Poverty and objective population of Progresa in four indigenous municipalities of the North Sierra of Puebla

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Abstract

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In this work the differences between people in the Education, Health and Feeding Program (Progresa) and the people who did not participate of it, using as sample indigenous people of four communities of the totonaca region in Puebla State, where the study was carried out. The means of contrast used were the lack of basic patrimony; living conditions; income level and level of education. The information was gathered by applying 213 surveys of which 75 percent of families were part of the Progresa program and 25 percent were not. The result showed that both groups were in similar conditions of poverty and they show the same deficiencies. In some variables greater poverty is present in the group that is not part of the program. People participating in this program should be re-selected to give a better support to the needing population and correct the possible mistakes in the new program, called Oportunidades.

Key words: poverty, indigenous people, poverty measurement, Progresa, Oportunidades Program, North Sierra of Puebla, Puebla, Mexico.

Introduction

The social policy of poverty combat in Mexico has shown different facets that turn it into an important phenomenon to be studied. After a long period of "nationalist" policy that starts with Cardenas and ends with
López Portillo, a globalization model is implemented, called "neoliberal", orchestrated through the reduction of the State participation in the social life. With this is intended to make that the economic and commercial life forms are ruled by the offer and demand, with the free affluence of merchandise without custom restrictions, or national borders. From the application of the neoliberal model, the programs were not able to decrease the population in poverty, then, we can say that the conditions have become more acute with the universal programs transformation by a focalized public attention. With none of these social policy approaches have the intended achievements been fulfilled and the lacks are growing.

Even when the State has tried to improve the prevailing situation by means of different programs, these have not been enough to overcome poverty. That is why it is necessary to design and apply new development programs that have a long term vision and that affect the structural factors that originate poverty.

The Ernesto Zedillo (1994-2000) presidential period is characterized by it ambiguity about the instrumentation of the social policy; however, it is in the middle of such period (August, 1997) when the government presents the Programa Nacional de Educación, Salud y Alimentación (Progresa) (Education, Health and Alimentation National Program) as the formula to combat poverty in an integral way, according to the approach adopted by that administration.

Progresa intends to improve the education, health and alimentation conditions of the poor families, particularly that of children and their mothers, in order to do so, it tries to perform actions so that the scholar progress is not affected by the lack of health or malnutrition of children and juveniles, or by the performances of activities that make their presence difficult at schools. It is looked for households to have enough means and resources so their children complete basic education. Added to that, Progresa intends to promote the community participation and support in the program actions so that the educational and health services benefit the conjunction of families in the localities where it operates (Progresa, 1999:2).

In the educational aspect, economic support is offered to children and juveniles less than 18 years of age enrolled between the third grade of elementary school and third grade of secondary school. The amount of the scholarship depends on the scholar level and gender, to this stipend is added an amount given to the family as alimentary support. The economic resource is given to the mothers of family so that they administer it, with the idea of changing familiar practices and behaviors that do not value the female gender. The attention in
health is given by means of a basic package of health services, with the support of training-talks in a monthly basis. The existing infrastructure in the localities is used and the families are committed to attend the health clinics since they can stop receiving the program's benefits should they breach the program. Nutritious supplement is given to pregnant and nursing women and to families with malnourished children. It is affirmed that these supplements will contribute, in average, 20 percent of the necessary calories and 100 percent of the micronutrients (Progresa, 1999: 16-24).

Before the observed situation, it is assumed that the poverty concept is related to the dissatisfaction of the human needs, where the problem is shown in a way that it overcomes the intentions of the social policy, denoting that the social system is not working adequately for the indigenous population and large sectors of the marginalized and poor population in Mexico.

The objective of this work is to perform a comparative analysis of the life conditions of the poor people in the Totonaca region, attended and non-attended by Progresa. This is, to observe the existing differences among participants and non-participants in the program, in terms of the component aspects of poverty.

The proposed questions are: the classification of poor and less poor that Progresa makes among families is the adequate? Which are the factors that determined that the poor families of this indigenous region did not receive the benefit?

**Poverty**

It is necessary, of course, to discuss the concept of poverty. A Vélez (1994: 18) mention that a person is poor when is located in a situation where there is insalubrity, malnutrition, few resources and a high exposition to weather harshness and sickness. The conjunct action of these factors does not allow, to the person who suffers from them, mobility and access to the opportunities of improving the state he/she is in, in other words, a poor person is that one who, given the precarious state, lacks development capacities and opportunities.

For the United Nations Development Program, poverty is the lack of appropriate satisfactors to cover a minimum of certain basic needs called basic (Boltvinik, 1990). Within the basic needs are included those that evidently and directly require a productive effort for their satisfaction (adequate alimentation, health upkeep, a dwelling appropriate to the size of the family, basic education,
access to information, recreation and culture basic services, dress and footwear, public transportation and basic communications).

The World Bank (2001: 15) mentions in its 2000-2001 report, the importance of widening the concept of poverty to include the material privation, vulnerability and exposition to risk and lack of representation and impotence, since these aspects limit their capabilities. These concepts require, without a doubt, their clear definition, and must not be used as abstract forms since each one of them lead to discussions given the wide diversity of the possible interpretations.

Max Neef (1996: 23-51) makes an important contribution to the poverty study and analysis when classifying the main needs of the human being, differentiating, of course, the category between need and satisfactor. The proposal, that has been the base of many researches, tends to emphasize the human being as the central element of the analysis, in the concern for giving priority to the self-dependence and organic articulation of human beings with nature and technology, of the global processes with the local behaviors, of the personal with the social, of the planning with the autonomy and of the civil society with the State. Its contribution consists on affirming that all human needs are "finite, few and classifiable, that are the same in all the cultures and in all the historical periods. What changes, through time and culture, is the way or the means used to the satisfaction if their needs". For that, he proposes a classification under a matrix that correlates the needs of being (state), having, making and being (characteristic), with the subsistence, protection, affection, understanding, participation, leisure, creation, identity and freedom needs.

Julio Boltvinik (2001) defines poverty in a deep way when mentioning that it is necessary to look for the causes in structural factors, that are far from the mediatic solutions, where the individuals are under the influence of large policies, of decisions that do not take into account the opinion of those being affected and in several occasions, tend to failure:

The most accepted definition of poverty, as dissatisfaction of human needs, can be read as a violation of the human rights if we part from the conception that every person, by the simple fact of being, has the right to the satisfaction of the human needs. The attitude towards poverty is determined to a great extent by the idea of the poverty origin. Those who think that poverty is originated in the individual's failures, bad behavior, vagrancy, vice, alcoholism, etc., has a very different attitude towards the poor to those who think that poverty is originated by failures, but not those of the individual, but of the social systems. The former ones adopt a hard attitude, not very generous towards the poor. In fact, at different times of history they have been treated
as delinquents. Being poor is equivalent of being a vagrant and deserved incarceration in different legal regimens.

The conceptual parting point for the critical analysis is the postulation that the satisfaction of the basic needs of a person or a household depends on the six welfare sources: a) current income, b) right of access to government free (or subsidized) services and good, c) the propriety or right of use of actives that the basic consumption services provide (accumulated basic patrimony), d) the educational levels, abilities, dexterity, understood not only as means for the obtaining, but as expression of the capability of understanding and doing, e) the available time for education, recreation, relaxation and house chores, f) the non-basic actives or the household indebtedness’s capacity (Boltvinik, 1994: 38).

