Proposed methodology for estimating the index of social exclusion: the case of indigenous population in the state of Veracruz Mexico

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Abstract

Recent studies have shown that the indigenous population has been subject to social exclusion (Medel, 2016; Tetreault,2012; Rionda,2010; Del Popolo et al.,2009; World Bank,2004; Uquillas et al.,2003; Appasamy,1996). However, in the case of Mexico, there is no indicator to measure the degree of social exclusion. This article presents a methodology for estimating social exclusion index (IES) by estimating main components. Our proposal is to incorporate the index of social exclusion as a factor that can explain the current status of poverty in the localities that have a high concentration of indigenous population and high economic marginalization in the state of Veracruz, and thus analyze the scope social policy to combat poverty, as the case Development Program Priority Areas (PDZP).

Social exclusion index, Indigenous population, Poverty, Main components, Development Program Priority Areas

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Article

Introduction

Combating poverty recognized as lacerating, the condition of economic marginalization and social exclusion of the population lies in poverty; but even more, which is observed in the indigenous language speaking population, which is conferred by this fact alone, a higher level of gravity to overcome poverty.

Recent studies have shown that the indigenous population has been subject to social exclusion and this exacerbates their poverty, hampering their social inclusion as impossible for them to access the formal labor market, and thus access to health services, education and living place. (Medel,2016; Tetreault, 2012; Rionda, 2010; Del Popolo *et al*., 2009; World Bank, 2004; Uquillas *et al*., 2003; Appasamy, 1996).

In Mexico, the academic discussion and legal regulations currently pushing towards a multidimensional approach of poverty, this has not been an easy task. There are several conceptual challenges to be resolved; for example, the definition of the relevant dimensions in the study of poverty. (CONEVAL, 2010, Alkire-Foster,2008; Gordon,2007; Boltnivik,2007).

Our proposal is to incorporate social exclusion as a relevant dimension to explain the current status of poverty in the State of Veracruz, and in particular, in the localities that have a high concentration of indigenous population and high economic marginalization. This article discusses the methodology for estimating the rate of social exclusion is presented, which integrates 16 basic indicators. The selection of indicators is an adaptation to the proposal (Subirats, 2004. To construct the method of principal components are used as weighting coefficients of the first component.

Moreover, we believe that the methodology used currently in Program Development Priority Zones "PDZP" does not consider the aspects of social exclusion and multidimensional poverty. Consequently, since in 2008 the State of Veracruz recorded 3.68 million people living in multidimensional poverty, increasing by 2010 to 4,400,000. According to the Poverty Report and evaluation of Veracruz 2012, of the 32 states, the State ranked seventh in percentage of population in poverty and fourth in percentage of population living in extreme poverty.

Therefore, it is located within the ten states with the highest poverty in the country, where in 186 municipalities out of a total of 212, ie 87.7%, more than half of the municipalities are located on condition of multidimensional poverty, so it is estimated that the strategy to combat poverty by applying Development of Priority Areas (PDZP) has not worked in the solution that enhance capabilities and inclusion in the labor market to solve the problem that poverty generates.

That is, that the way that establishes targeting federal resources in programs to combat poverty considered as passive recipients, not as active players (Sen, 2003). Moreover, it is part of the concept of poverty at the individual or household level, measured at the level of insufficient income and the absence of factors that create the potential human capital.

Thus it is not considered in the value of social networks, grassroots organizations and cooperative production schemes.

In this regard, we believe that the review and proposed incorporation of social exclusion to identify and focus federal public resources, will improve the design of social programs by defining the universe and the target population in combating multidimensional poverty in the localities have a high participation of indigenous people, and in a precarious structure of opportunities in the access and enjoyment of their social rights manifest.

Theoretical framework

Social exclusion as a social phenomenon in which multiple factors interrelated, has been approached from different approaches (Klanfer,1965; Donzelot,1992; Renes,1993; Castel,1995; Gazier,1996; Appasamy *et al*.,1996; Barry,1998; Tezanos,1999; Sen,2000; Cabrera,2002; Estivill,2003; Sen,2003; Uquillas *et al*., 2003; Subirats *et al*., 2004; World Bank, 2004; Raya,2006; Laparra *et al*. 2007; Hickey,2007; Sen-Kliksberg,2007; Del Popolo *et al*.,2009; Rionda,2010 and Tetreault, 2012).

