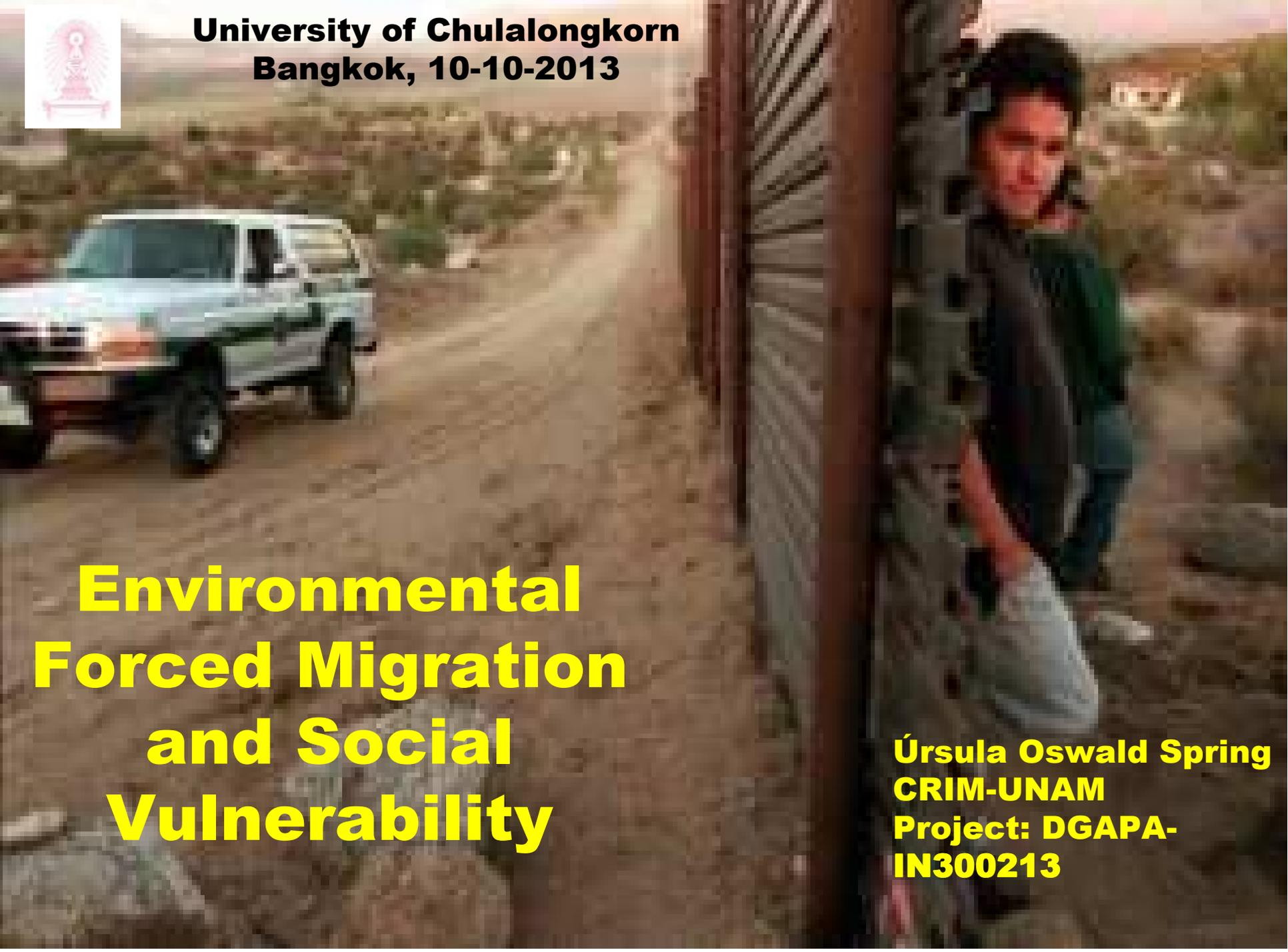




**University of Chulalongkorn
Bangkok, 10-10-2013**



**Environmental
Forced Migration
and Social
Vulnerability**

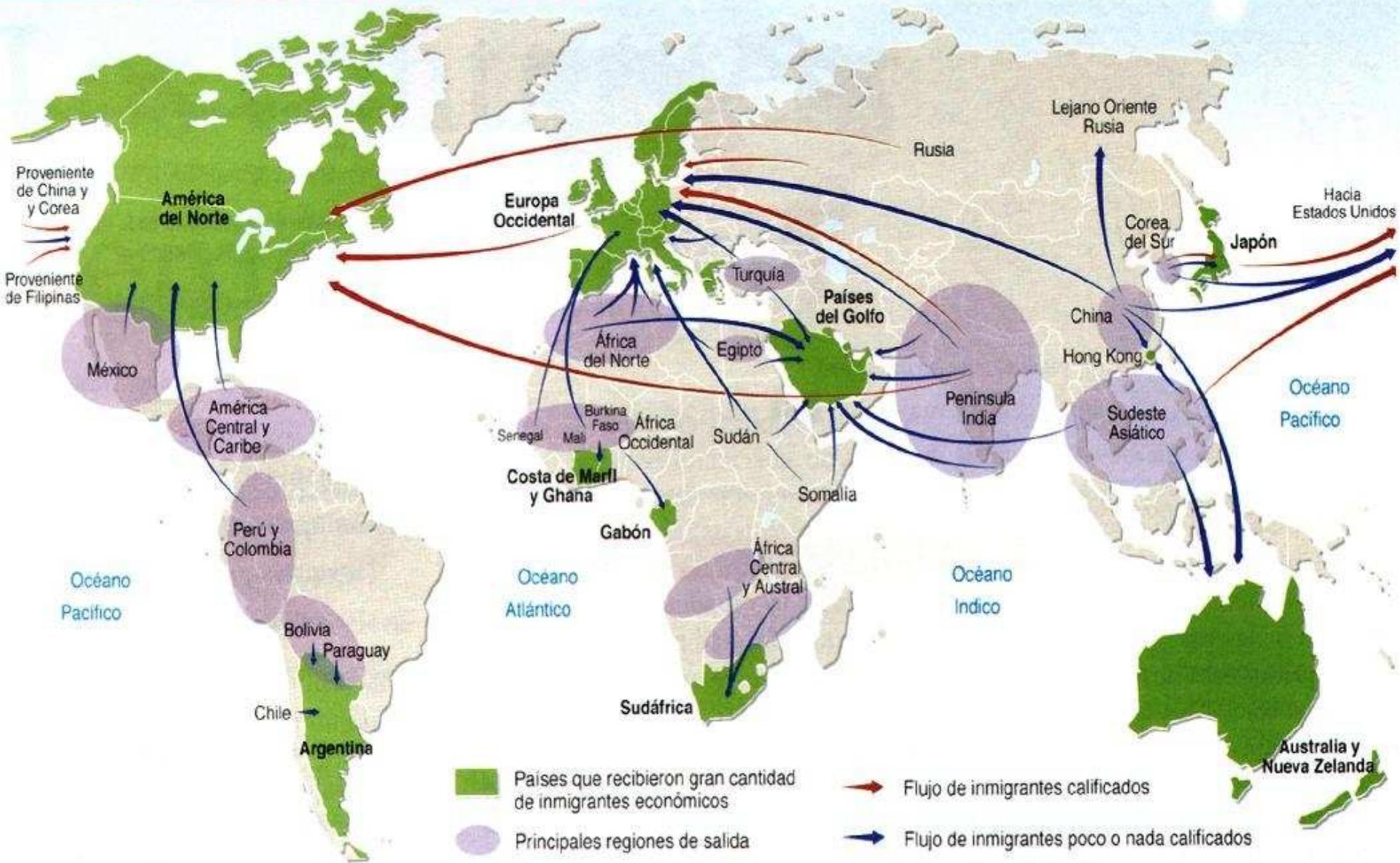
**Úrsula Oswald Spring
CRIM-UNAM
Project: DGAPA-
IN300213**

Content



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2. Double vulnerability: environmental and social vulnerability in Mexico
 1. Environmental vulnerability
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3. Internal migration: historical and present
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5. International migration: some data
6. International migration seen from the southern border
7. Violent borders: migration and organized crime
8. Remittances the final goal: at any cost?
9. Migration as process of adaptation or of vulnerability
10. Brain drain vs. brain gain: losers and winners

Migrations 1990-2013



Some conceptual comments: environmental and social vulnerability

- **Environmental vulnerability:** related to pollution and water shortages, climate variability, short extreme hydrometeorological events (flash floods), medium (drought, erosion) and long-term (desertification) processes aggravate fragile soil conditions in areas of steep slopes, stony and shallow layers with a superficial horizon of fertility, dramatic loss of ecosystem services, water scarcity and pollution
- **Triggering factors:** incorrect use of soil, extensive livestock in dry tropical forest, over-fertilization in fragile soils, green revolution, erosion of the land, distribution of small plots of land among numerous male descendants producing smallholding (minifundism) and overexploitation of these mini plots
- **Social vulnerability:** population growth; urbanization, fractionation of irrigated land for urban resorts; neoliberal policy from 1985 & fast modernization process with indiscriminate importation of subsidized crops; short-term governmental interests, lack of preventive policies and social security support; unemployment; insufficient schools, public insecurity, organized crime, production of illegal crops, fight among criminal gangs for controlling trafficking routes, kidnapping, extortion and robbery
- **Outcomes:** historical poverty rise with acute marginalization, loss of welfare, crop failures, lack of social security, neglect from government for counter-cyclical policies, abandonment of affected communities by climate variability, no early warning

Methodology

- **Quantitative approach:** analysis of data series, official statistics, maps, satellite images; survey applied to 3,955 people belonging to 1,019 extended and nuclear households, based on a representative sample.
- **Questionnaire** in five sections: General characteristics of housing; General information of residents and households; Education and language (indigenous); Marital status and economic activity; Internal and international migration; Productive activities; Community activities and local public responsibilities; Decision-making processes and interfamilial violence.
- **Qualitative methods:** emphasizes in the interpretation of the reality studied: deep interviews with local leaders, politicians and key persons in the communities and the basin, anthropological participative observation and focal groups, local social movements, case studies, participatory rural survey, and comparative regional studies, analysing adaptation processes and resilience-building of different communities exposed to similar environmental and social threats.

Sample of representative survey

Phases of survey	People	Families	% of women
First phase	1,440	385	49%
Second phase	2,515	634	51%
Total	3,955	1,019	50%

Source: Field research 2011-2012

Three phases of research

- a) **First phase:** bibliographic studies, statistical series of production and demographic data, monographs and regional or local diagnoses related to the research questions, systematized in maps
- b) **Second phase:** survey to 3,955 persons was conducted with closed and some semi-open questions; qualitative interviews to key informants; life histories of families with migrants; transformation of the territory and the natural conditions (water, soil quality, erosion, biodiversity loss, land use change, ecological reserves); urban, environmental, agricultural, educational and public health policies; in-depth interviews were conducted with political, industrial, religious and water authorities
- c) **Third phase:** special studies about the physical deterioration of the land, local urban planning and agricultural pilot projects; epidemiological profiles, focus groups and productive coping strategies of small rural farmers; feminization of the agricultural production, migration processes, the changing of crops and economic strategies to cope with greater insecurity in the water availability, together with social participation in public activities and symbolic representations were undertaken
- d) **Local workshops** for organic farming practices, set of information was poured into maps, which facilitated the interpretation and juxtaposition of this local and regional socio-environmental complexity.

1. Environmental forced migration: a complex concept and reality

AMIGOS

SIN FROXTERAS

ALL HAS AN INSIDE JOB!

Iron Curtain

EVERYONE PUSHES A FALLING WALL

Lesson in:

How to lose Friends

& Alien-Mate Neighbors

ALL COPS ARE BASTARDS

"Words will build no WALLS" Platano

LA PATA NO PASA...PERO

SE LOS PRODUCTOS PASAN...

Todos los Muros Caen

Los Imperios También

We build too many Walls

and not enough bridges... Lisa Newton

NO HAY MAL QUE BUENE CIEN ANOS...

NI MUROS QUE LOS SEPARAN...

PLEASE DON'T BELIEVE

THE GRIN QUS!!

There are so much handwringing on the wall

that even the WALL tells about... C.Merly

10000 SOMOS LIBRES

NUNCA EN LOS UNOS DE

7 CUENTAN A LOS NINOS

LOS UNOS PARA LOS UNOS

LOS UNOS PARA LOS UNOS

1. Controversial theories on environmental-induced migration: environmental and climate induced migration as a complex phenomenon

1. “Environmental migrants are persons or groups of persons who, for compelling reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad” (IOM, MC/INF/288 2007:
2. Climate or Environmental Forced Migration (EFM) is a complex phenomenon related to extreme climate events triggered by socioeconomic threats and personal aspiration, often are a result of survival strategies.
3. EFM can be rural-rural, rural-urban and international.
4. *Why forced or induced?*

2. Objectives

International migration and its geopolitical repercussions between Mexico and the USA:

- Climate induced or Environmental Forced Migration (EFM) represents a security risks for both countries: USA and Mexico.
- Latinos are the **first minority in the USA**, and one third are illegal migrants, the majority Mexicans. They are exposed to all kinds of **threats and persecution**. The present crisis created 10% of unemployment.
- The **fans built** between both countries, the technological training of the Border Patrol, drones, etc. oblige migrants to cross in dangerous region (the desert of Arizona).
- Another option is to ally with the **transnational organized crime** (drug, arms, human and organs traffickers) transforming the border of Mexico in the most violent region, with repercussions in both countries due to prostitution (Klot & DeLargy 2007), public insecurity, crime, VIH-AIDS, money laundering, kidnapping, drug consumption.
- The present situation of insecurity related to a high **consumption of drugs in the USA** obliged both countries to combat collectively within the Mérida agreement this social cancer (Kochhar 2007).
- But also money laundering is basic to the US-International financial system.

2. Double vulnerability: environmental and social vulnerability in Mexico

1. Environmental vulnerability

2. Social vulnerability

3. Gender vulnerability

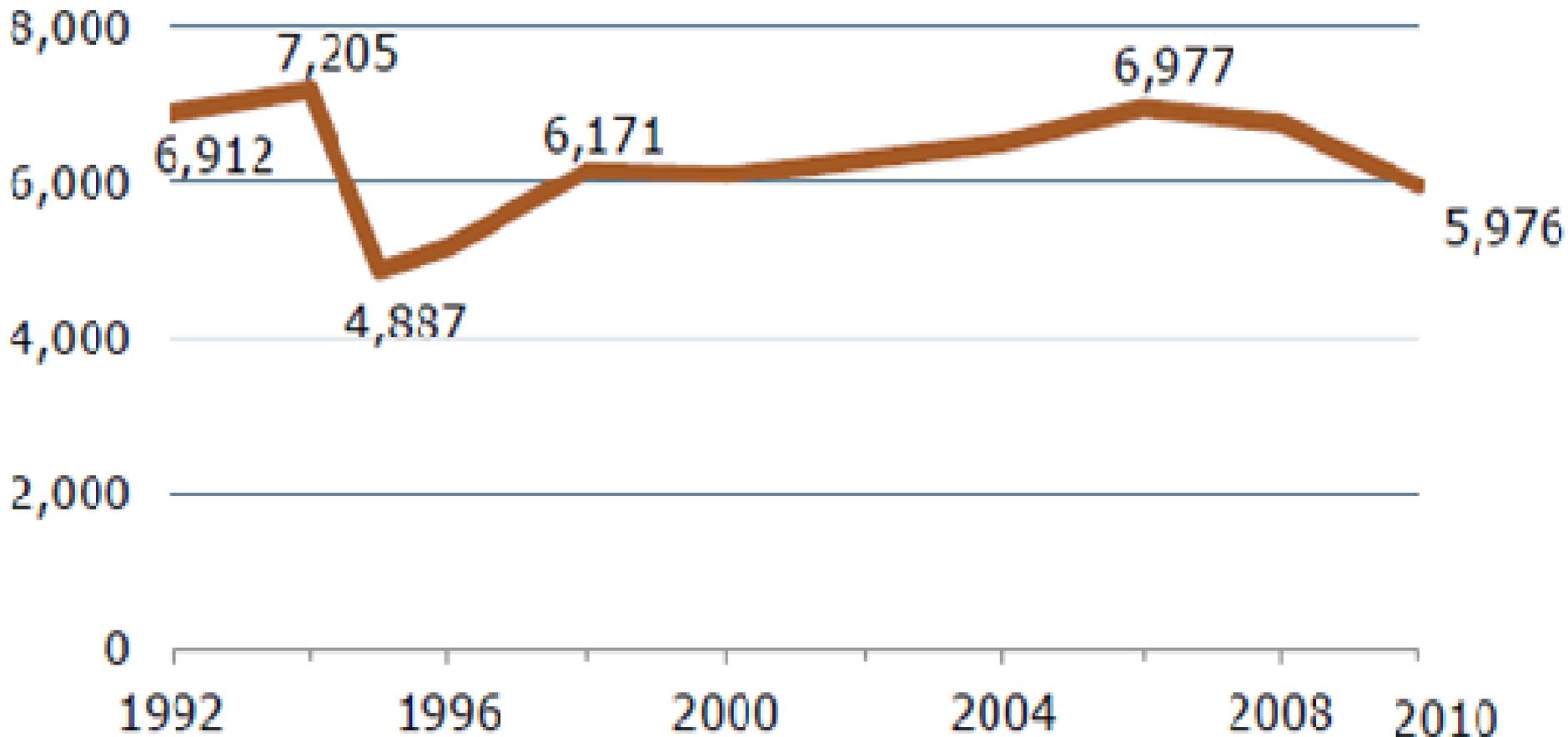




2.1 Social conditions of marginalizat

Average income and crisis

(in constant MN pesos 1992)



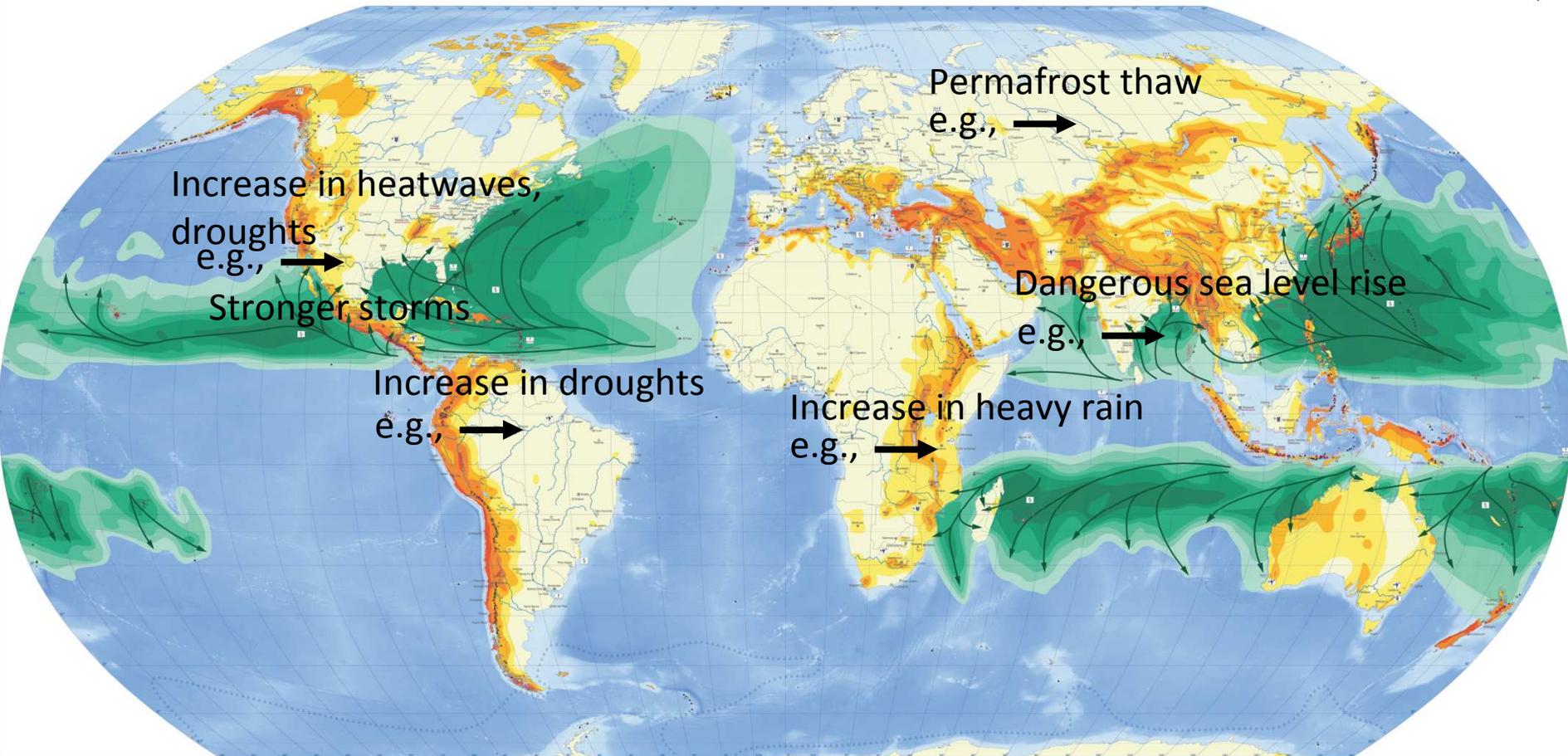
Destroyed and truncated livelihood

- Indigenous communities with mestizo control
- Poorest communities in Mexico
- Highest violence and organized crime
- Precarious housing conditions
- Lack of food, work and land
- Lack of medical attention and public transportation
- High child and maternal mortality
- No social security
- Lack of schools and education is socially disapproved
- Precarious governmental support politically conditioned
- Cultural discrimination of women and girls
- Girls sold for early marriage
- Political and religious control

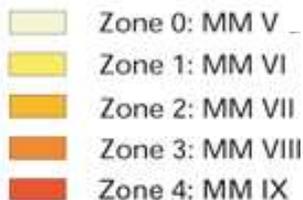
An aerial photograph of a rural village situated on a hillside. The terrain is characterized by sparse, dry vegetation and patches of exposed reddish-brown soil, suggesting a semi-arid or high-altitude environment. Several small, simple buildings with corrugated metal roofs are scattered across the slope. A dirt road or path winds through the landscape. The overall scene conveys a sense of environmental vulnerability, particularly in terms of soil erosion and water scarcity.