Desai (1999: 20) introduces a concept that leads to alternate proposals. This author parts from the thing that an individual must have five basic or fundamental capacities and that they lead to differentiated needs and in constant movement in the time and space this is located: a) the capacity of staying alive and enjoying of a long life; b) the capacity of ensuring the biological reproduction of people; c) the capacity of having a healthy life; d) the capacity of interacting socially; and e) the capacity of having the knowledge and expression and thinking freedom. This proposal is contraposed with the principles of Max Neef at the time when he affirms that the needs change with the time and space, but does not exemplify much dialectics, however, the way of including the capabilities a human being must have are very right with the human needs, from there their importance.

**Poverty measurement**

The discussion about the best way of measuring poverty in the last years has moved between the use of multidimensional methods or the one-dimensional ones. The critics are accentuated when using the poverty line method, where is mentioned the importance of including relevant aspects such as dwelling with all its services, the right of having public services, education, health services, social security, employment, recreation, amusement and culture, so that there is more real information about the conditions of poor people and the inclemency they are suffering.

In general, it can be said that there are three methods of generalized use to measure poverty and from there important variables have derived: a) the poverty line (PL); b) the unsatisfied basic needs (UBN), and c) integrated poverty
The Engel coefficient, in general terms, is the proportion of the family income dedicated to acquiring food measurement (IPM). For being the principal ones, the discussion will turn around them, without stop mentioning the importance of their variants.

Of the one-dimension methods, the most common is the poverty line (direct method), specified as such since it only takes into account part of the six welfare sources: the current income. The PL method consists in comparing the income or per capita consumption of a household with the denominated poverty line. The households with incomes below the poverty line are considered poor and therefore, the people living there. An important discussion about this method is that way the poverty line is defined, the lines' definition threshold.

The World Bank considers as extremely poor those families who earn less than a dollar daily and, in as moderately poor, in Mexico, have been defined those who are under 60 dollars a month per person and above the extreme poverty line. The National Institute of Statistics, Geography and Informatics (INEGI), along with the Economic Commission for Latin America and the Caribbean (ECLA), determined a poverty line for Mexico in 1993 and updated in 1996, from where comes that a person who has an income of 4 068 pesos a year is in extreme poverty and with 7 889 a year per person, is considered as a moderate poor.

A variable of this method is to define a Normative Alimentary Set (CAN in Spanish), to do so, its cost is calculated and multiplied by the expense dedicated to food (reciprocal to the Engel coefficient) of some kind of households, to define the poverty line. In studies performed by Boltvinik for 1990, it was concluded that the defined income to consider an individual as poor only represented 76 percent of the set defined in the General Coordination of the National Plan of Depressed Zones and Marginalized Groups (Coplamar) and the 54 percent of the set used by Cepal/PNUD; similarly, Boltvinik mentioned that when using the CNA there is an important slant since poverty is determined from certain preferences and alimentary habits of the poorest and with the cost of the region they live in.

The huge contrasts are shown in the existing poverty line of the developed countries of Latin America, in the case of the United States, as poor are considered those families of four members with income lower than 16 400 dollars a year, this is, 4 100 dollars per person a year, per capita income higher to that registered in almost half of the countries in the world, 60 percent higher to the current per capita income in Mexico and more than close to 80 percent of the EAP perceives in this country (Levine, 2001: 11).

1 The Engel coefficient, in general terms, is the proportion of the family income dedicated to acquiring food.
The unsatisfied basic needs method (UBN), also called indirect, has been frequently used, and it consists on comparing the situation of each household with a group of specific needs, to a series of norms that express the minimum level under which the need is considered as unsatisfied. This method shows its weaknesses when selecting the kind of needs, and the criteria of which kind of poverty the method expresses. It is not that easy to develop it since it lacks disaggregated information at a familiar level. This method depends on the income or the current private consumption of the households. The number of identified poor people is not independent of the number of entries of selected basic needs.

The multidimensional method tries to take the six welfare households sources: current income, non-basic actives, basic actives, access to free goods and services, knowledge and free time. The most important multidimensional poverty measuring methods is the integrated poverty measuring method IPM, developed by Boltvinik in 1992, and the generalized basic unsatisfied needs, in its Mack and Lasley versions and the modified version in the privation part of Townsend. The substantial difference in reference to these multidimensional methods is that the one proposed by Boltvinik includes free time as part of the human needs.

To these two variables a third has been added, which is a combination of the previous methods. Boltvinik, in a conference performed in 2001 mentions that "the most adequate methodologies are the improved IPM and the index of vital social-privation progress (IPS-PV), among the combined, and the NBI-VGM (improved generalized variant, which is still on tests). The IPS-PV incorporates conceptually the quantity of life (and) along with the quality of life (allows) building the indicator of vital privation; however, there are some problems for the calculation of the quantity of life".

The last variant proposed by Boltvinik is called quality and quantity of life integrated measurement method (MEMICCAV in Spanish) and has as a characteristic the incorporation of the life expectancy to the measurement. This variant is absolutely interesting; however, it has its limitations as there is not disaggregated information to determine the quality of life, recreation and amusement, aspects that generally depend too much on the region and the kind of population that is analyzed. There are other methods that have been used to build poverty indicators, such as the Sen-Foster and Thorbecke indexes, considered as of Human Development, which measure poverty and its relation, for example from the calculation of marginalization indicators, by the statistic technique of principal components.
About the limitations of the methods, Hernández Laos, in conference in 2001, makes an excellent summary that without a doubt contributes to the analysis of the methods, for that he divides it into three entries:

In the first place highlights the specification of the adopted poverty lines, for example, the relative character thresholds mentioned by the European Union; in so far as that other standards of an absolute character show important methodological differences: the three generally used procedures are: a) the application of poverty lines based on a normative essential satisfactors set, whose contents and cost is an issue of discussion by the researchers and depends on the specific society and moment when they were analyzed; b) the quantification of the alimentary set that covers the population's nutritional requirements, based on a certain social stratum expense standards, to which is added an empirically determined proportion — generally through the application of the inverse called Angel Coefficient — to cover the rest of the people's needs, and c) the application of a variant of the previous procedure, but among a number of countries — generally the poorest — and their currency exchange, considering their parity of acquisition power, in order to have international comparisons.

Among the limitations of the use of the poverty measurement methods we have, in the case of the income determination, that the households' surveys or census do not have clear and dependable information of the income declaration that tends more to a sub-declaration, they also show that there are not proper sampling systems that cover adequately the poorest and the richest, according the percentage or numeric importance scale. In the case of the poorest, not always is arrived at the same distancing or geographical problems where the interviewers do not give adequate importance. And in the case of the richest households, the problem is the dependableness of their income tax declaration, which represents a big problem in Mexico, hard to solve and, therefore, tends to a sub-declaration of the incomes they receive.

**Poverty in México**

The official poverty figures show contrasts difficult to understand, that have been used according to the political moment. Simply, in the last three six-year periods, the variations are present at naked eye; in the Carlos Salinas de Gortari period (1988-1994) it was recognized the existence of 27 million of poor people, with
Ernesto Zedillo (1994-2000) there were considered 47 million and, currently, (200-2006) the figure has increased to 53 million in such conditions. These figures are not very dependable, and are criticized by a large number of researchers who affirm that the data are absolutely conservative. With this we can conclude two aspects: or the data are not dependable or the model has become into a factory of poor.

Damián and Boltvinik (2003: 525), offer another panorama where the population percentage behavior goes from 63.71 percent in 1992, 67.72 in 1994, 74.81 in 1996, and 76.54 in 1998 to 73.56 percent in 2000. From 1992 to 2000, the gross increment of the poor population was of 13.9 million, much higher to the population increment in 2.2 percent in the same period.

An indicator that helps the analysis of the poverty behavior in Mexico is the salary and it is observed that its trend was very low in the period between 1994 and 1999 "in the order of 20 percent", and "the salaries are constant in the best of cases"; from 1981 to 1994 it is registered a decrease of more than 60 percent of the real salaries (Damián, 2002: 56).

