] From the PLWH in rural areas, 20% have a history of living in the USA compared with 6% from the urban areas, suggesting that cyclic international migration is associated with an increase of AIDS among rural population.[17]

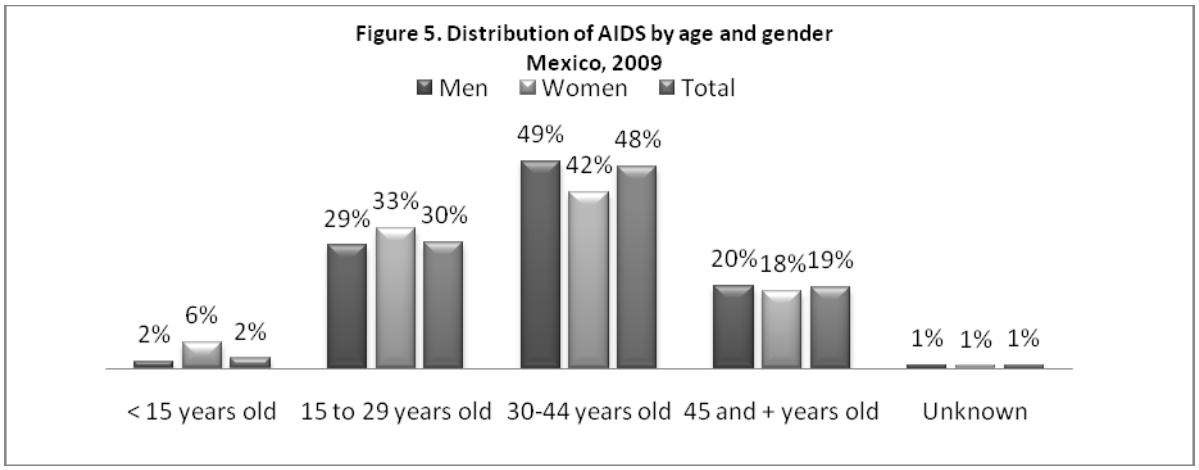
### I.4 Mexico's response to the AIDS epidemic

The National Center for AIDS Prevention and Control (CENSIDA) was established in 1986. One of its first functions was the creation of a law prohibiting paid blood donations and enacting blood screening laboratories. Since 1999 AIDS cases related to blood transfusion are almost nonexistent in the country.[19] In Mexico the public health "Abstain, Be Faithful and use a Condom" (ABC) approach has been followed for many years. This approach was promoted worldwide as a behavioral model to combat the spread of HIV.

CENSIDA working along with the National Health Program 2007-2012,[20] share the goal to maintain HIV prevalence among the population group from 15 to 49 years old under 0-6%. The promotion of health policies to prevent and treat STDs including HIV infections with the participation of civil society and PLWH is one of their key strategies. The launch of campaigns to reduce stigma and discrimination against homosexuals is a recent effort to combat homophobia. Targeting high risk populations is part of their mandates.[20]

Since 2003 Mexicans have universal access to HAART under the national guidelines for antiretrovirals (ARVs) use.[1] In order to guarantee quality health care, reduce inequalities and to improve the health of PLWH Ambulatory Centers of Prevention and Attention of AIDS and STDS (CAPASITS) were created.[1] These units provide integral health care, ARVs and early diagnosis and treatment of HIV

and sexually transmitted diseases (STDs). Since 2009 people without social security have universal access to viral load determination, CD4 count, and genotype tests if necessary.[1] In order to manage the amount of data of patients under HAART, the System of Administration, Logistics and Vigilance of ARVs (SALVAR) was created. The processes of demand, administration and control of ARVs in the CAPASITS are facilitated through an online system.[1]




*Made with data available at: INEGI/SS Registro Nacional de Casos de SIDA [Online] 2009 Available from: http://www.censida.salud.gob.mx/descargas/2009/cifras/Nov2009/03_casoEdadSex.pdf Accessed on July 1, 2010.*

**I.5 Problem's relevance**

Since the start of the HIV/AIDS epidemic, the evidence yet the ignorance and fear around it created the setting for what it is today one of the most stigmatized diseases of all times. Labeling some groups as the ones with higher risk of HIV infection – MSM, female sex workers (FSW) and IDUs - has had the benefit of focusing preventive efforts towards them, but also has created stigma and discrimination around them. Moreover stigma and discrimination has created a barrier for other people seeing themselves at risk and taking further steps to obtain information and support. A big percentage of the general population, specifically married women, rural populations, and heterosexual men, receive insufficient attention in the preventive efforts of HIV infection. Nowadays the disease distribution is spreading out of the so called 'high-risk populations'[1] and is reaching other groups that had little attention from health policies and programs.

The current ABC approach merely focus on the individual capacity and ability of decision making and self-control,[15,21] without considering that there are factors that can be an obstacle to abstain from sex, be faithful to one's partner or to have the power to negotiate safe sex encounters. This considers the individual risk, in isolation of the economic, social and cultural environment that influence sexual decision making and that can also affect the risk of the partner. It neither considers the gender roles that prevail in the person's context,[15] and people´s needs in different stages of their lives. Women might abstain until marriage but then the desire to have children will compete with the need to use condoms.[22]

In Mexico, the first AIDS case in a woman was reported in 1984 after a blood transfusion.[18] Since then, the response to the Mexican government towards safe blood reduced AIDS cases among women. In recent years the percentage AIDS cases thought heterosexual contact has been increasing among young women in rural areas and indigenous communities.[1,2,3,4,5] In certain Mexican

indigenous groups, HIV prevalence is as high as 4.5%,[4] compared with a national prevalence of 0.37%.[1] A third of the AIDS cases in Mexican women are found in Chiapas, a southern state with a high number of indigenous and rural population and high indexes of poverty.[18] They live in places where accessibility to health centers is limited and hinder their access to information and preventive health services. In a retrospective study among 100 women from low socioeconomic status in rural and urban areas it was seen that all of them had lived 8 years with HIV infection before being diagnosed; all had HIV positive partners and 70% had never use a male condom.[18] However besides the classic health determinants, this thesis will explore how a precarious socio-economic situation and factors related to social relations (e.g. gender, ethnicity, class) are contributing to the increasing AIDS cases among indigenous women.

Contrary to what it would be expected, these rural isolated communities have a high risk of HIV infection because of the cyclic patters of migration to the USA and the high percentage of men and women that return with HIV infection.[23] According some authors,[24] the isolation of these communities can lead to a rapid dissemination of HIV which would have economic, social and demographic impact. McKenna,[25] quoted by Montenegro and Stephens,[13] fear that the AIDS epidemic will have the same catastrophic consequences among indigenous populations, as the epidemics brought to LAR and the Caribbean by the European conquerors in the 15$^{th}$ and 16$^{th}$ centuries, where within a century the indigenous population dropped around 90%.[13]

# Chapter II
*Methodology*

## II.1 General objective

To explore and to analyze how gender and its interaction with other social relations contribute to the vulnerability of HIV/AIDS among Mexican women in rural areas and indigenous communities and the limitations of the current gender and vulnerability models to prevent the spread of HIV/AIDS.

## II.2 Specific objectives

- To propose a holistic gender and vulnerability framework that addresses women's and men's gendered vulnerabilities to HIV/AIDS and their interaction with other social relations and socio-economic factors.
- To explore how gender and its interaction with other social relations contributes towards the HIV/AIDS epidemic in Mexican women living in rural areas and indigenous groups.
- To formulate recommendations for the prevention of HIV/AIDS among Mexican women living in rural areas and indigenous groups.

## II.3 Search strategy and selection criteria

To accomplish the first specific objective key international literature will be searched in English since 1985, on theories of gender, human development and sociology and vulnerability frameworks used in health, economics and natural hazards. Reference lists and the KIT Library data base will be mainly used. In the second part of the thesis, using the adapted framework as guidance, I will collect quantitative and qualitative data predominantly since 1990 through a literature review in English and Spanish. Articles and books will be searched using reference lists, and academic search engines such as Scopus, Google Scholar, Pub Med, KIT Library data base and UCL Centre for International Health and Development data base. The search will also include the Mexican Ministry of Health, CENSIDA, WHO, UNGASS, UNIFEM, UNAIDS and BRIDGE.

## II.4 Keywords

HIV/AIDS, vulnerability, risk, gender, sexuality, sexual behavior, women, rural, indigenous, Mexico

## II.5 Application of results

With the information gathered and analyzed in this work, I intend to make recommendations to the Ministry of Health in Mexico and the CENSIDA to improve their HIV/AIDS prevention programs in containing the epidemic among Mexican women in rural areas and indigenous groups. This will contribute to the current efforts to stop the AIDS epidemic at national and global level.

## II.6 Limitations

a) Due to time and economic constrictions it was not possible to conduct field work.
b) Although I am exploring how gender relations differ within indigenous communities and how that impacts vulnerability to HIV, due the specified length of this work, I am not able to examine other aspects of ethnicity which may impact vulnerabilities.

## Chapter III
*Frameworks: vulnerability analysis and gender*

In this chapter I will try to answer the first study question: *are the gender and vulnerability frameworks for HIV/AIDS effectively addressing the gendered vulnerabilities to HIV/AIDS of women and men?* I will briefly comment the current HIV/AIDS vulnerability frameworks in order to provide the ground to start the discussion. Then I will extract concepts used in vulnerability approaches in economics and natural hazards to enrich the understanding. I will analyze the gender and health framework proposed by the Liverpool School of Tropical Medicine (LSTM)[26] to identify its utility and limitations to approach the HIV/AIDS epidemic. This analysis will be through gender concepts in development and social studies areas. Finally, I will develop a holistic framework that can be used to identify women and men's gendered vulnerabilities to HIV. The model will be used in chapter IV.

### III.1 Justification

The approach that has been given to HIV/AIDS has been reduced to preventive measures that are not necessarily adequate for all the population. The ABC approach has been and continuous to be the preventing principle for HIV infection in Mexico among couples. This fits well with the social norms and attitudes about gender and sexuality, but not with social realities. In a country where sexuality issues are hard to be discussed and traditional gender roles are deeply rooted in people's lives, AIDS and sexual education has been a challenge to all of us who are part of the health system.

### III.2 Vulnerability to HIV/AIDS frameworks

Vulnerability frameworks are useful analytical tools to understand how the different elements in the AIDS epidemic interact with each other increasing or decreasing the susceptibility that a person has of being infected.[27] They are also useful to identify possible targets to plan strategies for risk reduction, to analyze programs and to identify gaps in knowledge.[27]

The concepts *risk* and *vulnerability* are sometimes used interchangeably, but it is important to emphasize that they are no synonyms. Each concept can be used to analyze and approach the AIDS epidemics from different epidemiologic angles. Although different, there is a synergy between them that decrease or amplifies the susceptibility of HIV infection. Risks can be described as the behaviors that increase the likelihood of becoming infected.[28] Therefore, risk reduction strategies addresses the immediate factors of sexual transmission: STD treatment, condom use, partner reduction.[29] Vulnerability makes reference to the factors outside an individual's control, reducing the ability to avoid the risk of becoming infected with HIV.[28] Vulnerability reduction strategies addresses underlying factors affecting transmission: poverty, human rights, gender relations, legal frameworks.[29]

At the beginning of the AIDS epidemics, when little was known about the pathogenic agent the biomedical paradigm was the most useful tool in the process of identification and understanding of HIV.[30] With the epidemiologic data it was possible to create preventive measures that targeted high risk groups.[30] As the epidemics evolved, in the early 1990´s the lack of treatment and the increased stigmatization of the disease and those living with it created the need for a framework which addressed the concern about human rights, the developmental framework.[30] The risk-vulnerability model was developed on the basis of health and human rights in the early 1990s,[31] when it was seen that women in the poorest countries were being more affected than men by the epidemic.[32] International development agencies, NGOs and reproductive health organizations created new AIDS programs while a 'vulnerability' framework started to be created around poor women and their children.[32]

The new approach went beyond the biomedical model of infectious diseases control to address broader determinants of HIV spread and impact. The focus was on the negative effects that discrimination, stigma, and economic and social inequalities caused to the accessibility of care, and the search for testing and counseling for PLWH.[30,31] This developmental approach required a multisectoral participation based on the vulnerable population's human rights.[31] However, after the availability of ARVs at the end of 1996 the biomedical model gained ground compared to the developmental model.[30] The different interests of the biomedical paradigm and the developmental paradigm are summarized in *table 3*.

