

Gender relations and women's vulnerability to climate change

Contribution from an adaptation policy in the state of Tabasco toward greater gender equality: the Reconstruction and Reactivation Program to Transform Tabasco

By Jenny Jungehülsing



ADAPTATION TO CLIMATE
CHANGE
DIFFERENTIATED
IMPACTS
CHANGES IN
POWER RELATIONS
WOMEN'S
EMPOWERMENT
GENDER EQUALITY

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Foreword

 The repercussions from climate change do not affect all of us equally. Poverty is what determines vulnerability for individuals as well as for countries.

We know that poverty is—to a large degree—female, and this means that the majority of people living in precarious situations are female. However, the inequality between men and women is also severe in other areas not specifically economic in nature. In Latin America nearly 37% of females above the age of 15 years have no income of their own (compared with 11% of males). Women's participation in formal processes of political decision-making is barely 20%.

These factors should be taken into consideration in the formulation of policies for responding to climate change in Mexico, and elsewhere in the world. Efforts to achieve gender equality should be made side by side with efforts to achieve socioeconomic equality. At the Foundation, we are convinced that development and poverty reduction will be sustainable and effective only if women are included as stakeholders with the same opportunities and the same rights as men.

Policies should also take into consideration that because of the different economic, social, reproductive and political roles played by women, they have different capacities and different needs than men in response to impacts from climate change. Consequently, the policies, instruments, mechanisms and funds applied in response to climate change cannot be neutral in relation to gender, and should not be formulated and implemented without taking specific gender differences into account. This is an opportunity for empowering women.

The Tabasco government made an effort in this direction. In response to the periodic severe flooding that particularly affects the population in the metropolitan area including the capital city of Villahermosa, the state government initiated a relocation program in 2008 targeting the population most affected. In the first stage of this program, the housing units built were granted to women. Although the main reason for this policy was to take advantage of women's greater sense of responsibility toward the new housing units, their empowerment was a second objective.

When the Tabasco government's Environment Minister, Sylvia Whizar, suggested that we conduct a study of this program's impacts on women, we were very interested in this proposal and accepted. We believe it is a good opportunity to study whether and how gender relations have been modified at the micro-level through an adaptation measure that has an element focused on women.

The study's objective was not to evaluate whether or not the relocation program has been satisfactory and successful as an adaptation measure, but rather to simply highlight the impacts of a very specific measure (property ownership) on gender relations. However, there is a close link between the two. The settlements have been conceived of as housing spaces, not vital spaces. The latter would have involved services beyond potable water and electricity, to include adequate infrastructure for health, education, sports, culture, consumption, work and transportation. Due to the sexual division of labor, the lack of these services affects women more than men, thus limiting the positive effects of property ownership.

The study demonstrates that while policies with a gender perspective have unquestionable qualitative impacts, they reveal that human life unfolds in a relation-based web that cannot be divided into sectors. Land ownership is empowering in terms of decision-making and reducing gender violence. However, without measures for economic empowerment that not only include a gender perspective but also take into account the care-taking economy, economic inequalities will not be resolved. In other words, in order for a policy with a gender perspective to be successful, it must be comprehensive and not sector-based.

This study therefore allows us to observe the intrinsic relation and the complexity necessary for developing sector-based policies. We hope the document in your hands enriches the diverse perspectives for formulating gender policies that—in the framework of climate change problems—are increasingly necessary.

Ingrid Spiller

Representative

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Abstract

Based on a recognition of the significance of inequitable gender relations in terms of women's vulnerability to climate change, and with the objective of investigating the possibilities of adaptation measures for contributing to greater gender equality, this study analyzes the way in which an adaptation measure carried out in the Mexican state of Tabasco has contributed to modifying gender relations. In the relocation program analyzed, implemented in response to severe flooding in 2007, the housing units built were granted to women.

The study is focused on strategic gender interests in three spheres in which this policy may have an impact. Specifically, women's control over housing may: expand their access to economic resources through the establishment of businesses and access to credit; contribute to more equal decision-making and diminished control by men over women; and be a tool for reducing the level of intrafamily violence.

The results demonstrate that granting housing to women indeed contributes to establishing the foundations for greater gender equality. However, it has not been possible to realize all of this measure's potential. On the one hand, control over housing increases women's self-confidence and sense of security, and in many cases it alters the power relations within the family, with consequences particularly for intrafamily violence. Many women, because they are owners of their homes, begin to defend themselves against mistreatment by their husbands. Still, women's access to economic resources has not, in general, improved. The overall conditions of the relocation program have even, in most cases, reduced this access: the long distance between the new housing projects and the capital city of Villahermosa, and thus, sources of employment, makes it difficult for women to have remunerated work, and in only a few cases has the new housing opened the way for women to generate their own income by creating micro-businesses. Furthermore, the lack of infrastructure, particularly in terms of childcare facilities, increases their reproductive workload considerably, and reduces the time they have available for extra-domestic work. As well, women's increased power within the home is generally limited to the matter of violence. In most cases, their negotiating power in terms of important decisions

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related to making investments, remodeling the home and seeking remunerated work, for example, has not expanded as a result of home ownership.

The conclusion, therefore, is that granting housing to women has contributed to establishing the foundations for modifying gender relations in the housing projects studied. However, in order to realize the full potential represented in this strategy, it is important to modify the conditions obstructing the realization of this potential-particularly women's access to economic resources.

Introduction

In the context of impacts from climate change, increasingly severe in many parts of the planet, the adaptation measures implemented must be aimed at reducing the vulnerability of the population affected by these changes. In addition to a population group's level of exposure to impacts from climate change, other factors such as the economic, social and political conditions in which the group live are also important in determining vulnerability. Another decisive factor that is often ignored in the discussion consists of gender relations such as the power relations between women and men through which they are assigned different roles and responsibilities. These relations are one of the fundamental elements structuring society and generally place women in a disadvantageous position in relation to men.

The sexual division of labor, unequal access to both material and non-material resources, and women's diminished participation in decision-making at both political and private levels result in women's generally increased level of vulnerability to impacts from climate change. Women are typically those who must find solutions that will enable them to feed their families in crisis situations, for example. Consequently, modifying inequitable gender relations must be a constitutive element in adaptation policies aimed at reducing the population's vulnerability to climate change.

Based on this acknowledgement, the current study analyzes an adaptation measure that, given its special focus on women, has the potential to contribute to modifying traditional gender relations. The measure studied is a relocation program carried out in the Mexican state of Tabasco beginning in 2008. Large areas of Tabasco are frequently affected by flooding because of this state's location in the path taken by hurricanes in the Gulf of Mexico, and due to its extremely flat topography. The frequency and intensity of this flooding has increased with the growing incidence of tropical storms and heavy rainfall in recent years, and this situation has made it necessary for the government to develop adaptation measures. The population in the metropolitan area that includes the capital city of Villahermosa—where 34% of the state's population reside—has been particularly affected, especially the population living along the banks of the two major rivers running through the city (INEGI

2008a). Given the vulnerability of the population living in the settlements along the two rivers, the state government implemented a relocation program to move residents to areas less susceptible to flooding. Given the stronger gender perspective characterizing the current state government, in comparison to previous governments, the housing units built during the first stage of the program were granted to women. This policy has the potential to create the conditions for more equitable gender relations, since for women, housing constitutes an important resource to which many of them did not previously have access. Still, it is important to clarify that the primary motive for granting the new housing to women was not their empowerment—although this was a secondary objective—but instead the intention was to take advantage of the greater sense of responsibility characterizing mothers in terms of safeguarding the family's new assets. Therefore, the relocation program cannot be considered to be a comprehensive policy for women's empowerment, and in fact the issue of gender equality was not a constitutive element in many aspects of the program.

The present study analyzes the manner in which this measure has thus far impacted existing gender relations. The intention is not to evaluate the success of the program as an adaptation measure, nor its general impact on the population's vulnerability. Rather, the goal is to obtain some initial impressions regarding the possibilities of a measure such as the one under study and the difficulties confronted in modifying gender relations. Due to the recent nature of the relocation—the most recent inhabitants have been living in the new housing projects only six months—and the limited scope of this study, the results cannot be considered complete or definitive.