Using the poverty measurements from the World Bank, Damián and Boltvinik (2003: 523-524) mention that the poverty in 1996 is four percentage points under those of 1968 and 20 percentage points above those of 1981. "Cepal forecasts for 2001 an incidence of 42.3 percent of poverty in Mexico, this is, almost the same level as in 1968: more than three decades lost".

On the other hand, there is the polemic about recognizing where the problem is located, if in rural or urban localities. The existing differences of the poverty in the rural and urban environments are an important indicator in the social policies decision taking, for example, Progresa considered that the problem was concentrated in the rural areas and was the used mechanism for the assignation the social budget during that period. To that respect Boltvinik and Damián (2001: 34) make a strong opposition to such argument: "The income of the urban population is more subject to sudden fluctuation in the crises, which puts the population of these (urban) areas in a situation of more risk of lapses and relapses in poverty for income". The country has shown, in the best of cases, stagnation in the life levels that Progresa/Oportunidades or the structural change that describes the "outpouring theory" or the border opening has not been able to modify (Damián and Boltvinik, 2003: 520).

Since the crisis occurred in 1982, product of the oil prices fall, the economical stability tends to sharpen, which is controlled by the external indebtedness (structural crisis based on mono-exportation). Observing the commitments
before the exterior makes that the conditions of the needy population are sharpened since the acquisition power of peso tends to lose strength, the merchandise becomes more expensive, even with increments, they never recover the purchase power, directly affecting the medium and low classes of the population, which continue impoverishing.

The turn in the policy and with it the State's reduction, a in the case of the closure of para-state enterprises that served these social groups, as were Ferrocarriles Nacionales de México, that removed a means of transportation and circulation of merchandise accessible to population of few economic resources; the closure of Conasupo, that supplied popular products to the most needed population, as well as the closure of Inmecafé, that gave attention to the small coffee producers, even more of indigenous roots, among many other enterprises that disappear and leave without support large sectors of the population.

The **Progresa program**

Within the social policies strategies, the fundamental program is Progresa, started in 1997 and continuing with Oportunidades from March 5th, 2002, when the Federal Executive Power elaborated the decree where the National Coordination of Human Development Program, Oportunidades, is created, the agreement was published in the Official Gazette of the Federation in March, 2003. In this new stage, Oportunidades widens its attention to urban poor people and scholarships for high school students.

Progresa was the main program of the President Ernesto Zedillo Ponce de León, with a similar level of that of Coplamar with José López Portillo, the Mexican Alimentation System (SAM in Spanish) with Miguel de la Madrid and the Solidaridad program during the ruling of Carlos Salinas. The importance of the program is such that the benefited population during 2000 was of 2.6 million of households and operated in more than 50 thousand localities, in more than 2 thousand municipalities and 31 states. The program had a budget of 777 million pesos, equivalent to 0.2 percent of the national DGP (IFPRI, 2001: 7). Different to previous programs, the programs' vision is the family; therefore, the way of distributing the resource is by means of the focalization, different of the universal programs. Progresa is a program that is considered of a neoliberal nature in matters of social expense, since it attends individuals and leaves the community sense (the mistakes or failures of the system are attributed to the individuals).
From here the importance of doing this kind of studies that revises the focalized approaches and their instrumentation.

For the International Food Policy Research Institute (IFPRI) of Washington, the Progresa is close to the "perfect" focalization ideal more than any other of the other possible transference and focalization alternatives analyzed. The evaluation shows that Progresa exceeds the capacity of these alternate methods in terms of the reduction of poverty measures when considering with more weight the extremely poor households, although the achievement of the Progresa focalization method was only of 3.05 percentage points higher than the reduction of poverty if all (or 100 percent) of the households of the localities the program operates in were included, instead of the 78 percent selected by Progresa (IFPRI, 2001: 15).

The function of Progresa is to provide support to families in extreme poverty, reason why as concept that "extreme poverty is essentially the result of the inadequate familiar and individual capacities, that are transformed into very low levels of social functioning" (Progresa 1999: 5-10).

As part of that lack of capacities, the program proposes the improvement of the education, health and alimentation conditions of the poor families, particularly those of the children and their mothers; to integrate these actions so that the scholar progress is not affected by the lack of health or malnutrition of children and juveniles, or because they do works that affect their attendance to school, as well as procuring households with enough means and resources so that their children complete their basic education (Progresa, 1997). In the educational aspect, the program asserts that the improvement in the educational level will break the intergenerational vicious circle of poverty transfer (it will supposedly create the necessary capacities to face life in better conditions), that is why the educational component has the largest transferences of monetary resources available. Economic support is offered to children under 18 years of age enrolled between the third grade of elementary school and the third grade of secondary education, who comply with the 85 percent of attendance. The amount will depend on the education level and gender of the beneficiary, the amount given goes from 80 to 265 pesos a month for boys and from 80 to 305 for girls. The maximum benefit proposed at the beginning for family was of 625 pesos a month per family plus 125 pesos of food support. At the beginning of the scholar period they are given materials and the scholarship is suspended during the two months of holidays.
The health attention component tries to give integral attention to the beneficiary families, parting from the current offer of clinics and medics of the Mexican Institute of Social Security-Solidaridad and the Ministry of Health and Assistance. The amplification of the demand exceeds the capacity of Progresa and lapses in the responsible ministries and of the respective states, a limiting of the program. From the beginning, the offer of such infrastructure determined the exclusion of communities that were already marginalized.

The attention is by means of medical visits through a basic package of health services which consists on training talks that are given on a monthly basis, where emphasis is given to preventive health. Mainly pregnant women are attended, as well as infantile malnutrition problems (Progresa, 1999: 17). For the health services, this package is nothing new, maybe the most important thing is the intensity with it is applied when committing families to its attendance since if they stop doing so, they can lose the benefits.

The alimentation component provides alimentary supplements to pregnant women and during six months of the nursery time. These supplements are provided monthly in seven envelopes of 240 grams per family. Besides children nutrition is given, for that, another envelope of 240 grams of pap for children between four and twenty four months of age, and for the children between two and five years when a certain degree of malnutrition is detected. It is affirmed that these supplements provide, in average, 20 percent of the necessary calories and 100 percent of micronutrients (Progresa, 1999b: 16-24).

The personnel from the health services is in charge of following the alimentation component, as well as supporting and promoting the habit of daily consumption of the food supplements by periodic demonstrations of their preparation. The manual for the responsible personnel asks them to motivate mother to consume the supplement and the pap.

Since the monetary amounts are adjusted every six months, for the semester January-June 2000, the amount had increased to 790 pesos per family as the maximum quantity to be received. For that year 2.6 households distributed in 50 thousand localities and 1984 municipalities had been incorporated.

For Boltvinik, the fact that this is a focalized program, directed to extreme poor people who live in high marginalization communities, introduces two inequities to the interior of the households:

On one hand, those who have children in scholar ages and those who does not. This inequity can be six to one. On the other hand, discriminates against the larger
households, for which the per capita support is less. A reason for that is derived from the maximum amount to be received in monetary support of 750 per month. Another reason is the fact that the food support is the same for any size of family. So, the 125 monthly pesos mean a per capita support of 62 pesos with 50 cents in a two-person household and only 12 pesos with 50 cents in a 10-person household.

**Determination of the objective population**

Since poverty leads to the lack of opportunities for an individual's adequate development, which constitutes in an element to remain poor, who suffers from poverty is obliged to concentrate their efforts in the daily survival, which limits their possibilities of performing activities that allow them develop their productive potential and reach a higher social integration. As a consequence, Progresa also sees the importance of fomenting the creation of capacities among those who live in extreme poverty, so it is mentioned in the following paragraph:

Poverty combat has among its objectives to equate the opportunities of the families who suffer from this condition with the rest of the society. For that it concentrates its efforts in increasing their basic capacities, supporting their access to social goods and services that allows them acquire the necessary abilities and aptitudes for a full and self-sufficient life, combat to extreme poverty searches to meet aspects that influence in the demand, as well as in the offer of education, health and alimentation (Progresa, 1999: 28).