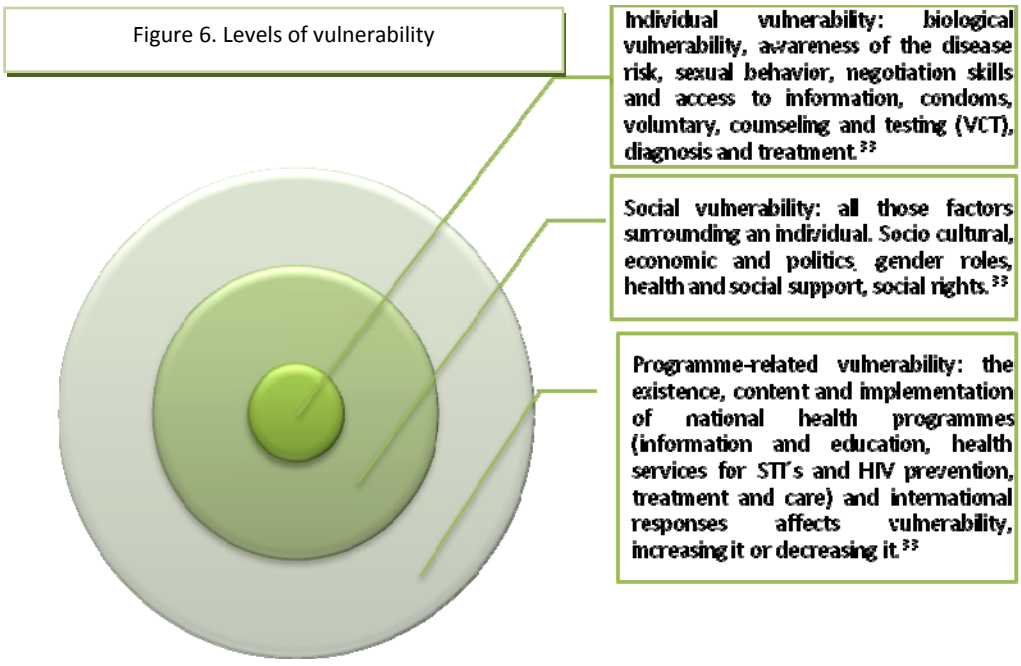
**Table 3: Comparing the biomedical and the developmental paradigm**

| | Biomedical paradigm | Developmental paradigm |
|---|---|---|
| **Object of interest** | Individual | Context: family, community, society, culture. |
| **Focus on** | RISKS | SOCIAL VULNERABILITY |
| **Main interest** | Identify the infected individual (creation of high-risk-groups) | Identify structural causes that increase vulnerability: unequal access to health care, unequal social and economic status, poverty, discrimination, isolation, education, health services provision. |
| **Assumptions** | Behavioral change through education is key to decrease the HIV transmission. | |

Table made with information from: Wolffers I. Biomedical and development paradigms in AIDS prevention. Bulletin of the World Health Organization 2000; 78(2): 267-273[30]

The framework developed by Mann[33] and the infectious diseases framework by the Vulnerability and Health Alliance at the Liverpool School of Tropical Medicine[26] are useful to identify the different levels in which vulnerability to HIV[33] or another infectious diseases[26] is created. *See figure 6 and 7.* Three levels of individual, community/social and macro level/program-related are identified by their components. These factors interact and produce vulnerability to exposure, progression and sequels of HIV or another infectious disease.

Figure 6. Levels of vulnerability




Made with information from: Mann J, Tarantola DJM, Netter T. A global report AIDS in the World. Cambridge, Massachusetts: Harvard University Press; 1992.p.577-602[33]

Mann's framework[33] recognizes that underneath the surface of the biological susceptibility to HIV and the 'behavior-based modes of HIV transmission' there were other factors interacting with each other and limiting individual empowerment, increasing vulnerability and slowing down or speeding up the progress of the AIDS epidemic. In the framework, individual behavior determines vulnerability and individual empowerment is the basis for HIV prevention, in Mann's[33] words "personal empowerment is the antithesis of vulnerability" however he recognized this was not sufficient. Individual behavior changes and adapts in a lifetime by the influence that key individuals (role models), the society and its institutions (religions, government), international factors exerts on them.[33]

| **Figure 7. Factors producing vulnerability to progression to disease, progression to severe disease, exposure/infection, severe disease, and effects of disease** | |
|---|---|
| **Individual level: biological and disease-related factors** | Immunity, age, sex, pregnancy, genetics, interactions with other diseases |
| **Household and community levels: social and economic factors** | Socioeconomic status/poverty, nutritional status, livelihoods, gender, education, religion, knowledge, behavior |
| **Meso/macro levels: environmental and institutional factors** | Physical/geographical, drug resistance, migration and complex emergencies, health services and policy (including access to health care, quality of care, and health sector reform), development policy |
| A framework that mapped out all potential vulnerability determinants at three levels was devised by the Vulnerability and Health Alliance at the Liverpool School of Tropical Medicine. Adapted from: Bates I, Fenton C, Gruber J, Lalloo D, Medina Lara A, Bertel Squire S, Theobald S,Thomson R, Tolhurst R. Vulnerability to malaria, tuberculosis, and HIV/AIDS infection and disease. Part II: determinants operating at individual and household level. *Lancet Infect Dis* 2004; 4: 267–77 | |

The fact that the AIDS epidemic is affecting women in great number, especially in Africa,[2] has created the opportunity to focus on 'women-only' vulnerability models.[34] Edstrom[32] argues that vulnerability has been conceptualized around passivity and has been associated with women and femininity. According to Higgins[34] the current vulnerability model for HIV/AIDS transmission mainly focus on the susceptibility that women have to HIV due their biological uniqueness and unequal power relationships.[34] This model pictures men as heterosexual, violent, irresponsible and promiscuous.[32] Men are seen the problem, as HIV carriers and considers as a fact that they engage in risky activities but does not explain what shapes their behavior and often exclude them of HIV/AIDS preventive programs.[34] This approach positions women as vulnerable victims and fail to recognize their agency and power, reinforcing gender roles (women are obedient, submissive, passive and need protection).[34,35] Other advantages and disadvantages of the current vulnerability approach are summarized in *text box 3.*

Common components can be abstracted from the review of various vulnerability models available in the literature of global environmental changes,[27] economics,[36] and infectious diseases.[26,33] There is a subject who is vulnerable (e.g. person, group, or community), an external force/hazard or danger to which someone will be exposed and can be harmed, the factors around the subject and the hazard that creates vulnerability (e.g. biological, socio-economic).[26] Those elements that increase the individual's (or the system's) vulnerability include a wide range of factors from biological (e.g. immunity), socio-economic (e.g. poverty, migration), social relations (e.g. gender relations, ethnicity, age) to institutional (e.g. Inadequate health services).[26,33]

*Resilience* is a concept that implies the capacity to anticipate, prepare for, cope with, respond to, and recover from the hazard. This is a fundamental concept that goes hand in hand with vulnerability especially among the natural hazards[27] and economics[36] approaches. It refers to the system´s capacity to cope with, adapt and respond to disturbances/stresses in order to keep the system´s structure, function and organization.[27] The concept of resilience, in the AIDS epidemic makes reference to the power to access and use resources, the presence of skills and abilities,

aptitudes and perceptions that an individual (or a health system, or a nation) has in order to cope with to the intersected vulnerabilities. If the resilience is reduced (e.g. through the lack of power and negotiation skills, poverty, lack of knowledge, wrong perceptions, poor quality prevention services, lack of information in an indigenous language) the vulnerability of the system will increase, with high probability that the outcome will be HIV infection or spread. On the other hand, if the individual (or the system) has the adequate mechanisms (e.g. laws, empowerment, budget for preventive programs) to acknowledge the presence of vulnerabilities and have the skills to manage them, the outcome can be either risk aversion (safe sex practices, quality and efficient preventive services) or risk reduction.

**Text box 3. Current vulnerability approach**

<table>
<tr><th>Advantages</th><th colspan="2">Disadvantages</th></tr>
<tr><td rowspan="3">• Change from an individual approach to a social, structural and gender inequalities one<br><br>Promotes:<br><br>• International awareness of the problem<br>• Creation of women empowerment programs<br>• Fund raising for women's causes<br>• Women's property ownership legislation<br>• Girls education<br>• Microfinance programs<br>• Antiviolence legislation<br>• Research on women's controlled preventive technologies</td><td colspan="2">• Focus on heterosexual women but not men<br>• Focus only on heterosexual practices<br>• Men's gender socialization is not recognized<br>• Structural factors that affect men are not recognized (poverty, migration, income, race, gender, class marginalization)<br>• Neglects men's risks<br>• Men are discouraged to participate<br>• Masks women's power and agency<br>• Masks women's sexuality<br>• Masks women's feelings, believes, and preferences</td></tr>
<tr><td>Women are seen as:</td><td>Men are seen as:</td></tr>
<tr><td>• Socially disadvantaged<br>• Biologically susceptible<br>• Monogamous/married<br>• Reduced sexual autonomy<br>• Disempowered<br>• Unprotected<br>• Eager to prevent HIV infection</td><td>• Active transmitters or infection vectors<br>• Men's sexual behavior is unchangeable and uncontrollable<br>• Men adhere to traditional norms</td></tr>
<tr><td colspan="3">Made with information from Higgins JA, Hoffman S, Dworkin SL. Rethinking gender, heterosexual men, and women's vulnerability to HIV/AIDS. Am J Public Health. 2010 Mar; 100(3):435-45.[34]</td></tr>
</table>

It is important to include r*esilience* in the AIDS epidemics (and probably in other infectious diseases) in several levels. Resilience can be at individual level but also at household level and going further to community level. If an individual lacks the skills (e.g. bargaining skills) and abilities (e.g. correct use of condom) to cope with a potential hazard (in this case HIV infection), her/his resilience is reduced and therefore the likelihood to become infected is high. If hers/his perceptions about the disease are erroneous, or if hers/his resources are scarce, the response to an eminent exposure to the virus (e.g. unsafe sex practices, use of unclean needles) will not be effective. Focusing the analysis of vulnerability (and creating preventive measures) at an individual level is unrealistic, given that most people do not live in isolation: they belong to a household, a community, and a nation, to stop there.

A *household*, is an institution where specific activities and social relations happen between people that assumed to have more or less similar interests and emotions; behavior within the household is ruled by a ´contract´ of obligations and responsibilities backed up by the prevalent norms and rules in a society.[37] Although the individuals within a household might have similar interests, some conflicts of preferences and interests might arise between them, leading to a decision making process where inequalities in bargaining power can outweigh one interest over another.[37] In the context of gendered power relations, individual empowerment to negotiate the use of condom or decide whether or not to have sex requires, as Mann implied,[33] a change in social relations. Another example is boys´ education preference over girls' education, especially in low resources settings, the

lack of economic resources will increase gender inequalities, reducing girl's abilities to receive formal education and reduce their vulnerability to HIV infection.