The concept of social exclusion has to do with the process through individuals or groups are wholly or partially excluded from society which they live. This category not only refers exclusively to the lack of employment. In this sense (Subirats *et al*., 2004) recognize that social exclusion is to respect employment and the welfare state. With (Donzelot, 1992; Renes, 1993; Castel, 1995) and (Gazier, 1996) recognizes that social exclusion is not a concept of economic theory, its central paradigm from scarcity, leads him to raise the issue in terms of poverty / wealth, equality / inequality in the possession and use of goods produced. Meanwhile (Barry, 1998) indicates that there is an association between the dispersion of income and social exclusion, and that public policy can make a difference between the degree of inequality that manifests itself in social exclusion.

In a broader sense (Sen-Kliksberg, 2007) consider that the number of shortcomings or deprivation is not confined entirely to the material or economic, but may extend to other dimensions that limit the capabilities of people to lead a full life, dignified and decent society in which they live, what it is called social exclusion. Meanwhile, we agree with (Hickey, 2007) in the sense that it must analyze the phenomenon of social exclusion, from the perspective of class, ethnicity and gender, situation that generates a multidimensional analysis, the study of poverty. In this sense (Subirats *et al*., 2004) proposes the following definition.

Definition 1. Social exclusion as a result of a specific situation dynamic accumulation process, overlapping and / or combination of various factors of disadvantage or social vulnerability that can affect people or groups, creating a situation of impossibility or intense difficulty in accessing mechanisms of personal development, community social inclusion and social protection systems presets.

The comparison between the concept of poverty and social exclusion (Renes, 1993: 25) proposes that the concept of poverty is closely linked with that of inequality and of social exclusion. The poverty study of inequality in society benchmark, measured by income distribution. In this regard, action against poverty involves targeting the social mechanisms that produce inequality and social exclusion generate actions. In (Sen, 2000) revision of the concept and its evolution does not make any substantial difference to the analysis of poverty as capability deprivation, however, provides a feature in its relational nature of the phenomenon that the concept of social exclusion naturally implies: poverty.

It states "... the real importance of the idea of social exclusion lies in the overemphasis on the role of relational phenomena in the deprivation of capabilities and therefore the experience of poverty [...] The usefulness of the approach to social exclusion He does not lie [...] in its conceptual novelty, but its strong emphasis on the role that facts play in relational deprivation. "(Sen, 2000).

Importantly, social exclusion is generated as a process, which can occur in people living in poverty, as well as the population that is not in poverty. In this regard (Estivill, 2003) indicates that "social exclusion and poverty are not equivalent. You can be poor and excluded and, conversely, not all the excluded are poor [...], although there is a wide circle in which poor and excluded match. "

From the panel survey of households in the European Union 2000 (Subirats, 2004) obtains ten factors that can be identified as explanatory of social exclusion: unprotected unemployment, sickness or disability, low education level, severe poverty, lack work experience for housework, job insecurity, illiteracy, relational isolation, assisted economic insecurity at home and economic difficulties at home.

The field of social exclusion proposed by (Laparra et. al, 2007), according to the dimensions economic, political and social, notes that the economic dimension on the aspect of production, social exclusion is characterized by lack of market access labor and wage normalized ratio, which is reflected as a decrease in the share of consumption, a situation that generates poverty and deprivation.

Further explanation is in (Cabrera, 2002) stating that "reserve the word poverty preferably refer to situations of economic and material deprivation, while opting for the use of social expression exclusion are appointing rather a process structural, that within societies wealth ends up significantly limit access to a considerable number of people to a number of basic goods and life chances, to the point of seriously undermining their condition as citizens".

Multidimensional poverty in Mexico: Social exclusion, a missing dimension

In Mexico poverty is an issue that has been studied extensively, but the prospect of poverty from a multidimensional approach is relatively new. With (Sen, 2000) a new approach to conceive poverty as deprivation of basic capabilities and not only in terms of low income is proposed. In the logic proposed by Sen, (Boltvinik, 2013) defines poverty as a multidimensional process and (Alkire-Foster, 2007) present a methodology to identify two cuts, the one identified with the poverty and deprivation in people identified as poor. In Mexico, the Ministry of Social Development (SEDESOL), through the methodological criteria proposed by the National Council for Evaluation of Social Development Policy (CONEVAL) determined the methodology for measuring multidimensional poverty in Mexico, and defines the multidimensional poverty in the following terms: Definition 2. "The population in multidimensional poverty is one whose income is insufficient to purchase goods and services required to meet their needs and this deficiency in at least one of the following six indicators: educational gap, access to services health, access to social security, quality and living spaces, basic services in housing and access to food."