It is parted from the supposition that a higher educational level increases the use of health services and that health and a good alimentation have a result simultaneously in the maintenance of a good health state and a good scholar progress.

In the lineaments' document of Progresa the poverty concept is mentioned when pointing that it is the lack of basic capacities of the individuals to satisfy the unsatisfied needs.

In Progresa the one-dimension poverty measuring methods are not as valued, that is the reason why their documents mention that

The family income taken to measure poverty, as a unique element, tends to underrate poverty. There can be cases of families that, due to their precarious socioeconomic condition, incorporate income generator chores to a larger number of members of the household, increasing the income level. This have some aftermath in the development
opportunities of the capacities and potentialities of the family members, as can be children missing school, which will put them in a position of higher social vulnerability in the future (Progresa, 1999: 138-139).

The one-dimension method used by Progresa to determine its objective population is done correlating various social variables, trying to distinguish poor from extremely poor.

These indicators are related to different spheres of the families' social and economic condition and comprise, among others; households' composition and size; age, education, labour participation and kind of occupation of their members; households furnishing and possession of goods and appliances.

The identification of the poor localities and micro regions index in this program is based on aggregated indicators of the population, with aspects on illiteracy, occupation, household size and different characteristics of the furnishing and household services. This index has five marginalization strata: very low, low, medium, high and very high. The first element was considering the localities with less than 2,500 inhabitants that had school and clinic in a radius of five kilometers, and from there were selected under the Conapo criterion, those located within the high and very high marginalization. Under this criterion the poorest localities were excluded since they did not have such services.

The process followed to determine the families that would be benefited in the first stage was as follows: municipalities with the highest marginalization at national level based on the secondary information generated by INEGI were selected, then it was determined which localities would be benefited and finally, with the information gathered through family interviews, the beneficiaries were determined. The initial evaluation to identify the families that required support was done with the 1997 Socioeconomic Characteristics of the Households Survey and the 1998 Household Evaluation survey (ECASEH-ENCEN), with a sampling of 24 thousand 500 households and 506 localities. From the total of surveyed localities, 37 percent are of control, since they are not benefited by Progresa (Progresa, 1999: 393-395).

Among the selection of localities and population, the used indicators are different, for the first one were taken fundamentally the percentage of illiterate population, households without running water, those without drainage, without dirt floor, of population occupied in the primary sector and the number of occupants per room, whereas for determining the families to be benefited with information gathered by interviews, it was use a multivariate technique (discriminate
analysis) or what Boltvinik mentions as "UBN revealed norms method", which was based on the number of occupants per room, dirt floor, dependency index, access to social security, number of children from 0 to 11 years of age, gender of the head of family, possession of refrigerator, gas stove, washing machine, car and running water bathroom.

These two ways of selecting localities and families is far from the objectives proposed by the program about the improvement of the life conditions through education, health, and alimentation, contradicting the selection method with very different indicators, making difficult the evaluations of the program.

The inheritance received by Progresa to Oportunidades is full with deficiencies that are necessary to solve in the best way, without affecting the most needed population that expects continue receiving the support; likewise, it is important to take census of the families that have not been benefited in these poor regions, so that it is possible to verify if they are subjects of receiving the benefits of Oportunidades. Without a doubt there have been changes, as the case of young high school students and the incorporation of the marginated urban zones, however, there are still things to do from those that began with Progresa.

The region

The Totonaca region is geographically located between the parallels 19°58'40" and 20°31'45", North latitude and the meridians 97°34'27" and 98°15'27" of West longitude. The altitude varies from 540 AMSL in Huehuetla and Jopala to 1 560 AMSL in Tepango de Rodríguez. It is formed by two micro regions, the northwest region, formed by three municipalities, and the northeast region, where the remaining 17 Totonaca municipalities are located.

The study was performed in the Totonaca region, integrated by 21 of the 64 municipalities of the North Sierra of Puebla. The Totonaca population represents 27 percent of the total population who speak an indigenous language in the state. According to the 2000 census, there is an indigenous Totonaca population of close to 100 090 inhabitants (considering those younger of five years of age), population that is distributed in 25 121 households. The region is characterized by welfare indexes, and of course, also lower than the national media. According to the National Population Council (Conapo, 2001) 15 out of the 21 municipalities are considered in the extreme of margination (very high margination) and the other 6 municipalities are in the high margination level. It is characteristic to
observe scarce productive resources, lack of communication platforms, illiteracy, and malnutrition, that together with the physic-geographical characteristics make this region a complex problem and difficult to perform agricultural activities and for the life in general.

As one of the interesting characteristics, we observe that the 16 Totonaca municipalities there is a population who speaks an indigenous language of something more than 90 percent, with a considerable poverty level in the same percentage points or more. In three of the 21 municipalities there is a relatively low Totonaca population, as in the case of Jalpan with 7.7 percent, Tlacuitepec with 20.3 percent, and Zihuateutla with 23.5 percent. The municipality of Ahuacatlán, which has 93.5 percent of the indigenous population and from them 47.6 percent of the population, is Totonaca and the rest Nahua. In the municipality of Tuzamapan de Galeana, 47 percent is indigenous population, and from this, 32 percent speak Totonaco.

**Characteristics of the area of study**

The study comprehends the municipalities of Huehuetla, Hueytlalpan, Olintla and Zapotitlán de Méndez, the first three are considered as of very high margination, and the last one, with a high margination level. The Totonaca population is these municipalities are of 88, 88, 94 and 71 percent, respectively.

The year growth rate in the last 20 years was of 4.5 percent, but stand out the municipalities of Hueytlalpan and Zapotitlán, with a rate of more than six percent. Hueytlalpan occupies the first place in state margination, Huehuetla the third and Olintla the sixth.

The illiterate population represents 41.2 percent, whereas those without complete elementary education of 15 years and more than 67.5 percent in average in the four municipalities.

The dwelling, at a municipal level, shows preoccupant margination levels. The only municipality that shows some positive contrast is that of Zapotitlán in comparison to the other three municipalities that are more homogeneous in their dwelling conditions (Table 1).
GRAPHIC 1
THE TOTONACA REGION IN THE NORTH SIERRA OF PUEBLA
Methodology

The work was developed by means of the interview technique, using a questionnaire as an instrument. Given the universe of the population the Totonaca region represents, it was considered as important to perform a sampling and it was determined to study only one part of the municipalities. With previous information from secondary sources the municipalities of Huehuetla, Hueytlalpan, Olintla and Zapotitlán de Méndez were selected.

Once the municipalities were selected, it was decided to obtain a statistical sample in each municipality. It was used the qualitative sampling using the self-valuation of their life level variable. This variable was obtained by means of a pilot test and was very important and determinant to define the size of the sample. In the pilot interview the "do you consider yourself as poor" variable values were studied. With the results of the self-valuation of "poor" in the pilot interview the standards of \( p_n = 0.75 \) and \( q_n = 0.25 \), where \( p_n \) means the proportion of population with the interest characteristic (considered as poor) and \( q_n \) the proportion of population without this characteristic. The reliability of the sample was of 95 percent and 5 percent of precision.

Following the procedure and substituting in the equation, it was calculated the size of the sample for each municipality. The number of selected families was: 66 in the municipality of Huehuetla, 44 in Hueytlalpan, 61 in Olintla and 42 in Zapotitlán, which sums 213 families.