2.2 Environmental vulnerability

Climate Threats, Disasters & Impacts

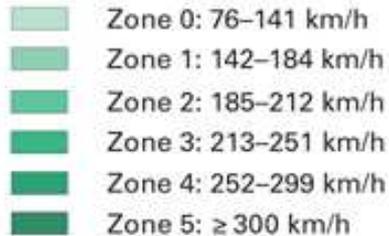


Earthquakes



MM: modified Mercalli scale

Tropical Hurricanes



Münchener Rück
Munich Re Group

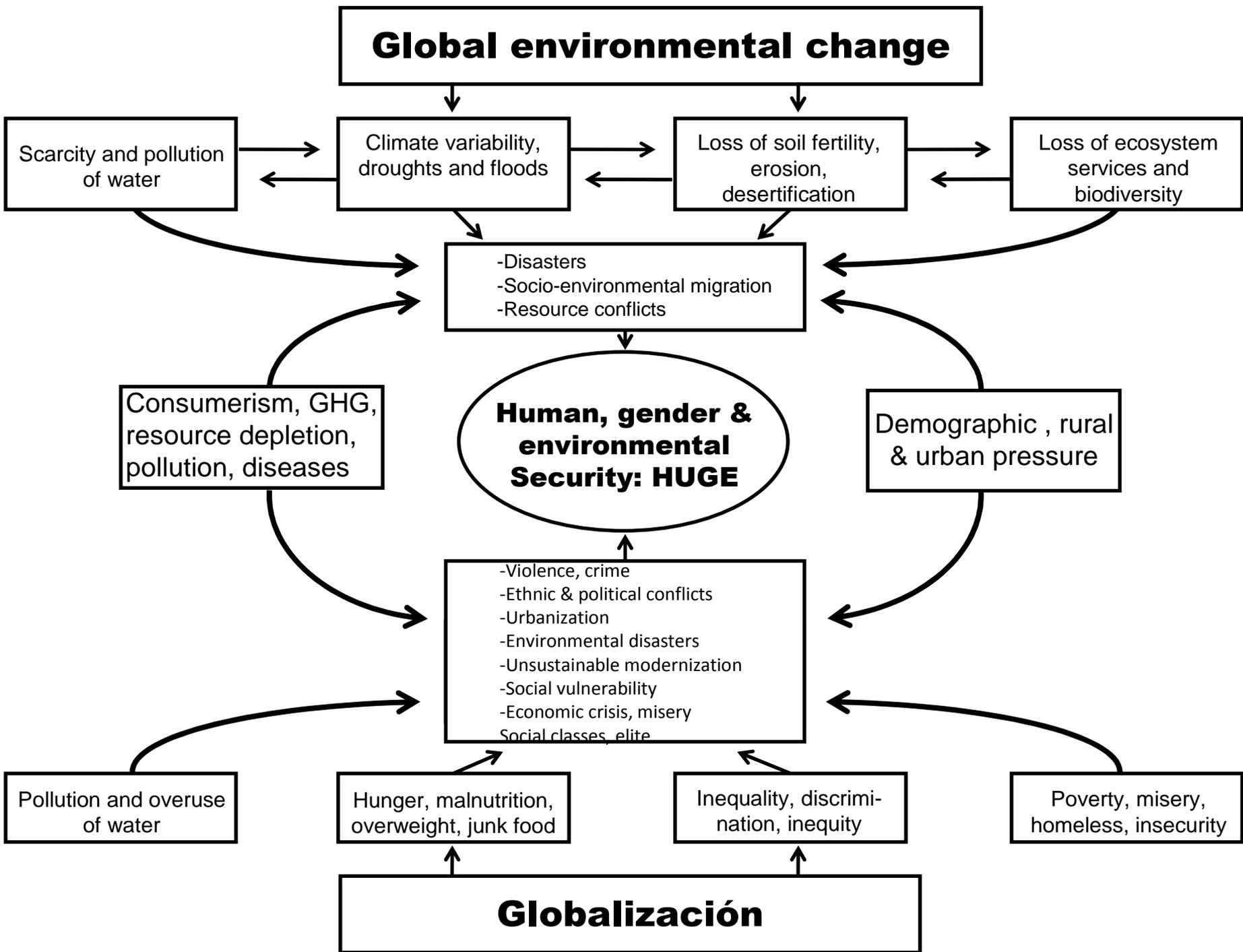
CC and Migration

- The impacts of climatic change already affect Mexico, where **most of the surface is dry-subhumid, semiarid, arid and hyperarid**. Drought, changes in precipitation, **floods in coastal areas, plagues and crop illnesses**, together with **salinization** of soil and aquifers resulted in declining crop yields what led to unsustainable livelihoods. This process affected primarily peasants depending on **rain-fed subsistence crops** representing almost 78% of all rural producers. Their productive activities cannot guarantee the reproduction of their very poor livelihoods.

- **more variable rain & hotter days**
- **ecosystem degradation & polluted water**
- **loss of ecosystem services (food and hunting)**
- **uncertain monsoon for rain-fed agriculture**
- **irregular interstitial drought (maize production)**
- **lack of agricultural training and advice**
- **unsustainable farming practices**
- **drought and hurricane-prone region**
- **poor health and education conditions**
- **Increase of dengue, scorpion bites and intoxication from pesticides**

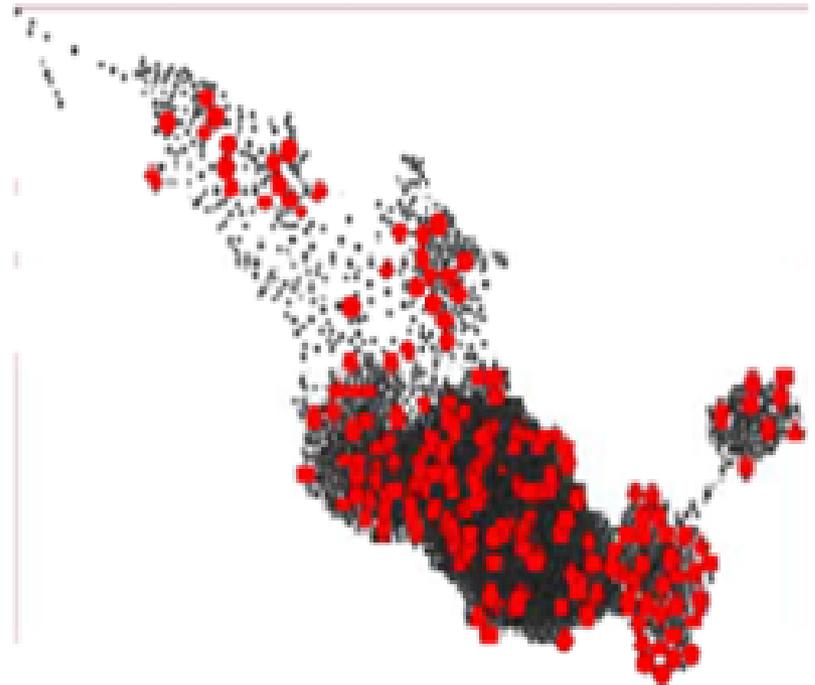
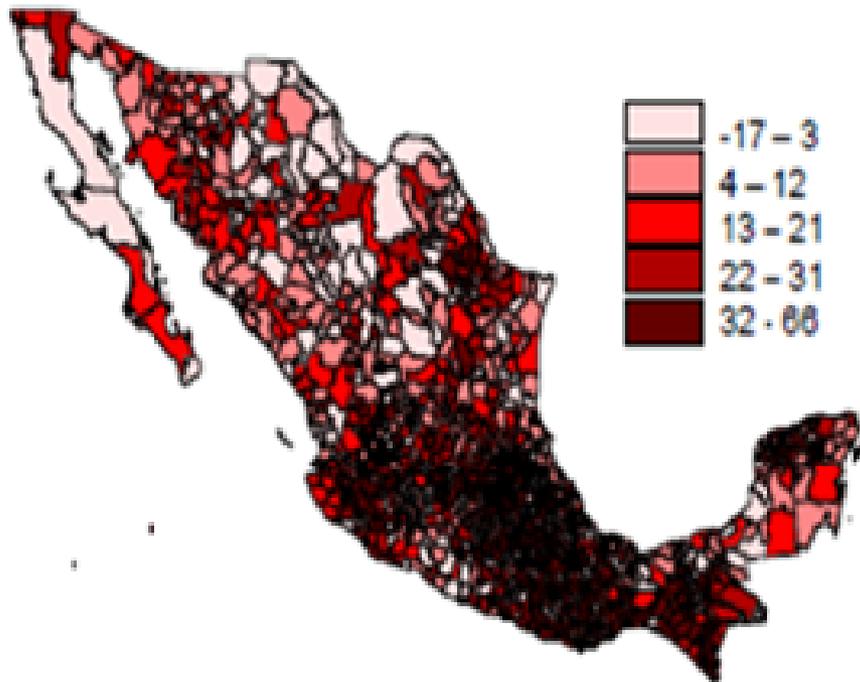


**Double vulnerability:
social and environmental**



Double vulnerability: poor and disaster-prone

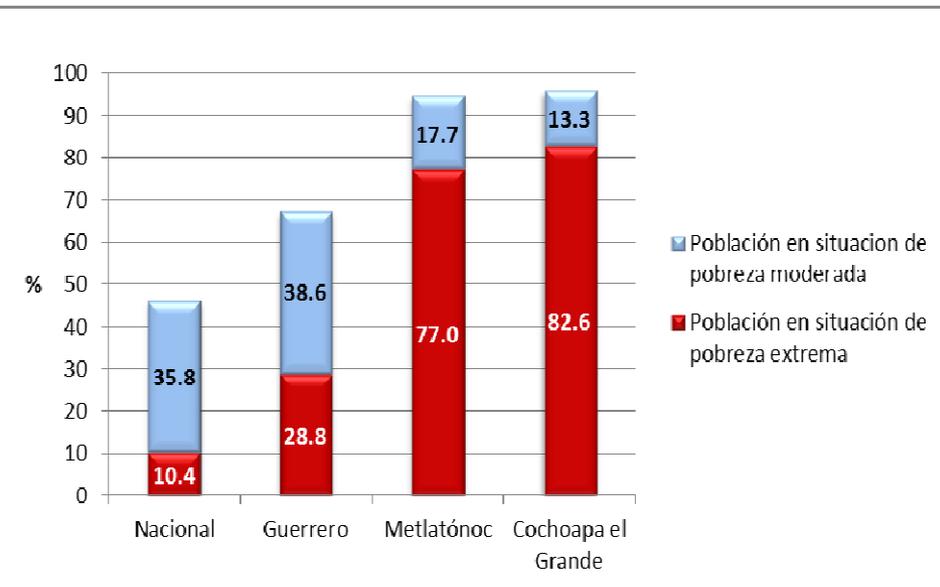
left: with less than 2 US\$/day; right disaster over 500,000US\$



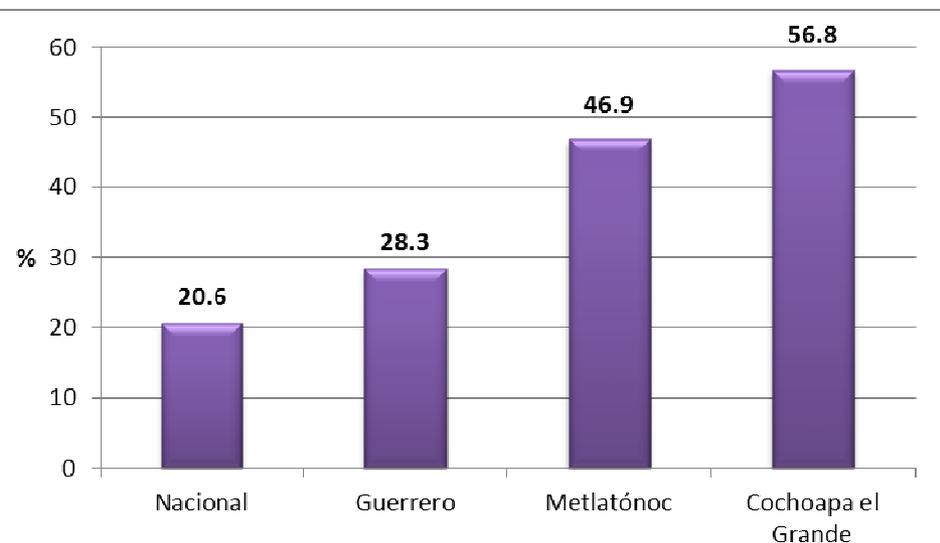
A photograph of a woman with dark hair tied back, wearing a white turtleneck sweater, holding a young child with dark hair and a pink shirt. They are standing in front of a fence made of vertical bamboo poles. The ground is dirt and gravel. The text '2.3 Gender perspective and 4 times discriminated: indigenous, poor, migrant and woman' is overlaid in yellow on the bottom half of the image.

2.3 Gender perspective and 4 times discriminated: indigenous, poor, migrant and woman

Poverty and migration in Cochoapa



Without school training



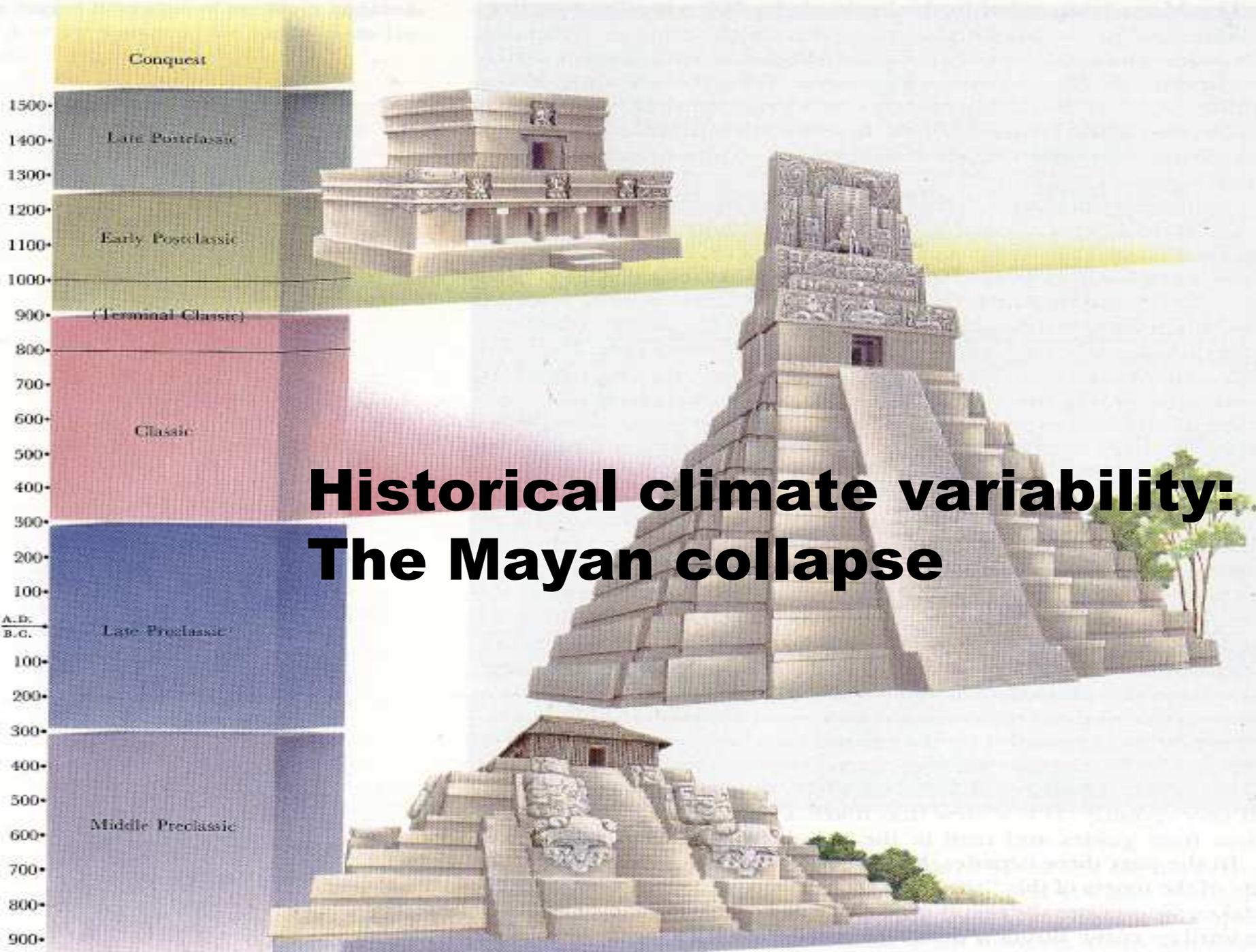
1. Poorest municipality in Mexico
 2. 82.6% extreme poor
 3. 98% indigenous
 4. 56.8% analphabets
 5. 70% of women without school
 6. Studying prevents marriage
 7. Girls at 12 years are sold for marriage
 8. Temporary and permanent migration: Day laborers & family in the fields with toxic pesticides (including children)
- Discrimination: Poor, woman, indigenous and migrant**

Social and personal outcomes

1. Stable houses with basic services
2. Preprimary, primary and secondary schools for children
3. Women get better trained and get adult education
4. Are not sold for marriage when 12 years old
5. Learn hygiene and childrearing
6. Have access to anticonceptive drugs
7. Get precarious health access for the family
8. Improve income and develop survival strategies
9. Not enough money for paying electricity and water supply
10. Change to protestant churches to avoid alcohol consumption in husbands and boys
11. Take antidepressive drugs against social and family pressures



3. Internal migration: historical and present with a process of urbanization



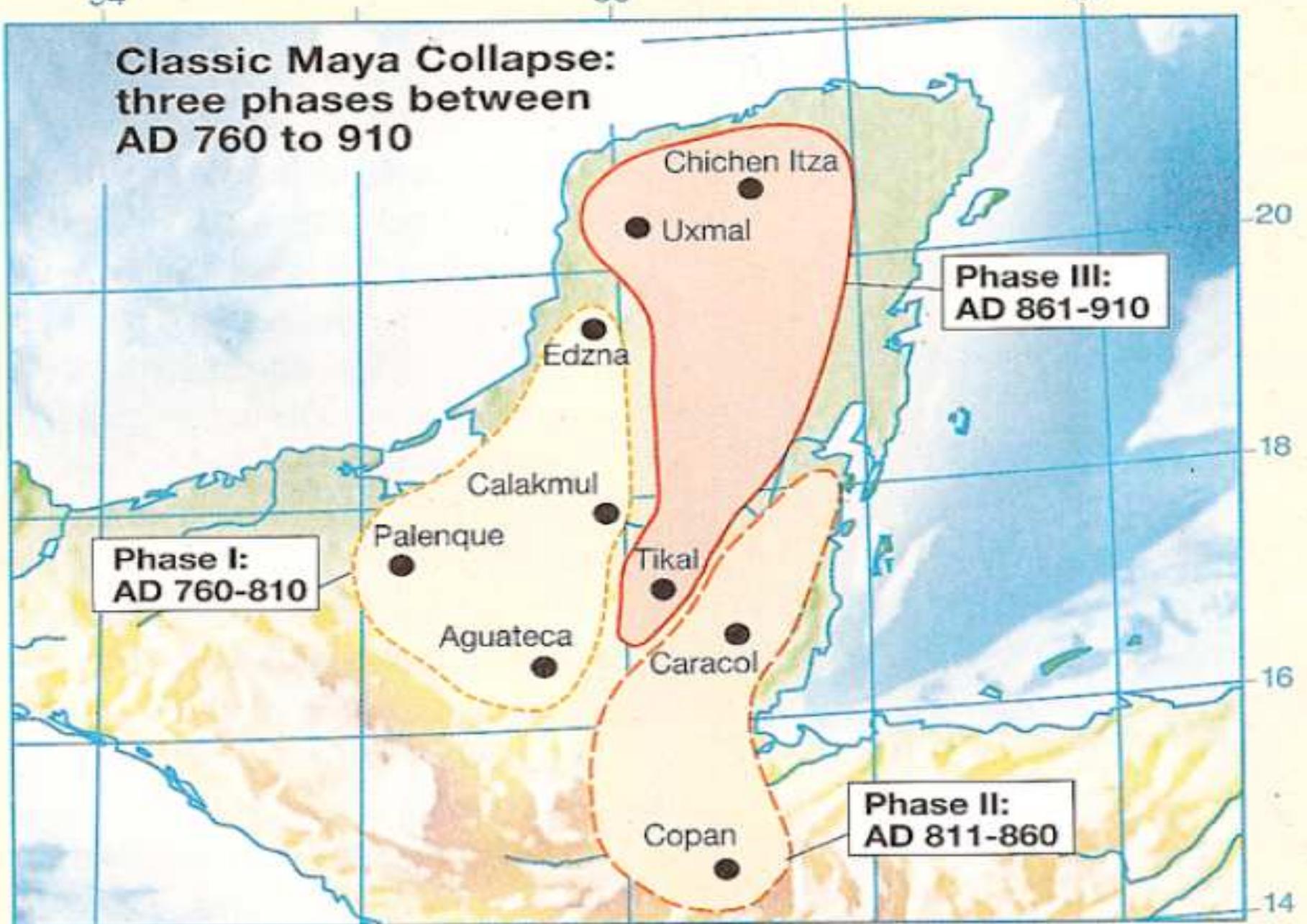
Historical climate variability: The Mayan collapse