In the fight against poverty in Mexico multidimensional, federal public federal public resources are allocated by targeting criteria for the attention of the target population.

The strategy of social policy that the State has implemented in social spending, in order to eliminate social inequality and poverty effects generated in the population, through mechanisms of transfer of public resources, called targeted subsidies.

The following Table 1 shows the evolution of the approach and methodology applied by the Mexican State for measuring poverty from a multidimensional one-dimensional approach. It is emphasized that from the year 2008, the CONEVAL establishes the methodology for measuring poverty based on a multidimensional approach in Mexico, based on contributions (Gordon, 2007), (Boltvinik, 2007) and (Alkire-Foster, 2007), and in 2010 published the Guidelines for measuring multidimensional poverty (CONEVAL, 2010).

One of the main lines of action in the National Development Plan (NDP) 2007-2012 in the field of social policy was to ensure equal opportunities, for which the following strategies were proposed: i) Reduce extreme poverty, ensure equal opportunities and ii) Achieve expanded capabilities for all Mexicans to improve the quality of life and ensure food, health, education, decent housing and a suitable environment for development.
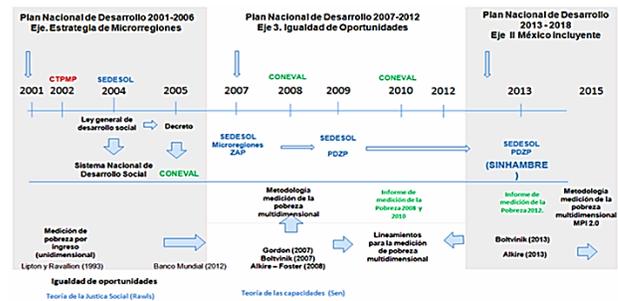

Figure 1 Evolution of social policy approach based on measurement multidimensional poverty in Mexico. 2001 - 2014
Source: Medel-Ramirez Carlos. (2016). "Assessment of the degree of social exclusion and multidimensional poverty in indigenous communities in the State of Veracruz: The case of the development program priority areas." (Doctoral thesis). Economy faculty. PhD in Public Finance. Universidad Veracruzana. Mexico

In November 2006, the CONEVAL presented the criteria for determining Priority Attention Zones (ZAP). This methodology allowed to define the areas of focus for the targeting of federal public resources, and define the target population in the operation of social development programs. The focus of Priority Attention Zones (ZAP) worked until 2008 and subsequently amended in the Development Program Priority Areas (PDZP) currently in operation. In both targeting criteria factors indigenous presence and level of economic marginalization, as criteria for selection of the target population, it is subject to inclusion in the program of social development in accordance with the rules and applicable law are recognized in the matter.

Thus, the Human Development Program (OPPORTUNITIES), now transformed into (THRIVE), emerged as a public policy action on the side of social development, and was established as the instrument by which the Federal Government developed actions intersectoral to give priority attention to education, health and nutrition, as well as those actions that promote the general welfare of families living in extreme poverty.

In 2013, the National Crusade Against Hunger Program, which seeks to respond to the action strategy that seeks an "inclusive Mexico" within the National Development Plan 2013 - 2018 is established. In this vein, the priority of the Mexican state in recent years, and one of the main objectives of social policy is the fight against poverty. For its part, the CONEVAL mandated by law, is responsible for preparing technical studies related to poverty and support decision-making on public policy by providing updated information.

While today in Mexico, as mentioned, the academic discussion and legal regulations pushing towards a multidimensional approach of poverty, this is not a simple task, under the approach of targeting target population by definition of priority for channeling public resources through federal social spending areas is of recent incorporation.