In the following section, the conceptual framework and focus used in this study will be presented. In the second section, the study's empirical context will be described in terms of the vulnerability of the state's population to climate change and the nature of gender relations in Tabasco. Then, a brief presentation of the study's objective will be given, followed by a description of the relocation program entitled the "Reconstruction and Reactivation Program to Transform Tabasco," and a description of the methodology used in the study. In the fifth section the main results will be presented, and lastly, some final considerations will be presented in the sixth section.

1. Conceptual framework: consequences of gender relations for women's vulnerability and the research focus

1.1 Consequences of gender relations for women's vulnerability

■ Gender relations, as power relations between women and men, place women in a subordinated position in society with respect to men. The sexual division of labor, unequal access to resources and women's lesser participation in decision-making has significant repercussions on women's vulnerability to climate change and their capacities for adapting to this type of change. The Intergovernmental Panel on Climate Change (IPCC) defines vulnerability as "the degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes" (IPCC 2007a: 89). According to this definition, "vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity." (IPCC 2007a: 89). The vulnerability of a population group to climate change therefore depends on three factors: first, its degree of exposure to climate change phenomena; secondly, its sensitivity to these phenomena; and third, its capacities for adapting to these changes. These last two factors are determined by conditions such as those economic and social in nature, as well as the degree of political and geographic marginalization of the population group. Generally, poverty and marginalization, for example, are associated with both a high level of vulnerability to impacts from climate change, as well as reduced capacities for adaptation due to limited access to economic and non-economic resources, and to information and support networks. Gender is a crucial variable in this context: inequitable gender relations increase women's vulnerability to impacts from climate change and reduce their possibilities for adaptation. For example, as those responsible for caring for and feeding their families, women are generally left with the task of finding solutions to the complications arising from the socioeconomic and food situation following natural disasters or destroyed harvests. The results are "triple workdays" and considerable emotional tension (e.g. Babugura 2010; Jungehülsing 2010; PNUD 2008). In addition, the fact that women are less mobile, due to their role of being in charge of the reproductive setting, means that women are often the majority of victims of natural disasters, since instead of saving themselves by getting out of their homes, they remain behind attempting to help family members that depend on them (Oxfam 2010; ECLAC 2004). For example, in the case of the Asian tsunami in 2004, women were nearly

80% of the victims in some regions of India (IOM 2008). In terms of adaptation, women's limited access to economic, social and human resources, and their reduced decision-making power both at home and in the political sphere reduce their capacities for carrying out adaptation measures.

It is important that the specific vulnerabilities of individuals are taken into account when adaptation measures are developed. The IPCC defines adaptation as "initia-tives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects" (IPCC 2007c: 76). If we use this defini-tion, we find that while adaptation includes the reduction of risks from disasters associated with climate change, it goes beyond this: in order to be effective, the ad-aptation measures carried out must be focused on reducing the vulnerabilities of in-dividuals or population groups—and this includes their economic, social, geographic and political marginalization (IPCC 2007b). Adaptation measures must also have the objective of modifying inequitable gender relations—since the latter are one of the key factors in women's vulnerability to climate change.

The purpose of this study is to analyze the degree to which the relocation program referred to here has managed to contribute to reducing gender inequality in the program's target population.

1.2 Analytical framework and the research focus: impact of housing on strategic gender interests

■ This study bases its analysis of the program's impact on gender relations on the concept of strategic gender interests defined by Molyneux (1985) and further devel-oped by Kabeer (1994). The foundation of this concept is that gender relations and the respective roles of men and women in society are specific gender interests, and among the latter Kabeer makes a distinction between practical needs and strategic gender interests.¹ According to this concept, women's practical needs refer to the specific needs resulting from the role they play in society, and are often associ-ated with the reproductive sphere, including for example access to water and basic health services, as well as sufficient income to feed their families. The satisfaction

¹ A good description of the issues around the notion of "needs" can be found in Kabeer 1994 (p. 294 and following pages).

of these needs does not question the sexual division of labor or women's subordinated position. Meanwhile, strategic gender interests are focused on transforming the structural conditions that determine the asymmetrical power relations between women and men. According to Kabeer (based on Molyneux), these interests include moving beyond the sexual division of labor; eliminating institutionalized forms of discrimination, involving the right to own land and other goods, and access to credit; exercising freedom in making decisions related to reproductive matters; and reducing men's control over women, as well as eliminating intrafamily violence (Kabeer 1994; Molyneux 1985).

By granting housing units to women, some of their important practical needs are satisfied. However, and even though this was not the explicit objective of the relocation program, control over housing also has the potential to contribute toward achieving some strategic interests that in turn contribute toward women being able to move beyond the subordinated position assigned to them. The following three strategic interests are especially noteworthy, and are the focus of this study:

More equal decision-making and diminishing men's control over women. Women's control over such an important resource as housing has the potential to contribute toward increasing their negotiating power and to modify power relations within the home; it may make it possible for women to participate more actively in decision-making in the home, and may reduce the control that men exercise over their wives.

Reducing interfamily violence. These processes may also result in a reduction in domestic violence. In the context of the high levels of intrafamily violence in Tabasco and Villahermosa, this matter is extremely important.

More control over economic resources. Since control over economic resources has a great impact on power relations between women and men—with women's economic dependence on their husbands being one of the main causes of the asymmetrical power in these relations—a focus included in this study was the impact of housing on women's access to economic resources. This matter is also addressed because during the interviews conducted with relocated women, it was found that for some women, the housing they obtained opened the possibility of starting up a business in their home and for others, they viewed their housing as a possible way to gain access to credit.

Consequently, it seems that housing may contribute to overcoming some of the structural obstacles confronted by women in terms of their access to economic resources.

2. Empirical context: the population's vulnerability and gender relations in Tabasco

2.1 The population's vulnerability in the area studied

■ Tabasco is a state that has been greatly impacted by climate change phenomena. Because it is located along the path of hurricanes and tropical storms in the Gulf of Mexico, the inhabitants of this state are very familiar with extreme meteorological phenomena. However, the amount and intensity of rainfall and hurricanes have increased recently. For a number of years now, the precipitation levels during the months of heavy rains have been more than double the average from previous decades (INEGI 2010b).²



² Interview with Roberto López, General Director of Civil Protection, Villahermosa, 06.09.2010.

Due to the state's topographic characteristics, inhabitants are highly vulnerable to these phenomena. The state is extremely flat—70% of the land area has no variation in elevation—and sediments are sinking as a result of the massive oil extraction. Consequently, and intensified by the advanced deforestation, year after year there is flooding in significant portions of the state's territory during the rainy season, placing large segments of the population in danger (ECLAC 2008; Alscher 2009; WRM 2002).³ Also contributing to this situation is the fact that the state has two rivers that are among those in the country with the greatest water flow, and they frequently overflow when rainfall is heavy. With the increase in extreme meteorological phenomena, both the intensity and frequency of this flooding have increased considerably, leading to the flooding of 80% of the state territory in 2007 and 2010, for example. In 2007 approximately 400,000 people in Tabasco were affected. Many of them lost their homes and belongings, and over 300 families were forced to take refuge in temporary shelters for as long as 18 months.⁴



Photo: Huitzil

³ Interview with Armando Tosca, Darwin Cortes, Grace Abundes and Javier Franco, Invitab, Villahermosa, 06.09.2010.

⁴ Interview with Roberto López, General Director of Civil Protection, Villahermosa, 06.09.2010, and with Sandra Luz Lanestosa Alegría, General Coordinator, COPLADET, Villahermosa, 07.09.2010.

The population residing in the Centro municipality, and especially the capital city of Villahermosa located in that municipality, is particularly affected. Villahermosa is situated between the Carrizal and Grijalva Rivers, the latter of which is the country's second most voluminous river, and the city is therefore particularly vulnerable to flooding caused by overflowing rivers. Another factor that increases the risk of flooding in the capital city is the lack of urban planning. Many buildings were constructed on unsuitable land, without respecting the system of existing rivers and lagoons, and thus limiting the rivers' capacities—severely affecting the natural drainage system in the area.⁵

A particularly serious problem is the building of irregular settlements on land at high risk for flooding along the rivers that flow through the city, a consequence of the state's intense population growth since the 1970s. Between 1960 and 2005 the population of the capital city increased from 50,000 to 335,778 (INEGI 2008; ECLAC 2008). The settlements were tolerated, even though they were irregular and built on federal government-owned land, due to the lack of alternatives. With the increase in heavy rainfall in recent years, the inhabitants of these settlements are especially vulnerable. Their neighborhoods have been completely flooded on repeated occasions. For this reason the relocation program studied here is focused primarily on this population.