The concept of resilience evaluates hazards within a social/human-environment/ecological system, which stands that human action and social structures are part of nature therefore both systems should not be analyzed separately.[27,38] In the case of the AIDS epidemic, people interact with the social, cultural, economic and political environment. Changes in the environment will affect people's susceptibility of infection and will shape their reaction to the imminent threat of HIV infection. The idea of a social/ecological system suggests the importance of considering social, political and economical changes in the way the AIDS epidemic develops. In the machinery of system, all the elements are interconnected. If one element is changed or removed, the other components will have to adapt to the new situation. Since gender relations are socially constructed, changes in the system's structure where they were created and maintained, will impact on women and men differently.

Resilience can exist in policies and strategies that enhance the ability of a system to manage and respond to hazards.[38] This recognizes that the institutions' planning and response to future dangers and threats can affect the systems' vulnerability in a positive or a negative way. This creates the sense of dynamism in the system. A system is object of constant changes, (social conditions for example) making necessary to reduce uncertainty and to create mechanisms to cope with what cannot be predicted, therefore the vulnerability of a system also lies on its resilience.[38]

The AIDS epidemic can spread through a region, a nation or transitionally if a country fails to recognize its magnitude and its future trend. Ignoring the root factors that create behaviors and increase risk, reduces the resilience of each member of the system and eventually reduces ability to address vulnerability and avoid risk. The analysis of the past, current and future trends is necessary if the system wants to ensure the stability of its elements, in this case, the well being of a nation, community, or the world population. If Mexico wants to develop resilience to the AIDS epidemic, is necessary to build it, with respect of the different vulnerabilities that the different population groups have according to their very specific context.

**III.3 Gender**

Vulnerability to HIV/AIDS approaches, are not sufficiently addressing gender, on how it operates to affect vulnerability, risk-taking and resilience. In this section, gender will be further explored.

Gender can be conceptualized in different ways, thus, it is important to clarify which concept I will use throughout. *Gender,* in words of Scott[39] "is a constitutive element of social relationships based on perceived differences between the sexes, and gender is a primary way of signifying relationships of power". Gender as socially and culturally constructed is defined by Reeves and Baden[40] as: "Gender and the hierarchical power relations between women and men based on this are socially constructed, and not derived directly from biology… Gender identities and associated expectations of roles and responsibilities are therefore changeable between and within cultures… Gendered power relations permeate social institutions so that gender is never absent." The discussion of gender relations, as produced and reinforced by social structures and institutions, draws on the work of Kabeer who sees[41] gender as "an aspect of *all* organizational relations and behavior, more distinct and explicit in some institutional locations than others, but always interacting to shape the identities, practices and life chances of different groups of women and men in quite specific ways."

### III.4 Analysis of gender and health: The Liverpool School of Tropical Medicine guidelines

Gender analysis is according to Reeves[40] "the systematic gathering and examination of information on gender differences and social relations in order to identify, understand and redress inequities based on gender". Gender analysis in health therefore seeks to understand how gender roles, resources, perceptions and the dynamics in the relationship between men and women impact their health status.[42] There are several reviewed frameworks for gender and health analysis. This paper builds on the LSTM guidelines[26] for two reasons: they specifically focus on health, making their use more accessible for health professionals, and they also provide guidance to apply them to reproductive health issues and infectious diseases.

Different from the current approach which only focuses on women -which implies that the problem and the solution are confined to women-[41] this framework recognizes gender relations, which are relations of power between women and men[40] that are negotiated and maintained by both. *(See text box 4 for a more extensive definition of gender relations).* These kind of analyses, emphasize the connection in women's and men's relationships and the power differences/imbalances on the division of resources, responsibilities, power and privilege.[40,41] The focus on relations rather than individuals (either women or men) is essential for understanding an epidemic that in Mexico are mostly of sexual nature.

This framework provides the setting to understand that male control over women's labor, sexuality, reproductive capacity and other choices is not only through the use of force and violence but due inequalities produced by socially constructed notions of gender difference and identity that label what is *natural/biological* in women's and men's activities and tasks.[41] The framework focuses on the dynamics of gender relations to control over resources at various levels: household, community, national and international level. (*See text box 4 for a more extensive definition of gender equity and gender equality).* Equity, is the needed principle to introduce gender in health analysis.[43] The difference between women and men's needs and interests as well as the differences in power and control, access and distribution of resources creates different health outcomes.[40] Consequently, understanding the relations´ dynamics can help to address inequities based on gender.[40,42]

**Text box 4. Concepts**

**Gender relations** "Hierarchical relations of power between women and men that tend to disadvantage women… These gender hierarchies are often accepted as 'natural' but are socially determined relations, culturally based, and are subject to change over time. They can be seen in a range of gendered practices, such as the division of labor and resources, and gendered ideologies, such as ideas of acceptable behavior for women and men… Gender relations constitute and are constituted by a range of institutions, such as the family, legal systems or the market. They are a resource which is drawn on daily to reinforce or redefine the rules, norms and practices which govern social institutions…But whether gender relations act to alleviate, or to exacerbate other social inequalities, depends on the context."[40]

**Gender equality** "Denotes women having the same opportunities in life as men, including the ability to participate in the public sphere".[40]

**Gender equity** "Denotes the equivalence in life outcomes for women and men, recognizing their different needs and interests, and requiring a redistribution of power and resources."[40]

Concepts taken from: Reeves H, Baden S. Gender and Development: Concepts and Definitions. UK: BRIDGE; 2000.p. 2,3,6,10,18

The LSTM guidelines[26] provide an outline to do health analysis in three steps: a) Part I: Patterns of ill-health-identifying who gets ill, when and where, b) Part: Factors affecting who gets ill, c) Part 3:

Factors affecting responses to illness.[42] The last two parts consist of matrices allowing to follow a systematic process to formulate research questions and to gather and analyze data *(see figures 8 and 9)*. The matrices guide users to examine the impact of gender on health and the way men and women respond to illness. If data is available, and the correct questions are raised it is possible to identify problems and fill information gaps that need to be addressed.

| **Figure 8. Matrices Part 2 Matrix: Factors affecting who gets ill** | | | |
|---|---|---|---|
| *Why different groups of men and women suffer from ill health?* | *Household* | *Communities* | *Influence of States/markets international relations* |
| How does the **ENVIRONMENT** influence who becomes ill? | | | |
| How do the **ACTIVITIES** of men and women influence their health? | | | |
| How do the **BARGAINING POSITIONS** of men and women influence their health? | | | |
| How does access to and control over **RESOURCES** influence the health of men and women? | | | |
| How do **GENDER** norms influence health? | | | |
| DFID. Guidelines for the analysis of gender & health. UK: Department for International Development; 1999.p.26,27 | | | |

| **Figure 9. Matrices Part 3 Matrix: Factors affecting responses to ill health** | | | |
|---|---|---|---|
| *How are men´s and women´s responses to ill health influence by gender?* | *Household* | *Communities* | *Available health services* |
| How do the **ACTIVITIES** of men and women influence responses to illness? | | | |
| How do the **BARGAINING POSITIONS** of men and women influence responses to illness? | | | |
| How does access to and control over **RESOURCES** influence responses to illness? | | | |
| How do **GENDER** norms affect responses to illness? | | | |
| DFID. Guidelines for the analysis of gender & health. UK: Department for International Development; 1999.p.26,27 | | | |

### III.4.1 Gaps and limitations

Although useful as a starting point to analyze the impact of gender on health, the framework can potentially lead to omit or ignore important elements. Four main concerns are: a) the lack of emphasis on the interaction of gender relations with socio-economic factors; b) how gender and other social relations, such as class, ethnicity and race interact c) if the person applying the guidelines does not realize the core function of sexuality within gender relations it can be potentially neglected; d) and the omission of biology as a core sphere that influences women and men health status.

### III.4.2 Gender and its interaction with socio-economic factors

The framework provides matrices to explore the sex-disaggregated ('men' and 'women') activities, resources, and bargaining positions of men and women. However 'gender norms' appear as an isolated variable of analysis, instead of recognizing that activities and resources, access and control, and responses to illness and health are shaped by gender norms. It also fails to see bargaining positions in the context of power that comes from women's and men's relative social positions. Finally, it does not recognize how the environment reflects and reinforce social relations of gender.

Women and men's activities can be divided in two economic and social spheres that are complementary to each other.[28] A remunerated, productive and public dimension, usually covered by men; and a private, a reproductive and unremunerated fulfilled by women.[28] This gender division of labor, that once was might have been a way of organizing tasks, through time enroots in people's lives and take place as social rules and norms that give significance to being woman or man.[41] Men's paid activities and decision making have a greater social and economic value while women's activities, although very important in the community development are often ignored.[28]

The division of economic and social roles is not always well defined, and men and women's activities overlap[28] but there is always a distinction between men and women's access and control of resources,[44] and authority to make decisions.[45] Although there is the theoretical separation of public and private dimensions, family norms and values influence women and men's access and participation in public life and in the marketplace.[41] Moreover, such norms also interact with other social institutions' (like the free market and the state) rules and practices determining the access, control and allocation of resources.[41]Usually women have less access to education and paid jobs,[5] are economically dependent on men, and their possibilities for education and the access to quality health services are limited. These are inequities[24,45,46] that can lead to further inequities and vulnerabilities. As Kabber remarks:[41] "To challenge the gender division of labor within a social order is to challenge the basis of core gender identities."

**III.4.3 Gender and its interaction with other social relations: ethnicity, class, age**

In the first part of the framework[26] (patterns of ill-health-identifying who gets ill, when and where) it is briefly mentioned within the guidelines the possibility to have a wider panorama if socioeconomic class and ethnicity are analyzed. However further awareness of class, race and ethnicity, as other forms of social relations, and their interaction with gender is not given. Gender as an aspect of social relations is never alone but interconnected with other social inequalities like class and race, and then should be analyzed in a more comprehensive framework that allow to understand the living situation of women and men.[41] The health outcomes of such intersections will give different results; some showing more inequities than others depending of the value that society has put on the different social relations for example: *poor-indigenous-woman* VS *middle-class-mestiza-woman*. In the Mexican context, an indigenous woman will have lower access to health care compared to a non-indigenous woman, due different ethnicity but also to the different expressions of gender relations, both differences translating in inequalities.

These should be core elements of the gender analysis to understand who is ill, what kinds of illnesses affect one group or another, and when and where people become sick. The analysis of these spheres, also allows exploring the factors influencing *resilience* (the responses to illness and health) that can perpetuate, reduce or avert the exposure to a health risk. We cannot isolate individuals from their environment (social, cultural, political, natural) if we want to understand the gender relations that take place and create inequities, health needs and responses. Kabeer[37] says: "… the nature of gender inequalities within the household, their persistence or transformation, have to be located and understood in relation to other forms of inequality and interest operating in the wider society and economy." Social relations within a household and the processes of cooperation, conflict and bargaining that take place within, are also reproduced, influenced and reinforced by institutions of society.[37,41]

The interaction between gender, ethnicity, socioeconomic status, institutional factors of women and men of different ages and marital status[5,26] has been called cumulated vulnerabilities[5] which in combination create different classes of risks and extreme vulnerabilities for men and women,[5,47] a phenomenon called intersectionality.[47] The creation of vulnerabilities through the intersection and interaction of different social positions (gender, ethnicity, class, age) is not considered in the

definitions of HIV transmission mechanisms. What has been a standard is the use of categories such as MSM, IDUs, FSW, MSW which offer a very limited view of the reality due the simplification of complex gender relations into mere behaviors. The process of intersectionality is important to understand the AIDS epidemic dynamics in order to create more efficient preventive measures.