94

90

86

Classic Maya Collapse: three phases between AD 760 to 910



20

18

16

14

**Phase III:
AD 861-910**

**Phase I:
AD 760-810**

**Phase II:
AD 811-860**

Chichen Itza

Uxmal

Edzna

Calakmul

Palenque

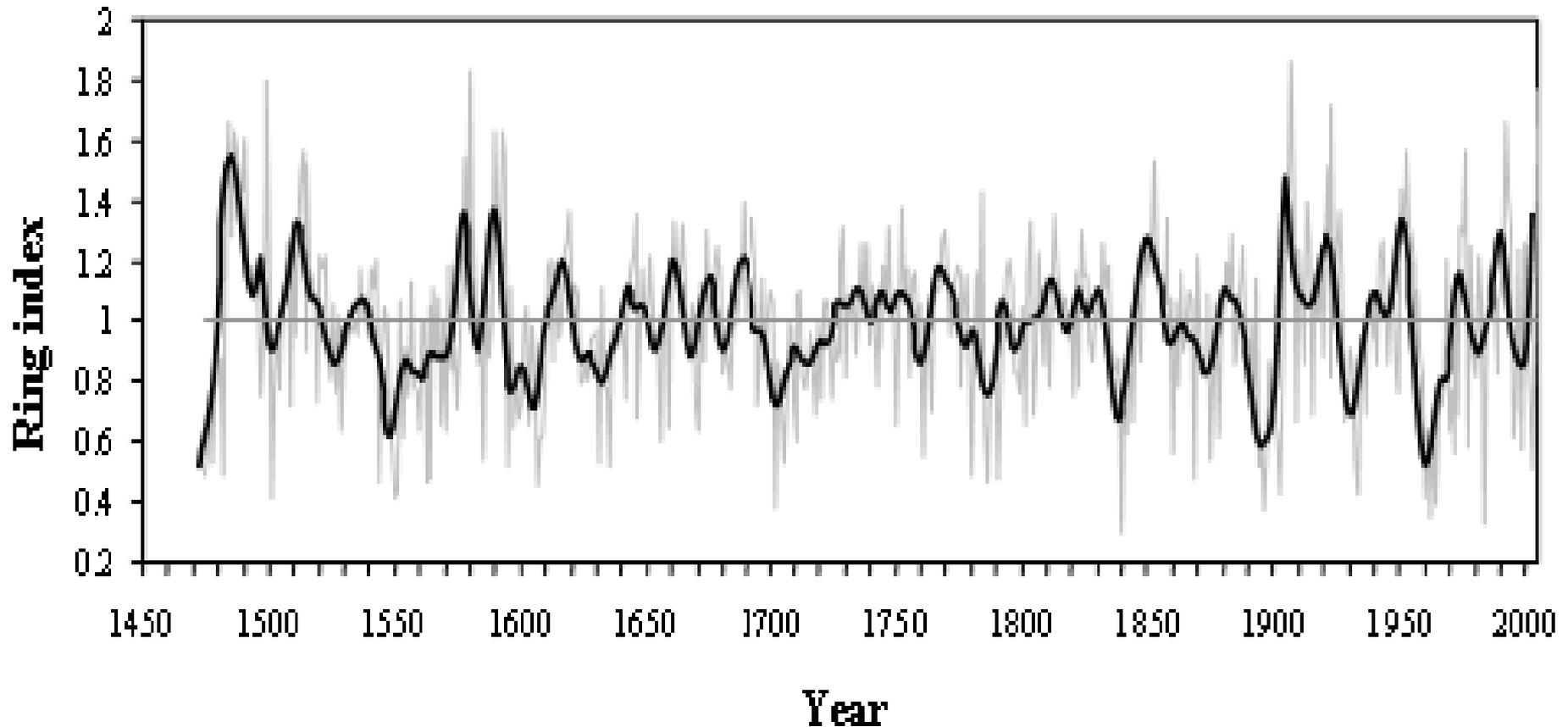
Tikal

Aguateca

Caracol

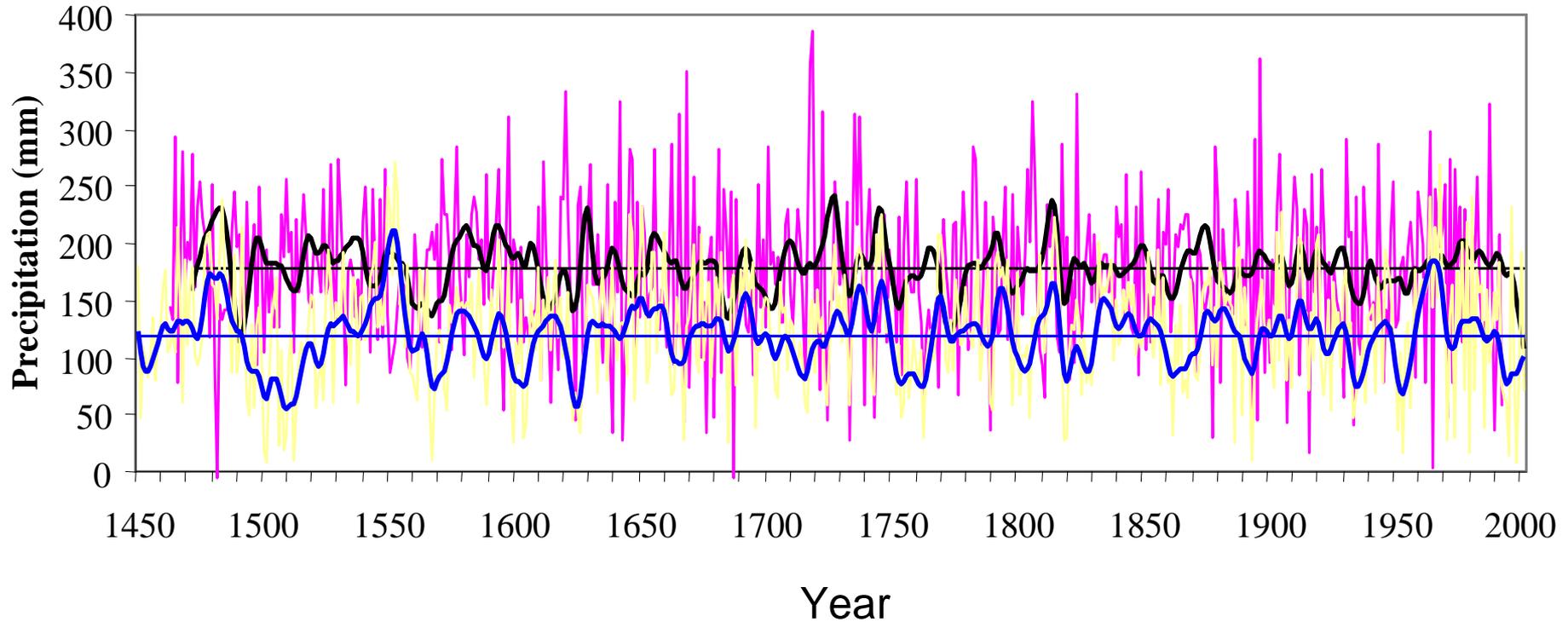
Copan

Historical droughts: Tree ring's analysis



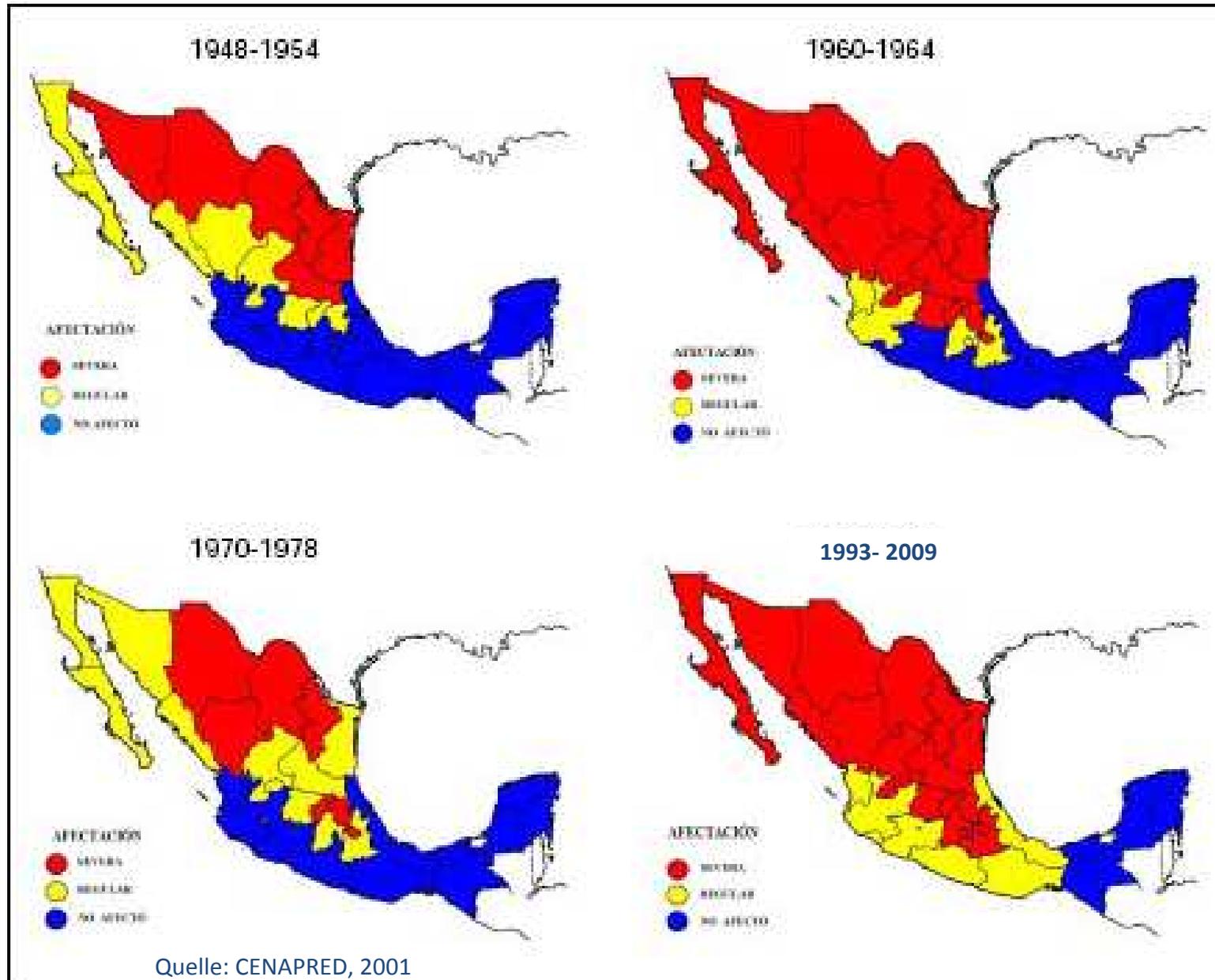
Source: Therrell et al., 2006

Historical rainfall reconstruction

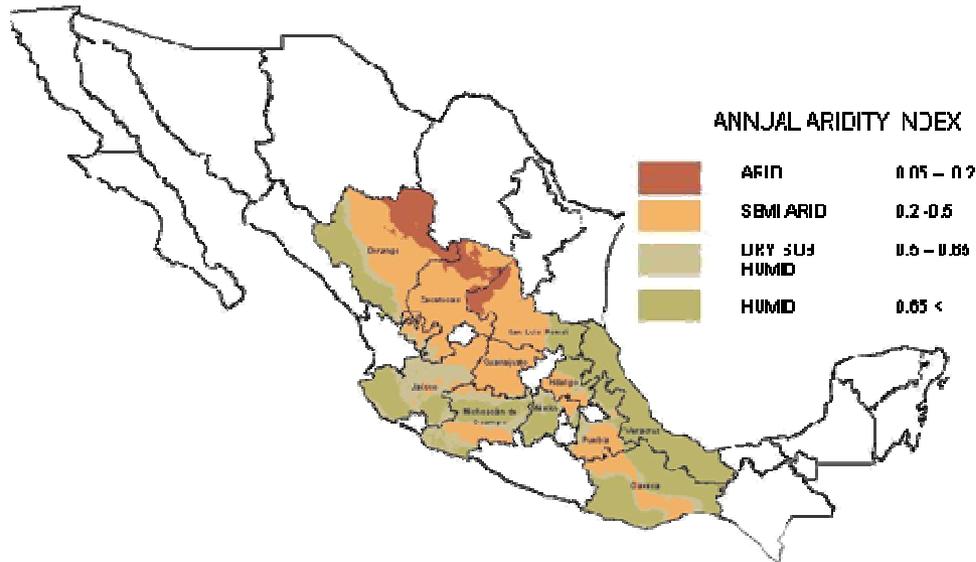


Magenta and yellow lines indicate annual rainfall variability for the northern state of **Chihuahua** and **Sonora** and Northern state of **Durango** and **Sinaloa** respectively. Black and blue lines are 10 years moving average of precipitation; horizontal lines shows mean annual rainfall. Data above the average are wet years and below are dry years (Villanueva et al., 2008).

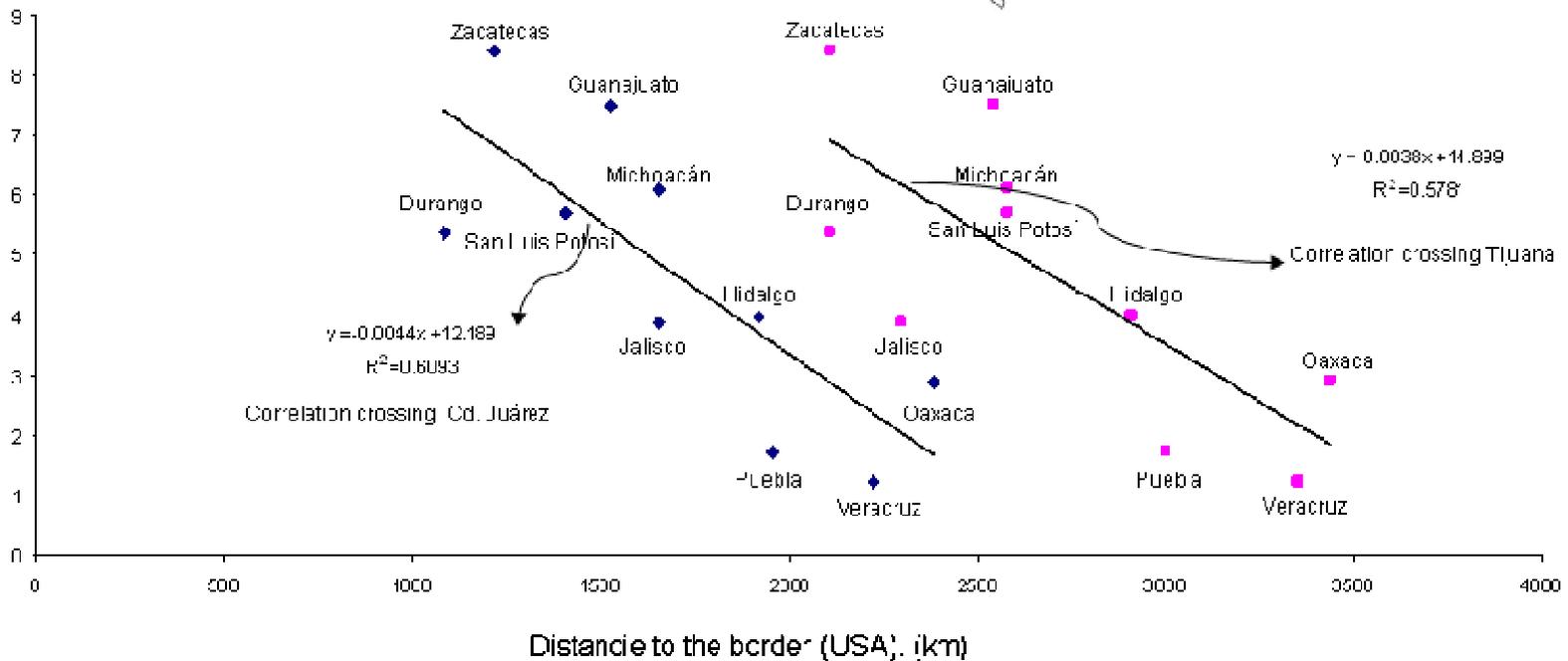
History of present droughts



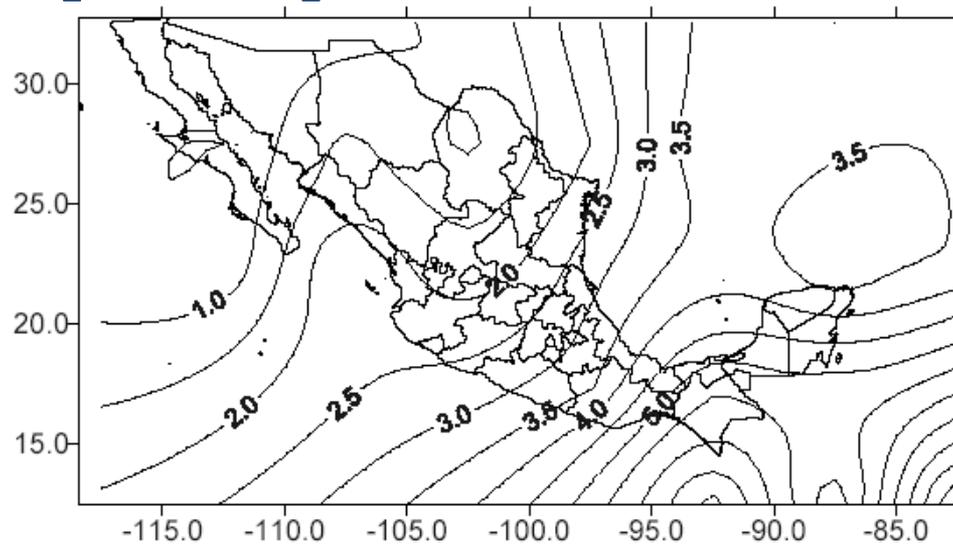
Aridity Index, distance to USA, EFM



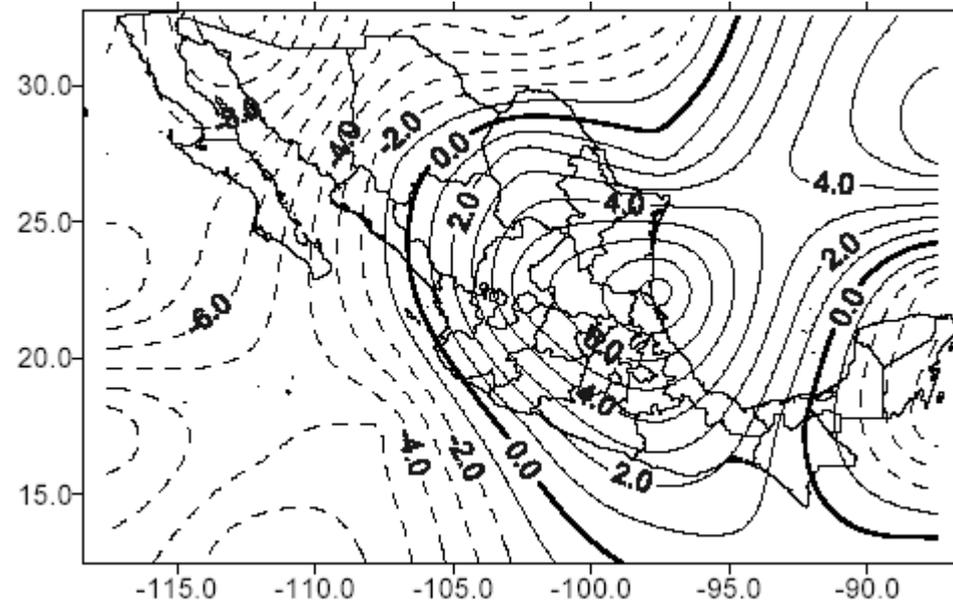
Percentage of population of the state that has emigrated to 2002



Potential changes in annual precipitation in Mexico for 2050



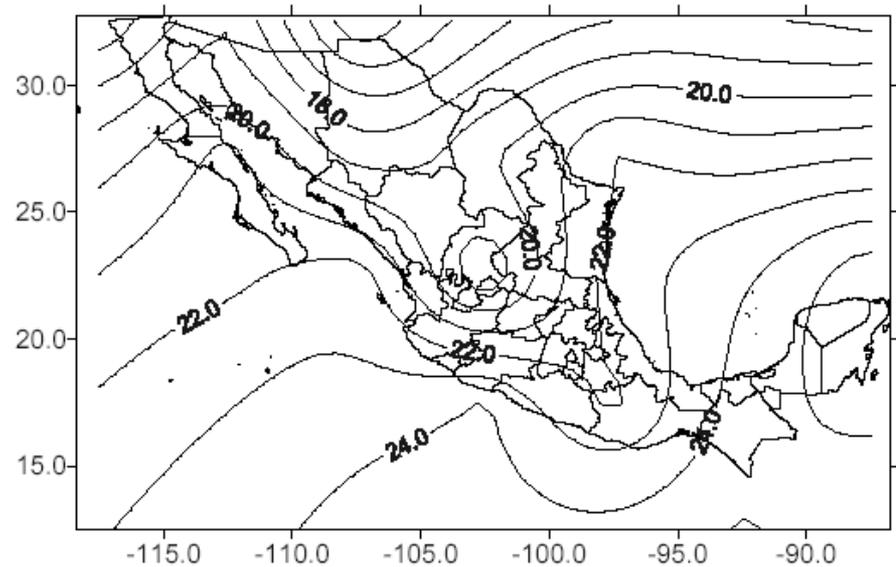
Scenario base (1961 – 1990) of average precipitation/year annual (mm/day)



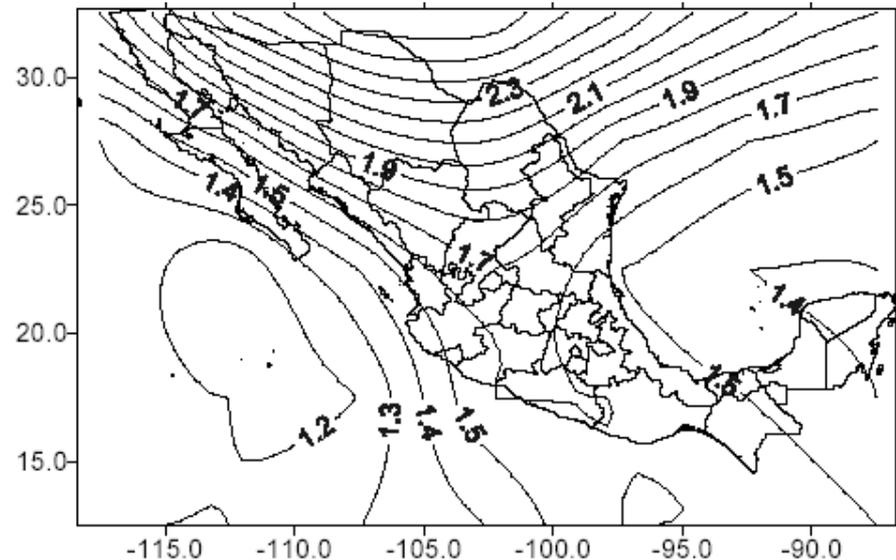
% of changes in average annual precipitation depending on medium sensitivity. The interrupted lines represent decrease. Model ECHAM4