The population's socioeconomic situation contributes to its vulnerability to climate change impacts. Tabasco ranks ninth in the country among the states with the highest levels of marginalization, placing it above the national average, and 59% of the state's population live in conditions characterized by asset poverty⁶ (ECLAC 2008; CONAPO 2006). The population's socioeconomic conditions are especially difficult in the irregular settlements mentioned here. In general these inhabitants have limited economic resources and high levels of self-employment and jobs in the informal

⁵ Interview with Kristian Lamas García, Head of the Department of Verifications and Socioeconomic Studies, and with Isabel de los Ríos, Advisor to the General Director's Office, Invitab, Villahermosa, 20.01.2011.

⁶ Asset poverty refers to the "incapacity to simultaneously cover food, education and health costs, and also cover the basic needs of clothing, shoes, housing and public transportation," according to CONAPO's definition in ECLAC (2008).



Photo: Jenny Jungehülsing

sector, such as street peddling.⁷ The difficult socioeconomic situation, limited access to formal employment and social systems, as well as the typically low educational levels, place the inhabitants of these settlements in a highly vulnerable situation. When faced with impacts from climate change, their access to information and assistance programs is diminished, and their possibilities for reacting and adapting are hindered (ECLAC 2008).

2.2 Women's vulnerability and gender relations

■ Within this context, women represent a particularly vulnerable population group, as a consequence of the dominant gender relations in Tabasco characterized by unequal access to resources and decision-making power. This means that women are in a disadvantageous position in relation to men in a number of spheres.

⁷ Interview with Armando Hernández de la Cruz, *El Colegio de la Frontera Sur* (ECOSUR), Villahermosa, 17.01.2011; and interview with Karin Beer, General Director of *Desarrollo Integral de la Familia* (DIF), Villahermosa, 08.09.2010.

2.2.1 Access to economic resources: women's participation in remunerated work

■ As in other parts of the country, the dominant gender relations in Tabasco establish a well-defined sexual division of labor, clearly assigning the role of being in charge of reproductive work to women. This leads to women's reduced participation in remunerated work. While women represent 51.7% of Tabasco's population ranging from age 14 years and older, they represent only 38.1% of the economically active population, according to the 2010 National Occupation and Employment Survey (*Encuesta Nacional de Ocupación y Empleo*—ENOE). In fact over half of women (52.7%) do not have remunerated work nor are they seeking such work (INEGI, 2010d). Furthermore, women work more than men in the informal sector (35.5% of women, compared to 24.3% of men, according to INEGI 2010d), which is associated with lower income and no access to social security.

Clearly, this has significant repercussions on women's access to economic resources, and thus on their socioeconomic vulnerability, signifying strong economic dependence on their husbands and limiting their possibilities for reacting and adapting to crisis situations. On the average women in Tabasco earn only 37% of the income earned by men (US \$3,143 as compared to US \$8,482) (INEGI 2009b). In addition 34% of the women who work in Tabasco earn only the minimum wage or less, while this figure for men is only 18.7% (INEGI 2010d).

2.2.2 Participation in decision-making and men's control over women

■ Another factor contributing to women's vulnerability is their limited decision-making power. A consequence of women's reduced access to economic resources is often a marked economic dependence on their husbands, which leads to their reduced participation in decision-making at home and in the public sphere. For example, in Mexico as in many other countries, men are generally those who make decisions regarding the use of family income, especially in the case of major expenses (while women often make decisions regarding expenses related to food and their children) (Adato et al. 2000). Also, men frequently exercise strong control over their wives. For example, in a recent study on women in Tabasco it was found that over a fifth of the women interviewed in Villahermosa were required to have their husbands' permission to engage in labor activities, and nearly 10% were totally prohibited from such activities. Also, 40% had to have their husbands' permission to go to parties, to

the movies or theater, and 10% were not permitted to engage in this type of activity at all (Márquez et al. 2008).

The reduced participation of Tabascan women in decision-making is also manifested in the political sphere. Tabascan women represent only 5.9% of municipal presidents, and only 23.8% of lower level positions as government officials and as directors in the public, private and social sectors (INEGI 2009b).

2.2.3 Intrafamily violence

■ As a consequence of the control exercised by men over their wives and the unequal participation in decision-making, we also find high levels of intrafamily violence. While the statistics in this regard are contradictory, they demonstrate that violence against women in the home is a major problem in Tabasco. Specifically, the National Survey on Violence Against Women (*Encuesta Nacional sobre Violencia contra las Mujeres*—ENVIM) taken in 2003 reported lower levels of violence in Tabasco than at the national level (13.9% of women interviewed reported violence from their current intimate partners, in comparison with 21% at the national level), although contradictory data from INEGI lists Tabasco as one of the five Mexican states with the highest levels of violence perpetrated by intimate partners (INEGI 2010a; also see INEGI 2009b). A recent study on intrafamily violence in Villahermosa reported that 22% of the women interviewed in this city reported violence on the part of their partners, indicating that this problem is especially noteworthy in the capital city (Márquez et al. 2008). The ENVIM Survey taken in 2003 also reported higher levels of violence in the Centro municipality (where Villahermosa is located) than in the rest of the state.

In addition to women's reduced participation in remunerated work, their economic dependence on their husbands, and their reduced negotiation power and inferior social status, another factor that most certainly affects the high levels of violence is the difference in age between husbands and wives, with women generally several years younger than their husbands. In Tabasco, the average age difference is 3.3 years, in comparison to 2.8 years at the national level (INEGI 2008b). This leads to unequal authority between wives and husbands, and contributes to women's strong dependence (not only in economic terms) on their husbands. Many of the women have children at very young ages, with no experi-

ence in remunerated work before they get married, and consequently they are housewives for the rest of their lives.

In this context of high levels of violence against women, those most affected by acts of abuse and violence in temporary shelters established after severe flooding were women. They represented 67% of all the inhabitants in these shelters (ECLAC 2008), where many of them took refuge for several months, living in very small spaces.⁸

Therefore, among the most important strategic interests for women are the following: greater access to economic resources; greater participation in decision-making and diminishing men's control over women; and reducing levels of domestic violence.

3. Reconstruction and Reactivation Program to Transform Tabasco

■ Given the serious impacts from climate change in Tabasco, and particularly the severe flooding in recent years, the state government was obliged to develop adaptation measures to protect the population inhabiting high-risk zones, and one of these is the relocation program entitled "Reconstruction and Reactivation Program to Transform Tabasco" (*Programa de Reconstrucción y Reactivación para Transformar Tabasco*). This program emerged as a makeshift reaction to the severe flooding in 2007 and the unsustainable situation in the shelters where over 300 families were living. Because of this nature of the program, there are no corresponding written documents. The main objective was to resolve the problem of human settlements along the rivers in Villahermosa, increasingly threatened due to increasing flooding. In order to definitively remove the population inhabiting these settlements and to prevent those who had taken refuge in the shelters from returning to these areas, the state government together with the federal government and the Villahermosa municipal government decided to build new housing outside the high-risk zones and to relocate a total of 25,000 families in the medium term.

⁸ Interview with Lourdes Gallegos, Secretary at the State Women's Institute (*Instituto Estatal de las Mujeres*—IEM); Villahermosa, 08.09.2010.

In the first stage of the program the building of over 3,500 housing units was scheduled for completion by the beginning of 2012. So far, approximately 2,550 housing units have been built in three new housing projects in the area surrounding Villahermosa, of which one is still to be completed. This first stage has been characterized by active participation on the part of the private sector. The building of homes was financed through private donations in response to the flooding, and in cooperation with the federal agency known as the National Housing Commission (*Comisión Nacional de Vivienda*—CONAVI). The state government contributed the land plots and the necessary infrastructure such as water, electricity and transportation.⁹

The new housing projects are located between 15 and 22 kilometers from the capital city along a two-lane highway. According to experts, the reason for this considerable distance from Villahermosa was because there were no closer areas suitable for building housing without the risk of flooding, due to the characteristics of the land in Tabasco, specifically that it is extremely flat and almost totally susceptible to flooding. The housing units built are small, consisting of approximately 40 square meters, but they are completed equipped with running water, drainage and electricity. To facilitate the inhabitant's connection to the capital city and nearby towns, a public transportation route was established between the housing projects and Villahermosa.