It is important to recognize that the design of social policy to combat poverty, the new paradigm is the allocation of federal public resources by targeting criteria, thus, they are established as strategies allocation of public resources, identification Priority Attention zones (ZAP) and the Development Program Priority Areas (PDZP). The PDZP operates in 32 states and, in particular, in the areas displaying any of the following characteristics: a) Municipalities of high and very high marginalization, b) municipalities classified as predominantly indigenous, c) Locations identified as strategic for the development of the regions set out in the declaration of ZAP, and their areas of influence, d) Localities high and very high marginalization, located in municipalities of medium, low and very low marginalization. Here we must ask: Is the current policy of social spending aimed at combating poverty inclusive to solve the problems observed in communities with high participation of indigenous language and solve the problem of social exclusion?

Methodology

Definition of the study area

The study area is the State of Veracruz and corresponds to municipalities with populations that have a high degree of presence of indigenous language speakers geographically identifying municipalities that recorded a very high or high marginalization and social underdevelopment in 2010. a first shoulder of the study area is determined by identifying the status speaking of indigenous language, which refers to the situation that distinguishes the population five years and over and declaring speak an indigenous language. In the state of Veracruz it is estimated that in 2010, are 6,075 locations in multidimensional poverty status and 6,087 localities in condition of multidimensional poverty.

Information sources

The data source corresponds to the statistical information contained in the General Population and Housing Census 2010 issued by the National Institute of Statistics and Geography (INEGI). The level of information consultation corresponds to that level of territorial integration and desegregation whose level corresponds to the localities of the State of Veracruz Mexico.

Study population

The number of complete cases is 12,162 seats. A first dimension of the study population is carried out according to the degree of presence of indigenous language in the locality (% GPLI loc.). Thus, of the 12,162 sites analyzed, 10,861 villages have no data on population aged 3 and over speaking indigenous languages and who does not speak Spanish in the town, while on the other hand only 1,302 localities if they have this information.

To determine the Indicator: (% GPLIloc) degree of presence of native language at locality level, the following criteria were considered:

Key	Indicator	Formula / Criterion
%GPLI $_{loc}$	Degree of presence of indigenous language-speaking population in the municipality.	They are: PHLINEm = Population 5 years and indigenous language speakers and who does not speak Spanish in the municipality. PHLIm = Population 5 years and indigenous language speakers in the municipality. So: % GPLI $_{loc}$ = PHLINEm / PHLIm

Table 1
Note: The condition of indentification is % GLPI loc is: $0 <= \% \text{ GPLIloc} <= 100\%$

In these localities the estimated 1,302% GPLI, where a population of 72,401 speakers of indigenous languages of 5 years and over was recorded is performed, and are identified as Category 1. See Table 2 below

Percentage of speakers of indigenous languages and selected social gap index	Number of localities	Population 5 years and indigenous language speakers
Category 1 (% GLPI)	1,302	72,401
Category 2 (% GLPI)> = 10%	287	41,798

Table 2 Population in localities in the State of Veracruz, according to degree of presence of selected indigenous language, 2010
Source: author's estimates based on information provided by INEGI, Population and Housing Census 2010

A second dimension corresponds to localities whose (% GPLI> = 10%) identified as category 2 and 287 correspond to locations in the municipalities of Acultzingo, Astacinga, Atlahuilco, Benito Juarez, Camerino Z. Mendoza, Coahuitlán, Comapa, Córdoba, Coxquihui, Chalma, Chiconamel, Chicontepec, Chinameca, Chumatlán, Espinal, Filomeno Mata, Ilamatlán, Ixhuatlán Madero, Jesus Carranza, Martinez de la Torre, Mecatlán, Mixtla Altamirano, Papantla, Plato Sanchez, Los Reyes, Soledad Atzompa, Soteapan, Tantoyuca, Tehuipango, Tequila, Texcatepec, Texhuacan, Tihuatlán, Tlachichilco, Tlaquilpa, Zongolica, Zontecomatlán de López y Fuentes and Zozocolco de Hidalgo.

A third dimension corresponds to the identification of areas with high presence of indigenous language, with marginalization index (very high and high) and social gap index (very high and high). The (% GPLIm IM RS) identifies the locations with high presence of indigenous language, with very high and high levels of marginalization, as well as a very high and high levels of social backwardness, at the locality level.

Where: % GPLIm IM RS

IM = Very High
IM = High

IM corresponds to the index of marginalization at the locality level.