Potential changes in annual temperature 2050

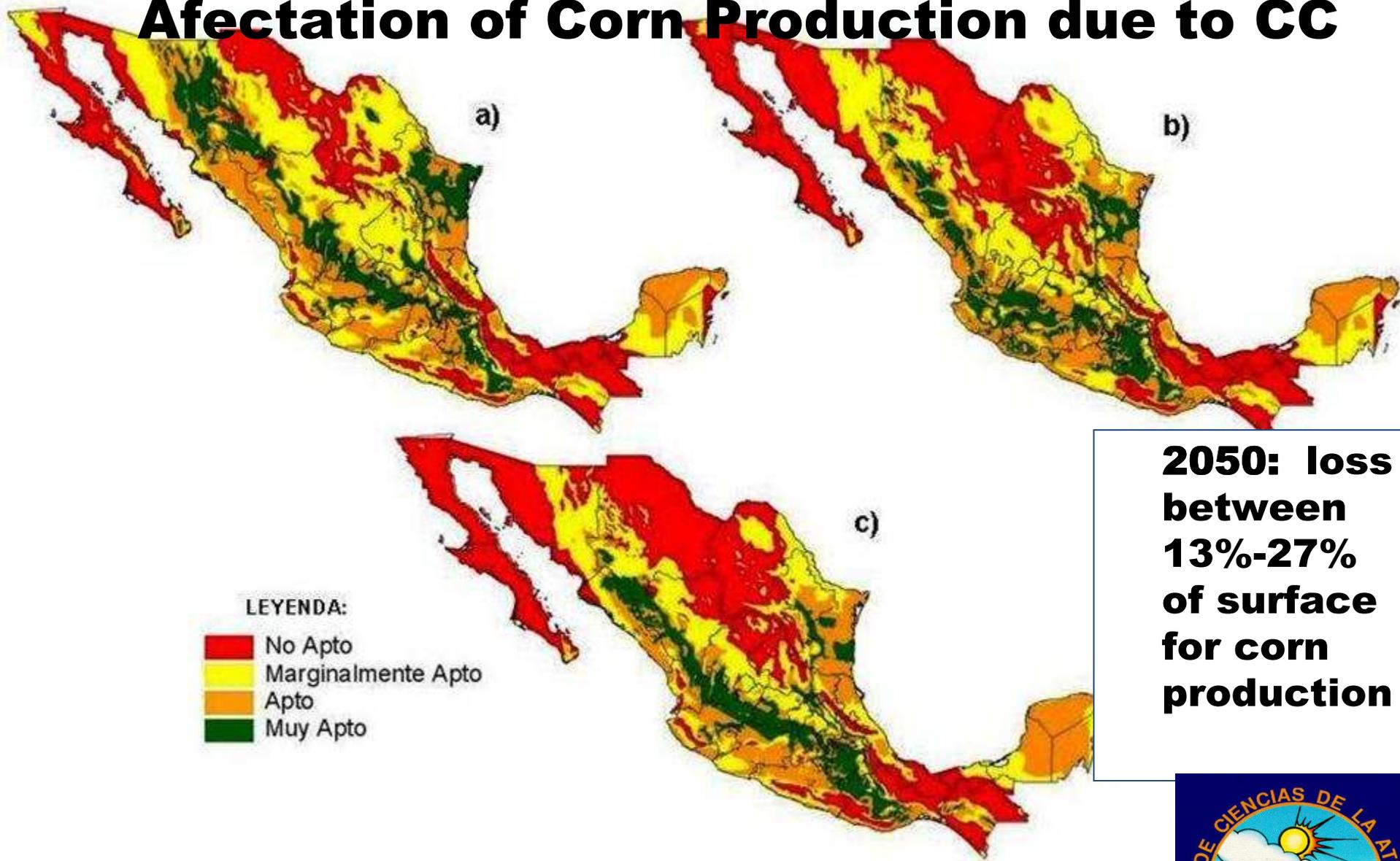
Scenario base (1961 – 1990) of annual average of temperature



Increase of medium annual average temperature (°C) in 2050. Model ECHAM4



Afectation of Corn Production due to CC



2050: loss between 13%-27% of surface for corn production

Monterroso, A. G, Rosales, 2006.



How many may migrate due to CC?

1. Between **3.25 and 6.75** millions of small peasants will be pushed out of their land and become EIM due to loss of fertile land and desertification for corn production and thus loss of livelihood.
2. An additional **41 million people** are at very high and high risks due to natural hazards, especially in urban areas (SEGOB 2013).

Causes of migration in Mexico: socioeconomic and environment

- The Ministry of Interior estimates that 28.6 million of inhabitants are very highly and 11 millions highly exposed to disasters: almost 40 millions at risks.
- Failed agrarian politics produced rural-urban migration since 1950.
- **1950-1970:** rural-urban migration into slums of the Metropolitan Valley of Mexico City (MVMC);
- **1970-1990:** Politic of import-substitution, cheap oil, low prices in food products, etc. increased migration and pollution in MVMC, Guadalajara and Monterrey;
- **1990-2005:** regressive globalization and free trade agreements (NAFTA) offered cheap subsidized products with a new wave of migration to US, triggered by water scarcity, climate variability and loss of soil fertility;
- **2005-2010:** more frequent and severe disasters, desertification, loss of food security, poverty in rural areas and economic stagnation increased internal and international migration. Today illegal migration is controlled buy organized crime.



1995

61

MUERTES

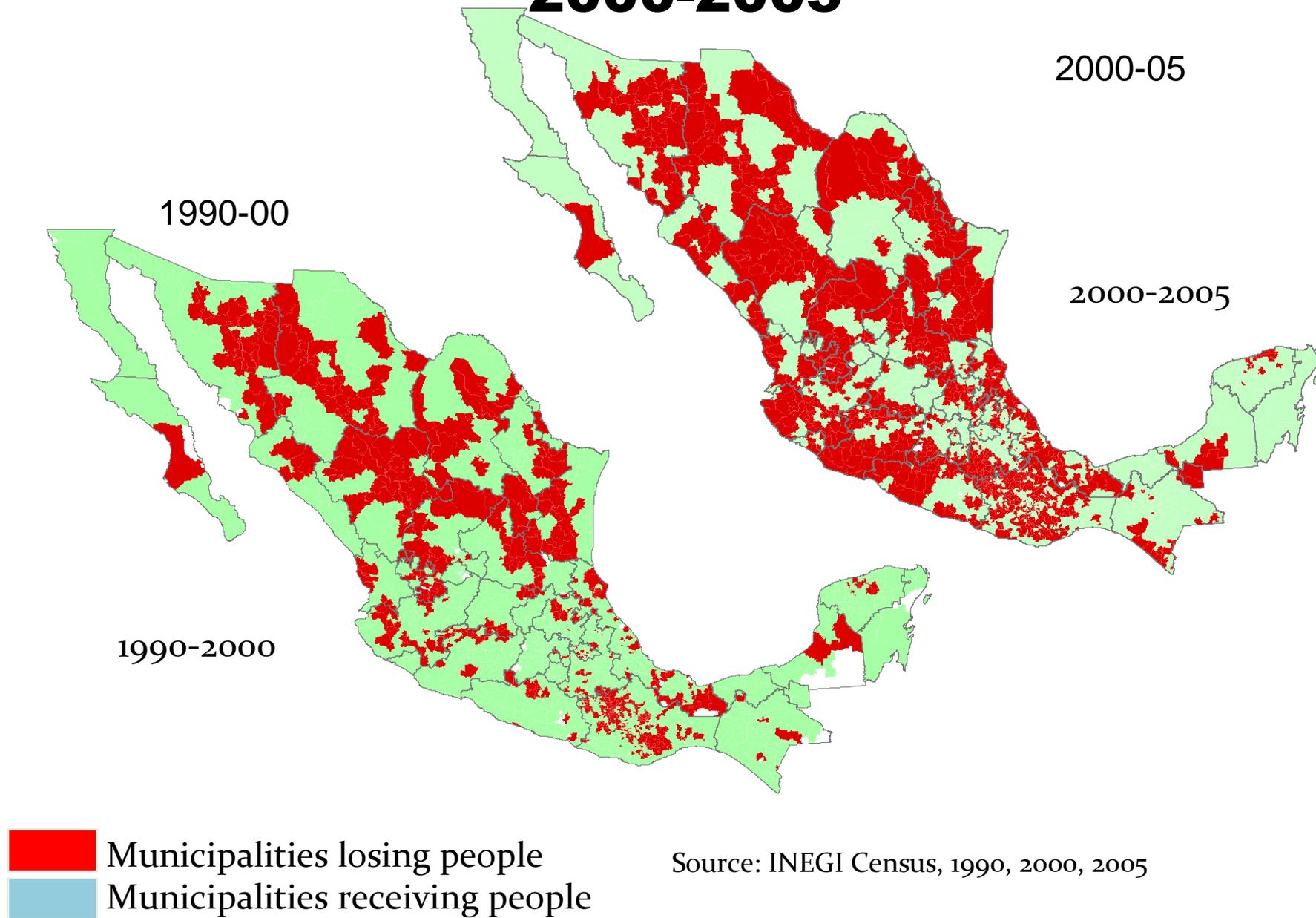
1996

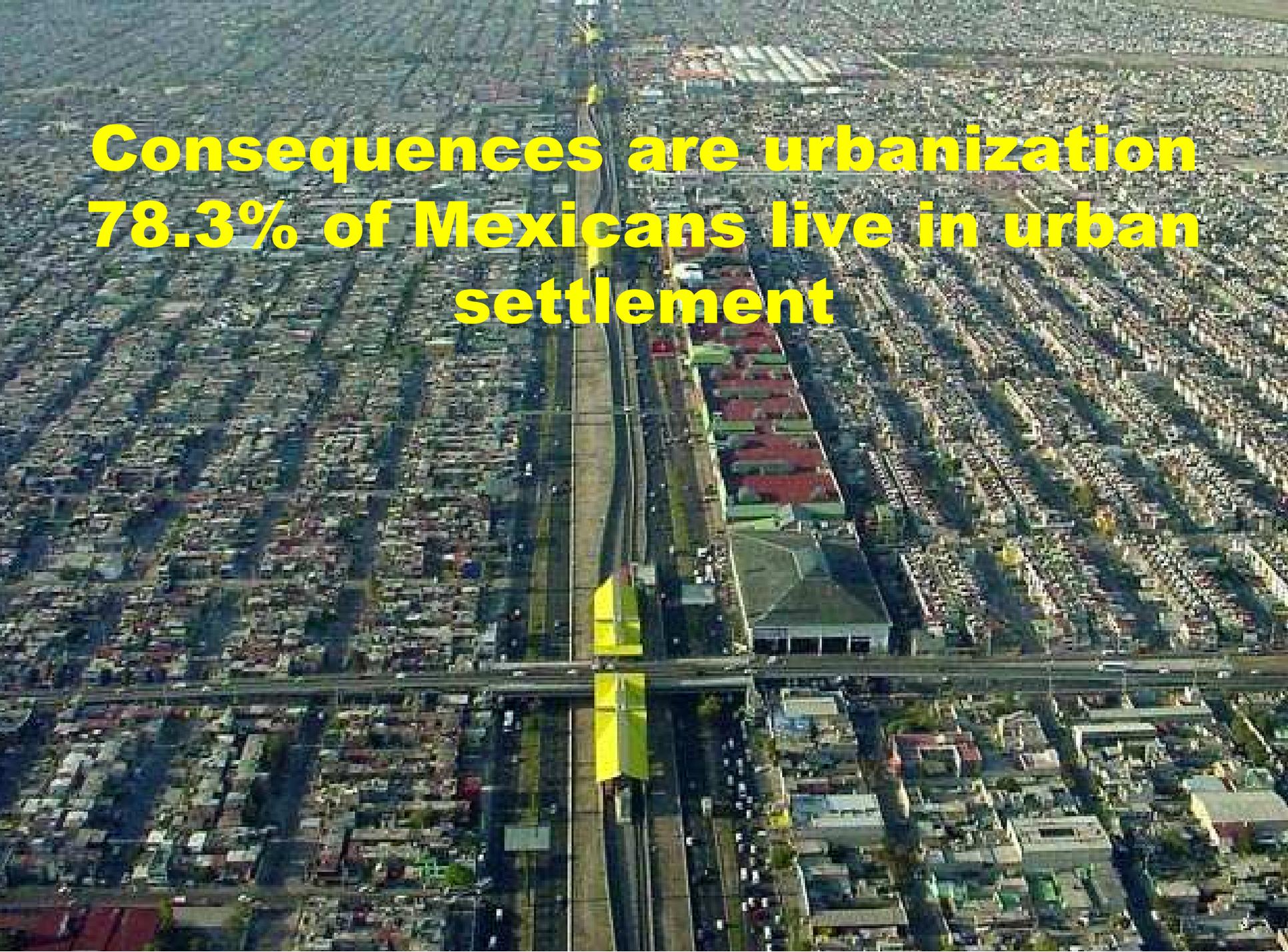
87

MUERTES

4. Gender, migrants, indigenous and poor: forth discrimination

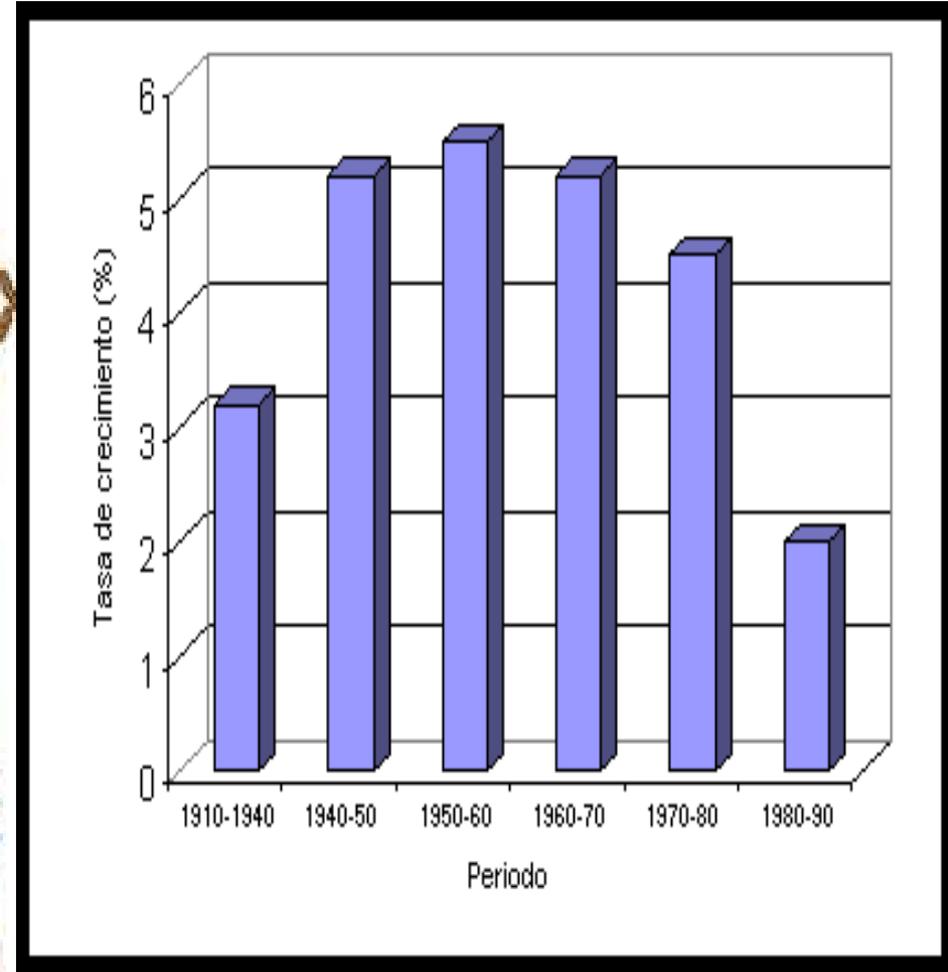
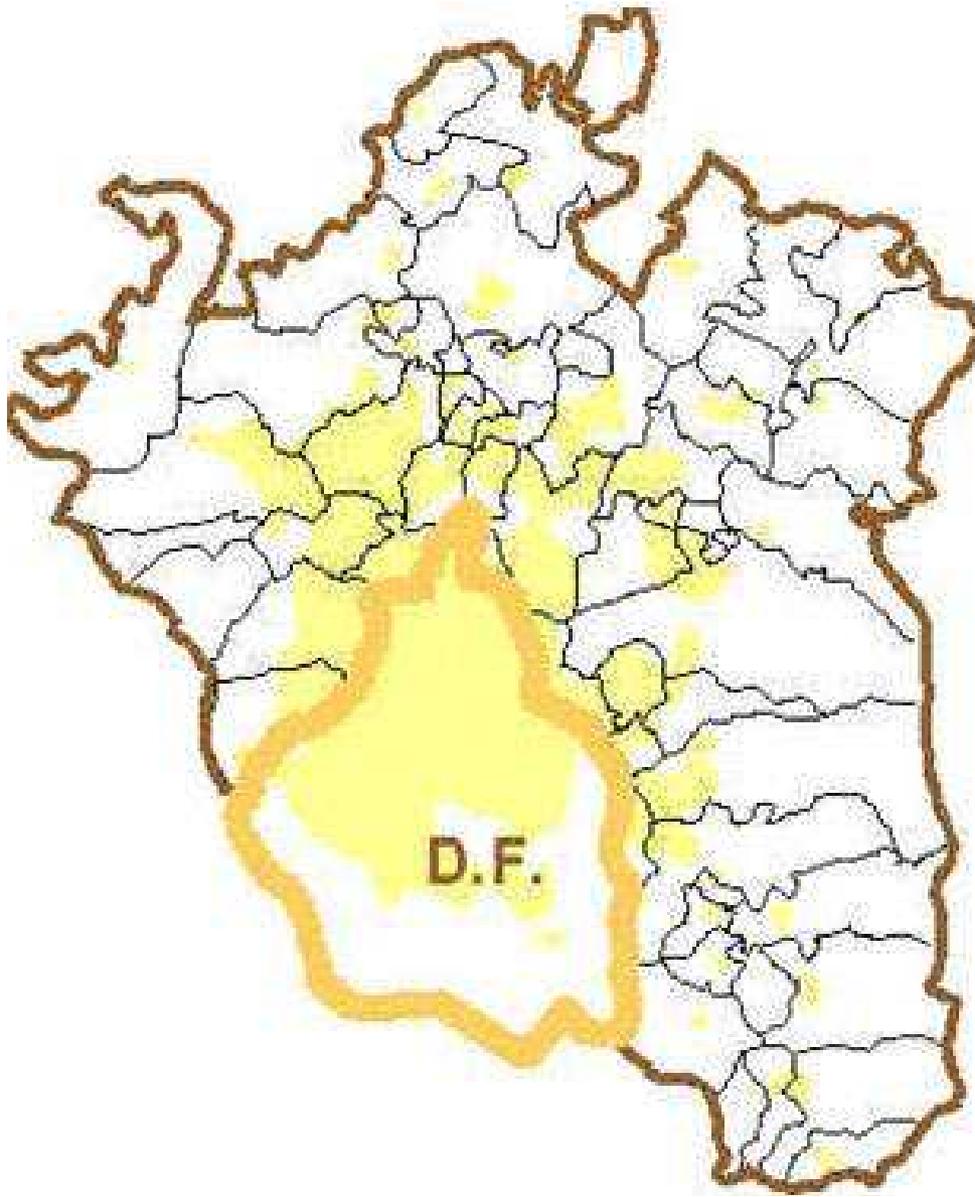
Migration and move of people: 1990-2000 and 2000-2005



An aerial photograph of a densely populated urban area. A multi-lane highway runs vertically through the center of the image. To the right of the highway, there is a large, rectangular building complex with a red roof. The surrounding area is filled with numerous smaller buildings and structures, indicating a high level of urbanization. The text is overlaid on the upper portion of the image.