3.1 Program's gender perspective

■ Since Governor Granier Melo took office in 2006, there has been an unprecedented political decision to promote policies with a gender perspective. A number of state government ministries and institutions, such as the Ministry of Natural Resources and Environmental Protection (*Secretaría de Recursos Naturales y Protección Ambiental*—Sernapam), the Tabasco Housing Institute (*Instituto de Vivienda de Tabasco*—Invitab) and the Ministry of Education (*Secretaría de Educación*), have implemented programs with a gender perspective or with the intention to promote the state's women.¹⁰ This new focus is evident in the program studied here, with the newly-built housing units initially granted to women. Although this strategy corresponded primarily to

⁹ Interview with Armando Tosca, Darwin Cortes, Grace Abundes and Javier Franco, Invitab, Villahermosa, 06.09.2010.

¹⁰ Telephone interview with Silvia Whizar Lugo, State Ministry of Natural Resources and Environmental Protection in Tabasco, 30.01.2011.

the objective for family assets to be better protected—based on the assumption that women tend to be more responsible with family assets, due to greater concern for their family's security¹¹—this decision was also influenced by the aim of promoting women. According to statistics from Invitab, 88% of the housing units in the first housing project that was given the name of *Gracias México* were granted to mothers. However, due to legal problems derived from the program's makeshift nature, it has not been possible in the following projects to give the housing units to women. Instead they must be given to the owners of the previous homes in the high-risk zones.¹² However, women also represent the majority of the new owners in the following projects, specifically 57% in the second housing project, named *27 de Octubre*, and 61% in the last project constructed, named *Ciudad Bicentenario*. This is because a significant number of the relocated persons had lived in irregular settlements, and although men were typically the “owners” of these homes, they did not possess title deeds, and consequently the new housing units were not automatically turned over to them. Because women tend to participate more actively in the state's social programs, they were frequently the ones who completed the necessary paperwork at the time of the relocation to gain access to a housing unit in the new housing projects, and consequently these housing units are now in their names.¹³

4. Methodology

■ Work in this study was conducted with individual qualitative interviews with relocated residents in the three housing projects built. The *27 de Octubre* and *Ciudad Bicentenario* projects were included due to the significant percentage of women who are owners in these projects, and also because the general situation and the problems confronted by women are similar in the three housing projects.

¹¹ Interview with Roberto López, Civil Protection, Villahermosa, 06.09.2010.

¹² In the first housing project, since a large number of the inhabitants of high-risk zones did not have title deeds, many of the new housing units were given to individuals (particularly women, due to the program focus) who had only rented the previous homes. In response to complaints from the owners of those homes, the housing units in the following housing projects were given to the owners instead of the inhabitants of the damaged homes, making it impossible to give priority to women. Interview with Antonio Balmaceda García, Department of Social Development, Invitab, Villahermosa, 25.01.2011.

¹³ Interview with Armando Tosca, Invitab, Villahermosa, 06.09.2010; and with Antonio Balmaceda García, Department of Social Development, Invitab, Villahermosa, 25.01.2011.

Two thematic blocs were included in the interviews. In the first bloc, general matters of relocation and the new housing projects were addressed, as well as the problems experienced and how they impact the daily lives of women and men, plus the changes generated by the relocation. The second bloc was focused on the situation for women and progress made in terms of the strategic interests mentioned earlier.

Of a total of 34 individual interviews, 26 were conducted with women and 8 with men. Fourteen individual interviews were conducted in *Gracias México* (the first housing project built), and 10 each in *27 de Octubre* (the second) and *Ciudad Bicentenario* (the last, not yet finished). In addition a group interview was conducted with 15 women in *Ciudad Bicentenario*, addressing primarily the situation for women in the housing project, any changes in this situation and empowerment issues. Due to the methodology used, specifically semi-structured interviews, it was possible to learn about the experiences of other relocated persons beyond the 34 interviewed, since many of those interviewed related the experiences of family members and/or friends. For this same reason, however, the quantification of results is difficult.

In addition, 19 interviews were conducted with experts, including Invitab administrators of the housing projects and Invitab officials responsible for the relocation program. The purpose of these interviews was to become familiar with more general data regarding the program and its implementation, as well as the situation and problems experienced in the housing projects.

Due to some methodological issues—specifically, the limited number of interviews conducted with relocated residents, and the facts that the results are based on only the statements made by those interviewed, and that it was not possible to work with observation methods or make a comparison before and after the relocation—and because the program is so recent, the results obtained should be treated cautiously, and not viewed as definitive, complete or representative. Also, it should be mentioned that the same topics were not addressed in all the interviews, and therefore many of the topics were discussed with only a very limited number of interviewees. Nevertheless, the interviews do provide initial impressions regarding important processes related to the issue studied here and can give some useful indications regarding potentials and difficulties in the development of future policies.

5. Main results from the research

5.1 Characteristics of the population interviewed

■ Inhabitants of the three housing projects were relocated between two and a half years (*Gracias México*) and a half year (*Ciudad Bicentenario*) before the interviews. As described earlier, the majority came from the settlements along the Grijalva River in Villahermosa, many of them irregular and characterized by very low income levels. Many inhabitants had “invaded” federally-owned land and built their homes there, often constructed of only laminated cardboard. Consequently, they did not have title deeds providing legal proof of their ownership of the land plots. Most of the inhabitants worked as mechanics, brick layers, drivers or peddlers, and before the relocation, they had small family businesses such as stores, workshops, butcher shops or beauty salons. In line with traditional gender relations in Tabasco, most women in the housing projects are housewives, and only a few said they had remunerated work. However, prior to the relocation, many women contributed to family income through activities such as cleaning other people's homes, washing and ironing clothes, or selling home-cooked food.¹⁴ Most inhabitants are relatively young, between 25 and 37 years of age, and have an average of 2.4 children who are at childcare or school age. A large number of the inhabitants have relatively low educational levels; approximately half of the interviewees finished junior high school, while the other half did not continue beyond elementary school, and some did not even finish elementary school; very few finished senior high school, and only one woman received a university degree. It is interesting that many of the mothers are single. While the sample interviewed cannot be considered representative, it is nonetheless surprising that 13 of the 26 women interviewed are single mothers.¹⁵

5.2 General impact on the relocated population's vulnerability

■ The impacts from the relocation have clearly been very positive for a large number of those relocated. It is evident that by leaving the areas along the river

¹⁴ This was also confirmed by Armando Hernández de la Cruz, a researcher at *El Colegio de la Frontera Sur* (ECOSUR) who conducted interviews in the constructed housing projects in the context of a study on the floods. Interview conducted at ECOSUR, Villahermosa, 17.01.2011.

¹⁵ At the state level, women are the heads of households in 21% of households (ECLAC 2008).

banks, inhabitants are now outside the areas at risk for flooding—something of great importance for many of them. In fact, many of those interviewed emphasized their great relief at no longer living in the areas susceptible to flooding—despite the small size of their new homes—since “before, we would get flooded out each and every year” and they lived in constant fear of flooding.

Also, their new homes represent a significant improvement in general for many (although not all) of the residents, particularly for those who came from land that was “invaded.” Compared with the houses of laminated cardboard that many of them lived in previously, the new housing built of concrete, with concrete instead of dirt floors, significantly improves their lives, and contributes to decreasing their vulnerability.

Furthermore, the new housing units are an important improvement for women who now have control over a resource as important as housing—something they did not have previously. Their living situation and their safety is improved; now they can worry less about their children's safety and illnesses; and in many cases, keeping their new homes clean is less work than before, to mention a few of the advantages.

Regarding gender relations, to date the relocation has brought positive effects in some spheres of life, contributing to advances in some strategic interests. However, in other areas, the effects have been very ambiguous so far, and in some cases traditional gender relations have even become further entrenched.