And where:

RS = Very High
RS = High

RS corresponds to the index of social backwardness locality level.

So:

% GPLIm IM RS corresponds to the location that has a high degree of indigenous presence, with a very high and high level of marginalization and with very high and high social gap index.

From the information provided by the General Census of Population and Housing 2010, 213 localities which have a %GPLIm IM RS where (IM Very High, High; RS Very High, High) were identified. This selection brought together a population of 61,706 indigenous language speakers aged 5 and older who does not speak Spanish in the locality.

From the information provided by the General Census of Population and Housing 2010, 213 localities which have a% GPLIm IM RS where (IM Very High, High; RS Very High, High) were identified. This selection brought together a population of 61,706 indigenous language speakers aged 5 and older who does not speak Spanish in the locality.

Methodology for estimating social exclusion index (IES)

According to the definition of (Sen and Kliksberg, 2007), it is understood as social exclusion as all deficiencies or deprivation, which not only confined entirely to the material or economic, but may extend to other dimensions that limit capabilities of people to lead a full, decent and respectable life in the society in which they live.

The index of social exclusion (ES) is constructed as a weighted sum of 16 variables. For its construction method of main components and weighting coefficients as the first component are used. In Table 3 components for estimating the rate of social exclusion occurs, and refers to the 16 variables used. The selection of variables is an adaptation of classification (Subirats, 2004).

The data source corresponds to the statistical information contained in the General Population and Housing Census 2010.

Number	Variable key	Variable name
1	%15y+ana	Percentage of population aged 15 years and over illiterate.
2	%6a14nesc	Percentage of population aged 6-14 years not attending school.
3	%15y+basinc	Percentage of population aged 15 years and older who have completed basic education.
4	%ssersalud	Percentage of population without habiencia right to health service.
5	%Vpt	Percentage of homes with dirt floors.
6	%Vssersan	Percentage of homes without sanitation.
7	%Vsagua	Percentage of private dwellings that do not have piped water.
8	%Vsdren	Percentage of Inhabited housings that do not have drainage.
9	%Vselec	Percentage of private dwellings that do not have electricity.
10	%Vslav	Percentage of private dwellings that do not have a washing machine.
11	%Vsref	Percentage of private dwellings that do not have refrigerators.
12	%Pconlim	Percentage of population with disabilities.
13	%Pdesocup	Percentage of unemployed population.
14	%GPLIm	Degree of presence of indigenous language.
15	%Ghacin	Overcrowding in housing.
16	%Psrel	Percentage of population aged 5 years and over non-Catholic (including no religion).

Table 3 Components for estimating the rate of social exclusion
Source: prepared from adaptation (Subirats, 2004) "Social exclusion from an integral perspective"

In the estimation of social exclusion index using multivariate statistical technique used principal components. This procedure aims to obtain a reduced linear combinations of the 16 variables that explain the greater variability in the data number. The information was processed with software version 17.0.16 Statgraphics Centurion XVII (32 bits) and XLSTAT version 2015.4.01.22368 application. Table 3 is presented variability found 6 components had eigenvalues greater than or equal to 1.0, which together account for 63.28% of them variability in the original data. While in Table 3, the weight of the major components in the calculation of social exclusion index for the year 2010 is indicated below.

	Eigenvalue	Variability (%)	% accumulated
F1	3,920	24,497	24,497
F2	1,517	9,479	33,976
F3	1,366	8,536	42,512
F4	1,210	7,561	50,074
F5	1,089	6,805	56,879
F6	1,024	6,401	63,280
F7	0,949	5,931	69,211
F8	0,836	5,222	74,433
F9	0,750	4,688	79,121
F10	0,748	4,673	83,794
F11	0,698	4,360	88,154
F12	0,627	3,916	92,070
F13	0,544	3,402	95,472
F14	0,422	2,640	98,112
F15	0,164	1,025	99,137
F16	0,138	0,863	100,000

Table 4 Principal component analysis of the variables for the estimation of index of social exclusion. 2010
Source: author's estimates based on the General Census of Population and Housing 2010 Main results by locality