**Consequences are urbanization
78.3% of Mexicans live in urban
settlement**

Metropolitan Valley of Mexico City



Population of Mexico City's Megalopolis from 1970 to 2000					Rate of population growth		
	1970	1980	1990	2000	70-80	80-90	90-2000
Central Delegations a)	2 902 969	2 453 136	1 957 290	1 692 179	-1.70	-2.28	-1.47
Intermedian Delegations b)	3 516 242	4 910 573	5 033 899	5 188 657	3.40	0.25	0,30
Peripheric Delegations c)	421 257	999 002	1 359 856	1 724 403	9.02	3,13	2.40
Total DC	6 840 468	8 362 711	8 351 044	8 605 239	2,03	-0.01	0.30
State of Mexico d)	1 782 686	4 631 739	6 923 211	8 546 856	10.02	4.10	2.13
Total Megalopolis	8 623 154	12 994 450	15 274 256	17 152 095	4.19	1.63	1.17

a) Central Delegations: Benito Juárez, Cuauhtémoc, Miguel Hidalgo, Venustiano Carranza

b) *Intermedium Delegations*: Álvaro Obregón, Azcapotzalco, Coyoacán, Iztacalco, Iztapalapa, Gustavo A. Madero

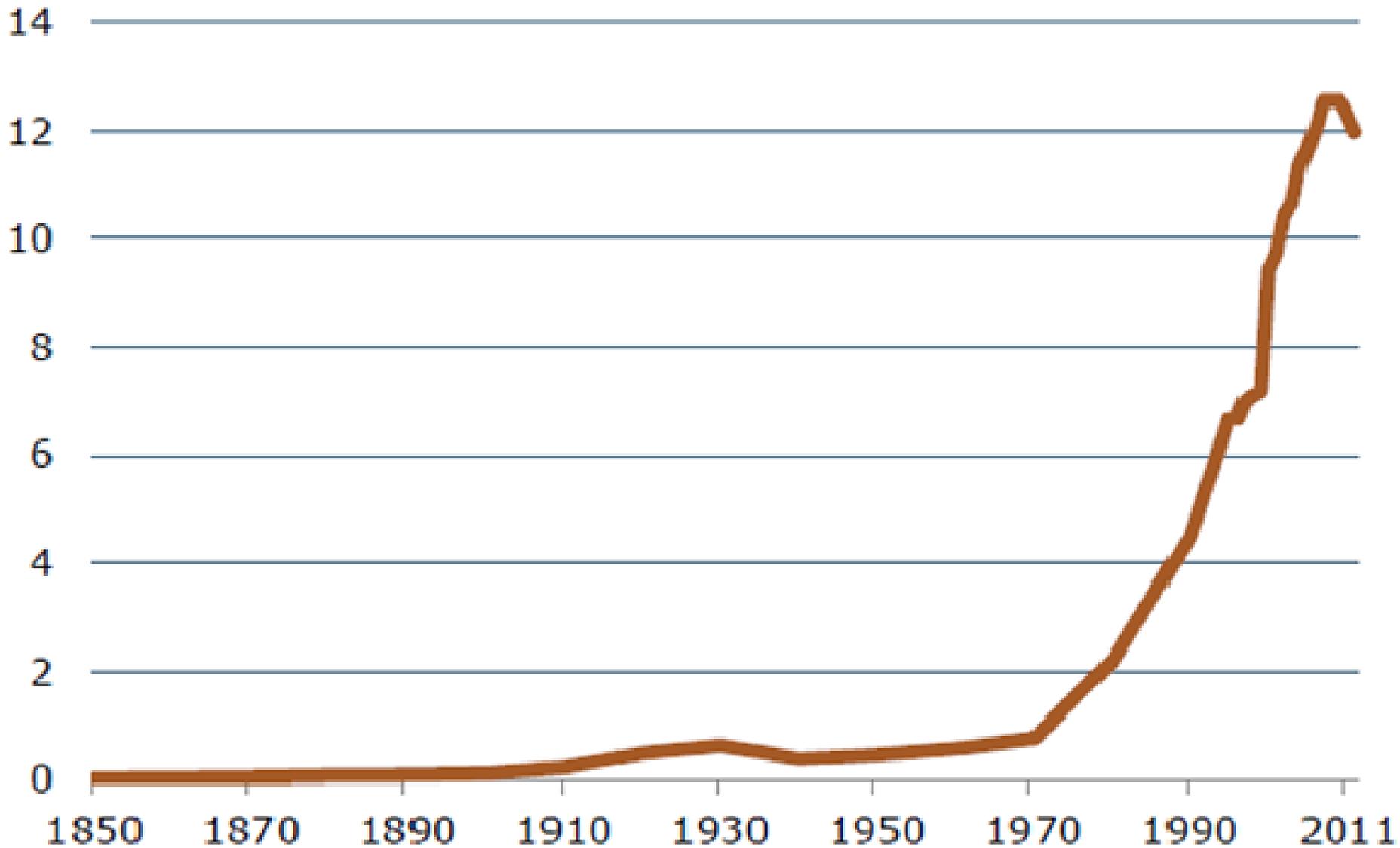
c) *Peripheric Delegations*: Cuajimalpa, Magdalena Contreras, Milpa Alta, Tláhuac, Tlalpan, Xochimilco

d) *State of Mexico*: 1970:11 municipalities; 1980: 21 municipalities; 1990:28 municipalities; 2000: 41 municipalities



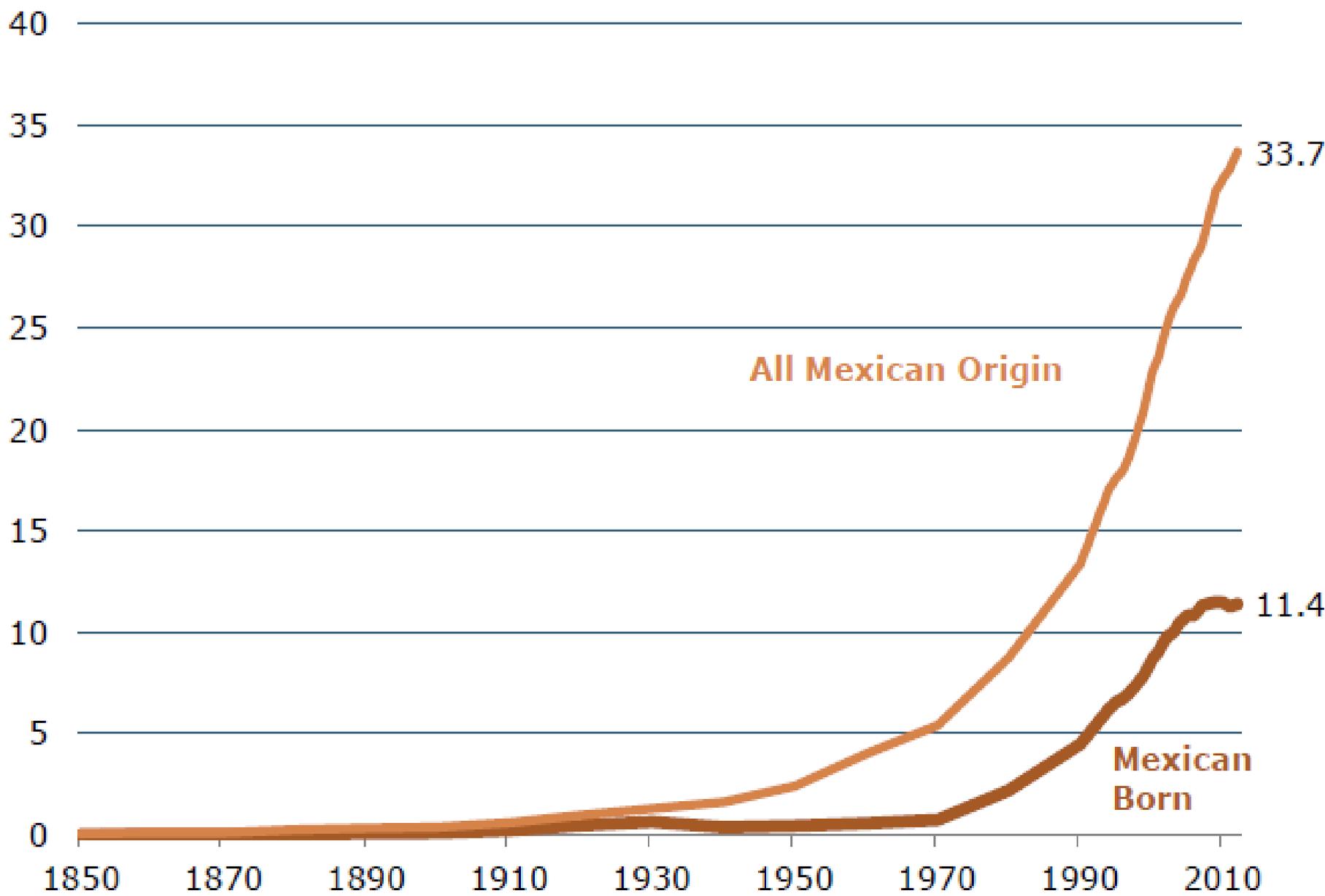
5. International migration to US: some data

Mexican immigration to US



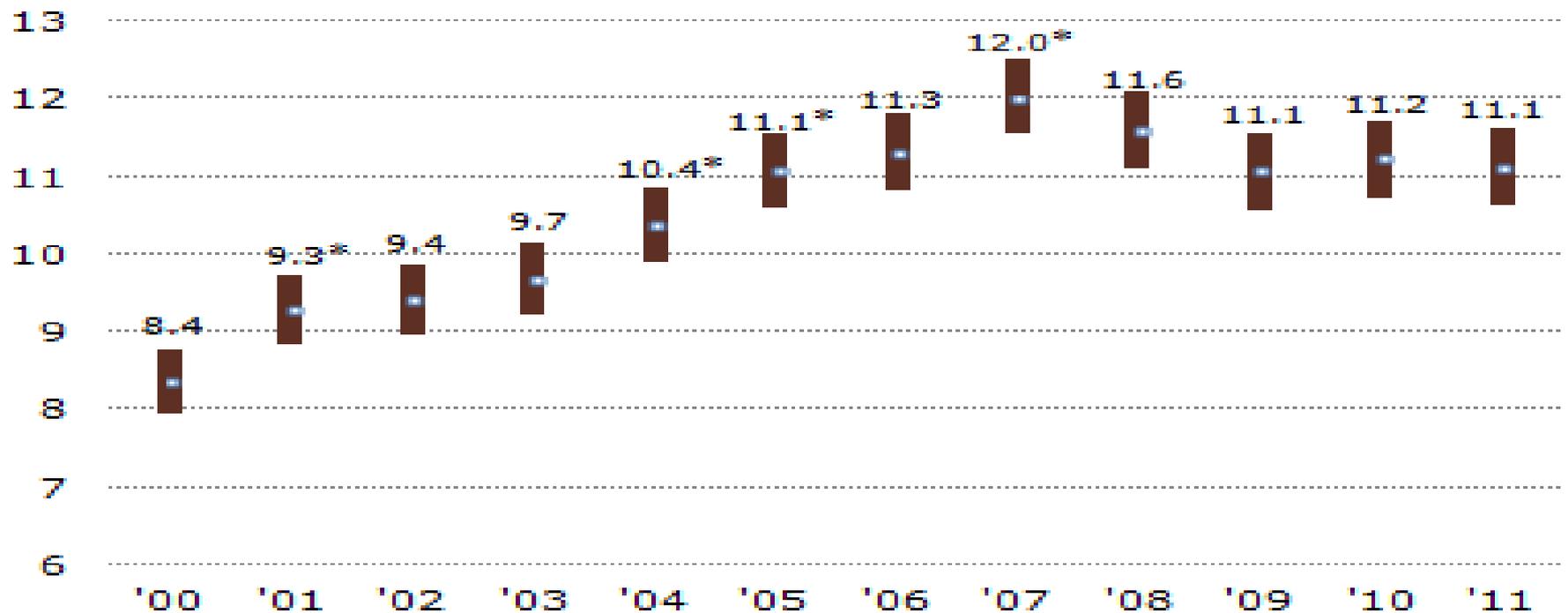
Mexican-Origin Population in the U.S., 1850-2012

(in millions)



Drought and floods: reason for migration

Estimates of the U.S. Unauthorized Immigrant Population, 2000-2011
(in millions)

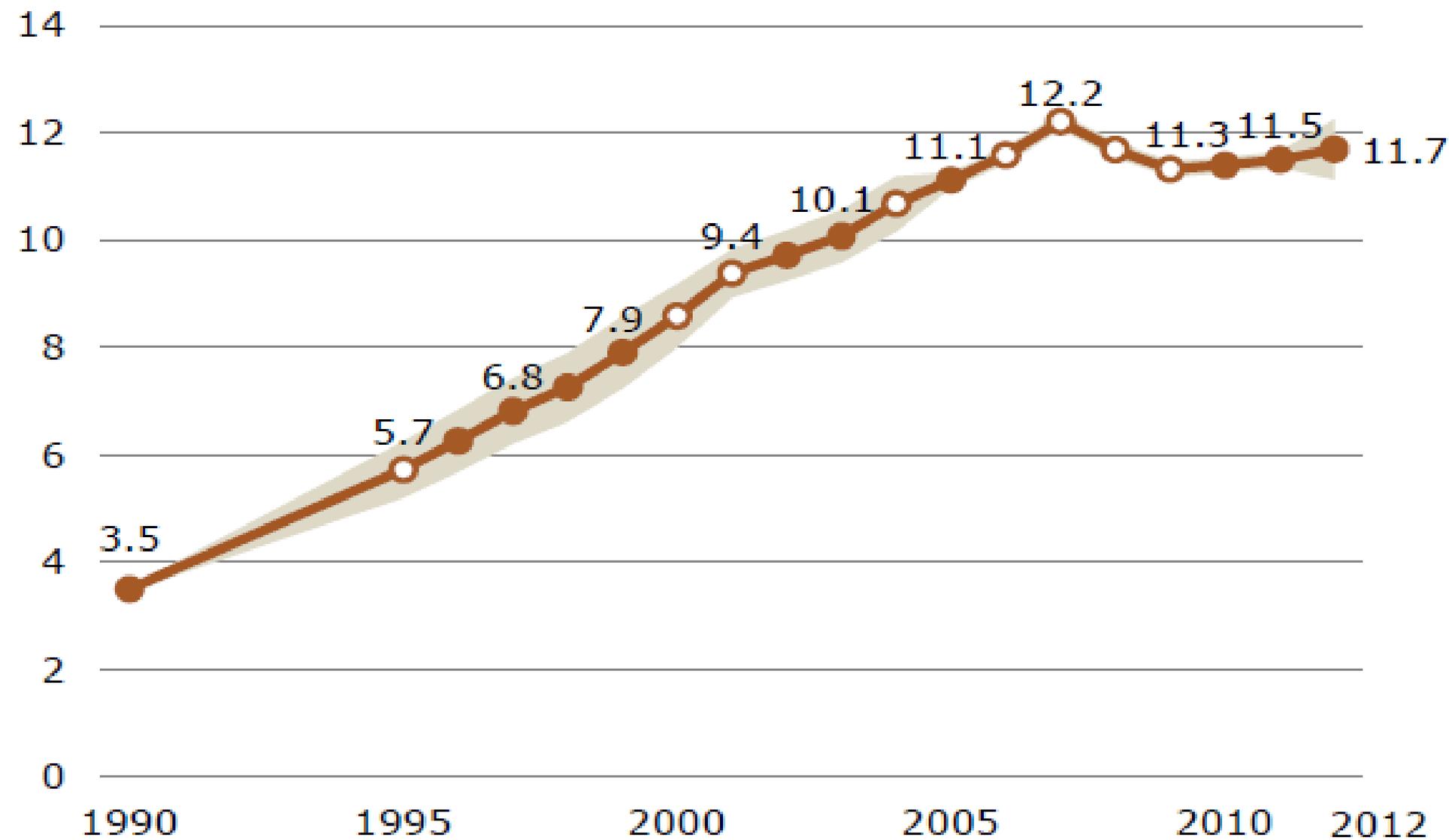


Notes: Bars indicate the low and high points of the estimated 90% confidence interval. The symbol * indicates the change from the previous year is statistically significant.

Source: Pew Hispanic Center estimates based on residual methodology applied to March Supplements to the Current Population Survey.

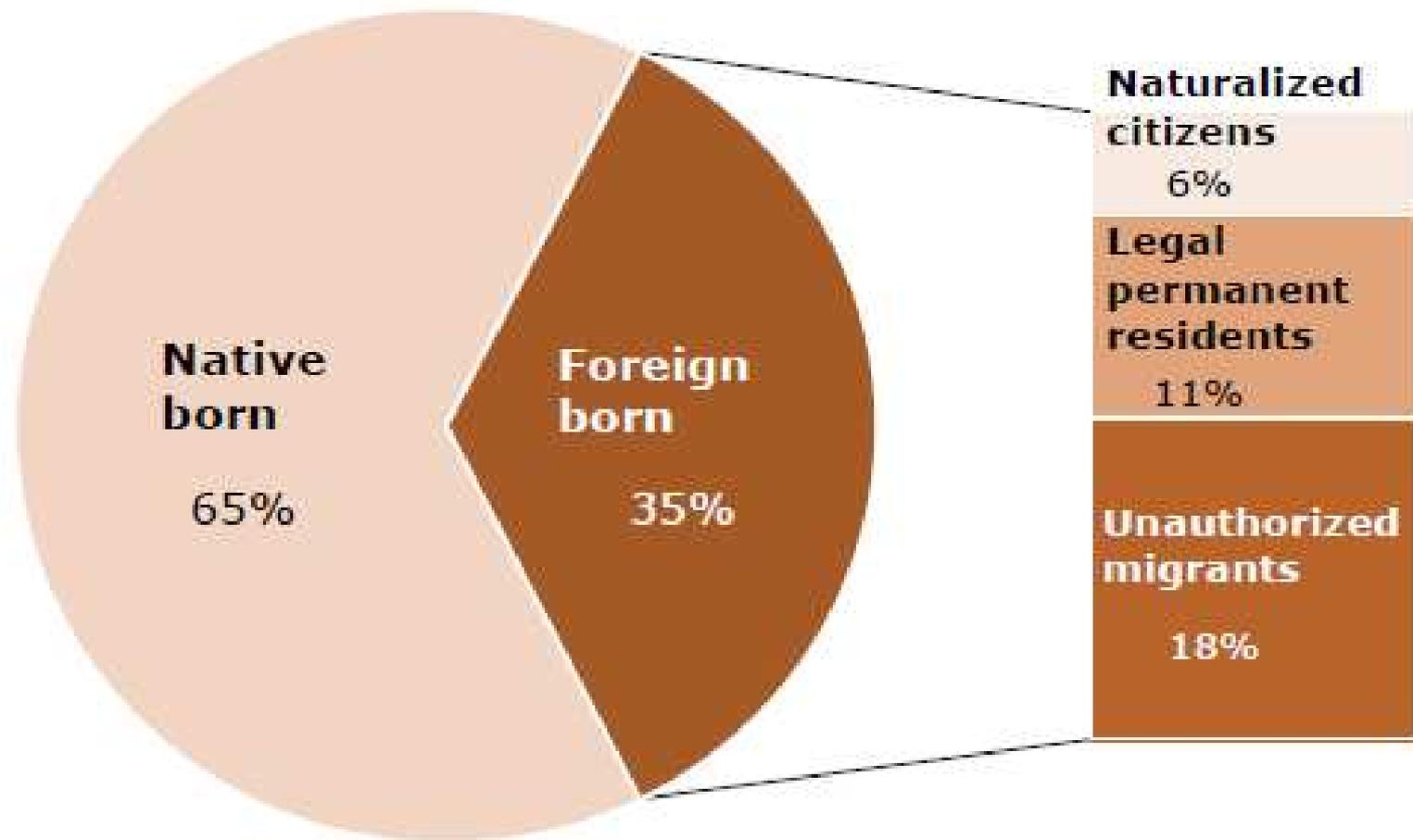
Estimates of the U.S. Unauthorized Immigrant Population, 1990-2012

in millions



Nativity and Legal Status of Mexican-Origin Population in the U.S., 2011

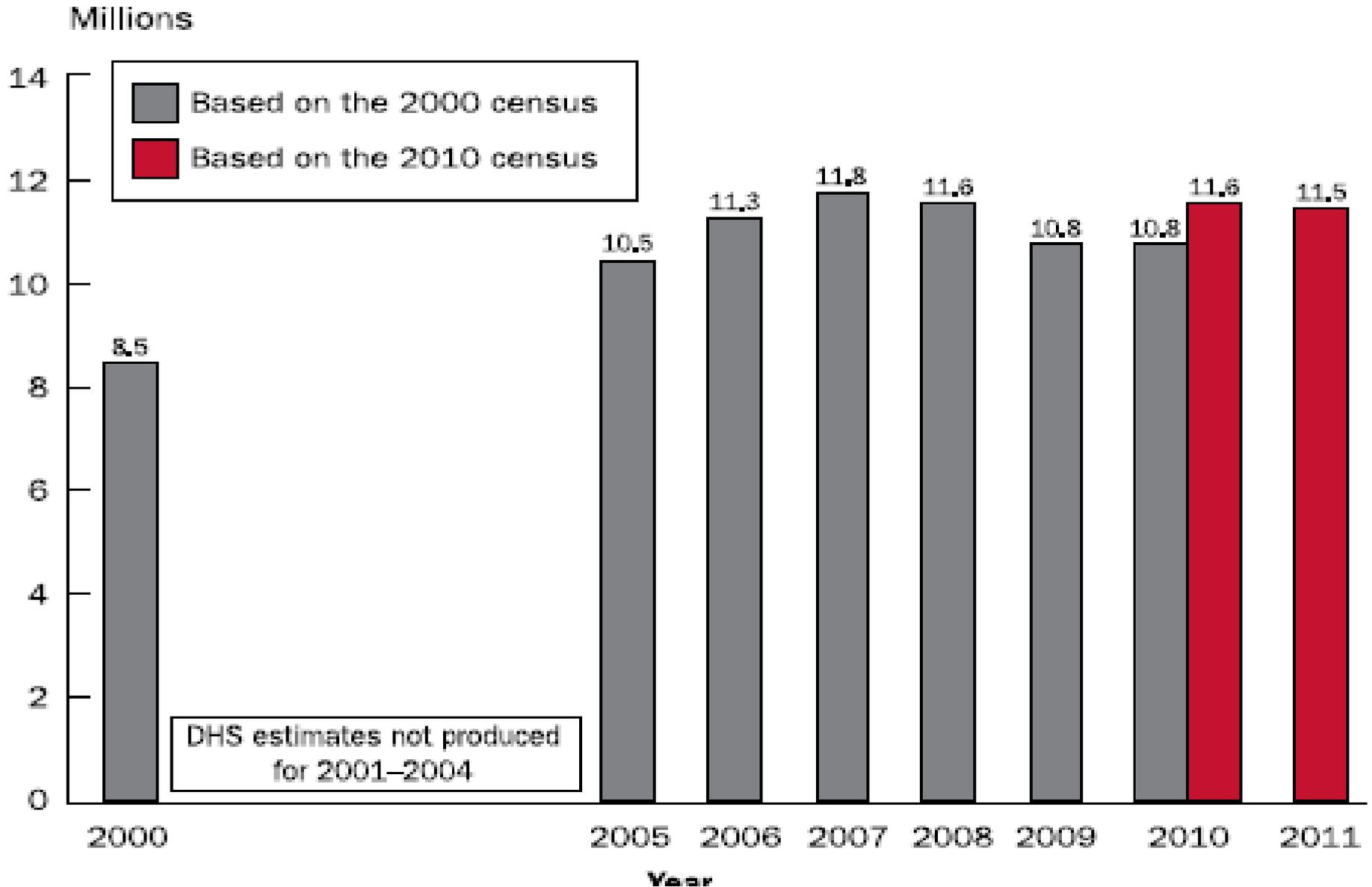
(%)