5.3 Impact of the program on access to resources

■ Regarding access to economic resources, the relocation has complicated the situation for most of the population. This is due primarily to the fact that there are no sources of employment in the housing projects or in neighboring towns. Consequently, many residents are now unemployed, or they earn their only income as day workers, doing any work they can find. In fact, the lack of jobs was mentioned in all of the interviews as the biggest problem confronted by inhabitants. Many men commented that, “I used to be a brick layer” or “I used to be a mechanic” but now, “I do a little of everything” because they are forced to take advantage of any opportunity for work that presents itself. Many families lost not only their homes,

but also their businesses in the floods.¹⁶ Because of the lack of employment in the housing projects, most inhabitants commute daily to Villahermosa to work or look for work. The considerable distance to the city—between 15 and 22 kilometers—makes it difficult to look for work, and this means that many households have less income than they did previously. At the same time, monthly expenses have increased significantly in the majority of households, contributing to a deterioration of their socioeconomic conditions. The most important factor consists of high transportation costs. Even though public transportation was established after the relocation, the costs of the daily commute to and from Villahermosa signify a major expense that most of them had not experienced before, and that consume a significant portion of family income. Another problem mentioned in this context is that due to the long distance, those who work in Villahermosa cannot come home to eat at mid-day, and therefore must buy food in the city, contributing further to increased expenses. In addition, since the housing projects lack health clinics, markets, supermarkets and specialty stores, it is necessary to travel to Villahermosa or neighboring towns to meet all of these needs, implying even more transportation costs. Still another factor contributing to the increase in monthly expenses is that the outdoor space available in the new housing projects is not enough for planting vegetables and fruit, or for raising domestic animals. Thus, for those who previously had a backyard (only a minority of those relocated), the need to now buy everything they consume is problematic for them.

The weight of this situation generally falls particularly on women, the ones who must seek solutions to the lack of resources for feeding their families and meeting other needs. It was evident in the interviews that the lack of resources was clearly an enormous concern for most women. Many of them were tense and worried, and felt a great deal of stress.

Regarding women's access to their own resources through access to credit or by establishing a business, only a few women have found that gaining control over their housing opened up this type of possibilities. Furthermore, as verified during the field

¹⁶ During the interviews, this situation was mentioned primarily by men. However, as reported by ECLAC in an evaluation of the impacts from the 2007 flooding in Tabasco, numerous women were also affected by the loss of their micro-businesses. In the case of women, they typically operate their micro-businesses in their homes. It is estimated that 76% of the women have their own micro-businesses at home (ECLAC 2008).

work, the possibilities of having remunerated work have diminished for practically all the women interviewed.

5.3.1 Possibilities for establishing a business and access to credit

■ It was evident in the interviews that owning one's home can potentially open the way for women to start up a business or gain access to credit, and many women were interested in these possibilities. Nearly half of the women interviewed declared that now that they have their own home, they want to invest and make the necessary changes in their home to be able to set up a small business. Many said that having a business in their home was the only way to combine domestic work—especially taking care of small children—and remunerated work. However, a problem they are confronting is that so far none of the inhabitants in the housing projects have title deeds to their homes. All they have is an agreement with Invitab that verifies they are the owners. This is due to the makeshift manner in which the relocation program was developed, as an emergency measure in response to a crisis. To date, the housing projects are not formally authorized by the municipal government. Authorization and legalization are bureaucratic processes that involve the municipal government and Invitab, and may take as long as several years.¹⁷ Consequently, many inhabitants feel uncertainty with respect to their ownership of their home, and a number of women said they were afraid they could lose their home. They explained that they did not want to invest in remodeling their home if they could not be sure it belonged to them. Another huge problem is gaining access to credit. It is impossible to access credit without title deeds, and most of those interviewed do not have the necessary resources for investing. Given that credit is not typically something viewed as important among the population with few resources, it was surprising to find that a number of women—although not the majority—commented that not having a title deed to their home was a significant obstacle for them since, “the first thing the bank asks for are securities” and “the agreement we have with Invitab is not recognized” as a title deed. While this problem is relevant for only some inhabitants, since many are not interested in mortgaging their homes,¹⁸ the discontent with this

¹⁷ Interview with Carlos Pulido, Director of the Legal Department, Invitab, Villahermosa, 25.01.2011.

¹⁸ Many said they did not want to mortgage their home, in order to avoid endangering their family assets. Still, the large number of women who said they wanted to ask for a loan to start up a business was surprising.

situation is notable, since there are many inhabitants who do want to access credit in order to start up a business.

Thus, so far only women who did not need to ask for a loan have been able to start up a business in their home. In some cases ownership of their home was a decisive factor in establishing their own business. One of these cases is a 35-year-old mother who lives in the *Gracias México* housing project. With her own income—and despite her husband's protest—she made the changes necessary in her home to open up a beauty salon. She said that without her home, she would not have done so. In another case, having a home also played a crucial role in starting up a business. A single mother of three daughters living in *27 de Octubre* opened up a sewing business in her new home, with some assistance from the government. She said that it was her home that gave her the courage to “take the risk” to start up the business and buy sewing machines. These examples are exceptions, however. Most of the women interviewed who had plans to establish a business have not been able to do so thus far. For example, a number of women reported having plans to open up businesses such as a corner store or beauty salon, or the sale of tortillas, chicken or cosmetics. But because they do not typically have enough resources, and in most cases, nor do their husbands, or their husbands are not willing to support their wives' plans, they need a loan to make their plans a reality. Most women who managed to start up businesses without loans set up corner stores, or began to sell *pozol*, tamales or other home-cooked food, or they started a business of washing and ironing clothes. However, with only a few exceptions, it is generally the husbands who make the investments, since women do not have their own resources. Consequently, in these cases the business belongs to the man, and the income generated by the woman is typically not viewed as her income. Thus, whether or not these businesses contribute to reducing women's economic dependence is highly questionable. Furthermore, most of these businesses do not generate much profit, since there is competition from many other corner stores or food sales. Because the women do not have professional training, setting up a more profitable business is difficult. Thus, men generally continue to be those who primarily maintain the family, and women merely “help them out.” In fact the main objective of these activities is often not to substantially contribute to the family economy, but are rather viewed as measures for staying busy, since as reported by some women interviewed, “if I don't work, I get bored.”

5.3.2 Access to remunerated work

■ The main problem for women in terms of access to economic resources, however, is that the relocation makes it impossible for most of them to engage in extra-domestic activity. Remunerated work is even more complicated for them than for men. This is due primarily to two factors: the high costs of transportation to Villahermosa cancel out the profit from remunerated work; and the lack of public and economic infrastructure in the housing projects increases their reproductive workload, leaving little time for extra-domestic activities.

High transportation costs

■ On the one hand, the high costs of transportation to and from Villahermosa present an obstacle to women's extra-domestic work—since it often becomes unprofitable. Because women generally earn less than men, whether because they receive lower wages or because they work fewer hours, their income frequently fails to cover transportation costs. For this reason most of the women interviewed were forced to quit their jobs. In fact one of the most frequently-heard phrases from women during the field work was, “I can't work anymore—we live too far from the city,” implying transportation costs that are too high. Of the (few) women who had formal, relatively well-remunerated employment, all of them with only one exception—the only woman interviewed who had finished her university degree—were forced to quit their jobs as check-out clerks, store sales clerks, employees in child care facilities, etc. If even women with formal employment were forced to quit their jobs, the situation is even clearer for women with informal work—and the latter represents the majority of the women interviewed. Because of the small amount of income earned from activities such as selling food, cleaning other people's homes, or washing and ironing clothes, very few of the women interviewed continue in their previous jobs. Of those who do, many go to Villahermosa only once a week, or they attempt to carry out similar activities in the housing projects where they currently live. For example, a mother of three living in *Ciudad Bicentenario* goes to Villahermosa only on Saturdays to clean a number of houses. She works there all day, when before she could distribute the work throughout the week. Attempting to do this kind of informal work in the new housing projects is even more difficult than in Villahermosa. Because of the reduced number of inhabitants, and especially the limited number of inhabitants with higher income levels, the demand for services such as house-cleaning or for products such as *pozol* or other food is much smaller. A number of

women interviewed explained that following the relocation, they attempted different types of businesses such as stores for selling paper/school supplies, corner stores, or the sale of *pozol* or tamales, but none of them went very well. Therefore, in general the women who did this kind of work in Villahermosa now earn much less in the new housing projects or have given up on it.