As an example of intersectionality that increases women vulnerabilities to HIV infection, is the socially tolerated marriage between girls and older men. Gender roles dictate for men to be more sexually experienced which can imply having numerous sexual partners increasing their STDs exposure and infection.[5,24] Besides their biological vulnerabilities, girls have less power relative to older men than one their own age and they might not have the skills and abilities to negotiate the use of condom within sexual relations, nor the power to decide whether or not to have sex.

**III.4.4 Sexuality as an element of gendered relations**

Sexuality comprehends the feelings, desires, beliefs and behaviors influenced by socially accepted attitudes and norms that dictate the sexual interaction between individuals.[44] Sexuality is one element of gender relations, therefore it is in constant evolution,[48] it is defined by culture and society,[45,49] and it intersects with class, caste, ethnicity and age.[44,45]

Gupta[45] talks about the Ps of sexuality: practices, partners, pleasure/pressure/pain, procreation and power. Practices and partners are related to behavior; the other P´s express the motives to behave in a certain way.[45] In words of Reeves and Baden,[40] "power may be understood as 'power within,' or self confidence, 'power with', or the capacity to organize with others towards a common purpose, and the 'power to' effect change and take decisions, rather than 'power over' others." Power is the most important element since it is involved in any sexual interaction and determines the expression and the experience of sexuality.[45] In this case power needs to be understood as *power to* determine, according to Gupta[45] "whose pleasure is given priority and when, how, and with whom sex takes place." Usually, power balance favors men.[45]

Within a health public point of view sexuality is seen as a health determinant, and the common objective is to promote safer sex leaving aside other components of sexuality such as sexual health, pleasure and rights.[45] The creation of the group MSM has been around a specific high-risk sexual behavior (penetrative anal sex) as if only men and not women practice it.[32] In this group, sexuality has been reduced to a set of behaviors, dismissing feelings, desires and beliefs. As Dowsett[50] exposes,

> "There might be ways to understand HIV/AIDS more usefully were we to configure it as an ''epidemic of people who have sex''—that is, as a problem of human sexuality, not just as a problem of reproductive health… In all of these ways, human sexuality is reduced to the acts and arrangements of the relations between men and women and their reproductive proclivities and potential, particularly the ''heteronormative'' (meaning the prevailing Western notion of opposite-sex, monogamous, sexually reproductive —i.e. vaginal intercourse alone—married relationships)."

Sexual acts seen as behaviors, remove the meaning that a sexual encounter has and the pleasure that can bring with it, it denies the context in which those meanings are created as a reflection of the culture and society.[50] The importance of sexuality goes beyond the creation of behaviors and risk categories. The fact that the expressions of sexuality are so diverse, just like the women and men that involve every day in sexual relations has not been accepted yet. Unless we fully accept the fact that sexuality is expressed everyday in young and old people with no fix pattern, all the efforts to address HIV/AIDS will not be successful. Since sexuality is culturally constructed it can be changed and challenged, however it is a matter of social change.

### III.5 The inevitability of biology

No one should leave aside the fact that biology and genetics have a big role in who is more vulnerable to HIV infection. Biologically, women are 2 to 4 times more vulnerable to HIV infection than men.[5] The presence of STDs has been associated with a ten times higher risk of HIV transmission from men to women, however these are often asymptomatic in women which causes difficulties in diagnosis and treatment. Another reason is the higher viral load in semen than in vaginal fluids,[5,24] which translates in higher risks of infection per sexual contact for women than men. The vaginal and rectal epithelium are more vulnerable to be infected than the penile epithelium;[24] these tissues are fragile and easy to tear off specially if combined with STDs that debilitate their integrity.[5] The immature genital tract of girls and young women can be easily tear off during sexual relations making them highly vulnerable to HIV infection. In their lifetime, women usually need more blood transfusions than men due to gynecology and obstetrics complications, increasing the risk of HIV infection by contaminated blood products.[5,24] All these facts back up the reason to include biology/genetics in the model as another element that interacts with gender, age, ethnicity, and socio-economic factors improving or deteriorating a person's health status.

### III.6 Discussion: Integrated gender and social analysis framework of factors influencing the vulnerability and resilience of HIV

One of the issues that took me to examine vulnerability models in other areas besides health is the way the current vulnerability models see women and men as opposite instead of complementary actors in the AIDS epidemic. The vulnerability HIV/AIDS framework that sees women as victims and only focus on men's risk behaviors, neglects the fact that both are active agents to prevent HIV infection. It also ignores how socially constructed gender relations and norms shape women and men's constraints and opportunities. If these models continue ignoring women's agency and men's vulnerability, I believe they will keep reinforcing the inequalities present in gender relations.

The usefulness and the limitations of the Liverpool framework[26] have been previously exposed in this chapter demonstrating the need to create a more cohesive and comprehensive model to study HIV vulnerability and resilience. Without a proper framework to study women's and men's vulnerability to HIV we will always face gaps of information that will impede us to understand the future epidemic's trend and find successful prevention methods. In brief, I will propose an adapted framework that hope can be useful to analyze the AIDS epidemic in Mexico specifically among women in rural areas and indigenous populations. The framework's scheme can be seen in figure 10 an also in Annex 1.

The following concepts need to be changed in order to address women's and men's vulnerability to HIV infection:

a) **Women** are seen as **victims.**
b) **Men** are seen as **vectors** of HIV but **not** as **vulnerable.**
c) Although it is recognized that gender roles are constantly changing, the importance of economic, political and social situation in the creation of **new gender roles** is **overlooked**.
d) The **interaction** of **gender** with social relations **(age, class, and ethnicity)** needs more **emphasis.**
e) **Sexuality** is **not addressed** as a core component of gendered relations and people's identities.
f) **Risk categories,** such as MSM, are built around high-risk behaviors in isolation of the context where gender relations occur. This **limits** our understanding of the epidemic and successful prevention of HIV.

As Dowsett pointed out:[50] "If we fail to understand the determinants of HIV risk and vulnerability as profoundly social — and by social is meant relational, contextual, cultural, political, economic, historical, symbolic and discursive — we fail to understand best how to intervene." The importance to include these concepts to successfully address HIV vulnerability among women and men in the gender-vulnerability framework to reduce the incidence of HIV infections will be highlighted in this section.

There are three concepts I would like to clarify. The first one is *biology*. This needs to be understood as the anatomical and physiological characteristics, and genetic susceptibilities and resistances and immunities that are central because of the difficulty to change. However as it was previously mentioned, biology as all the other vulnerabilities, cannot be analyzed without a considering the context where social relations and other factors take place. The second concept is *gender*. Here I included gender relations (considering that sexuality should be addressed within the concept but with special emphasis), gender roles, norms and responsibilities, activities, access to and control of resources, and bargaining positions. The third clarification is that *ethnicity* goes beyond the simplified concept of a health determinant. It is important to remark that gender relations can be different depending on the context (urban/rural; indigenous communities/non-indigenous communities, and even within ethnic groups). Part of this analysis should include the way indigenous people are seen by the rest of the population, how they perceive their health status and how they define health and disease. Ethnicity should make room to allow the expressions of each ethnic group's beliefs and health needs. This will allow creating sensitive and efficient programs that respect the groups and identities and does not see them as vulnerable victims. "Indigenous women themselves may not identify gender inequities as a concern, focusing instead on their status as indigenous people within a larger population and placing the needs of their whole community above their own."[51]

It is important to emphasize that the model is cyclical and the outcome will give feedback to the start of the process. It is a system in constant changes, where all the parts interconnect and if one of the elements is modified, the vulnerability to infection, the ability to manage the risk and the health consequences will change. The vulnerabilities included in the framework are gender, age, class, ethnicity and biology. All of them are interconnected, amplifying or reducing the vulnerabilities and the resilience of an individual or the whole system (e.g. a community) to HIV infection. They are embedded in the socio-cultural, political and economic environment; therefore, any change (migration, poverty, change of laws, economic crisis, and gender roles) will affect the vulnerabilities. The individual (or the system) will continue to be more or less vulnerable in her/his lifetime and her/his capacity to avoid this risk will vary according to new gender relations and social positions formed by a changing economic, political and social context.