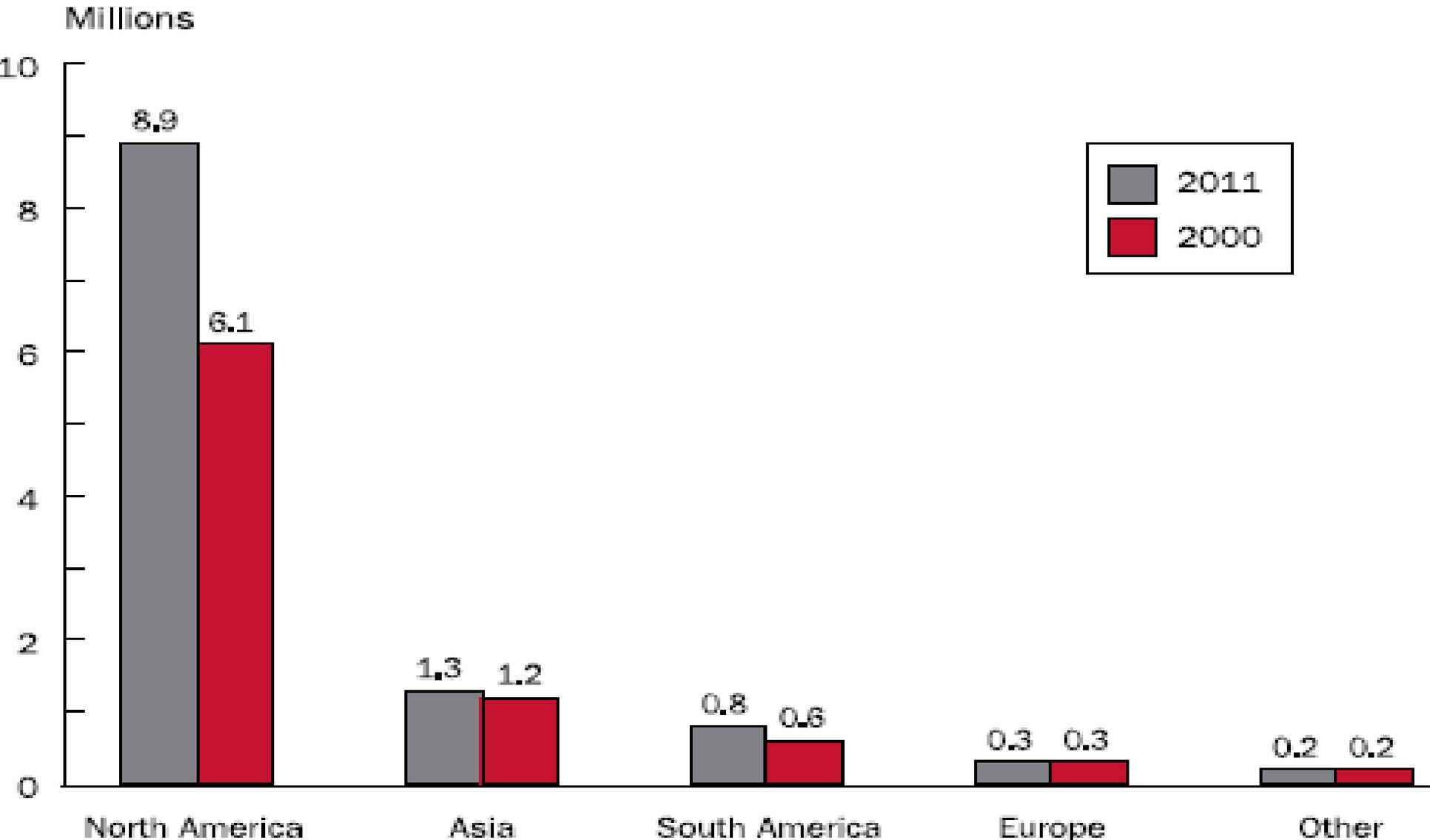
Source: Pew Hispanic Center estimates based on augmented March Current Population

Estimation of illegal Mexicans in the US

(Source: Homeland Security, 2011)

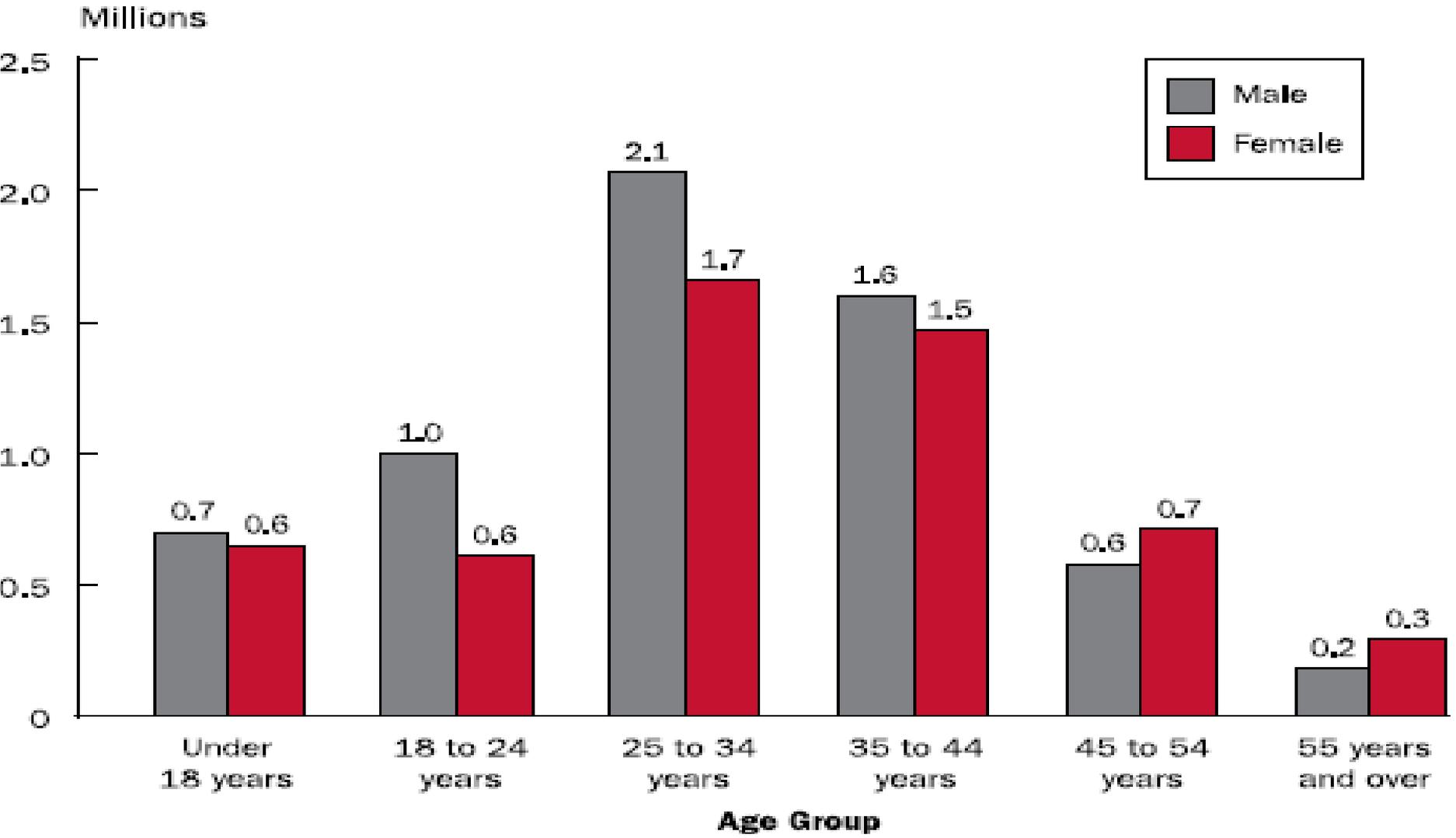


Region of Birth of the Unauthorized Immigrant Population: January 2011 and 2000



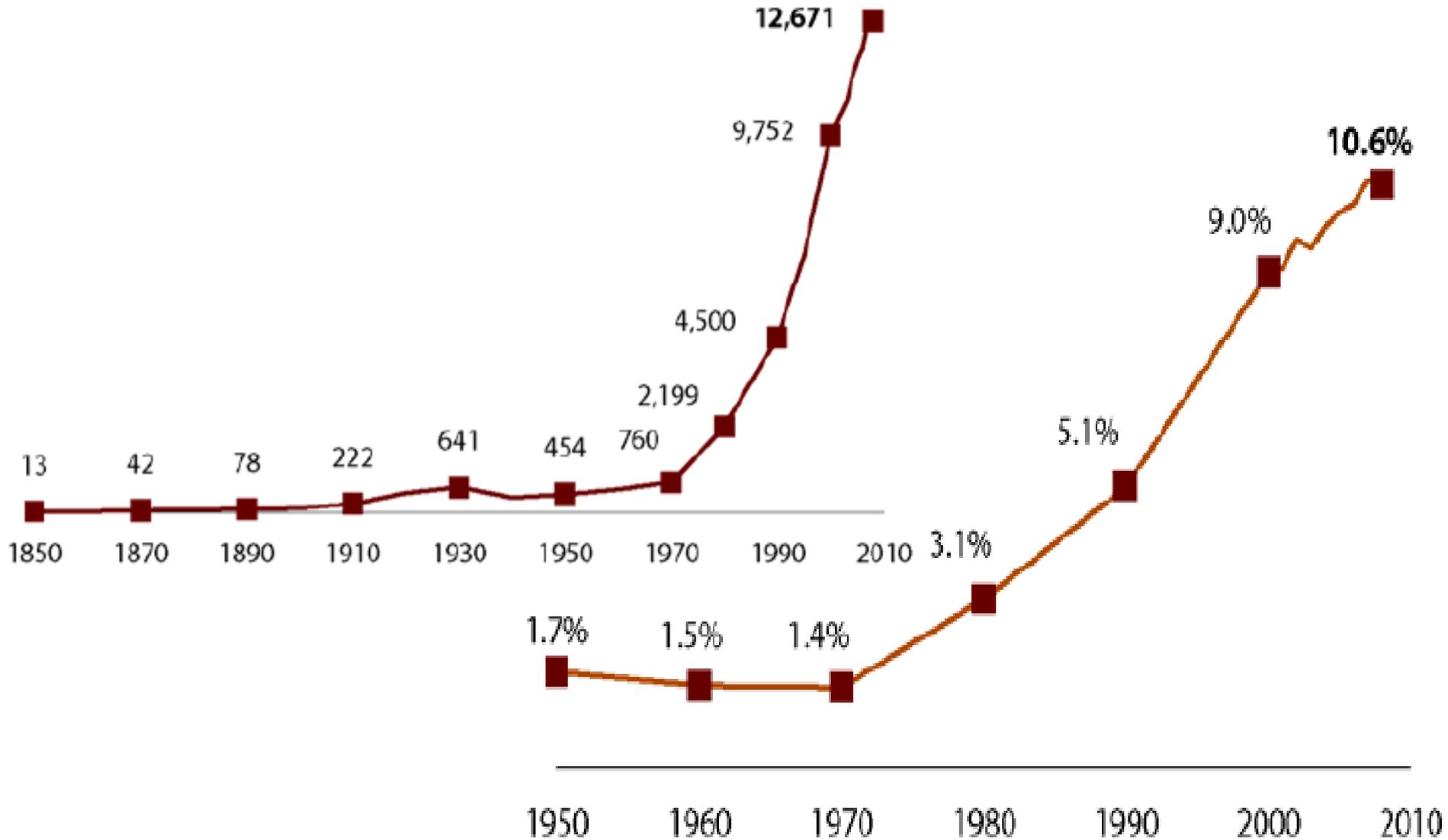
Source: U.S. Department of Homeland Security,

Unauthorized Mexican migrants (sex & age)

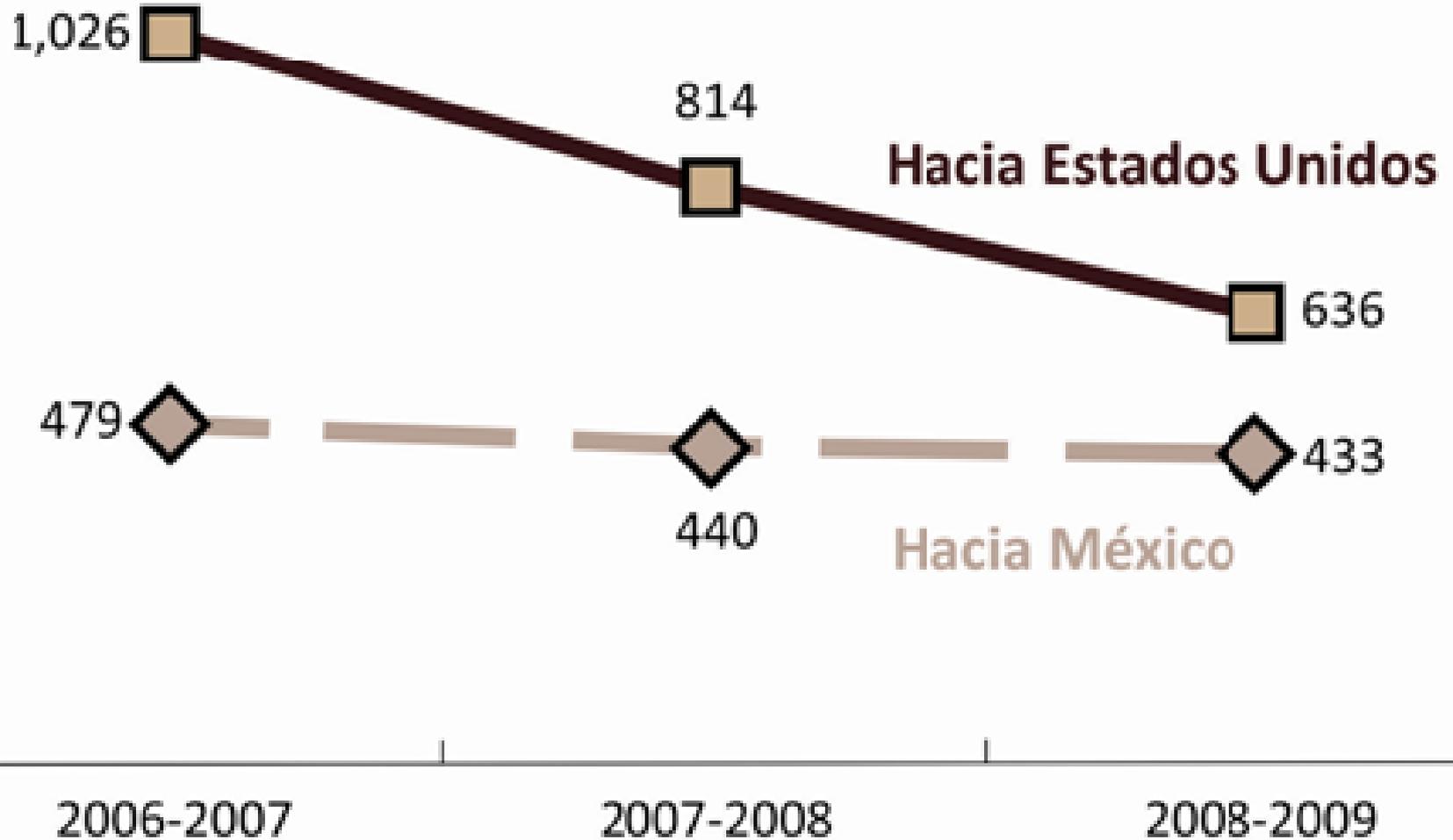


Source: U.S. Department of Homeland Security.

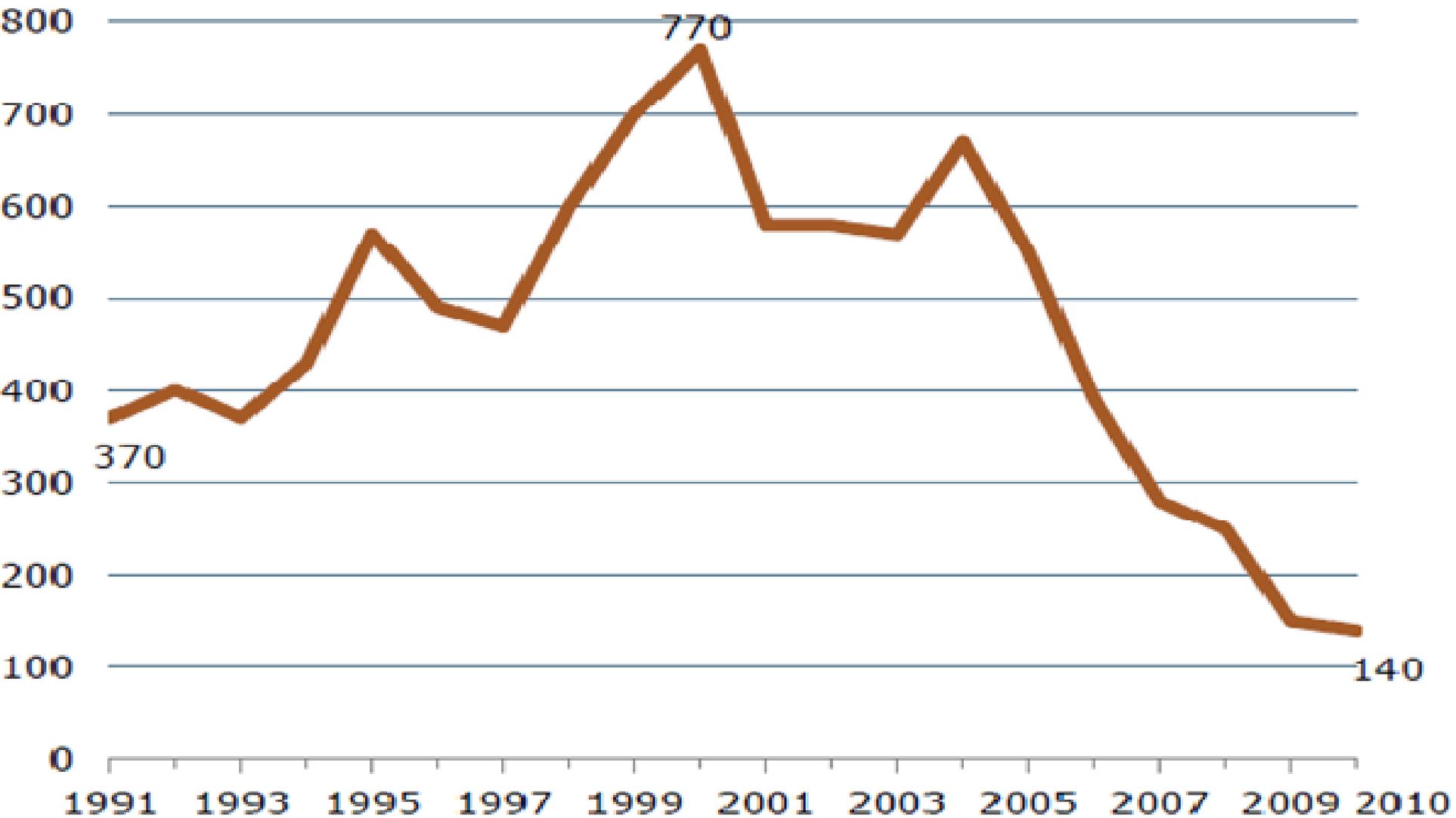
Left: Mexican born in US; Right: % of Population in Mexico



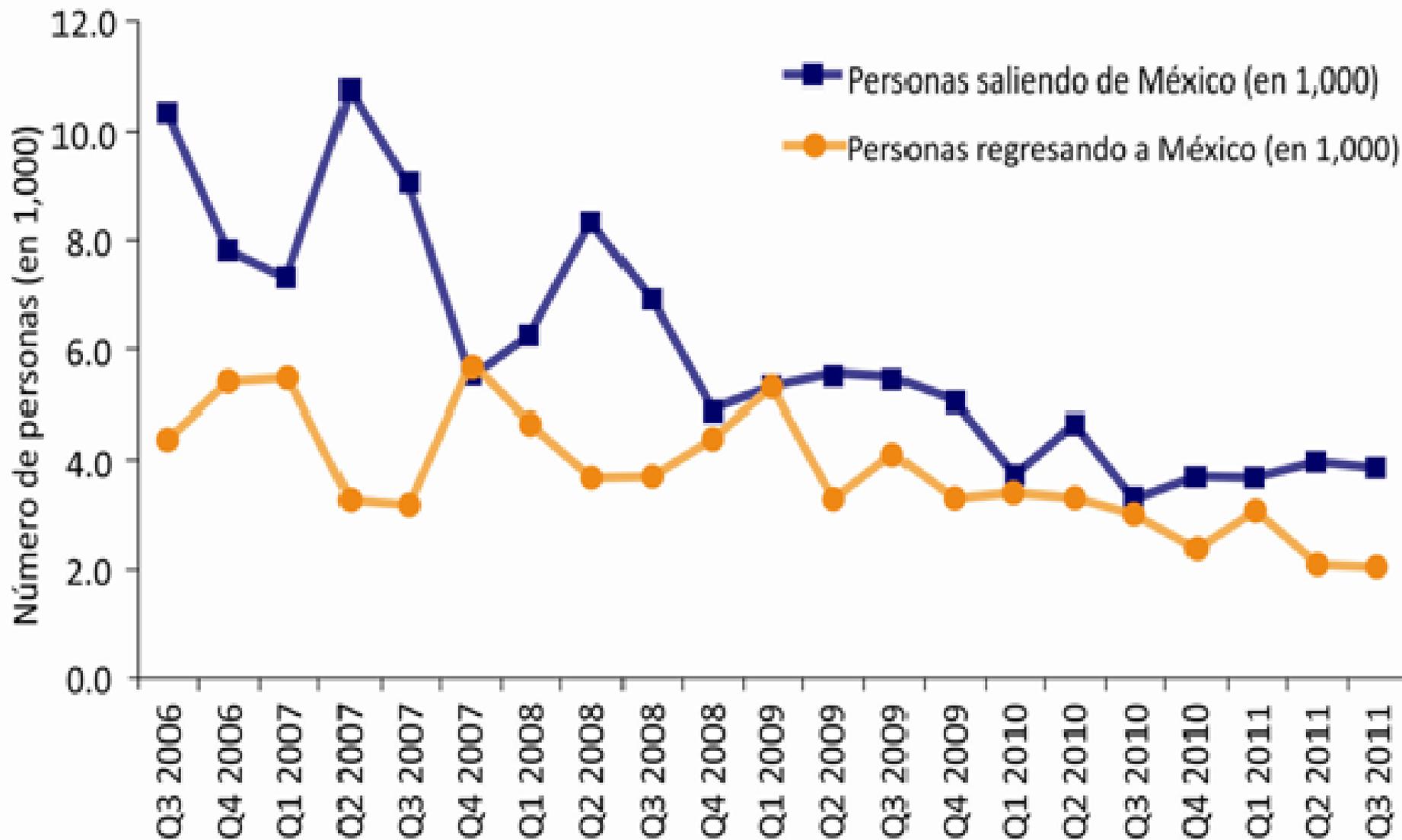
Crisis 2008 and changes in migration patterns