With the sample size already defined it was proceeded to make the interviews in each municipality, selecting the heads of family randomly, according to the Progresa census and municipal listings for non-participant families. According to the importance of the study, the percentage of interviewed families was of 75 percent of the families participating in Progresa and the other 25 percent of non-participating families. For the statistic analysis X2, correlation and Student t tests were used.

Results

Trying to meet the proposed objective of making a comparative analysis of the poor people life conditions of the Totonaca region attended by Progresa and those who were not benefited (participant and non-participant), an analysis of the main elements that characterize poverty: basic patrimony or lack of durable goods, poverty in the dwelling, the income and education characteristics was made.
<table>
<thead>
<tr>
<th>Municipality</th>
<th>Occupants in dwellings without drainage</th>
<th>Occupants in dwellings without electricity</th>
<th>Occupants in dwellings without running water</th>
<th>Dwellings with overcrowding</th>
<th>Occupants in dwellings with dirt floor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Huehuetla</td>
<td>38.3</td>
<td>34.2</td>
<td>50.9</td>
<td>76.4</td>
<td>77.2</td>
</tr>
<tr>
<td>Hueytlalpan</td>
<td>42.7</td>
<td>58.5</td>
<td>63.9</td>
<td>79.7</td>
<td>83.5</td>
</tr>
<tr>
<td>Olintla</td>
<td>38.6</td>
<td>21.5</td>
<td>35.5</td>
<td>75.5</td>
<td>79.5</td>
</tr>
<tr>
<td>Zapotitlán de Méndez</td>
<td>24.1</td>
<td>11.8</td>
<td>8.8</td>
<td>63.2</td>
<td>50.7</td>
</tr>
</tbody>
</table>

Source: estimations from the Conapo based on the XII General Census of Population and Dwelling, 2000
Basic patrimony

Recent studies done by Boltvinik² mention the need of the analysis of the basic patrimony as an important part of the goods a family needs in order not to be considered as poor. From the six lack indicators that the same author mentions, the basic patrimony or lack of durable goods (LDG), is a partial indicator of the unsatisfied basic needs analysis (UBN).

None of the interviewed families has the nine minimum goods considered in the essential satisfactors normative set (ESNS). In not one of the 210 interviewed families did we find the existence of a car, motorcycle, washing machine and water pump. The distribution among the participants of Progresa and no Progresa is homogeneous in the sense that both lack such goods.

From the few goods they posses, the radio is still playing one of the main functions as means of communication, entertainment and amusement in the families from the region, that is why it is important to acknowledge that almost 70 percent of the families has a radio or a tape recorded, as it can be seen in Table 2. However, there is no significant difference among the Progresa participant and non participant families according to the square-ji test $2 = 0.398; p = 0.528$).

From the city of Cuetzalan del Progreso, Puebla, a radio signal is transmitted on a daily basis in Nahuatl, Totonaco and Spanish, under original formats one can listen to music, news and notices to the families from the region. The station XECTZ, La Voz de la Sierra Norte, is part of the Sistema de Radiodifusoras Culturales Indigenistas (Indigenous Cultural Broadcasting System) and transmit in 1350 kilohertz, in A.M. with 5 000 watts of power, its signal reaches localities situated in 64 municipalities of the State of Puebla, as well as 18 municipalities of Veracruz. This radio station plays an important role in maintaining the cultural values in the North East Zone of the North Sierra de Puebla and the Papantla Sierra, Veracruz, a zone better known as Totonacapan, where the xochipitsauak and the huapango music predominate.

About 30 percent of the remaining interviewed families lack radios and are in a condition of informative disadvantage in comparison to those families who do have such appliance since they take longer in knowing the events that take place in other geographical spaces, even when this does not mean that they are

² The listing used by Boltvinik was taken as base to know the household furnishing, where he mentions nineteen goods, from which nine (bicycle, tape recorder, television, fan, gas stove, refrigerator, blender, iron and washing machine) are within the essential satisfactors normative set (ESNS), which also includes other durable goods such as tables, chairs, etc, and the other ten that even when they are not include in the ESNS, are considerable as relevant in the household.
completely uninformed. Television has not been able to substitute the radio as a dominant means of communication because it is very expensive and the physical difficulties for the television signal reception in the range of mountains. Only 14 percent of the families included in the study sample have a television in their house (11.3 percent of the participant families and 19.7 percent for non-participants, however, it was found that there is not a significant difference (\( \chi^2 = 2.668; p = 0.102 \)).

Even when we have present the occidental consumption vision, this does not imply that they do not have to have the indispensable goods, but in those poverty conditions families lack resources to obtain food, the logic question is, what is a stove or a blender for? If we are talking about basic need we would obviously opt for satisfying alimentation and later would emerge other secondary needs, also important, but in the background.

It is clear that in these regions it cannot be assumed that, in order to improve the people's life conditions, they have to have all the set of goods whose possession is recognized by the specialists as indicator that one does not live in poverty, however, to observe if the population being studied posses or not these goods gives us an idea of the situation that is being lived.

Even when the number is not considerable, there are 12 families (5.7 percent) that have sewing machine. It is important to mention that this good is possessed

<table>
<thead>
<tr>
<th>Radio or tape recorder</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Participant</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>94</td>
<td>50</td>
<td>144</td>
</tr>
<tr>
<td>Percentage</td>
<td>65.3</td>
<td>34.7</td>
<td>100</td>
</tr>
<tr>
<td><strong>Non-participant</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>46</td>
<td>20</td>
<td>66</td>
</tr>
<tr>
<td>Percentage</td>
<td>69.7</td>
<td>30.3</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>140</td>
<td>70</td>
<td>210</td>
</tr>
<tr>
<td>Percentage</td>
<td>66.7</td>
<td>33.3</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: information obtained from interviews done during 2000.
mainly by families who have learned to make some handcrafts or products that they sell in the cities, as an alternative in the search for incomes.

Poverty, geographical isolation and the customs mark the kind of life styles. It is necessary to mention that only 10 percent of the families have a stove, but few of those who have one really use them since it possession is product of a gift from a relative who went to the city to work, but it is easier to get firewood than having the required fuel as there is not a good gas supplying or in many occasions the owners of the stoves lack economic resources to buy it.

The use of the iron, considered as an indispensable good in the urban zones, in these communities is unnoticed, as this is demonstrated by the reduced of families who posses one (7.6), whereas 18.6 percent of the families have a blender. In both cases there is not a significant difference among the participants and non-participants about the possession of these goods ($x^2 = 1.292$ and $p = 0.256$, for the first and $x^2 = 1.099$ y $p = 0.294$, for the second); besides, it was found that the majority from both groups lack these goods.

Being in the rural environment, it also important to consider that none of the interviewed families have pack or work animals, or for transportation, although these are part of the ESNS. This situation indicates the extreme degree of life conditions, due to the importance that this kind of animals represent for country men, however, this does not mean that they do not exist, it is observed that these goods are owned by the wealthy families, who live in the municipality heads mainly. As a means of transportation it would be a good support since they have to walk long distances, for the parcel or to get food, which are scarce in the localities. Constantly the people are seen walking down the hills with their mecapal (band worn around the head to carry things) full of firewood, corn, or coffee. In cases of emergency, they have to walk long distances to take their ill people to the clinic located in the head of the municipality; in these cases it would be important to have such animals.