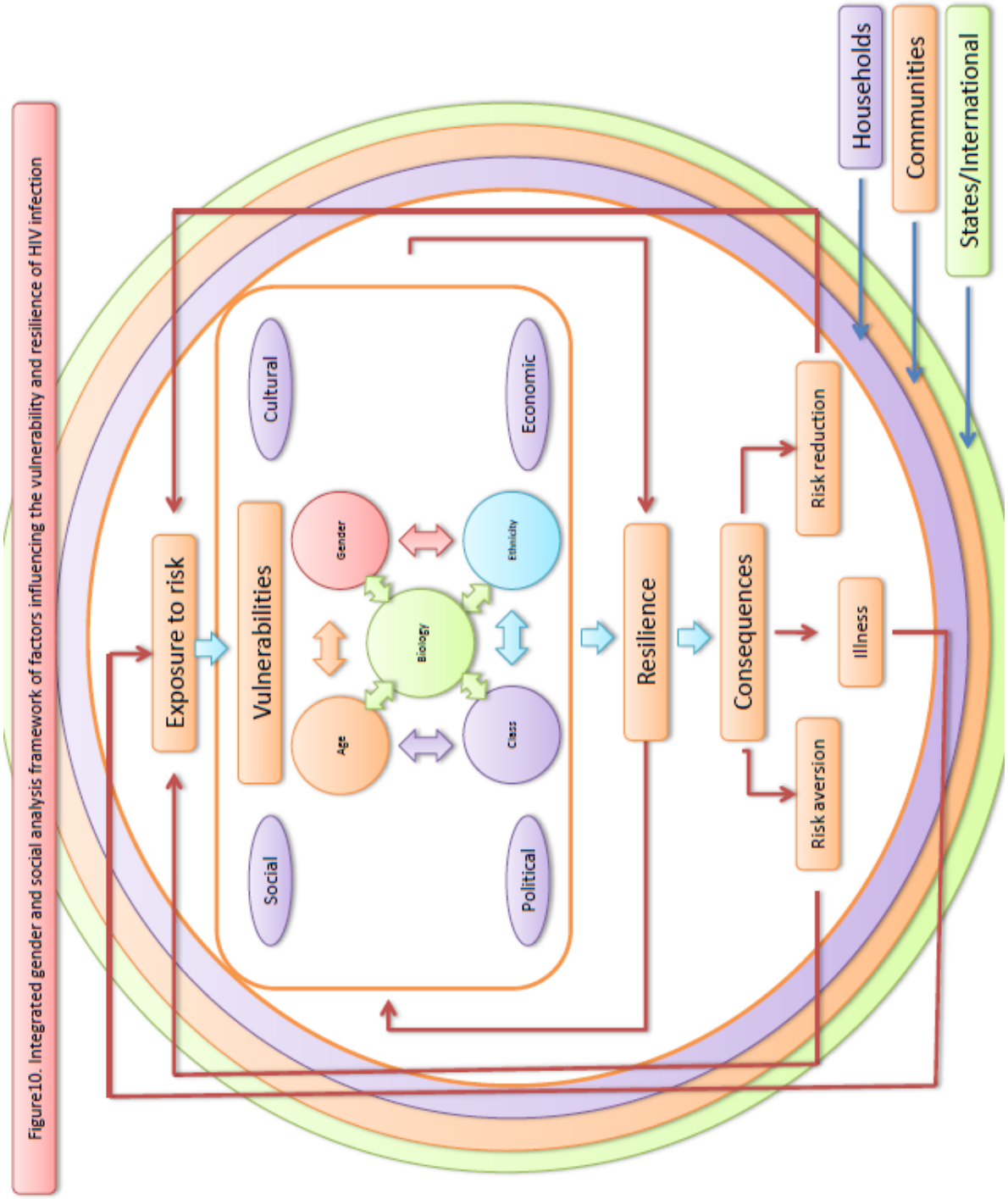


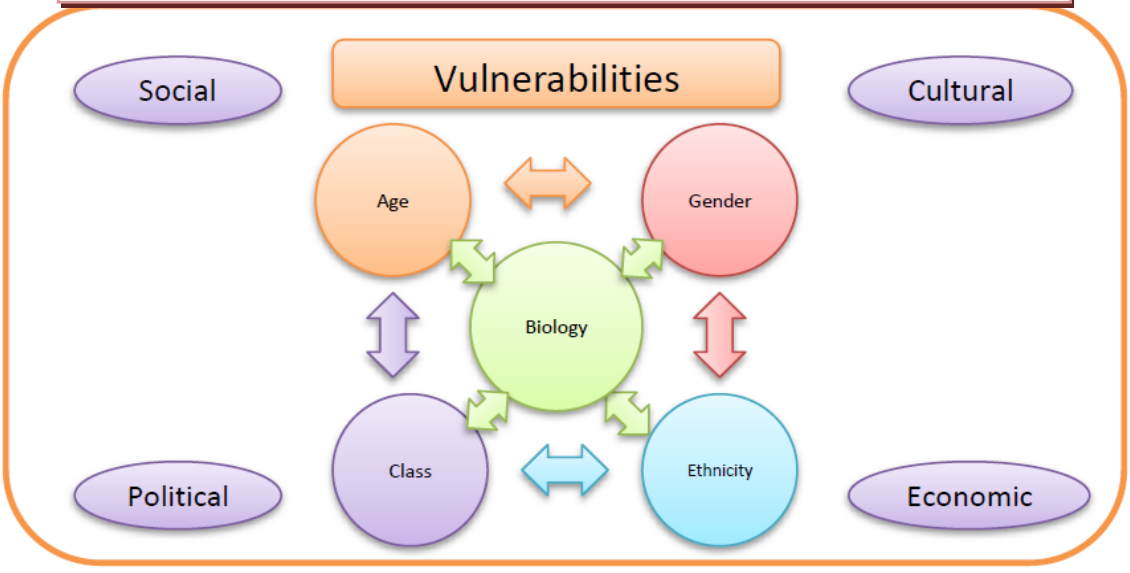

Figure10. Integrated gender and social analysis framework of factors influencing the vulnerability and resilience of HIV infection

## Chapter IV
*Study results: the AIDS epidemic among women in rural areas and indigenous groups*

In 2003 CENSIDA published a book[17] about the AIDS epidemic in Mexican rural areas. The work describes seven investigation projects towards different indigenous and rural groups. The overall view is that the epidemic affects socially vulnerable groups with low economic resources and resources and limited access to health services and education, which allow persistent misconceptions about HIV. Each work provides useful data about HIV prevalence and incidence, knowledge of the epidemic among these groups, *risk* practices and the limited accessibility and availability of services and treatment.

The approach given to the AIDS epidemic in rural areas, although useful, does not provide insightful information about what influence people's ability to reach a heath center (if available), or practice safe sex. The focus is still on risks, behaviors and sexual practices instead of focusing on people and their social position and identities. With this in mind, in this chapter, I will use the adapted framework to answer the question: *how does gender and its interaction with other social relations contribute towards the HIV/AIDS epidemic in Mexican women living in rural areas and indigenous groups?* In order to do this, I will systematically follow the central piece of the framework *(see figure 11)*. As mentioned before, increasing or decreasing vulnerabilities will influence resilience, therefore the vulnerabilities analysis cannot be separated but rather included in such interaction.

Figure 11. Vulnerabilities imbedded in the social, cultural, political and economic environment




### IV.1 *Vulnerabilities imbedded in the social, cultural, political and economic environment:* Factors affecting who can potentially acquire HIV

*Gender* as an element of power relationships[39] should be understood within the social and cultural context that construct it and shape it.[40] According to ethnicity, age and socio-economic status men and women are subject to different vulnerabilities created by social, cultural, economic and institutional factors.[26] Thus in order to better study the vulnerability to HIV I will describe the environment surrounding (and creating, shaping and evolving) the factors that affect women's (and men's) vulnerability.

### IV.1.1 Biological factors: the starting point

As it was previously mentioned, women are biologically more vulnerable to HIV infection than men. Regardless of biology and genetics importance, it is not possible to perceive the magnitude of its influence if it is not placed in a specific context. Kabeer[41] mentions that biological differences are affected by diverse social inequalities, such as class or gender inequalities. For example, besides the anatomical and physical reasons that make girls more vulnerable to HIV[5,24] gender relations such as under-age marriage or coerced sex are socially tolerated and increase their vulnerability. Even if empirically considering that all Mexican women have a similar genetic and biological background (which of course is not completely true), the gender norms and gender relations vary across classes and different ethnic groups, making some women more vulnerable than others.

### IV.1.2 '*She*' is not only a *woman*: intersecting social relations of gender, age, class and ethnicity

Women cannot be categorized under one universal group. Their different needs and interests, therefore their specific health outcomes, are influenced by the different social relations with which they belong. A third of the AIDS cases in Mexican women are found in Chiapas, a southern state with a high number of indigenous, rural population and high indexes of poverty.[18] Indigenous women are more socially and economically disadvantaged compared with other women in LAR[49,51,52] and have higher morbidity and mortality rates.[28] This has been attributed to discrimination (based not only on gender but also class and ethnicity), cultural factors (loss of language and culture, cultural misunderstanding by policy makers and service providers),[28] as well as socioeconomic factors (globalization, migration), and historical factors (colonization).[35]

Social status is a major health determinant that influences the accessibility of health care and the health status of an individual or a population.[53] Indigenous women social status is determined by their ethnicity but also their subordinated position to men within gender relations.[28,51] Although women take responsibility for children bearing and household domestic labor, they also are involved in farming and nowadays street vending.[51] In 2000, only 25.6% of indigenous women compared with 70.8% of indigenous men reported involvement in economic activities in Mexico.[14] The traditional division of labor among men and women is present among indigenous communities, making difficult to estimate the real rate of economic participation. Women mention their involvement in agricultural communities and house tasks, however since these activities are not recognized as 'work' and they are not remunerated, many women do not mention them.

The amount of time devoted to these tasks leaves them with little time to take care of their own health, attend school and participate in community activities. Since mothers have a big amount of work load, daughters at a young age start helping with house chores and care of younger siblings. It is a required cultural and social role and it takes priority over formal education. The illiterate rate is 27.3% among the indigenous population over 15 years old, compared with the national average of 9.5%.[14] Illiterate rates are generally higher among women than men, especially in indigenous municipalities where differences are more obvious with 42.2% of illiterate women and 24.6% illiterate men.[14] Women also form the biggest percentage of the indigenous population who only speak an indigenous language.

The indigenous notion of health, illness and healing differs from that of non-indigenous groups.[35] It involves a balance between their physical, mental, emotional and spiritual health and the harmony in the interaction with the family and the community.[35] The complexity of this interaction, which is not well understood by many health professionals, makes easier to sustain the unique context around the poor health situation so common among most indigenous populations around the world. Classic social and economic health determinants such as income, living conditions, health services, but also cultural factors such as loss of language and connection to the land, environmental

deprivation, and spiritual, emotional and mental disconnectedness[35] influence the health of indigenous people.

Another example of how class and gender intersect in a retrospective study among 100 Mexican women from low socioeconomic status in rural and urban areas showed that all of them had lived 8 years with HIV infection before being diagnosed; all of them had HIV positive partners and 70% had never use a male condom.[18] The unknown sero status was probably due lack of information and available health services. Given the importance to reach the population with information about HIV/AIDS other STDs, it needs to be considered that a high percentage of men and women have limited knowledge about HIV/AIDS and they are not benefiting from information campaigns in written materials increasing their vulnerability to HIV infection.

It is equally important to consider that their situation was created by other factors, such as the rules, norms and customs within the gendered power relations in their culture. The gendered division of labor, decreases women access to health services and creates unequal education and job opportunities, making them economically dependent and lacking of social power,[24,28,46,51] which with the time will lead to low health status due to lack of financial resources and therefore access to health care. An example of power imbalance is when some women in rural areas need authorization from their husbands to use health services receive information and receive appropriate treatment. It has been found[18] that HIV positive women have difficulties to visit health care facilities to receive ARTs since there is believed among their male partners that one should get sick and die together.

Kabeer says,[37] that culture should not be seen only as a constraint but it should be studied as those rules and norms that influence an individual's motivations and strategies within the family contracts (shared understanding about rights, claims, obligations, resources and responsibilities), the bargaining process and the possibility to negotiate over its conditions. In this case, is important to go beyond the classic health determinants and explore what is motivating and constraining women to prevent sexually transmitted HIV.

### IV.1.3 Gender and sexuality

Together with attitudes and behaviors,[46] the expectations of roles and responsibilities within gender relations[40] create a situation that impact the health of women and men[46] by increasing or decreasing their vulnerability to HIV infection. In Latin America and the Caribbean, the culture of *Machismo* (masculinity) and *Marianismo* (femininity) defines the gender roles, attitudes and expectations of women and men influencing their vulnerability to HIV.[49]

#### IV.1.3.1 Gender in context: what is expected from *her*

The traditional Mexican female role, expects young unmarried women to be virgins, sexually repressed, sexually passive, faithful, obliged to satisfy the male partner beyond her desire, and reproduction as the only motif for sexuality.[5] Women are often socialized as a pleasure sources for men, without considering their own pleasure and erotism.[45] Although times are changing, women are still portrayed at home, taking care of children, cleaning, and cooking. The role of wife-mother, who has the obligation to serve men, hinders women to take care of their own safety and diminishes their power of negotiation for protection.[18]

Women's sexuality, based on social gender norms, is a synonym of reproduction, fertility and maternity, which compounds women's gender identity. Kabeer[41] says that "motherhood, for instance, is such a crucial component of women's gender identity in most cultures that is seen as the 'natural' expression of womanhood". In this context, motherhood and its link to femininity, is a significant obstacle to use barrier methods, such as condoms, as safe sex options. These milestones

that culturally and socially define a *woman* imply that women are heterosexual and neglect lesbian and bisexual women making difficult for them to access information and health care.

The social construction of femininity around virginity influences women vulnerability of HIV infection.[45,49] Virginity is highly valuated in many countries around the world including Mexico,[5,44,54] and its cultural value can increase the risk of HIV infection. Its association with being passive and ignorant about sexual matters[44] creates a barrier for unmarried women to ask information about reproductive and sexual health since it will be perceived as they are sexually active.[44,45] Parents, teachers and other mature members of the society will not provide sexual education for the fear that information will encourage them to initiate sexual activity.[44]

**IV.1.3.2 Gender in context: what is expected from *him***

In the current vulnerability models, men's behavior is seen a biological drive resistant to any change.[34] Most of the times, such models ignore that the gender roles and obligations established in the society also affect men or do not see them as changeable. The male role pictures men as heterosexual, sexually active, with numerous sexual partners, and with an urgent sexual need to be satisfied inmediatly.[5] Masculinity is a social and cultural construction of characteristics, values and behaviors that define a male figure. The prevailing norms of masculinity dictate that men should be knowledgeable about sexuality (and therefore do not need information), do not need health care (there is a sense of invulnerability), need to have multiple sexual partners, and should exert power over women.[45] Masculinity also links with aggression, dominance and acceptance of violence use to maintain a dominant position.[46] In Mexico and Latin America the hegemonic masculinity is a dominant figure that has as subordinates females and males who do not fit with the masculine profile.[55,56]

Studies in the Caribbean region,[57] shows how peer pressure to fulfill gendered expectations of sexual prowess and manhood increases boys and men's risk taking not only in the sexual sphere but also in other activities. Such behavior gives them reputation (sexual reputation that enhances their masculinity), social status and prestige, which is often more valued than physical safety.[57] These gender expectations increase men's vulnerability to the risk of HIV infection. The failure to accomplish these expectations can ruin men's reputation and associate them with taboos of feminization and homosexuality.[57]

Men gendered expectations that encompass physical strength and limit emotional expression, (avoiding anything related to weakness, compassion or commitment),[57] can influence their exposure to HIV infection, as well as treatment-seeking behavior and adherence to treatment. For men, to talk about health problems would be to expose their vulnerability and show weakness, which they see as feminine.[55] Parents, teachers and other role models influence and contributes to boys learning process about masculinity and what is culturally and socially acceptable.[57] Important to consider is that men are also vulnerable to be sexually assaulted and use sex work as an economic mean. Despite these facts, men are seen as those subject to masculinity roles who take risks but are not vulnerable.