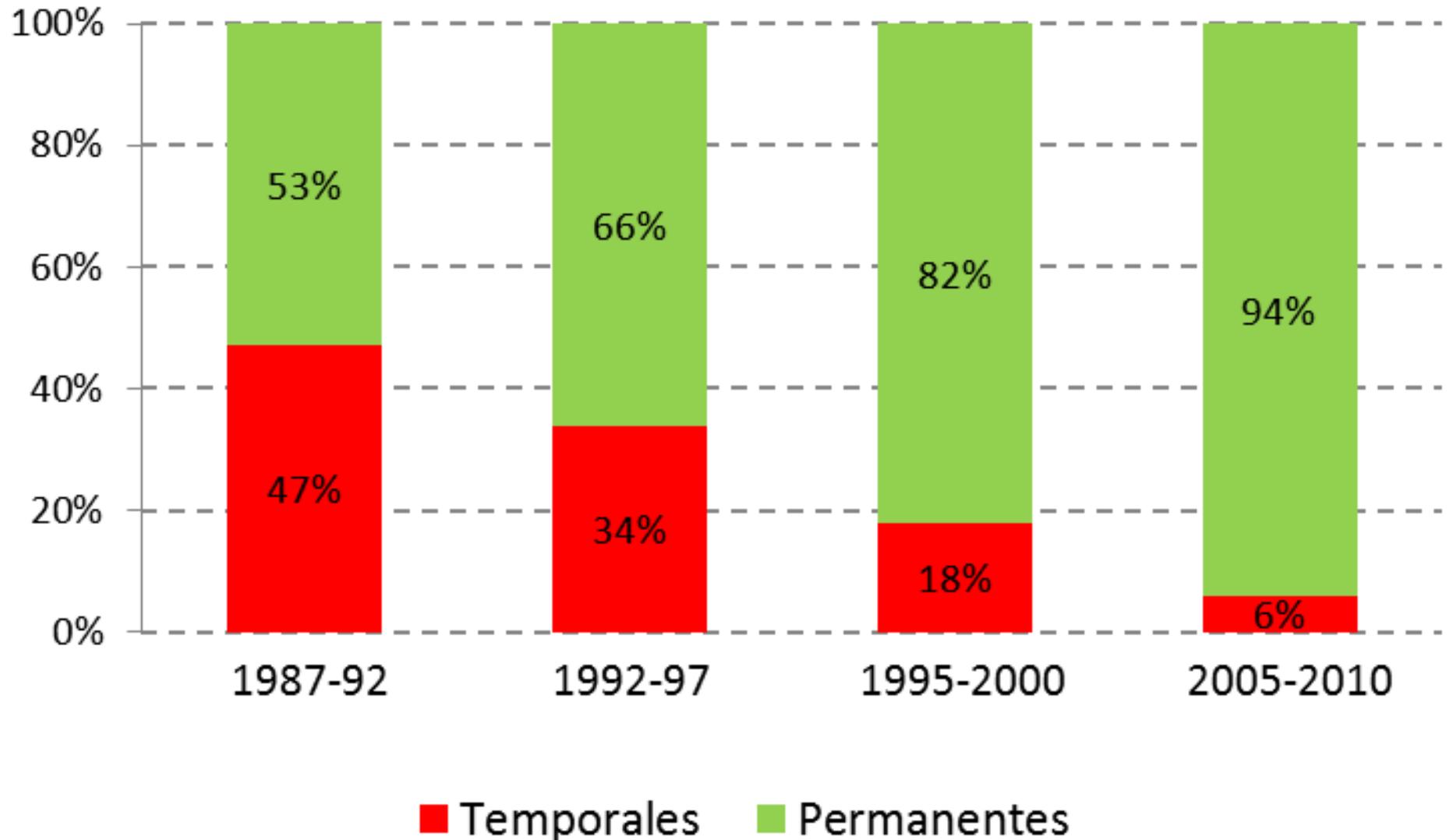
International migration of Mexicans to US



Immigration and emigration



Temporal and permanent migration





6. International migration seen from the southern border

Migration from Mexico to the USA

- The **abysmal socioeconomic differences**, environmental threats and public insecurity between both countries.
- Since 1986, the legal status of Latin migrants in the USA has changed and now **most cross illegally**.
- Since NAFTA (1994), the number of Mexican migrants has increased since Despite the fence, a sophisticated electronic observation system including drones, until 2007: **450,000 to 500,000** Mexicans cross the border, now 150 to 200,000. During the first Obama administration **1.4 million** people were expelled.
- Legal and physical obstacles have created **new conflicts** and the rejection of an immigration law in 2007 by the US Congress has increased the vulnerability of the Latin migrants.
- Often migration is linked to **organized crime** (drug dealers, human trafficking, pornography, illegal purchase of human organs).
- Migration is a **result of the neoliberal model with low growth rates** (below 2%), a corrupt privatization process with a high concentration of wealth, an inefficient education system and low investments in infrastructure, and a lacking policy to create jobs that pushed trained young people into illegal activities (500,000 are linked to drug gangs; AFI 2008; Mexican Congress 2008). But also the demand for a cheap labor, drugs and pornography in the USA are drivers for illegal migration.
- Finally, **drought and lack of governmental support** in dry lands have increased internal and international migration due to the **loss of livelihood** of rural people depending on natural resources, letting often women behind in charge of family, household and field.

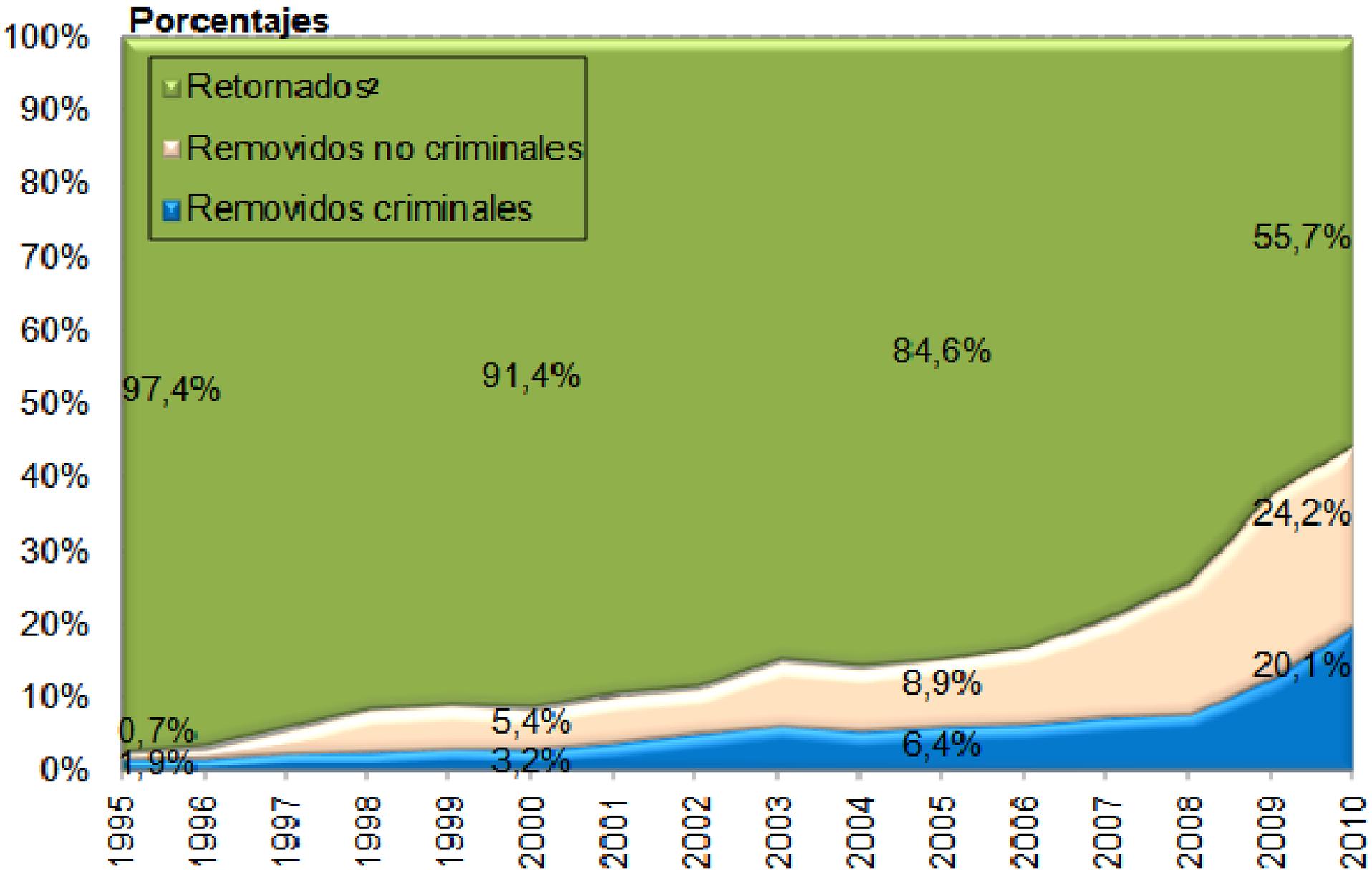
NAFTA and Migration

- Since NAFTA (1994) the **annual import of corn increased from 0.47 to 16 million tons**, the price dropped until 2004 by -64% due to US subsidies, while the tortilla price increased by $+279\%$ (SAGARPA 2008).
- A **combination of climatic and socio-economic factors** (rising costs of agricultural inputs, declining prices for food crops, price hikes of the basic food basket) and political neglect (uncontrolled import of subsidized maize without customs, lack of governmental support for rural production) resulted in a survival dilemma (Brauch 2008; Oswald 1991, 2008) for poor families in rural areas forcing them to migrate to urban centers, to USA or to plant illegal crops.
- Since the 1970s, **urban slums** experience a persistent socioeconomic crisis, failure of economic, education and social policies. Lacking jobs draw in 2008 half a million of young people into drug trafficking (Oswald 2006).

Security Threats

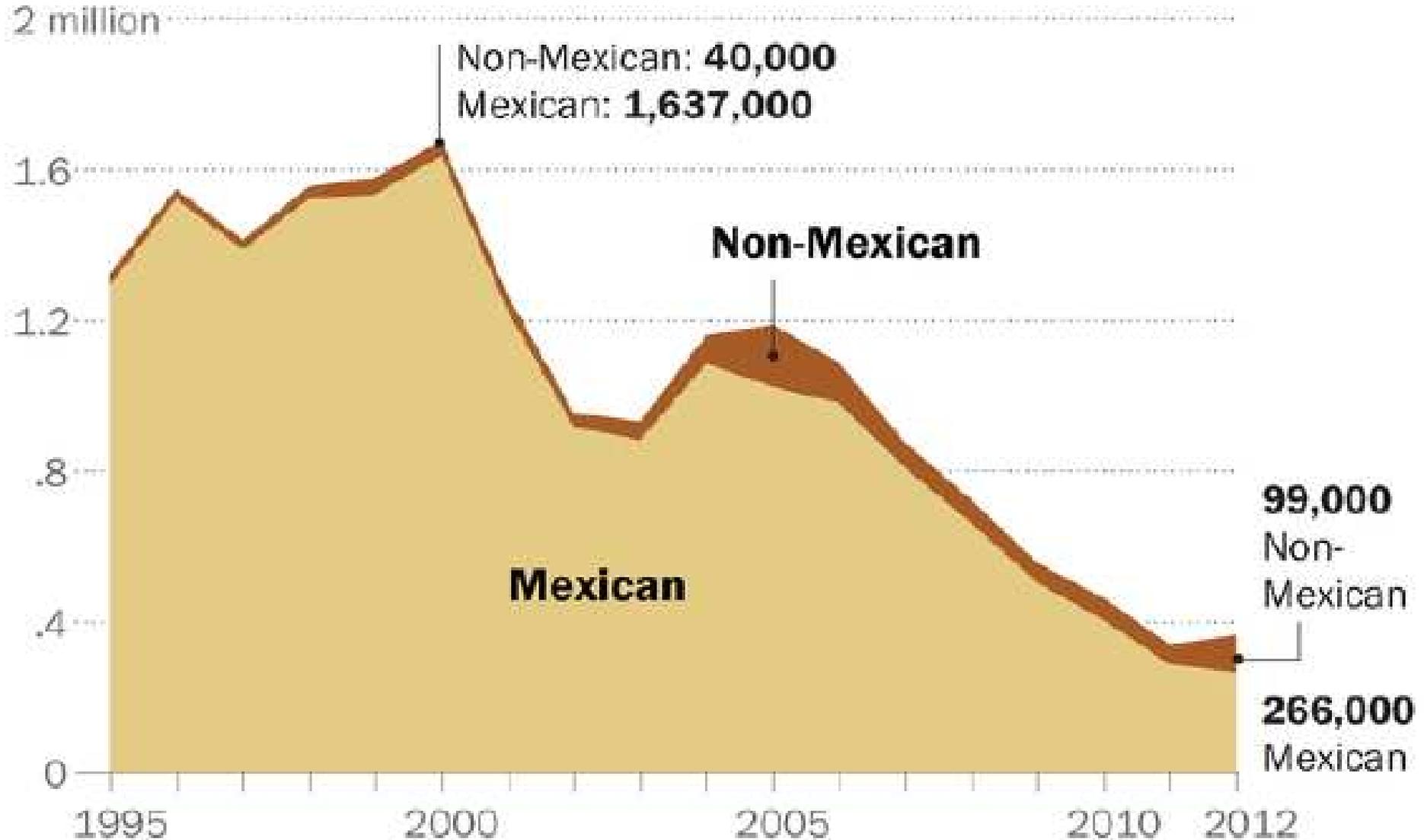
- **439,079 undocumented people** were detained in 2005 in the border between Mexico and USA; in 2008 only 281,207; 1.3 million expelled.
- During 2005: 488,760 pounds of **marihuana** were confiscated; in 2008 519,880 pounds.
- Decommission is **not control of drugs or eradication of trafficking**, therefore much more drug is crossing the border. The **business is lucrative** for drug and human trafficker. If they stop more migrants or drug than crossing, the business would be inefficient for both drug dealers and human traffickers.

Types of deportation



Border Patrol Apprehensions of Unauthorized Immigrants, 1995-2012

in thousands

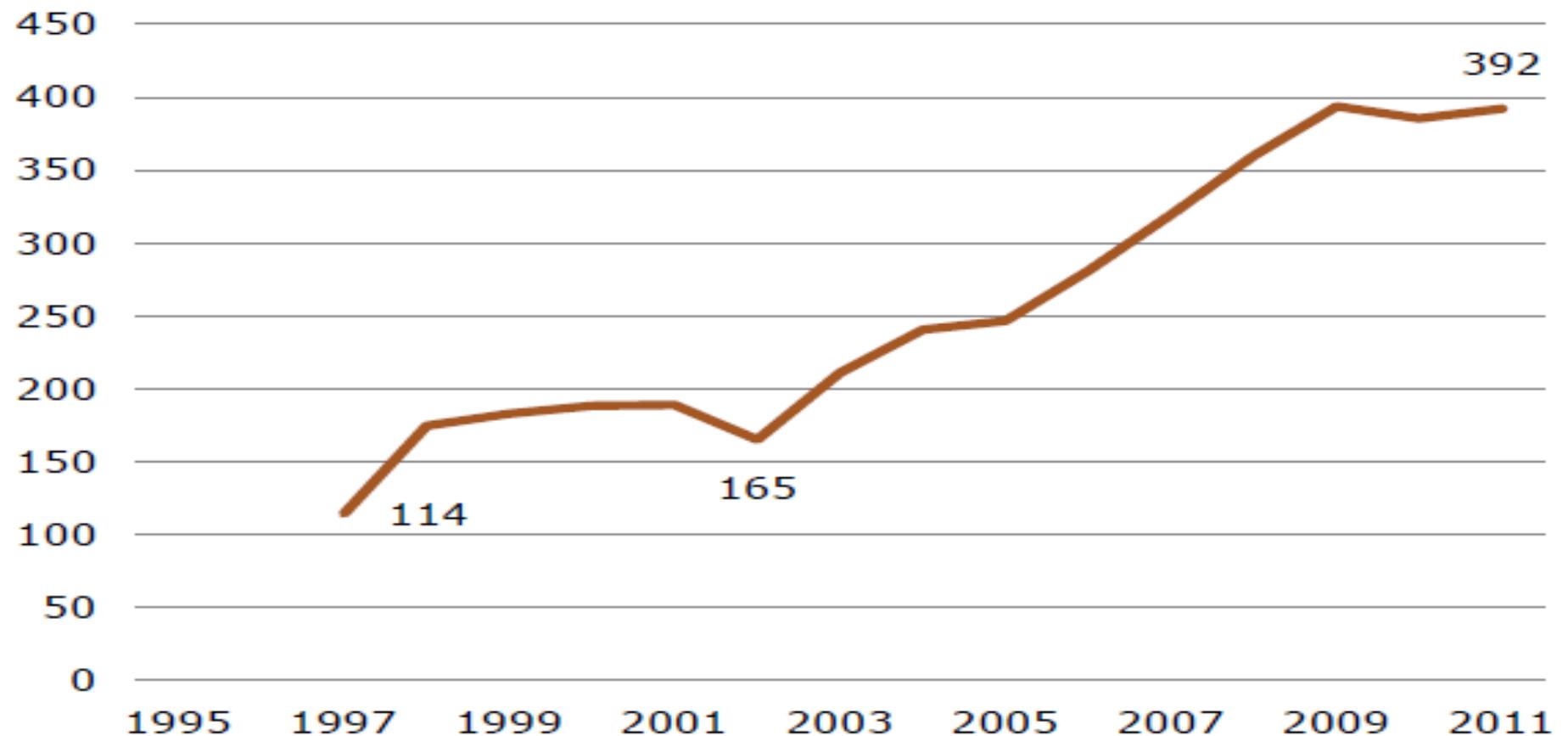


Obama an anti-migrant policy

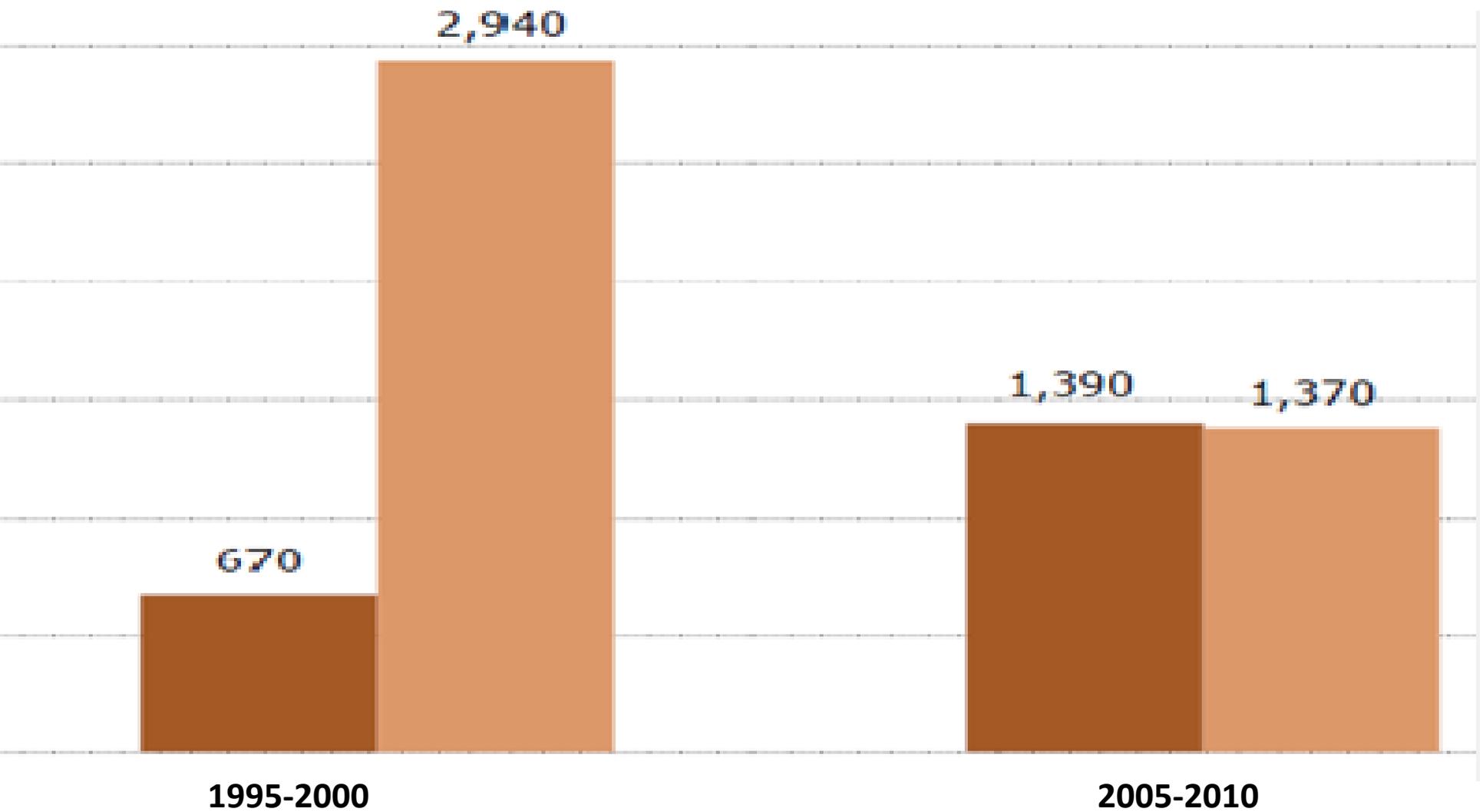
Source: US Department of Homeland Security

Immigrants Removed by U.S. Authorities, 1997-2011

in thousands



Immigration (dark brown) and emigration



Male and female migration

- Historically, Mexican women have participated less than men in the international migration. During the **1970s and the 1980s, a shift in the gender composition** of Mexican migration was observed (Cornelius and Enrico, 2000).
- **Financial crisis (2008)** has opened new work opportunities for women (household, child- caring) and more young single women migrate. 71% of men are employed in low skilled work and **32% for women**. Thus, at present migrating women are better trained also those coming from rural areas.
- Women often use **traditional established networks for migration**. Wife often reunify their husbands after more than a year of separation, letting sometime children in hand of family.
- Recent studies show that **sexual transmitted infections are lower among migrants** than those born in the USA and on the border, on behalf that more than 90% of migrant women are raped during the illegal crossing (Ojeda et al, 2009).
- Women left **behind in rural areas maintain family**, organize the agricultural labor and care about their own and the political family, often with high personnel health costs (depression, cancer etc.)
- Women alone in rural communities with remittances **get empowered** and often are also responsible for local political activities, improving livelihood of the whole community (school, water, waste, transportation).