**Characteristics of the family dwelling**

For every family collective, the most intimate space is the dwelling, where different functions take place, from connivance, protection and collective education, as reflection of many the inherited knowledge. The dwelling becomes multifunctional; there is the bedroom, the kitchen, the firewood stove, food warehouse and the connivance with domestic animals. It is learned to sleep in
inappropriate spaces, which is valued when the bedroom is formed by the most rustic and simple things to rest: the bed is made of a series of wood planks fitted high, protected by rags or a simple duvet, and when the day arrives it is removed so that the space is used for other activities or to do the cleaning; the dinning room is made from a rustic table, with two or three chairs; the stove works all day so the coffee is hot all the time, to cook the tortillas and other food; the heat from the fire in the kitchen maintains the family together as it allows sharing the time to eat and talk around the fire when the head of the family returns from the work (usually leaves at five in the morning and returns at down, between five and six in the evening).

The importance of these forms is that since they do not have more resources there have been knitted a series of customs and rituals that are proper of their cultural formation and of their current limitations. It is important to mention this familiar collectivity mechanism, where each of the dwelling components plays an important and different role to that played in the urban area.

From the health point of view, without a doubt the dwelling also constitutes an element of the utmost importance. The overcrowding reveals the lack of space for individual development, it is the reflection of the family's economic incapacity; it is the poverty objectified.

From the interviewed families, 30 percent lacks a dwelling and are living at their parent's house; the other 70 percent of the families are independent and has its own *jacal* (shack). Even when they are indigenous communities, most of them have their dwelling built in lands with private propriety characteristics, only five percent of the families has their dwellings in community lands, and from these families, only 30 percent has ownership deeds (familiar lands).

Having a house does not necessary implies that this has the adequate conditions to be inhabited. What can be seen, on the other hand, is the existence of a small improvised construction. The dwellings' construction characteristics are as follow: their walls are made from regional materials such as rods, piled up wood rustically (54 percent of the house), 24 percent with bricks and 15 percent with stone from the region. In 56 of the dwellings it has been possible the separation of the bedroom from the kitchen, this is made with rods or sticks; in a corner they keep the corncobs that they use to make food during the year, whereas in 44 percent of the dwellings the shack is formed by one single room without separations, it is observed that 51 percent of the families' dwellings that are not in Progresa are in these conditions, against 41 percent of the families that are part of the program.
Half of the dwellings have a cardboard sheet as roof, 2.5 of each 10 are built with tile roof and only 14.4 percent of the dwellings have cement roof. The condition of being Progresa beneficiary or not does not marks the difference about the construction materials used in the dwellings' roofs, as it can be observed in Table 3.

Most of the dwellings have flatten dirt floor (80 percent), 22 percent of the participants of Progresa has cement floor, whereas only 16.4 percent of those who are not beneficiaries of the program have this kind of material, as it can be seen in the following Table.

It was confirmed that there is not a statistical difference among those who are supported by Progresa and those who are not ($x^2 = 1.000$ and $p = 0.801$ in the case of the roof material and $x^2 = 0.840$ and $p = 0.359$ for the kind of floor), situation that clearly demonstrates that for both populations the dwelling adverse conditions regarding the kind of floor and roof materials.

The localities of Tuxtla and Nanacatlán, of the Zapotitlán de Méndez municipality, possibly because of its closeness to the Carretera Interserrana, have higher possibilities of commerce and with this they have higher facilities for having the construction materials. It was observed that 50 percent of the dwellings that have the adequate material in their roofs, such as cement, are in these localities. This condition does not necessarily determines that the poverty levels are considered as lower, however, it is verified that the margination levels are lower (high margination), than in the other three municipalities located in very high margination. It is also seen that before this advantage situation, the inhabitants of Tuxtla and Nanacatlán have been able to migrate easily and so having possibilities of other incomes, that al least are manifested in the dwelling. Without a doubt, the alternative of migrating does not necessarily is the best way of improving the life conditions, and probably is a coarse explanation of why they have improved their dwelling, sacrificing other things.

Only in six out of each 100 cases the dwellings have a kind of finishing, this is, 94 percent of the dwellings are built with rustic materials and do not provide adequate protection to the families since most of those have holes in the walls through which air filtrates (78.8 percent of the dwellings), which results in frequent respiratory tract illnesses. In general, the dwellings are not very adequate to face natural phenomena. In the case of the dwellings from the program participant families, 75.5 percent did not have adequate protection whereas 77 percent of the non-participant families were in this same situation.
TABLE 3
KIND OF MATERIAL IN THE DWELLING’S ROOFS

<table>
<thead>
<tr>
<th>Material of the dwelling’s roof</th>
<th>Zinc sheet</th>
<th>Cement Tile</th>
<th>Cardboard sheet</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of dwellings</td>
<td>18</td>
<td>18</td>
<td>34</td>
<td>67</td>
</tr>
<tr>
<td>Percentage</td>
<td>13.1</td>
<td>13.1</td>
<td>24.8</td>
<td>48.8</td>
</tr>
<tr>
<td>Non-Participant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of dwellings</td>
<td>6</td>
<td>10</td>
<td>16</td>
<td>26</td>
</tr>
<tr>
<td>Percentage</td>
<td>10.3</td>
<td>17.2</td>
<td>27.6</td>
<td>44.8</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>28</td>
<td>50</td>
<td>93</td>
</tr>
<tr>
<td>Percentage</td>
<td>12.3</td>
<td>14.4</td>
<td>25.6</td>
<td>47.7</td>
</tr>
</tbody>
</table>

Source: Information obtained from interviews made during 2000.

It was found that there is not a significant difference between participants and non-participants ($x^2 = 0.152; p = 0.696$).

Almost all the interviewed families cook their meals in the firewood stove (95 percent of the households), as part if the IMSS-Solidaridad program recommendations, however, there is 21 percent of the families who do it in bonfires at ground level. Only 10 of each 100 families have gas stove.

In average, six people live in each of the dwellings, where there is maximum of 15 people (nuclear and extensive family) and in only 16 percent of the dwellings live less than four people. It is observed that in the dwellings from the Progresa families there are 5.5 members. However, there is not a significant difference between the two populations and the number of members who live in the dwelling, in both, the number is considerable, as demonstrated when comparing the independent means by the Student t test ($t = 1.62; p = 0.107$), as seen in Graphic 2.

The fact that the number of people per house is considerable and would not be that worrying of the dwelling had the adequate conditions; however, because of the kind of dwelling, the situation gets worse. In terms of the health and social behavior importance, the overcrowding degree is really high and dangerous since the lack of hygienic conditions for the children and juveniles develop properly.
The room's average per dwelling is 1.18, whereas the families have 5.9 members, this results in five people per room, 4.6 for the participants and 5.17 for the non-participants of Progresa, as can be observed in Table 5.

The garbage generated is treated in 45 percent of the households, but most of them burns it in the open air or throws it away in the back yard or in the cliffs. About the lack of the necessary public services, 95 percent of the households that are outside the urban area lack drainage, which is also disposed to the cliffs or to the backyard.

All the localities have electricity; however, there are households that do not have this service because they do not have the resources for the installation since the net is far from the dwelling. The electricity benefit in far communities was given less than a decade ago and really complicated methods were used for the installation as the fact that helicopters dropped the poles in the nearest roads and the population had to carry them and put them in the indicated places.

Despite the fact that the localities have the service, 28 percent of the dwellings do not have this benefit yet, 39 percent of the population that is not part of Progresa lacks electricity, and only 28 percent of the population from Progresa do not have electricity, 18.3 percent lights up with oil lamps, 7.1 with petrol lamps and 2.3 percent with candles.