**IV.1.3.3 Sexuality within gender relations: is not only about sex**

The reality is that regardless of the social and cultural importance of virginity, and all the measures to delay sexual activity, girls and boys will have sex sooner or later. The onset of sexual lives with the pressure to fulfill gender roles, family values and peer influences has created the need for some Mexican couples resort to other sexual practices like anal sex without condom as an alternative to preserve virginity[44,45,46] and avoid unwanted pregnancies. At the same time they are threatening women's and men's health due the lack of adequate information (in some cases as the wrong belief

that HIV will not be infected by anal sex),[44] and the necessary means to protect themselves and their couples of STDs and HIV. But also the situation of not being ready for sexual relations, has created a barrier for women who do not consider the chances to have sex before marriage and do not take precautions.[5]

Even thought for Mexicans, sexual contact is the main way of HIV transmission, (90% of the total cases of AIDS)[1] openness to formally discuss sexuality in Mexico is limited.[58] As Dowsett[50] exposes: "Secrecy about human sexuality is one crucial way to hide those aspects of desire that are not approved, and render them vulnerable to persecution. But that secrecy will not protect people against HIV." From all the registered cases of HIV among women older than 15 years old almost 95% are via heterosexual contact.[1] Although sex with men is the main way of HIV transmission among women around the world there are very few studies that address the factors shaping heterosexual identified men's needs and behaviors.[59] Edstrom[32] discusses that unprotected anal sex that happens in heterosexual encounters deserves more attention if we care about HIV transmission, however he says[32] "this is not accounted for in gender and HIV narratives because it does not conform to normative expectations".

**IV.1.3.4 Gender relations and sexuality in context: marriage, negotiation for safe sex and reputation.**

Many married women think they are not at risk of being infected with HIV, however many have been infected with HIV by their stable partners, usually their husbands.[5,23,46] Sex within marriage has been labeled as the greatest risk for HIV infection among women in rural Mexico[60] and women worldwide.[61] HIV prevalence in Yucatan a southeastern state in Mexico, illustrates that most of women with AIDS are housewives.[46] Women frequently say that safe sex, and therefore the best way to prevent HIV and STDs, occurs within their marriage,[62] to the point that some believe that being married equals to total protection against HIV and other STDs.[46] This behavior probably has roots in the HIV preventive programs (ABC approach) that for years have stated that monogamy equals to safe sex.

Most HIV and STDs preventive programs encourage women to be in monogamous relationships and insist in condom use, giving them the responsibility on something they cannot always control.[5,45,49] This programs continue reinforcing stereotypes and removing the fact that *take two to tango,* dismissing the factors within and around women and men's gender relations, that can be an obstacle to have safe sex and negotiate condom use. In the Mexican context where women are expected to have sex with their husbands and monogamous relationships are the only ones that are socially acceptable, abstinence is not option since is a marital obligation, polygamy is hidden to maintain men's and women's reputation and the appearance of fidelity and a loving marriage, and the use of condom within marriage is seen as lack of trust or unfaithfulness.[60]

The National Mexican policy for HIV/STIs, has as one specific objective to prevent HIV infection and control the AIDS epidemic to increase the feminine condoms social marketing.[20] In order to create effective strategies that empowers women to have control over their sexuality and reproductive life, is important to know the local gender relations, especially in places where the use of female initiated methods (female condoms, microbicides, diaphragms) and male methods (condoms) are seen as lack of trust and infidelity.[63] Only the presence of female initiated methods for HIV prevention does not guarantee that women will use them and men will accept them. It might be necessary to assure men that these methods are not a threat to their decision making authority neither the social need to protect their families but a consensual way to preserve theirs and their families well being. It is a matter of understanding the social contracts that are established in the relation.

The results of a study about sexual behavior among rural Mexican women in towns with high migration indexes show that they are at higher risk for HIV transmission due to the lack of power in safe sex negotiation with their male partners.[23] Although they know condoms' benefits in prevention of STDs transmission, personal perceptions about them, impede women to request their partners to use them.[23,54,62] Although important, these results should be put in the context of gender relations.

According to Herrera[5] socially constructed ideal of female sexuality Mexico is based on romantic love, trust and fidelity, justifying women's sexual impulses and the impossibility to think about protected sex.[5] This ideal commitment of love and faithfulness, is strongly rooted in the concept of marriage, that for some women means that safe sex is the one that happens within marriage.[5,62] According to Hirsch[62] all around the world the popular perception of marriage has evolved from a concept of *respect* to one of *intimacy*, where the fulfillment of basic needs and obligations is less important than the fulfillment of emotional needs including company and sexual pleasure.[60,62] Some young Mexican women in rural areas see that mutual sexual pleasure and intimacy strengthens the marital relationship.[62] Although some women might be aware of the possibility of their partners infidelity it may be emotionally difficult to negotiate with their husbands the use of condom since it is a form of acknowledging that their partners have been unfaithful and might be infected with an STI or HIV.[48,62] It is in this scenario where being unfaithful is not seen as a possibility, denying HIV risk[62] and increasing women vulnerabilities.

Condom use within a stable relationship, sometimes is understood by men and women as proof of infidelity, lack of confidence, prostitution, or promiscuity by their partners.[5,46] These perceptions are so strong that the act of negotiation to use condoms during sexual intercourse can lead to physical, sexual and psychological violence from the male partner.[5,51] Violence against women, as a form of male power, including physical and psychological, threat of violence and fear of abandonment, impede women to talk about fidelity, negotiate the use of condom or leave violent relationships.[24,44,45,46] Indigenous women are vulnerable to growing violence rates, since alcohol abuse, poverty and unemployment is increasing among indigenous men.[51] The forms of violence and fear of it limits women's freedom and power increasing their risk of HIV infection.[49]

Kabeer[37] says that in a household, some individuals, in particular women perceive that in order to satisfy their long term interests, during the bargaining process for their needs, they will not press as much as men for their individual interests.[37] The ideal of love and commitment, and denial of unfaithfulness and HIV risk makes it more difficult for some rural women to negotiate condom use. If the ideal of love and commitment are important to women during this bargaining process they are also negotiating for their emotional well-being. Similarly, if women are economically dependent on men they are bargaining their social and economic position (their long term interests), giving up on their short term interests (the use of condom). Some authors[48,62] have seen that women are more confident and independent and communication about sexuality has increased between married couples. However to talk about infidelity and the risk of HIV and STDs and the position to negotiate safe sex with their partners are still limited in the rural context.[48,62]

The case of Degollado, a Mexican rural town, illustrates how the issues discussed above in relation to marriage, gender and sexuality manifest. There, reputation is an essential component of sexual identity, it is part of the social and family values, and it is built around gender definitions.[60] A family´s future depend on their ability to manage appearances and keep their reputation. To belong to the male community men have to demonstrate (to other men) an "assertive, competent, and sexually independent, masculinity"[60] and to "respect" their wives by choosing carefully where and with whom to have extramarital sex in order to maintain their reputation and the appearance of fidelity and a loving marriage.[60] There are generational differences among women. Old women prefer to ignore they know about their husbands infidelities since they feel is not a reason to end a marriage and believe in men's sexual needs.[60,62] Younger women will talk and manage the situation with their

husbands since extramarital sex is seen as untolerable.[62] However for both generations the reasons to accept this behavior is that they will continue to be economically secure, still be socially respectable and maintain the family unit.[60,62]

Some authors[60] argue that in an extramarital relation, men's feelings for their wives shape their sexual behavior. Those men who care and love their wives will have sex with commercial sex workers while those who have less satisfying marriages will engage in an affectionate extra marital relationship.[60] Some Mexican rural men perceive that STDs come from sex workers, but not from the women whom they have affectionate ties,[60] neglecting condom use if they have sex with the last group, since for them this is "safe sex" and this will not represent a risk of STDs. In rural Mexico the transmission of a sexual disease by unfaithful men breaks social norms and social expectations constructed around a married couple and perturbs the marriage space which by definition should be a safe environment[60] free of the diseases and dangers of the external world. If a married woman is infected with a sexual disease, the appearance of a happy and stable marriage can be threatened and the man can lose his reputation. Reputation is not constructed around fidelity but around the ability to manage family life and the secret extramarital relationships. The chance of discovery, to cause domestic conflicts and to lose one's reputation in the society, is seen as a major and more important risk than that the health consequences of acquiring an STD.[60,61]

**IV.1.3.5 Bisexuality and sexual bridging**

The combination of homophobia, the Mexican sexual culture of double morality (meaning that men and women have different rights and freedoms), and male gender roles make men prove their manhood even if it endangers them.[5] Some men who are seen in AIDS policy as homosexual live a double life[5] and get involved in apparent heterosexual relationships but do not define themselves as homosexuals nor bisexuals, while heterosexual men try to obey homophobic pressures by having as many women as they can and taking other kind of risks to avoid being stigmatized and discriminated by others if labeled like gay.[57,58] Some men in order hide homosexuality from their wives or friends, engage in "*socially safe sex*".[60] men will go to unseen places where sex with no protection takes place, in an environment where alcohol and drugs are available.[5,60] putting themselves and their partners at risk of HIV and other STDs.

In the early 90´s bisexuality was predicted to be the main factor that would lead to increase the AIDS cases among heterosexual people in Mexico.[24] According to some authors[1,5,64,65] bisexuality is a hidden but a common practice among some Mexican MSM, (attributing 57% of the HIV infections from unprotected sex between men)[64] that is significantly contributing to the increment of HIV cases among Mexican women.[5] One study[66] shows that bisexuality is a more common practice than homosexuality among a sample of MSM living in Mexico City. Bisexual men are usually included under the category of MSM, however bisexual *behavior* is more frequent than bisexual *identity* among men,[67] meaning that many men who have sex with men and women do not identify themselves as bisexual.[46] Their risks and needs are not explored separately,[68] and they are not receiving the benefit of preventive efforts.