Lack of infrastructure

Lack of stores and clinics

■ Perhaps the most critical factor for women is the lack of public and economic infrastructure in the housing projects, particularly stores with certain kinds of products, as well as markets, supermarkets and clinics. This limited infrastructure affects primarily women, since it hinders reproductive work. As in most of Mexican society, responsibility for domestic work in the part of Tabasco studied is determined by traditional gender roles and falls exclusively on women. While in some of the couples studied, the husband “helps” with domestic chores, this help is typically limited to washing dishes or sweeping the floor occasionally, usually on weekends, or in the evenings. And even in these couples, those responsible for these chores are still the women. Thus, the consequences of this lack of infrastructure affect women, especially in terms of having to travel long distances and invest a lot of time in order to access these stores, clinics and other services in Villahermosa or nearby towns. Since the majority of those relocated previously inhabited areas that were very centrally located, with an extensive network of public and economic infrastructure, the current situation increases the everyday workloads of these women considerably, leaving them little time for extra-domestic activities.

The small corner stores that spring up suddenly in the new housing projects are not substitutes for large stores, supermarkets and markets. They do not have everything needed by families and their prices are higher. Therefore, in order to buy the basics for feeding their families and to save money, most women now travel to Villahermosa several times a month—something that requires a large amount of time. Also, in order to make purchases in the stores located in nearby towns, the women must frequently walk several kilometers in order to save money otherwise spent on transportation. The same is true for accessing doctors and health clinics located in nearby towns. In the most serious cases it is still necessary to go to hospitals in Villahermosa since, according to several interviewees, those located

nearby do not have enough doctors and technical equipment for addressing the more complicated cases.

Lack of infrastructure for childcare

■ However, the most serious problem for women and one that consumes even more of their time is the lack of infrastructure for caring for children of all ages. Only two of the three housing projects have an elementary school and none of them have junior high schools. Children of junior-high-school age attend schools in neighboring towns, requiring a considerable investment of mothers' time. Many mothers insist on accompanying their children to the schools in nearby towns, since it is necessary to cross a two-lane highway where serious accidents often occur. They generally walk, due to the lack of transportation or in order to save bus fare. And in the *Ciudad Bicentenario* housing project, where there is no elementary school, the situation is even more difficult for mothers, since they must also accompany their small children to neighboring towns in the mornings. While all the housing projects have childcare centers, the situation for young children at this age is complicated, since the daily schedule is only from 9:00 a.m. to noon.

The most difficult problems are experienced by mothers who have children of different ages, since they must take them to different schools or childcare centers at practically the same time: elementary and secondary schools begin at 8:00 in the morning, and the childcare centers at 9:00. The childcare centers close at 12:00 and schools at 1:00 p.m. For mothers with children of different ages, the task of taking their children and picking them up involves a major organizational effort every day. Many of the women interviewed and all of those who have children at childcare age said they were basically busy all morning long, taking their kids to school and childcare centers and then going back to pick them up. A number of the mothers said that sometimes their children simply cannot go to school, because they don't have the time to take them, for example if one of them is sick or if they have other commitments they must fulfill during the morning. A 26-year-old mother in *Ciudad Bicentenario* who has three children, at 9, 7 and 3 years of age, said it was nearly impossible to organize her time to drop off and pick up her children of different ages, and at the same time, accomplish all her work at home. After a period of time, she was able to convince her husband to buy a motorcycle, and now the situation is much easier for her. The great majority of women, however, do not have the



Photo: Jenny Jungehülsing

privilege of having access to a private means of transportation. There are very few privately-owned vehicles in the housing projects, and as might be expected, they are used primarily by men.

The problems involved in caring for children are further complicated by the fact that since their relocation, many inhabitants are farther away from their families. In a number of cases studied, entire families were relocated to the same housing project, but this is not true for the majority. For women, this means they cannot count on help from family members in caring for their children. Typically, mothers, mothers-in-law and sisters are particularly those who form a family network that offers support in this area. Consequently, most of the women interviewed explained that they had to basically care for their children all day long, since they had no one to leave them with, given that their families were far away, and they did not know anyone well enough in the new housing projects. This is particularly the case in *Ciudad Bicentenario*, where inhabitants have been there only a short time, and have not yet become acquainted with their neighbors. The problem also exists in the other projects, however. The situation improves with time, as women live longer in the

projects and get to know their neighbors better. In many cases women find someone who can take care of their children, but they have to pay for this service, and this is sometimes impossible.

Implications for women's remunerated work

■ Because of women's heavy reproductive workload and particularly their responsibility for caring for their children, most of the women interviewed were unable to take on remunerated work. In addition to high transportation costs, the lack of time was mentioned by most of the women—and particularly mothers of childcare-age children—as another decisive factor making it necessary to leave their previous jobs. Particularly given the lack of employment sources in the housing projects—and thus the need to commute the long distance to Villahermosa in order to be able to work—this factor is an obstacle that is essentially impossible for many women to overcome.

Several mothers of small children expressed hope that they would be able to return to work when their children were old enough to go to school. Others were seeking solutions that would enable them to work—but not always without problems. A mother of three children, aged 5 years, 3 years and 3 months, living in *Gracias México*, said she was “desperate to go back to work” to be “more independent of my husband.” Her plan was to bring her mother to live with them and take care of the children. However, this was the cause of many conflicts with her husband, since it meant three adults and three children living in a home measuring 40 square meters. It is also clear that the lack of childcare services in the afternoons causes serious problems for women who have no choice but to work, especially single mothers. A single mother with two children and living in *27 de Octubre*, for example, was one of the few women who found good work within the housing project—even allowing her to pick up her children from school at mid-day. However, in order to return to work in the afternoon, she had no other choice but to lock them up in her home—causing her intense feelings of remorse, in addition to fear that the children's father could take them away from her. Also, because of her children, she could not accept the proposal from her employers to advance to a different, better-paid position, since it would have been full-time with less flexibility.

Thus, for many women, faced with the increase in their reproductive workload, the only options for generating their own income are jobs they can do at home at the



Photo: Jenny Jungehülsing

same time they are taking care of their children. This mostly means starting up a small business. However, due to the difficulties just described, even these options are limited for most of the women, and for those who were able to set up a business, their income was minimal.

In general, while having control over their housing could potentially be an important way to improve women's access to economic resources, this has not been the case for most of the women to date. Even though owning their homes opens up the possibility for women to start up a business right in their homes, most of them are unable to do so because they do not have title deeds for their homes—something that restricts their access to credit and concerns many women in terms of the certainty of their ownership. The biggest problem, however, is that most of the women were obliged to discontinue remunerated work since the relocation, due to both the high transportation costs involved in commuting to and from Villahermosa, and the lack of time, given the minimal infrastructure in the housing projects. Consequently, women's economic dependence on their husbands generally continues, and has in fact intensified in many cases.

5.4 Impact on women's participation in decision-making

■ Our study of the impact of housing on women's participation in decision-making was focused—due to methodological reasons—on decision-making within the family. Since not all the decisions made in households are of equal importance¹⁹ and may be viewed as associated with women's strategic interests, the analysis in this study was focused on decision-making in three important areas: (1) related to the use of family income, decisions on investments made such as the purchase of televisions, stereos and vehicles; (2) decisions regarding priorities in expanding the home—something occurring rather frequently due to the limited size of the homes; and (3) women's self-determination in terms of their mobility outside the home, and whether or not they have extra-domestic work. Clearly, the negotiation processes behind the decisions made in homes are difficult to understand in their full complexity through only simple interviews with family members, and therefore the results in this section should be treated cautiously. Rather than explaining these processes in detail, the results indicate general tendencies with regard to this topic.

In general, women's participation in important decisions in the homes studied is very minimal. The fact that most women are housewives means they are heavily dependent economically on their spouses. Contributing to this situation is that many of the women married or started to live with their intimate partners and had children at very young ages. Half of the women had their first child before turning 19 years of age, and a third had their first child when they were 17 or younger. It is for this reason that many of them say they have never worked outside the home. In addition the significant difference between the ages of wives and husbands—an average of over nine years in the cases studied—contributes to this dependency and to the low self-esteem that many of these women have, with negative consequences for their decision-making power.