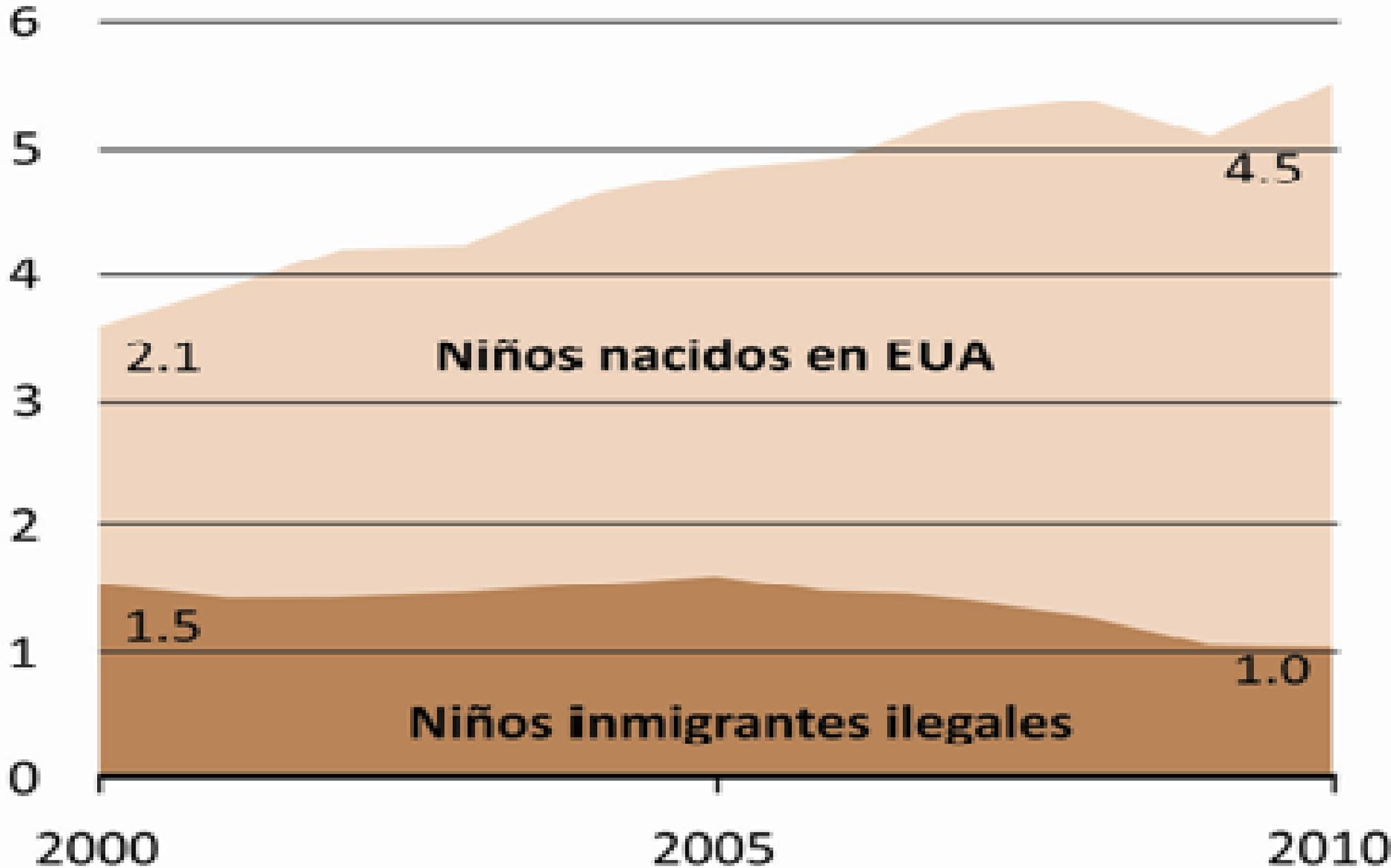
Gender Insecurity

1. During migration from Mexico to the USA, between **70 to 80%** of women are raped and an important group finishes up in prostitution (Catholic Church, 2008) with high risks of HIV-AIDS (Klot/DeLargy, 2007).
2. More than 500 feminicides only in one border town: Juárez (2008: 57; 2009:130)
3. People executed in Juárez: 2009 2,603 and from January to March 2010: 249; whole Mexico last 6 years more than 150,000 people killed, 27,000 disappeared, 1.3 million displaces.
4. EIM is related to trafficking of humans (also children), human organs, drugs and arms, prostitution, kidnapping, extortion and child abuse.

Children's Insecurity

1. In the USA **17% of undocumented Latinos** are children.
2. Jan-Sept. 2008, more than **90,000 children were deported**, mostly without their parents; often expelled on the other side of the country, where they tried to enter with family.
3. Children joining their parents in the USA, when they are deported, they are returned **to** the Mexican side of the border. There exist in this region **123,500 kids** surviving by begging, prostitution and illegal activities (drugs, smuggling; Chamber of Deputies in Mexico, 2008).
4. For each **three** adults that are deported, there is **one** Mexican child abandoned within the USA, trying to survive in adverse conditions.
5. In any of the mentioned cases, the practices conflict with the **International Conventions on the Rights of the Child**, that were signed and ratified by both countries.

Insecurity of children living in US



7. Violent borders: migration and organized crime



Principal routes of migration from Guatemala



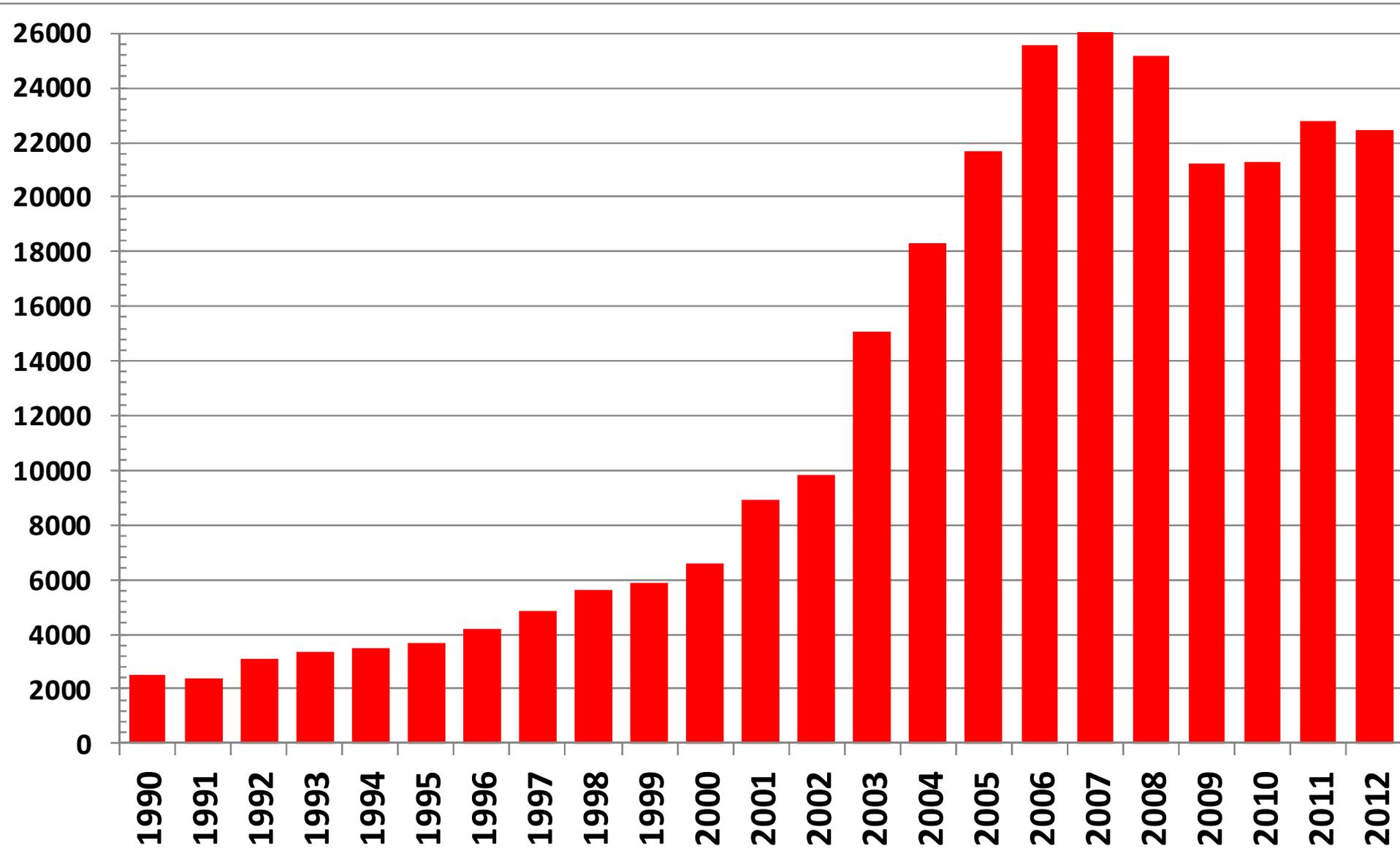
The southern border with Guatemala is equally violent

- Between **150,000** (SEGOB, Mexico) and **400,000** (catholic church) of migrants cross illegally the southern border with Guatemala
- Organized crime is kidnapping **68,095 personas/year**: 44.3% are from Honduras; 16.2% El Salvador; 11.2% Guatemala; 10.6% Mexico; 5% Cuba; 4.4% Nicaragua; 1.6% Colombia; 0.5% Ecuador. National Human Rights Commission informs that 67.4% of crimes occurs in south-east (Veracruz, Tabasco y Chiapas); 29.2% in the north and 2.2% in the centre.
- Fray Tomás González Castillo, catholic priest responsible of La 72, estimates that **70% migrants are attacked** in the south-east between Tenosique and Coatzacoalcos; **1% is killed**; La 72 gives daily three times 150 y 200 food portions to migrants.
- Mexico deported in 2012, **79,462 migrants**: 60% from Guatemala and Honduras.
- Most Centro American **women are violated**, younger women kidnapped and obliged to prostitute; children are victims of trafficking.
- In 2012 organized crime massacred 72 migrants in San Fernando, Tamaulipas, in the border to US.
- Crossing Mexico takes normally **20 days** and in each station they have to pay **100 US to the Mara or organized crime**.

8. Remittances the final goal: at any cost?



Remittances 1990-2010 (1'000,000 US \$)



9. Migration as process of adaptation or of vulnerability



1. **Environmental and climate induced migration is a complex phenomenon** where economic, social, psychological, cultural and personal factors are involved with positive and negative outcomes for source countries and receiver.
2. Complex phenomena requires a **complex methodological approach** with a multidisciplinary research team and an open, dissipative and self-regulating system can help to explain the complexity of EIM.
3. Rural and indigenous people depending on the use of **natural resources are more exposed to climate change** and variability and have less opportunities to adapt and to migrate losing often their livelihood
4. **Migration destroys family ties** and charge the cost mostly on women; returning migrants often bring illnesses (HIV-AIDS) and social and environmental vulnerability increase the **risks of exposed population**. Most studies on EIM have a gender bias and remittances can not reduce the social pressure posed on women left behind.
5. Remittances are **second foreign income** just after oil exportation and alleviate poverty in most remote and marginal regions.
6. Mexico trains and **educate migrants** and receive often **ill and injured people back**.
7. Trained migrants invest in micro-business and develop new technologies. Children grown up in the USA are well trained and **offer alternatives to crisis situation** in the home country.
8. Illegal migration **creates crime, human, drug, organ trafficking, arms trade and prostitution with money laundering**.
9. Both countries would benefit with a **legalization of migration**.

Arenas of vulnerability

-Dangerous, politicized, violent and conflictive environments, abandoned, affected, destroyed, vulnerable and neglected environments with highly social stratification

Actors of vulnerability

-Marginally with shortage, helpless, without rights, abandoned, socially and physically ill, gender discrimination and violence, femicide, youth stigmatized, girls sold for early marriage
-Organized crime, local crime, machismo, governmental repression, mestizo landlords and hoarders, transnational mines,

Livelihood of actors

Empowerment, resilience-
building, adaptation, dignity,
community organization,
training, DRR

Arenas of wellbeing

- Restored sites, trained people, poverty alleviation, job creation, solidarity, governmental support and training for prevention, & times

**HUGE-
security**

-Policy of sustainability, equity and equality, negotiation of conflicts, community organization, income,
-human rights, social obligations, fight against intrafamilial violence, communitarian police

Agenda of livelihood

-Lack of education, health, income and employment, governmental support, hunger, extreme poverty, institutional neglect, gender discrimination & violence, mestizo privilege, landlords, organized crime, illegal crops, community conflicts on resources

Activities of wellbeing

-Strategies of adaptation, resilience building and subsistence crops
- negotiations, agreements, treaties, mitigation, adaptation and prevention

-Conflicts, clashes, environmental destruction, desertification, social discrimination of women and youth, elderly, organized crime, extortion, kidnapping,

Activities increasing double vulnerability

Agendas of vulnerability



10. Brain drain vs. brain gain: losers and winners

Brain drain and social costs

- Countries of origin pay for education, health care and training, sending prepared people outside: human capital loss
- Quality selective migration: loss of trained specialist in poor countries
- Loss of tertiary trained people
- LDC lose more skilled migrants (WB)
- Small countries with higher loss of skilled migrants (WB)
- Sub Saharan Africa: 42.6% skilled workers
- Skilled migration is detrimental for those left behind
- Productivity is higher among migrants due to illegal status
- Increased border controls (visa, militarization, walls) does not avoid illegal migration
- Greater asymmetries in host countries. Migrants are underpaid, take risky and unstable jobs

Brain gain for migrant countries?

- Human capital formation in host countries within a system approach: work organization, productivity, efficiency, new technology, investments, education higher abroad, but often came home sick and old
- Remittances (feedback effects) stimulate development in migrant countries (3x1), when supported by governmental policy
- Resolve demographic gaps in both countries: young unemployed in LDC and older people in host countries: working stock instead of working flow (WB); Guyana: 89%; Grenada & Jamaica: 85.1%; Haiti: 83.6%; Samoa: 76.4%; Cape Verde: 67.5%
- Emigration stock: skilled migrants to
 - South Africa: 62.1%
 - North America: 57.9%
 - Eastern Asia: 55.5%
 - Northern Europe: 43.2%
 - South America: 41.2%

Brain drain a gobal ethical concern

1. Brain drain produces winners and losers. The people left behind are the most vulnerable, together with LDC.
2. Brain drain is an ethnical, legal and philosophical problem, not only an economic one.
3. Brain drain occurs between states, markets and people.
4. Brain drain impacts education politics.
5. Brain drain is linked to development.
6. Brain drain is an issue of policy, politics and political decision making.
7. Brain drain embraces security, welfare and social cohesion.
8. Brain drain should promote international and inter-state agreements.
9. Innovative ideas should put into practice and be disseminated among relevant stakeholders and policy-makers.

A photograph of a border wall made of vertical metal bars. The wall is brown and has a grid-like pattern. Two vertical bars have graffiti written on them in white. The first bar says "Enjoy Your Freedom security" and the second bar says "America!".

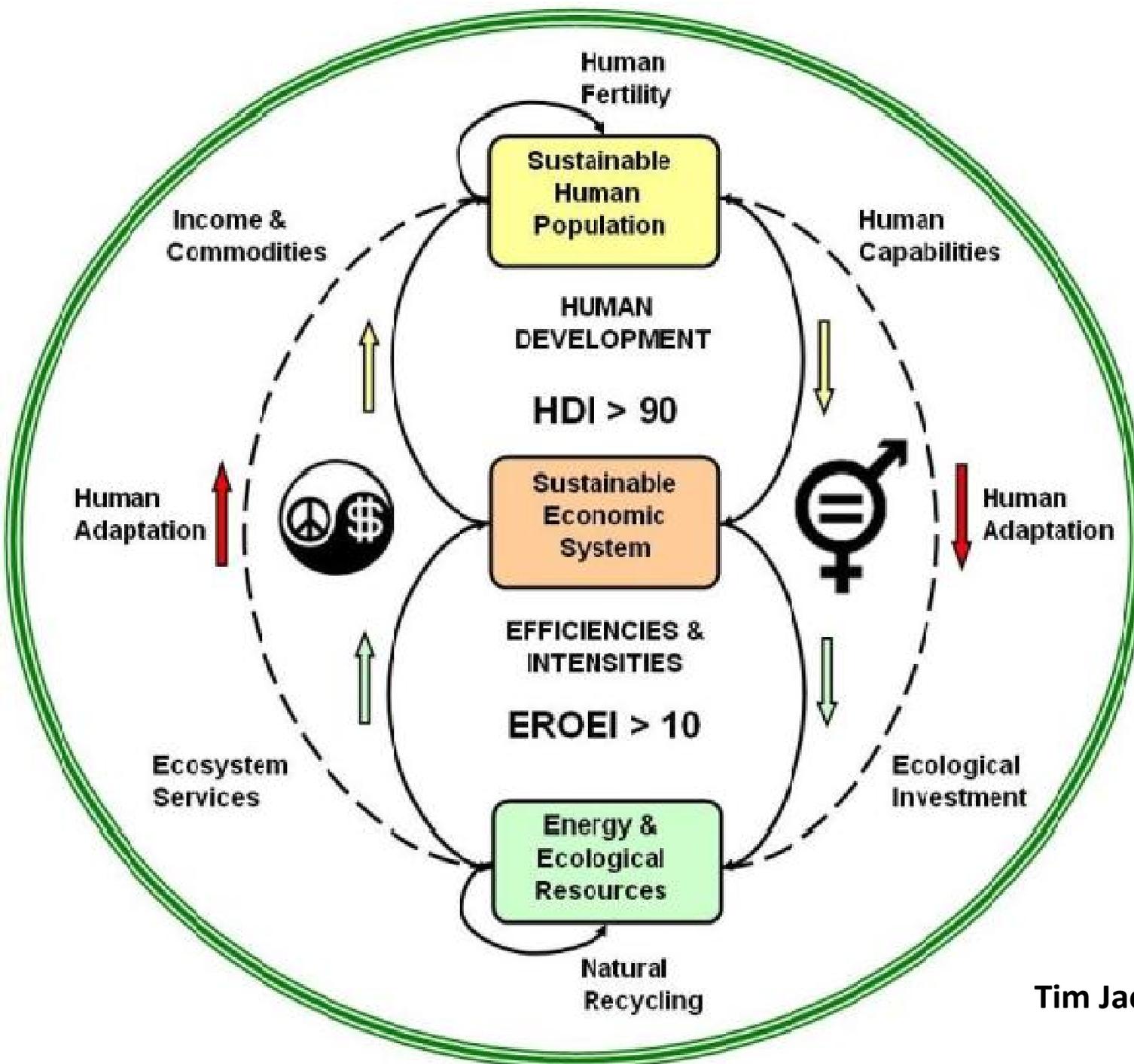
Enjoy Your Freedom security

America!

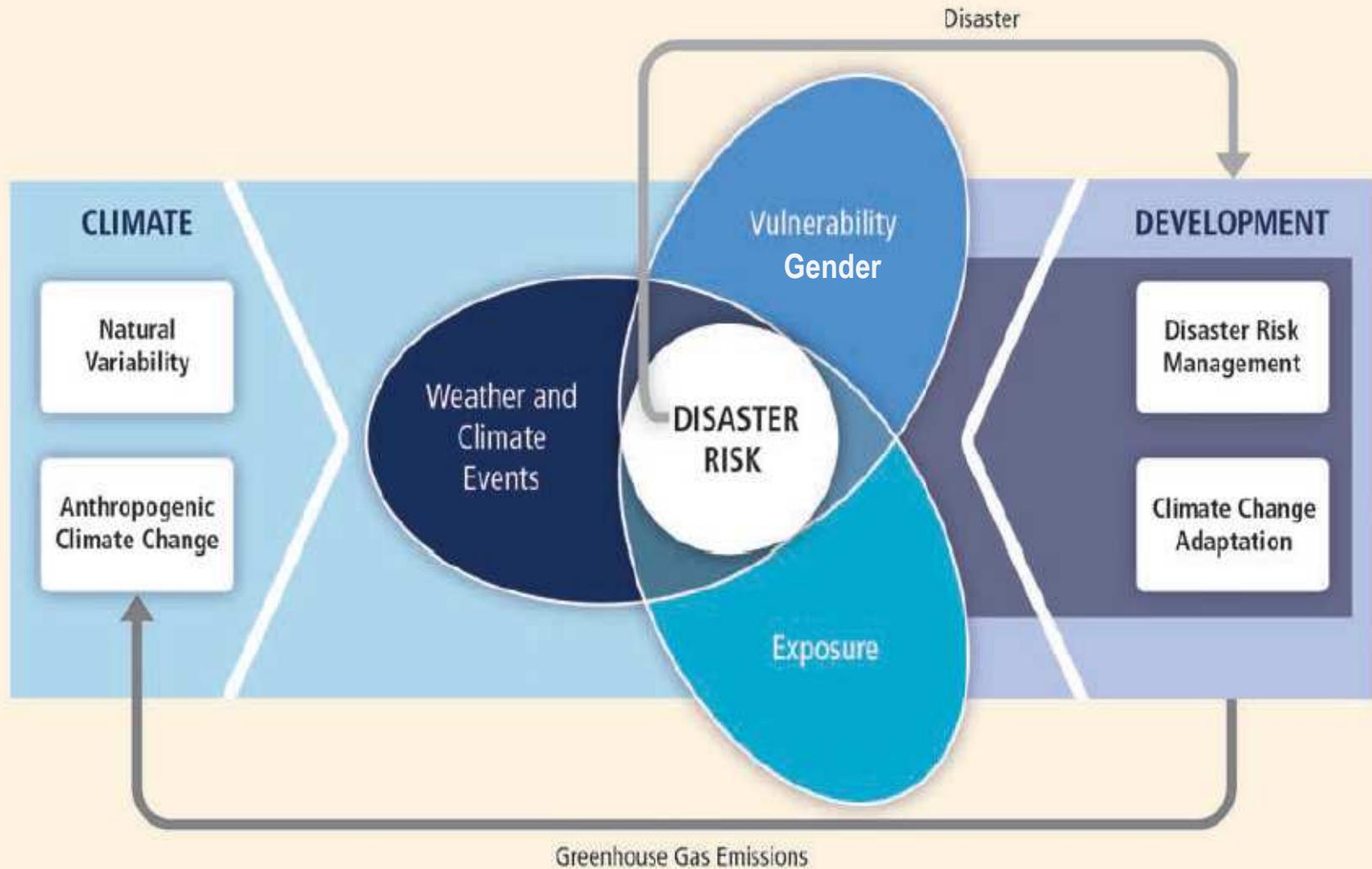
Every person has a right to live in his/her country and not have the need to migrate. Obligation of government to create resilient communities to climate change and economic stresses.

Resilience-building

- Resilience means in Latin *resilio*, referring to “return from a leap, jump, rebound”, and in common acceptation “elasticity”.
- The ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organization, and the capacity to adapt to stress and change (IPCC WG2 2007: 880).
- Resilience refers to the capacity of a social-ecological system both to withstand perturbations from, for instance, climate or economic shocks and to rebuild and renew itself afterwards (Stockholm Resilience Centre 2007b).
- In the social field it refers to the “human capacity which permits persons after having passed through adverse situations to be not only safe but also **transformed through this experience**”.
- Gloria Laengle (2004) “the capacity of human being to **overcome difficulties** and at the same time **learning** from the errors”.
- Resilience requires the **capacity to learn from previous experiences to cope with current climate**, and to apply these lessons to cope with future climate, including surprises.



Adaptation to nature with gender perspective



Transdisciplinary research: Integration of three epistemic communities (IPCC-SREX, 2012)

Thank you very much for your attention

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