Even though the data about the disposition of excrete is not alarming, the few families who do not have an adequate way of disposing them tend to keep the infection source. On the other hand, even when the existence of latrines is

<table>
<thead>
<tr>
<th></th>
<th>Floor material</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dirt</td>
<td>Cement</td>
<td>Total</td>
</tr>
<tr>
<td><strong>Participant</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of dwellings</td>
<td>117</td>
<td>33</td>
<td>150</td>
</tr>
<tr>
<td>Percentage</td>
<td>78.0</td>
<td>22.0</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Non participant</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of dwellings</td>
<td>51</td>
<td>10</td>
<td>61</td>
</tr>
<tr>
<td>Percentage</td>
<td>83.6</td>
<td>16.4</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of dwellings</td>
<td>168</td>
<td>43</td>
<td>211</td>
</tr>
<tr>
<td>Percentage</td>
<td>79.6</td>
<td>20.4</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: information obtained from interviews made during 2000.
considered for the disposal of excrete, these do not receive the adequate maintenance, this is, they are not enclosed and covered with a roof in an appropriate way, they are not treated with lime and they have water filtrations, this can be seen in Table 6.

In the field study, in the interviews to the families and by observation it was possible to detect that 21 percent of the families excrete in the open air, 67 percent of the households have a latrine already and 12 percent have a bathroom with septic pit and in some cases, with drainage. The families that are not participating in Progresa manifest a bigger problem since 34.4 percent excrete at ground level (13 percent more than the general average). By means of the square-ji test ($\chi^2 = 10.142; p = 0.006$), it was confirmed that there is a significant difference about the way excrete are disposed: the non-participant defecate more at ground level than the non-participant so their poverty conditions, in this case, are even higher.

The average age of the interviewed fathers is 44 years and of the mothers 40. The average age of the parents who participate in the program is of 41.5 years and of those who do not participate is a little bit higher, 41.9 years. There is not a significant difference by age and participation ($t = -0.280; p = 0.779$). The education average in the family is of 3.6, 3.35 for women and 3.8 for men. In Graphic 3 can be seen the distribution of the education years of the heads of family.

The education level of the fathers is of 2.7 years, whereas that of the mothers is of 1.8, 0.9 points more in education level for the former ones. The participants have in average 2.75 years of education whereas the non-participants have 2.54 years, however, there is not a significant difference between the education level and their participation level in the program, this could be confirmed through a tests of independent medians that gave as a result $t = 0.500$ and a significance of 0.618. It can be confirmed the marginal role of the woman, that in the educational aspect is left aside, as in many other aspects of our society.

From the total members of the family over 15 years of age, 36.1 percent are illiterate, whereas the other 63.9 percent is considered as literate, being a significant difference between participants and non-participants regarding the illiterate population: there are more illiterate people among the non-participants ($\chi^2 = 7.118; P < 0.008$). In Table 7 is clearly shown that the non-participant population of Progresa, 43.9 percent is illiterate, 10.8 percentage points more than the participant population. The average of education of the population over 15 years is 3.48 years.
GRAPHIC 2
NUMBER OF MEMBERS LIVING IN THE HOUSEHOLD

![Box plot comparing number of members living in the household between participants and non-participants in Progresa.]

Source: information obtained from interviews done during 2000.

TABLE 5
ROOMS PER DWELLING BY PARTICIPATION LEVEL

<table>
<thead>
<tr>
<th>Number of rooms in the dwelling</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Participant</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>129</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>Percentage</td>
<td>84.9</td>
<td>13.2</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Non participant</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>50</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Percentage</td>
<td>82.0</td>
<td>16.4</td>
<td>1.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>179</td>
<td>30</td>
<td>4</td>
</tr>
<tr>
<td>Number</td>
<td>179</td>
<td>30</td>
<td>4</td>
</tr>
<tr>
<td>Percentage</td>
<td>84.0</td>
<td>14.1</td>
<td>1.9</td>
</tr>
</tbody>
</table>

Source: information obtained from the interviews performed in 2000.
It was found that there is negative correlation between age and education, which agrees with a large quantity of studies on rural environment that indicate that the older groups have lower education levels.

When making a $t$ test between age and education among the participant and non-participant fathers and mothers there was not found any difference by gender between age and education, this, once again, shows the gender disparity.

In the case of those people who speak only Totonaco (total of monolingual families), the average age is 37 years, and the education is 1.2 years. The population who is monolingual and that have support by Progresa is in average 29 years of age and has 1.7 education years, whereas those who are bilingual, the average age is 22 years and present 4.2 education average years. In the case of the population who only speaks Spanish, the average age is 15 years and the education level is 5.3 years; for females, the average age is 18 with 3.9 education years.

This situation shows that the younger families have more interest for participating in the programs or because of them being bilingual can interact towards the exterior more easily.

The marked existing differences are verified in the relation between genders, always showing a disadvantage towards women, from there the importance of orchestrating programs with a gender approach that allows both genders equaling opportunities for an adequate development of the families, of course after respecting their customs and traditions to avoid familiar and community confrontations.

The changes in the educational levels are focused mainly on children; Progresa and the evaluation performed by the IFPRI do not take into account the conditions that the family presents regarding education, which makes the progress very difficult.

**Education indicators effects in Progresa**

Regarding the scholar desertion level (elementary and secondary) in the four municipalities that were studied, it was found that it decreases in 1.84 percent from the scholar period 1994-1995 to 1999-2000. Three years before the program started, the desertion index was of 6.64 percent, whereas in three following years after the beginning of Progresa decreased to 4.80 percent. At elementary education level, the desertion level is of 2.09, whereas at secondary education level the desertion level was positive but in a different extent, 1.04
percent. This is, in the former one the desertion index was of 6.49 percent and decreases to 4.4 percentage points, whereas in secondary the desertion was higher than that of elementary, and also this one decreases, although not at the same rate, this is, it changed from 7.69 to 6.6 percent from 1994 to 2000.

Of a total of 7,425 students before the program started, there was 14.1 percent of the students did not pass the grade. After three years the educative component of the program was working, for year 2000/2001 and with a population of 8,417 students, the index was decrease as it changed from 10.2 percent of non-passing students (3.9 percent less than at the beginning of the program), with a growth rate of 13.3 percent of the existence level. Through the square-ji test ($x^2 = 76.44; P < 0.00001$) it was demonstrated that this percentage reduction was significant and that it is possible to attribute it to the support provided by Progresa.

At elementary education level, the population grows 6.4 percent and the reprobation index before the program started was of 14.5 and decreases in the three years after the program to 11.6, not very representative since it only decreased 2.9 percent.

Regarding the secondary education students, we observe that the reprobation index maintains a decreasing in relation of before and after the program, when passing from 11.5 percent in the cycles 1994-1995, 1995-1996 and 1996-1997 to 4.04 percent of non-passing students for the periods 97-98, 98-99 and 2001-2002, this is, it decreased 7.46 percentage points, with a considerable growth in the of enrolment of 63 percent in the six years of the study. The causes of this trend can be attained as part of the support offered by the program and is directly related to the positive desertion trend.

From the elementary education students, 42 percent are enrolled with superior ages to what is stipulated in the norms and the percentage increases as the grades from first to sixth increase.

Through the square-ji test a significant difference was found in the scholar desertion ($^2 = 6.24; \text{probability} = 0.012$), so it can be affirmed that for the scholar period 2000/2001 the older children have deserted in a higher proportion than the children who study the elementary education with the ages established by the national educational system, considered as normal.
TABLE 6
WAY OF ELIMINATION OF EXCRECATION IN THE FAMILIES

<table>
<thead>
<tr>
<th></th>
<th>Participant Families</th>
<th>%</th>
<th>Non participant Families</th>
<th>%</th>
<th>Total Families</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the open air</td>
<td>24</td>
<td>15.8</td>
<td>21</td>
<td>34.4</td>
<td>45</td>
<td>21.1</td>
</tr>
<tr>
<td>Latrina</td>
<td>106</td>
<td>69.7</td>
<td>36</td>
<td>59.0</td>
<td>142</td>
<td>66.7</td>
</tr>
<tr>
<td>Bathroom inside the house with drainage or septic pit</td>
<td>8</td>
<td>5.3</td>
<td>2</td>
<td>3.3</td>
<td>10</td>
<td>4.7</td>
</tr>
<tr>
<td>Bathroom outside the house with drainage or septic pit</td>
<td>14</td>
<td>9.2</td>
<td>2</td>
<td>3.3</td>
<td>16</td>
<td>7.5</td>
</tr>
<tr>
<td>Total</td>
<td>152</td>
<td>100</td>
<td>61</td>
<td>100</td>
<td>213</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: information obtained from interviews done during 2000.