Unequal decision-making has basically not been altered by giving the new homes to women. Only in a very few cases has women's control over their housing seemed to contribute to their greater participation in decision-making in the three areas studied, and in some cases this participation diminished after the relocation. This is not surprising given the relocation's impact on women's access to resources and their continued dependence on their husbands.

¹⁹ For a description of the "hierarchy" of decisions made in the home, see Kabeer (1999).

Gender relations and women's vulnerability to climate change

Men—primarily husbands—are typically those who make the decisions regarding major acquisitions such as the purchase of durable consumer goods. While approximately half of those interviewed said initially that these decisions are made as a couple, generally it is actually the men who decide, since they are normally the ones who “have the money” and consequently, those who consider its use. In most of the interviews in which this topic was addressed, it was clear that when an investment was made in a particular durable consumer good, at Christmas time for example, the husband's wishes were imposed over the wife's, and he decided, for example, to buy sound equipment or a television. Also there were two cases in which the man decided to buy a car—a considerable investment—despite the wife's objections.

When it comes to decisions regarding expanding or modifying the home, the situation is similar. Most of those interviewed said these decisions were made as a couple, but because the husbands' resources were those invested, the impression was that often the husband was the one who decided in the end. There were only a few cases in which the woman was the one who carried more weight in this type of decision, since she was the one who owned the home. One of these cases was mentioned earlier, refer-



Photo: Jenny Jungehülsing

ring to the woman who opened her own beauty salon. Although her husband did not initially agree with her plan to start this business, she imposed her wishes and made the necessary modifications in the home. As stated earlier, the woman's control over housing was a crucial factor in this case. The woman made it clear in the interview that if she did not own the home, she wouldn't have been able to impose her wishes over her husband's and follow through on her plans. Still, this case is an exception. It is typically the husbands who make the decisions regarding expanding and modifying the home. One of these cases is a couple living in *27 de Octubre* who has expanded their home a number of times. The husband does what he thinks is important, refusing to fulfill his wife's wishes to install tiles on the living room floor, even though she has purchased the materials with help from her father. In most cases, however, the husband's dominance in issues related to housing does not necessarily indicate conflicts. Women often reported agreeing with their husbands' decisions.

In the cases in which decisions regarding investments and remodeling are made by women or by both spouses together, it only rarely appears to be associated with women's control over housing. In general this decision-making pattern was already operating prior to the relocation. In the couples that seemed to make decisions together, generally both the woman and the man strongly emphasized the need for communication and discussion in intimate relations, and for including all family members in decision-making processes. In some cases women's greater decision-making power seems to be associated with their access to economic resources more than their control over housing. For example, in the case of an older couple in *27 de Octubre*, the woman said she was the one who made the decisions regarding remodeling. She said it had always been that way, and was particularly because she generates (and has always generated) her own income through a bottled drinking water business, contributing half of the family economy.

With regard to perhaps the most important issue for women—their freedom of movement—it also appears that giving the homes to women did not contribute to any significant changes. In many homes men continue to control women, and demand for example that women are home when they return from work. Also, men often prohibit women from leaving the home too much, generally using the argument that children need their mother and she cannot “neglect them.” In fact some of the women interviewed have to ask permission from their husbands to go anywhere, and

in one extreme case a husband only allows his wife to leave the house to visit her sister in the same housing project.

Men's control over their wives is particularly apparent in the issue of women's remunerated work. In approximately half of the cases studied, women wanted to have a job with wages or continue studying, but their husbands prohibited it, again typically using the argument that children need their mother. For example, a mother with two children, 9 and 4 years old, living in the *27 de Octubre* housing project, explained that she had studied computers and wanted to work in this field. Her husband, however, refused to allow her to work outside the home, telling her to "tend to the home and the children, who are young."

In some cases the men's idea that women must be in the home taking care of the children is combined with a very traditional idea of gender roles in which the suitable place for a woman is in the home. This was evident in a couple living in *Gracias México*, for example. The woman wanted to work and contribute to the family income, but this led to severe conflicts with her husband. He refused to permit this since, as he said in the interview, she "doesn't have to be looking for work, because she has a husband who provides for her."

In some of the cases studied, women's participation in decision-making in the areas studied actually diminished after the relocation, mainly because they had to quit their remunerated jobs. For example, a mother of two children, living in the *27 de Octubre* housing project, said that because of the long distance to Villahermosa and the problematic situation around care for her children, she had to quit working after the relocation, and since then her husband "feels like he's the boss." Previously, she explained, when they worked together in a store they had in their home, "both of us were in charge," but now that he is the only one providing for the family "he wants to be more in control" and has started to mistreat her. For this reason, she wants to go back to working—but he's opposed to the idea and demands that she stay at home to take care of the children.

In general, therefore, women's control over housing has not yet seemed to have significant impacts contributing to more equal decision-making in the home—not very surprising considering the effect of the relocation thus far on women's access

to economic resources. However, it is necessary to keep in mind that modifying the decision-making process in the home is a gradual process that requires time, and the process clearly depends on other factors as well. Consequently, the fact that significant changes are not yet apparent does not necessarily mean they might not occur in the medium or long term.

5.5 Impact on levels of intrafamily violence

■ One sphere in which women's control over housing has a direct impact on power relations in the home is intrafamily violence. As in the rest of Tabasco and the Centro municipality, the incidence of intrafamily violence is also very high in the housing projects. Practically all the women interviewed mentioned it as a serious problem in the neighborhood, and nearly half reported they were personally experiencing or had experienced this type of violence. However, granting housing units to women has clearly contributed to a reduction in violence in many homes.

This is because women's home ownership reduces the extreme dependence on their husbands in relation to housing, and also increases women's self-esteem and self-confidence as well as their courage to defend themselves against violent husbands. Many of the women interviewed said that prior to the relocation, they had been forced for many years to endure their husbands' violence, since they were living in their husbands' homes and did not have anywhere to go in the case of a separation. This is particularly the case for women with children. They hardly have the option of separating from their husbands, unless they want to take their children and go back to their parents' home. Now that they have control over their housing, however, they are less dependent on their husbands in this sphere of life, and in fact can threaten their husbands with throwing them out of their homes. This is a clear difference in the power relations between spouses. And it is mainly for this reason that practically all the women interviewed explained that now they feel "safer," "better about themselves" and "more capable."

The result is that intrafamily violence has diminished in many homes. Most of the women interviewed with whom this issue was discussed said they now have the courage to "place limits" on their husbands, adding that "we are no longer willing to just endure." Several said they had even threatened their husbands with kicking them out of the house if they continued to mistreat them, and they do not allow their

husbands to enter the house if they are drunk. In these cases physical violence has ended and in some cases, verbal abuse has also ended.

The action taken most frequently by women to put a stop to mistreatment from their husbands is not, however, to only threaten to kick them out, but to actually separate from them. In most of the cases in which the relocation contributed to ending violence against women, it was because the women, with this new control over their housing, had the courage to separate from their husbands. Many cases were reported in the interviews (plus other cases of family members and acquaintances) in which women kicked out husbands who had mistreated them before the relocation, and in some cases had even thrown their wives out. Faced with this situation women had no choice but to take their children and seek refuge in their parents' home. Now, the women declared almost unanimously that if they did not have their own place to live, they could not have separated from their husbands—and would not have had the courage to do so. Owning their homes gave them enough security to confront life as single mothers, and in some cases, to learn a profession or start up a business in order to support themselves. In the interviews most of these women clearly rejected the idea of living with a man again, saying they had “experienced too much mistreatment” in their lives. In general, they said they did not want to depend on anyone, but instead wanted to live alone and support themselves on their own—an important step toward their independence and self-determination, and something that would be difficult without having their own place to live. The large number of single mothers in the housing projects is due in part to women having the courage to separate from their husbands once they have their own home.