*Sexual bridging* makes reference to the practice of men who have sex with both men and women (MSMW) in a certain period of time.[69] The data from a sentinel surveillance of STDs/HIV and risk behaviors' groups in five Central American countries shows that bridging behavior is practiced by 22.3% of MSM.[69] Surveys among Peruvian MSM,[55] confirm that non-homosexually identified men may expose their female partners to HIV infection due the higher prevalence of HIV infection among exclusively receptive men (16.6%) compared with versatile MSM (men who participate in insertive and receptive roles) (12.9%) and among insertive MSM (6.5%).[55] The same study reveals that insertive-only men have a higher number of female partners and that although is possible that

insertive men have lower incidence of HIV, the largest number of female partners could be a risk factor to bridge the HIV epidemic from men to women.[55]

Other studies in LAR[67,68] have found that MSMW have the tendency to have higher sexual risk practices than MSM and heterosexual men, specifically due a higher frequency of insertive unprotected sex with both men and women and the low risk perception of being infected with HIV. In a study[58] even with previous information about HIV/AIDS some HIV positive bisexual men do not perceive themselves as vulnerable or at risk. AIDS was seen as a disease that affects other people.[58] Some men do not perceive risky sexual encounters with their primary or secondary sexual partner if is someone familiar therefore they do not use condoms and potentially expose their partners to STDs.[60,70]

The prevailing gender roles in LAR are so deeply engrained that for many bisexual men the role during sexual intercourse (active-penetrative or passive-receptive) is more important than the biological sex of the partner (whether man or woman) for the construction of sexual identity of the individual.[58,71] For some Latino men who do not consider themselves homosexual, their "heterosexual" identity remains intact and their masculinity is reinforced if they have the active role in a men-men relationship.[5,67] However when talking about their male sexual partners, the use of homophobic language is common.[58] Regardless of the confidence on their sexual identity, MSM who do not identify as homosexuals or bisexuals, avoid sharing this information with their friends and families for fear of the social consequences to be identified as gay in accordance with the Mexican culture of silence around sexuality and heteronormativity.[58] According to Cáceres[71] this pattern follows in low income settings rather than in males of high-middle class where the latter live a more open sexuality.

Reinforcing Cáceres idea,[71] are the results of a recent study[66] among a group of MSM in Mexico City, where most men had a lower risk of acquiring HIV because of fewer male partners, the avoidance of receptive anal intercourse and condom use. The authors[66] conclude that the epidemiological bridge between bisexual men and women for HIV transmission may not be effective. It is important to notice that due to urban residency this group might have received more preventive information therefore they took cautions for HIV transmission, something that it is far from happening in a rural setting where not only the lack of campaigns but also the lack of self-identification with bisexual or homosexual practices are reducing their resilience to HIV infection.

**IV.1.4 Political and economic factors: changing economies, changing social roles**

Gender relations, norms and roles are constantly evolving through time within cultures depending on external and internal forces. Some of these force changes are described by De Keijzer[56] as social and economic transformations, such as the accelerated urbanization process, women's involvement in work force and socio-political processes, economic instability that pushes more family members to work or migrate, and internal and external migration changing the family structure.[56] Social instability produced by migration, natural disasters and wars, can allow women's social and political participation in economy and change gender roles.[51]

The vulnerability of a system can increase if hazards, changing social conditions and risks are not planned for[27] or neglected. If the institutions in charge of monitoring the AIDS epidemic fail to consider these changes, some populations, like the indigenous and rural ones, can increase their vulnerability to HIV. With this is mind, it is important to analyze the impact that such economic changes make on power relationships and gender roles.[47] A good example is the way that in Mexico the limited land for crops, unemployment and economy for years has increased international migration shaping new gender norms for rural and indigenous people. Old traditions and norms are evolving in order to include new economic activities and social mobilizations within the obligations

of responsibilities imbedded in gender relations. The following sections look at how particular changes in economies patterns are changing gendered roles.

#### IV.1.4.1 Migration: men's economic and social rite of passage

The first cases of AIDS in Mexico, were among people who had lived in the USA.[72] At the end of 2000 from the total cases of HIV/AIDS in Mexico, 12.7% of people had previously lived in the United States and from them 13.7% lived in communities with less than 2500 inhabitants (considered rural communities).[72] In the states of Michoacán, Durango, Zacatecas, Nayarit and Jalisco more than 20% (1 in 5) of PLWH in rural areas have lived in the USA.[72]

Migration in search of economic means is increasing among marginalized indigenous populations in LAR.[49] The indigenous communities in the Mexican states of Oaxaca and Michoacán are marginalized, have high indexes of poverty, and high migration rates to the USA.[54] These men are mostly young, uneducated (including lack of English language knowledge) and usually from towns with strict social norms on sexuality.[72] Most are single or travel without their families, and when they migrate, free of social and family control to a more open society, they involve in practices such as exchange of sex for money, unprotected sexual relations with sex workers and use of IV drugs and needle sharing.[46,70, 72] Loneliness has been studied as factor to increase risky sexual behaviors among migrants.[73] The limited access to health services and information caused by their illegal migratory status, cultural and language differences hinder their access to information, social and health support.[49,72]

In this context, migration has become a male attribute and a kind of masculine rite of passage where boys become men and are accepted into the male community.[54] When men return, they are sexually experienced and they are ready to get married.[54] In these communities prestige, social status and male identity are formed by elements of marrying a young virgin woman, impregnating her and migrating (alone) to work in the USA.[54] Men migrating to work to the USA and their situation while abroad, increases their vulnerability to HIV infection and their female partners' in their return back home.[72,73]

Unemployment has created an obstacle for men to fulfill their roles and expectations that society has put on them as primary providers for their families. In order to maintain their masculinity and self esteem some men are regaining their sexual identity and sexual reputation with multiple sexual partners and aggressive sexual behavior.[48] One of the most terrible consequences of unemployment and poverty is the increase in alcohol abuse and violence derived from it as a need for men to maintain their power and image.

### IV.2 Discussion

One of the main concerns before starting this paper was that after reviewing some HIV/AIDS frameworks none of them seemed to fully contextualize women and men within social relations and the most used vulnerability frameworks pictured women as victims and men as the problem source. This is a simplistic, unrealistic and unfair idea in such a complex epidemic. AIDS as a public health priority, should be seen not just from an epidemiology perspective, but also from a social perspective.

Since I believe it is crucial to have a proper framework to understand the trends of the epidemic I adapted a gender and health framework using international literature from gender and development. A more complete discussion on the framework can be found in chapter III. With this framework I could examine the Mexican HIV/AIDS situation among rural and indigenous women and their vulnerability to HIV infection.

The first important step was to contextualize women within the space of gender relations and sexuality within this context. Women and men do not live in isolation, but are surrounded by the gendered obligations and responsibilities agreed through rules and norms under a socio-cultural contract. After placing women in a framework of 'social gender relations' and not 'women-only', I could see women as active partners in HIV prevention and men as vulnerable to HIV infection. However the complexity of the HIV/AIDS situation became evident with the concept of *intersectionality*. The different possibilities of interaction between biology, gender, ethnicity, class and age became numerous. One step beyond, was the challenge to also include the cultural, social, politic and economic setting. This is one of the limitations of the adapted framework that due its complexity, the information analysis can take longer.

I began the analysis with a brief description of women's biological vulnerability to HIV. A limitation of the thesis was that biology was not explored further because the focus was on the unexplored gendered factors that are influencing the epidemic in Mexico. It is in this context that I could reinforce the usefulness of the adapted framework: the risk of being infected with HIV depends on the exposure (determined by sexual patterns and behaviors of women and men) that is modified by one's vulnerabilities. Resilience is influenced by the same factors that shape vulnerability. In consequence people or a community can avoid risk, reduce it or get ill. Since multiple vulnerabilities are created, shaped and reinforced in a complex and cyclical system it is ineffective and not feasible to keep framing people in *risk* categories.

Mexican women cannot be seen as a homogenous group. This is another limitation since even considering that a big percentage of indigenous groups live in rural areas, they cannot be merged into one group of analysis. There is no consensus about the definition of indigenous people or indigenous regions in Mexico and in other countries.[13,35,74,75] The lack of a unified concept limits their recognition, contributes to their marginalization and limits the information about health issues. Such information is needed to know their current health status as a point of comparison to study the efficiency of programs and strategies in changing their health situation.[75] Ethnicity is a crucial health determinant however it is out of the scope of this paper to explore the processes that affect indigenous health. A separate or a more extensive framework should be used to analyze HIV/AIDS in the context of ethnicity as a central element.

Kunitz[74] makes reference to the lower life expectancy, lower income and poor health status of the indigenous populations living in a nation compared to the non indigenous groups. Although he recognizes that per capita income is important it is not the only explanation for the higher life expectancies of indigenous people in rich countries compared with those in poor countries. Changes in the values and policies of high-income nations towards tolerance and value of cultural diversity, and the increased number of organizations that concern about indigenous issues are making the difference. Globalization has open a space for indigenous people to be audible and visible in the international ground to claim for their needs.[53]

Most of the affected women in rural areas and indigenous groups are young, married and have a low socioeconomic status. The intersection of class, age, and ethnicity taking place within the household or the community makes them highly vulnerable to HIV infection. Bargaining for safe sex within marriage (with the use of condom or other female initiated methods) is not only a matter of health, but it is surrounded by strong personal values and social norms around sexuality that provide women and men emotional safety, economic safety, and social status. The emotional well being of these women is as important as the social and economical security that brings to remain in a relation. This information should be taken as the background for future prevention campaigns that seek to increase resilience to HIV prevention among rural and indigenous communities. As Kabeer says,[41] "Understanding how deeply gender identities are rooted in our consciousness will also help us to understand and anticipate the resistance that women, as well as men, can display towards

policies which threaten to change the symbolic and material arrangements that make up prevailing gender relations."

The approach that needs to be given to the HIV/AIDS epidemic in Mexico should focus on vulnerability, but without implying that women need protection, rather, assisting them to build the necessary resilience to acknowledge the risk of infection within a any relationship that involves unprotected sex. As Hirsch pointed out[62] while discussing about Mexican women in a migrant community and their risk of HIV infection within marriage: "These women would not benefit from programs to help them with condom negotiation; in many areas of their domestic and wider social lives, they are already expert negotiators. Women in this community do not want to use condoms for disease prevention because the emotional cost of acknowledging that sex with their husbands is not safe sex is simply too high."

The Mexico AIDS epidemic is concentrated in MSM, and there are some men who do not identify with this group because they have sex with men and women or they do not report their sexual preferences for fear of social rejection and isolation. This is not an isolated and different population, but a characteristic that many men share in a sexual network were men and women interact.[76] Fitting in what is socially accepted and culturally correct, creates a situation where they continue to live a dual life to fulfill other's expectations. Some men do not perceive themselves at risk of HIV infection because they do not identify as bisexual or homosexual. Meanwhile health care providers and the society continue denying their existence and the possibility of risk.

Migration, caused by poverty and unemployment, has increased the vulnerability to HIV among women and men. Gender roles are changing to adapt to the current social and economic trends. In some rural communities, international migration is seen as a rite of passage among men. By proving their manhood, young men are fulfilling their gendered roles and are being accepted in the society. When migrating, these men who are usually under educated and undocumented find their resilience to HIV infection reduced. An economic situation that was created back home for the lack of economic resources, is translated in vulnerability to HIV infection. Men have specific needs for SRH services based on biologic particularities and on the gender roles that influence all spheres of their lives.[57,77] Understanding them can increase their responsible participation in the care of their partners and families.[63] Ignoring and overlooking them is having social and health consequences, like the increased female and male vulnerability of STDs including HIV/AIDS.[57,77]

Social relations are complex and people cannot be framed in risk categories. By doing so, many people are not taking further steps to protect themselves since they do not see their vulnerability. Recognizing that population needs and characteristics are not homogenous is the first step to develop strategies that complement the HIV prevention programs in Mexico. This justifies the need to change the risk approach to HIV/AIDS to one that includes the vulnerabilities created by the interaction of multiple factors. In order to develop more realistic and effective HIV preventive strategies for women and men, we need to stop using stereotypes of women being vulnerable, powerless, passive and oppressed victims and recognize their strengths to be able to find gender equality and build resilience along with men. The perception that men are the source of the problem needs to change.