GRAPHIC 3
EDUCATION LEVEL OF THE PARENTS, GIVEN IN PERCENTAGES

Source: information obtained from interviews done during 2000.
TABLE 7
LITERATE AND ILLITERATE POPULATION OVER 15 YEARS OF AGE

<table>
<thead>
<tr>
<th></th>
<th>Belong to Progresa</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Total</td>
</tr>
<tr>
<td><strong>Literate</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Members of the family</td>
<td>332</td>
<td>110</td>
<td>442</td>
</tr>
<tr>
<td>Percentage</td>
<td>66.9</td>
<td>56.1</td>
<td>63.9</td>
</tr>
<tr>
<td><strong>Illiterate</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Members of the family</td>
<td>164</td>
<td>86</td>
<td>250</td>
</tr>
<tr>
<td>Percentage</td>
<td>33.1</td>
<td>43.9</td>
<td>36.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Members of the family</td>
<td>496</td>
<td>196</td>
<td>692</td>
</tr>
<tr>
<td>Percentage</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: information obtained from interviews done during 2000.

*Income and employment*[^3]

From the interviewed families, 22 percent only work the land they own, whereas 55 percent work their land and as laborers and 20 percent, as they do not own land, constantly work as laborers. There is not a difference between being or not a participant of the program according to the kind of activity the head family performs. A considerable percentage of families are supported by the children (60 percent) to work the land, mainly juveniles who tend to abandon school at very early ages, many times without even finishing the basic studies.

From the 77 percent of the families who own land to work, 68 percent sow coffee, 65 sow corn in fields of less than an hectare (the average cultivation area per producer is 0.79 ha.). Corn is exclusively for self-consumption, whereas coffee is sold in retail sales, generally as coffee beans.

The number of members who contribute with income is 1.3 in average per each family, including the work by minors. According to recent information analyzed by Boltvinik (1998), in order to reach a family income that allows the acquisition of the basic set of essential satisfactors, for 1982, a household required 1.75 workers to contribute the average income (minimum wage), whereas for 1993 and 1994 this increased to 2.2 minimum wages. The main income obtained is the product of the coffee beans sale at retailing prices and is approximately 2,150 pesos per producer.

[^3]: The income from Progresa was not considered.
The average family income, without considering the coffee activity, is 380 pesos a week (387 participants and 355 non-participants), through the independent medians test it was proved that there were not significant differences between the two groups (t = 1.290 and a significance level of 0.198 respect the perceive income). The fundamental income is the one that they obtain as agricultural laborers (77 percent of those who perceive an income outside the planting field). In general they work when they do not have activity in their own land and when it is absolutely necessary.

According to the activity that they perform outside the field, the most elevated income is the one of the domestic worker, however, few people work as such (Table 8), masonry laborer is in the same level of income as agricultural laborer, however, it is known that the latter uses every day less workers due to the cultivation of coffee crisis.

The average monthly income is variable due to the fact that the two main activities they do are working their own land and other people's land, and these activities depend on the season and the work's availability. They work, per kind of activity seven months a year as agricultural laborer, five months as masonry laborer and twelve months as house maids.

The age rate of those who work and contribute with income is very wide; it goes from 11 to 95 years. The men and women who are heads of family, siblings and grandparents contribute to the income.

The remunerations of the children come mainly from the constant migrations in seek of employment to close cities: San Martín Texmelucan and the city of Puebla; Apizaco, San Pablo del Monte and the city of Tlaxcala, Tlaxcala, or Texcoco, in the State of Mexico. There are not observed important migrations to the United States. It was tried to prove whether the children of relatives who did not have Progresa migrated more than those who did have, however, the data did not demonstrated significant differences. The information is shown in Table 9.

The contribution of incomes according to the family kinship and the municipality has a similar behavior, showing that the heads of family are those who contribute the highest income, supported in a less extent, but very importantly, by the children, mainly by work outside their land.
Conclusions

The Mexican indigenous people poverty problem and specially that of the Totonacos from the North Sierra of Puebla, have structural causes that have been increasing in the last years with the drop in the coffee prices and the contraction of the public policies orchestrated by the Mexican State. This critical situation has made those people look for additional resources by means of different strategies, one of which has been migration.

The poverty concept adopted by Progresa/Oportunidades about the lack of basic capacities is exceeded by an infinite number of basic deficits. It is not enough trying to creating capacities so the poor people stop being so, it is necessary to complement them with the public participation to create the conditions of a harmonic development, giving emphasis on the productive activities that allow the improvement of the familiar income. Before the population's objective measurement poverty mechanisms and the acknowledgement that poverty is not only the lack of basic capacities, but lack of productive employments and public services, it is necessary to avoid that the
The program becomes of assistance and can affect these three elements. If they are attacked simultaneously, there could be much more encouraging results in a shorter time than if it is expected only for children to study and modify their life conditions for the fact of having basic education.

About the indicators used as contrasts an analysis means we can mention the following. There is an alarming scarcity about the basic goods in households, poverty in this entry is extreme and there is not a significant difference between the benefited and non-benefited indigenous population, clear manifestation of the extreme poverty they are living.

The education level of the interviewed family members is very low for the total of population. There is an inverse relation between age and education level. The monolingual population present lower education levels than those of the bilingual population and the illiteracy level is higher among the non-participants, with significant differences in comparison to the participant population. The education level is homogeneous for both populations.

The main occupation based on the agricultural activity is the coffee, which has been complemented with the employment as agricultural laborers and temporal migrations to close places such as the Federal District, Puebla and the State of Mexico, being these the main ones among others. The family income is complemented with the contribution of each one of the members; however, the heads of families (male and female) are still those who continue contributing with most of the income. There are not significant differences about the remuneration of who contributes of beneficiaries and non-beneficiaries of Progresa. The average income in the main four activities that the family members do is similar, being very low and insufficient to meet the needs of the indigenous families.

The critical situation that the members of the studied population is manifested in the conditions of the dwellings they live in, observable in the construction materials, the spaces they have, the low coverage of public services such as running water, drainage and electricity, for both populations.

A large number of families that were in regrettable life conditions were not included in the program. It can be interpreted in different ways, according to the appreciation of the benefited families they were not counted because of the long distances of their households or the difficulty to reach them, but that does not mean that their poverty condition is significant different from those included in the Progresa/Oportunidades. Another important cause to take into consideration is that at the moment of the census the people were not in the house due to the need of looking a job outside the community. It can be seen as an operational
problem; however, even if it is so, it is important to reconsider this failure in the Progresa/Oportunidades program.

As a general conclusion it is possible to mention that in the region of study there are not significant differences between the participant and non-participant population and in some aspects there are worse conditions for the non-beneficiaries of Progresa/Oportunidades. That is why it is necessary that this focalized program avoids canceling the supports to families who considers have reached the objective and overcome poverty; on the contrary, it is important that the program seeks the way of providing the benefits to families who have been outside the program until now, taking another census. It is also important to widen the coverage by means of the integration and reconsideration of actions that are known and accepted theoretically as proper of the poverty conditions. That is why it is needed a stronger intervention of the State in the indigenous and poor regions of Mexico, paying more attention to productive actions, generation of employment and the improvement of the family income.

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