Nevertheless, owning their home is not enough for all women to defend themselves against violent husbands. In some cases (although a minority of those studied) fear prevails due to their enormous economic dependence on their husbands. Some of the women said they could not confront their husbands because they were afraid to be alone, not knowing how they would be able to feed their children. Here, some decisive factors are that many of the women have low educational levels and most of them never learned a profession; since they married young, they have been housewives all their adult lives and feel incapable of supporting themselves and their children, even if they would not have to pay rent. As a consequence, some women continue to endure physical and/or psychological mistreatment from their husbands. One extreme case is

a mother of three children who is living in the *27 de Octubre* housing project and who has endured violence from her husband for many years. Although she would like to separate from him, she does not have the courage to do so out of fear that she would not be able to feed her children. Consequently, her husband continues to mistreat her and control her, not allowing her to leave the house or find remunerated work. In order to have some minimum income of her own, she works in secret in her sister-in-law's business. However, cases like this one are an exception, and for most women experiencing violence, their situation is improved by having their own home.

For the majority of women who have the courage to separate from their husbands, although this action makes things better in many ways, also creates new difficulties, and their lives do not necessarily become easier. Because of the lack of infrastructure that could facilitate reproductive work and especially provide care for children, on the one hand, and the difficult situation in finding employment in the housing projects, on the other, the majority of single mothers find the double responsibility of economically supporting their families and fulfilling reproductive work to be an enormous challenge. For most of them, having to support their children on their own caused them a great deal of fear and insecurity in the beginning. Many did not find work, and for nearly all of them, the problem of finding someone with whom to leave their children creates enormous difficulties. One case was already mentioned earlier: the woman who locked up her children in her house in order to go to work. Another case is a young mother in *Gracias México* who had to pay over half her wages to her neighbor for taking care of her two daughters, leaving her only 250 pesos every two weeks to live on. After separating from her husband, she looked for work for many months, and finally found a job as a guard. But the job required working 12 hours a day—absolutely incompatible with taking care of her daughters. Although after a time she found this neighbor who was willing to take care of them, having to pay so much for this service causes her great difficulties. Because of these problems, many of the young single mothers interviewed find it impossible to fulfill the double task of taking care of their children and economically supporting their families, or simply cannot find work and depend on economic support from their parents.

Despite these problems, and while not the case for all the women, it was evident in general that granting housing units to women did represent an efficient tool for modifying power relations between spouses—at least to the degree that women have

the possibility to defend themselves against violence from their husbands. This is a significant improvement, given the huge problem of intrafamily violence for women not only in Tabasco and Mexico, but around the world.

6. Final considerations

■ The adaptation measure studied has reduced women's vulnerability in a number of spheres of life. It has contributed significantly to meeting some important and practical needs of women, such as living outside areas that are at risk for flooding and having their own decent housing. Also, it has laid the groundwork for achieving greater gender equality. In some spheres, especially in terms of intrafamily violence, this measure has translated directly into significant improvement in the situation for women and progress made in relation to some strategic interests; granting housing units to women has led to a notable reduction in men's violence toward their wives in the housing projects, since this has given women the courage necessary to confront their husbands.

However, in other spheres, the potential benefits from having control over housing have not yet become a reality for women. In particular, in the case of their strategic interests in accessing economic resources and participating in decision-making in the home, women have not yet been able to use the advantages represented by having their own home. Women's access to economic resources has not only *not* improved in most cases—although there was some improvement in certain cases due to the possibility of starting up a business in the home—but has in fact deteriorated. This is due primarily to the lack of sources of employment in the housing projects and the high transportation costs involved in commuting such a long distance to Villahermosa, plus the limited infrastructure in the new housing projects, especially in relation to childcare. This lack of infrastructure makes it necessary for women to dedicate practically all their time to domestic tasks—not only leaving them little or no time for remunerated work, but also making reproductive work even more firmly established as exclusively women's responsibility.

Reduced access to economic resources is also part of the reason that women's participation in making important decisions in the home has not increased, and men's control over women does not appear to have diminished significantly thus far.

However, the increase in women's self-esteem and courage to defend themselves against violence from their husbands, as well as women's high degree of interest in establishing businesses in their homes (and accessing credit to do so), suggest that women's control over housing has the potential to contribute toward more equitable gender relations. To achieve this potential, it is necessary to focus on modifying the factors that have hindered its realization to date, particularly the conditions that make it difficult for women to work for wages.

In order to improve women's possibilities for generating their own income, it will be necessary, on the one hand, to facilitate access to public and economic infrastructure in general, but particularly in terms of childcare. This will reduce the time that women must dedicate to reproductive work, since it appears that the existing infrastructure, specifically schools and childcare centers, is not adequate. In addition to increasing the time women can dedicate to remunerated work, it will also be necessary to expand the sources of income available to women. Since the lack of employment sources in the housing projects is one of the main problems confronted by inhabitants, some possible measures could include programs for creating jobs in the housing projects and the surrounding areas; assistance in creating small businesses; and particularly for women, training programs for enhancing their skills to set up profitable businesses and find better-paid work. This could greatly assist many women, since a significant number of them have been housewives all their adult lives, and most have low educational levels and lack professional training.²⁰ The corresponding measures implemented thus far—especially in the framework of the neighborhood program *Transforma tu vida* (Transform your life) implemented by Invitab in the housing projects—do not appear to be sufficient for significantly improving women's possibilities for income generation.²¹

²⁰ In fact, in the interviews a large number of women expressed great interest in acquiring professional capacities that would enable them to obtain better-paid jobs and thus continue to work, despite the high transportation costs for commuting to and from Villahermosa.

²¹ The *Transforma tu vida* program was implemented in early 2010 by Invitab, the institution in charge of the housing projects, including their municipalization. The program was developed in response to the high rates of unemployment, crime, alcoholism, drug addiction and violence in the housing projects. Its main objective was to combat these problems and strengthen community life in the housing projects. In addition to workshops for women and men on health and prevention of addictions, also included were sports activities, assistance for family vegetable gardens, adult education, professional training, and from a gender perspective, assistance for women entrepreneurs, plus prevention of pregnancies in under-age

On the other hand, many women had jobs in Villahermosa before the relocation, but they found it necessary to quit those jobs due to high transportation costs. This is a critical problem, but a solution may not be possible in this case, since prices any lower than those charged for the established public transportation are not likely. Nevertheless, this experience may contribute to the development of different adaptation measures in the future—for areas as totally susceptible to flooding as the state of Tabasco, where it is practically impossible to relocate inhabitants to closer areas—by considering alternatives such as building stilt houses, for example.²²

Regarding the problems associated with women's possibilities for remunerated work—specifically, the lack of public and economic infrastructure and the lack of sources of employment—it is clearly necessary to design adaptation measures that will have a more comprehensive gender perspective in order to impact gender relations. Because the measure studied was not primarily focused on transforming gender relations, it did not consider such important aspects as the sexual division of labor and women's use of time. Thus, from the viewpoint of gender equality, adequate attention was not given to issues such as providing infrastructure for childcare and for buying basic goods. Consequently, one of the conclusions of the study conducted is that in order to genuinely contribute to greater gender equality, future policies must be designed with a gender perspective integrated in all the spheres considered in the measures developed.

In addition to modifying the factors that make it difficult for women to access remunerated work, some measures focused on realizing the potential of women's control over housing could consist of promoting women's awareness of gender equality issues and their rights as women. This could help women who have not yet put a stop to mistreatment from their husbands, and in addition, it may also contribute toward ending the control that many men exercise over their wives, and support women in participating more actively in decision-making.

young women (Invitab 2008). However, with the municipalization of *Gracias México* and *27 de Octubre* in 2010, the program was discontinued in the housing projects.

²² Housing units built on piles to avoid flooding without obstructing the flow of water. Stilt house programs are currently being implemented as adaptation measures in Tabasco.

Although the measures mentioned here are not the only ones necessary, they may contribute to maximizing some of the possibilities represented by women's control over housing, in order to achieve greater gender equality and thus contribute to reducing women's vulnerability in the context of climate change.

Therefore, what is demonstrated in this study is that adaptation policies, if well designed, have the potential to contribute to greater gender equality. In the context of increasingly severe impacts from global warming, it is increasingly vital to implement comprehensive risk management and adaptation policies. Given that gender equality and women's empowerment are central elements for reducing vulnerabilities to climate change, it is important that these policies—through clear, productive actions—diminish these vulnerabilities and advance toward greater gender equality. The measure studied here takes an important step forward in this regard, by beginning to integrate gender equality into policies for adaptation to climate change.

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