Men's engagement in SRH and the achievement of gender equality was a commitment made at the International Conference on Population and Development in Cairo in 1994.[78] However 16 years later, men are still ignored by health providers, planners and policy makers in issues that concern SRH.[77] There are disagreements about the main objective of male participation in SRH programs; for some the main focus should be on fulfilling male needs while others believe that men should help to improve women's reproductive health.[79] Some of them argue that is dangerous to promote males participation if "hegemonic masculinity" is not approached first.[79] The argument behind it is that this

will open the possibility to create another kind of masculinity that is based in male dominance. If we are interested in stopping the spread of the AIDS epidemic, we should understand how prevailing gender norms influence men, increasing their propensity to take risks and their vulnerabilities to HIV.

According to the United Nations General Assembly Session (UNGASS) report countries from all regions of the world have progressed to integrate women-related issues in their national HIV/AIDS policies and plans, however this is more common in countries with generalized HIV epidemics.[47] In the regions with concentrated epidemics (including Eastern and Central Europe, LAR and East Asia) were men are the most affected, HIV responses towards women have not been a priority, and important issues like violence against women, barriers for women's and children treatment and services access, male gender norms and male involvement in sexual and reproductive health (SRH) programs are not totally encompassed in their HIV responses.[47]

The socio-cultural constructions of gender and sexuality, the economic, class, ethnic and gender inequalities and the resultant human mobility are important factors that are shaping the AIDS epidemic in Mexico, and according to some authors also wordwide.[65,80,81] Acknowledging and understanding the gendered relations and the construction of sexuality that take place in rural Mexico and in indigenous populations can create a route to create successful HIV/AIDS and STDs programs.

# Chapter V

## *Conclusions and recommendations*

### V.1 Conclusions

Gender relations and its interaction with economic, political, social, cultural and biological factors create a situation of high vulnerability for HIV infection. The dynamics within these relations are culturally and socially determined and therefore are constantly evolving. At the same time, gender relations vary across different social groups, becoming important to understand their dynamics according to other social relations such as ethnicity, class and age. Women are more vulnerable than men to HIV infection due biological particularities, gender inequities in the distribution of power and the use of resources. However in the AIDS epidemic women are not the only affected and should not be seen as victims. The perception of seeing men as risk takers, neglects that there are other factors that make them vulnerable to HIV infection and influence their behavior.

The efforts to address the HIV/AIDS epidemic in Mexico mainly focus on risk taking behaviors and often neglects the context that create the scenarios that instigate such behaviors. The 'risk' approach has often ignored people's social relations and the social, political, economic and cultural dimensions where people live and their impact on their behavior and their ability to change. In this approach the possibility of being infected is still neglected in groups wrongly considered of low risk like married women. The current vulnerability paradigm in HIV infection tried to answer to these deficiencies, however, it takes for granted that women are vulnerable victims and men are simply potentially virus carriers, who have risky behaviors but are not vulnerable. Important elements such as gender relations, sexuality, men's vulnerability and women's agency are still neglected.

I found critical issues that have a major impact on the vulnerability to HIV/AIDS infection among rural and indigenous women in Mexico.

- The use of a risk approach instead of a vulnerability one to understand the HIV/AIDS epidemic.
- The lack of contextualization of women and men in gendered relations and the missing recognition of the vulnerabilities created by social relations of gender, age, class and ethnicity.
- The inequalities caused by social relations, created, shaped and reinforced by the socio-cultural, political and economic environment. Within these, the low economic status (in part a product of such inequalities) that causes internal and external migration. It is time to change the social and economic factors that create inequities in income, exacerbates poverty and translates in hundreds of people migrating in search of a better life.
- Sexuality is not contextualized within gender power relations. Sexuality has often been reduced to a part of reproductive health without considering that not all sexual relationships have a reproductive purpose, and not all sex happens between men and women.

As mentioned by many authors around the world, gender relations and gender roles are impacting the AIDS epidemic. In the Mexican context of rural areas and indigenous groups, the epidemic is being fueled by gender relations and gender roles that are changing and evolving according to an ever changing social and economic environment. This is not completely new evidence but yet has not been translated in efficient prevention strategies for rural and indigenous communities. The epidemic is more complicated in this context since other forms of social relations such as class, age and ethnicity interplay and produce an enhanced problem. These already socially and economically

marginalized communities face an epidemic that involves delicate issues, such as sexuality, infidelity and reputation.

People's needs cannot be only summarized as biological needs, just as sexuality cannot only be seen as sexual behavior. Effective interventions to increase women's and men's resilience to HIV infection will require the transformation of gender norms to decrease women's and men's vulnerability and risk taking and exposure. We should carefully observe the wider panorama where the epidemic is happening and evolving to understand contextual issues and not focus only in individual risk reduction strategies. In the process of understanding women's vulnerability around the world to HIV infection, we cannot ignore that women live in gender relations. Women are not alone in this epidemic, and men are also affected. As women are subject of negative norms and expectations influence, men as well are affected by them.

It is essential to recognize that the AIDS epidemic touches some delicate and almost taboo concepts within the Mexican society. Sexuality and all its forms of expression, women as agents who make choices and try to make things work for them and their family within the constraints they experience and men as vulnerable go against the social norms and values. Although there are more researchers involved in understanding this epidemic as a matter of human sexuality, it still fails to understand that sexuality is imbedded in gender power relations.

For me, working to stop the spread of the AIDS epidemic among indigenous and rural populations transcends its importance as a health problem. It implies a change in social relations and becomes a matter of social justice.

**VI. 2 Recommendations**

Based on this work, I propose in order of importance two main recommendations for the Health Ministry, the CENSIDA and all the political bodies in charge of controlling the HIV/AIDS epidemic in Mexico.

1. **Research on the vulnerability of rural and indigenous communities.**

*a) Promote the relevance of the AIDS epidemic in rural areas and indigenous groups at national and international level.*

Research on the HIV/AIDS epidemic in rural and indigenous communities should be a national priority. Both qualitative and quantitative research is needed to follow the expansion of the AIDS epidemic in rural areas and indigenous groups and to build up resilience of these communities. Quantitative research can help to fill in the gaps of knowledge about the epidemic among these groups. Qualitative research can help to thoroughly underscore the vulnerabilities created by the intersection of social relations of gender, ethnicity, age and class. Qualitative research can also help to get deeper understanding of sexuality imbedded in gender relations. It is important to increase research funds and promote awareness so more people, especially those specialized in the gender and social development areas participate in such projects.

While these research projects are taking place, it is crucial to include women and men from indigenous groups in the efforts to control the HIV/AIDS epidemic by acknowledging their vulnerabilities and the ways to increase their resilience to the HIV/AIDS epidemic.

2. **Prevention efforts.**

a) *To change the approach of prevention strategies from a risk approach to a vulnerabilities approach that focus on the vulnerabilities created by women and men's gender relations and social relations and that allow both to actively participate in the HIV/AIDS prevention efforts.*

Women and men are both vulnerable as a result of the inequalities created within social relations. The risk approach of behaviors is not addressing the fact that the epidemic is spreading to the general population, especially among women in rural and indigenous populations. However, caution should be taken to avoid reinforcing stereotypes of women and indigenous groups as vulnerable powerless victims. Men should be involved in preventive efforts that address their needs and that explore how masculinity affects their health and their partner's. Sexual education that addresses gendered power relations, masculinity and femininity should be available for all the population.

b) *Revise and adapt the current prevention campaigns using the available evidence of changing situations in gender relations, norms and roles to increase rural and indigenous communities' resilience to HIV infection.*

It is crucial to improve prevention strategies based on evidence and not on political interests, in order to fulfill the interests and needs of the rural and indigenous communities. It is important to create multilingual prevention campaigns that consider the social and cultural realities of the target population in order to provide them with mechanisms to cope with the epidemic.

c) *To enhance joint efforts with the international community, to increase migrant groups resilience to HIV infection.*

This is important due to the cyclical migration and the evidence that links it with the increase of AIDS cases among people in rural populations.

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***Annex 1***

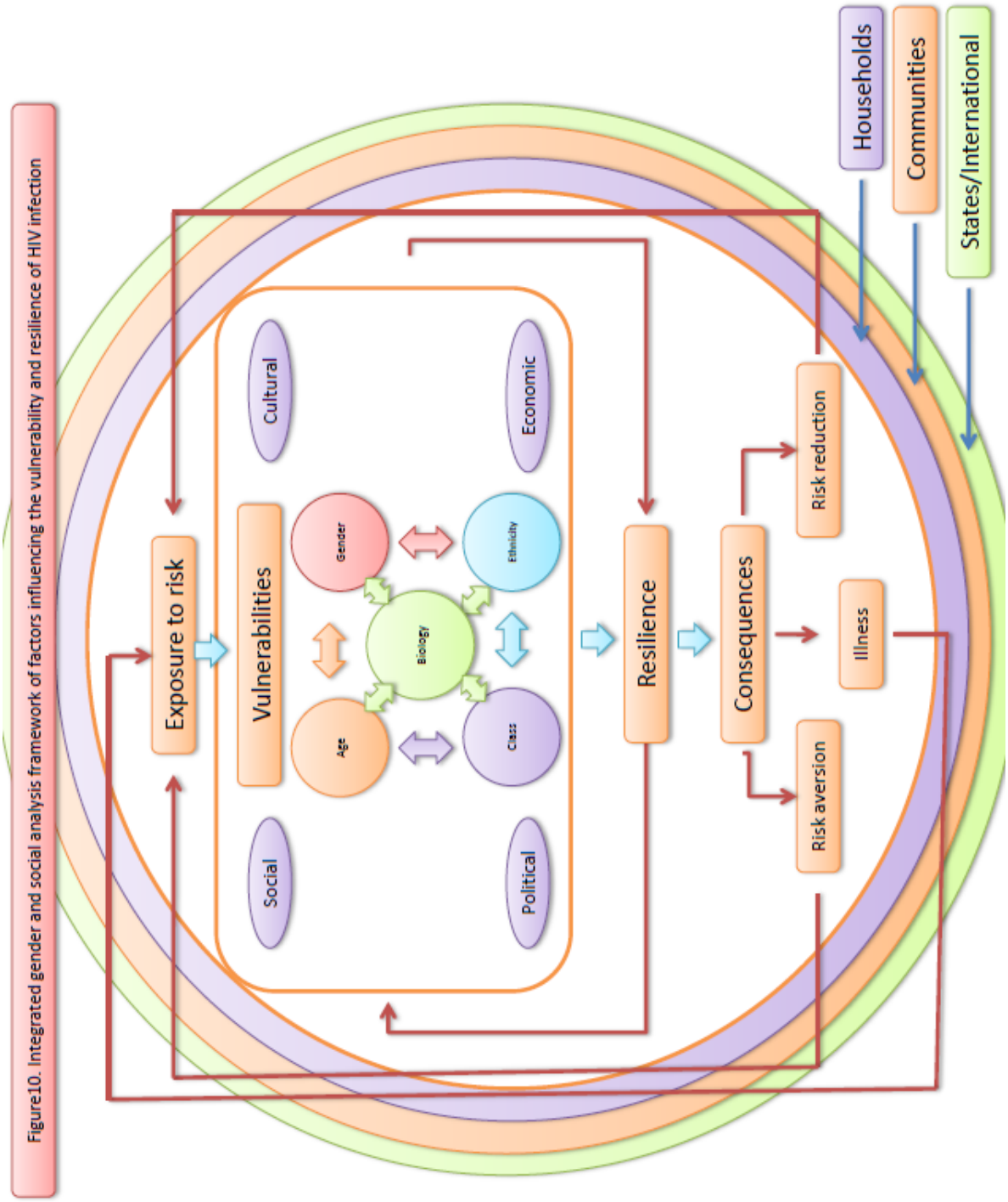


Figure10. Integrated gender and social analysis framework of factors influencing the vulnerability and resilience of HIV infection