Variables	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6
%15y+ana	0.339966	-0.425242	-0.225892	-0.207438	-0.043897	0.107198
%6a14nesc	0.159867	-0.0999383	0.290638	0.0637122	-0.38052	-0.0251589
%15y+basinc	0.313252	-0.472874	-0.161441	-0.267537	-0.0314862	0.121492
%ssersalud	0.0631256	-0.0353514	0.045627	-0.22901	-0.553373	0.231361
%Vpt	0.297299	0.290607	-0.0687107	-0.115615	0.0538777	-0.0567346
%Vssersan	0.146342	-0.312432	0.449624	0.296203	0.0878934	0.0361249
%Vsagua	0.150605	0.322128	0.0932087	-0.559958	0.140646	-0.0851783
%Vsdren	0.276032	0.328075	-0.293767	-0.0227313	0.0465264	-0.0759663
%Vselec	0.321636	0.1925	0.266015	-0.0215377	0.211845	0.109615
%Vslav	0.386768	0.113709	-0.0600825	0.301473	0.0189209	0.0940288
%Vsref	0.414214	0.0675709	0.0754468	0.315587	0.0567435	0.0469616
%Pconlim	-0.00415242	-0.280067	-0.0671254	-0.205108	0.606521	0.17173
%Pdesocup	-0.00461739	-0.232555	0.0164875	0.0692823	0.143691	-0.769802
GPLIm	0.171148	-0.0572419	-0.419385	0.0297718	-0.255771	-0.394105
%Ghacin	0.306127	0.0167961	0.222181	0.00903556	0.0252703	-0.199558
%Psrel	0.0204543	-0.0150347	0.473704	-0.418251	-0.102281	-0.248489

Table 5 Weight of the main components in the calculation of index social exclusion 2010
Source: author's estimates based on data from the General Census of Population and Housing 2010 Main results by locality

For example, the first principal component has the equation.

Index of social exclusion = 0.339966*%15y+ana + 0.159867*%6a14nesc + 0.313252*%15y+basinc + 0.0631256*%ssersalud + 0.297299*%Vpt +0.146342 * %Vssersan + 0.150605*%Vsagua + 0.276032*%Vsdren + 0.321636*%Vselec + 0.386768*%Vslav + 0.414214*%Vsref - 0.00415242 * %Pconlim - 0.00461739*%Pdesocup + 0.171148*GPLIm + 0.306127*%Ghacin + 0.0204543*%Psrel

Where the values of the variables in the equation have been standardized subtracting its mean and dividing by their standard deviations, this is shown in Figure 2.
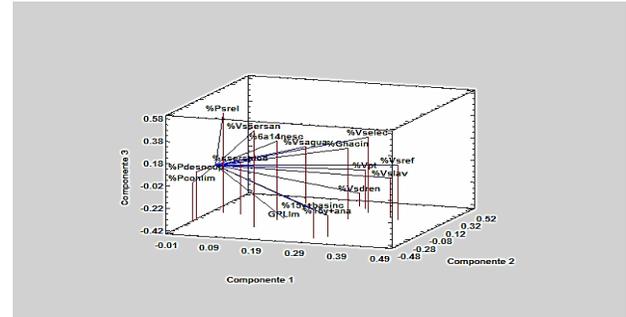

Figure 2 Weights of the main component in the estimation of index social exclusion 2010
Source: author's estimates based on data from the General Census of Population and Housing 2010 Main results by locality

Under the rate of social exclusion, the way in which it is built, fulfills the purpose of ordering the different observation units (cities, counties and states) these were stratified into five categories, so that within each category units were homogeneous as possible and between different strata as possible. The layering technique Dalenius and Hodges meets this purpose. Establishing the classification of five categories to define the degree of social exclusion, according to the following:

Very high	7.3751860	to	10.5691000
High	4.1812720	to	17.3751860
Half	0.9873580	to	4.1812720
Low	-2.2065560	to	0.9873580
Very low	-5.4004700	to	- 2.2065560

Table 6 Degree of social exclusion (GIES)
Source: author's estimates based on data

Results

In the state of Veracruz, the 2010 census of 12,162 localities were recorded in the Census of Population and Housing 2010, 245 localities are identified with a degree of very high and high social exclusion, this information is presented in Table 7.

At the state level	Year 2010
Degree of social exclusion: Very High	18
Degree of social exclusion: High	227
Degree of social exclusion: Medium	2,035
Degree of social exclusion: Low	7,225
Degree of social exclusion: Very Low	2,657
Total locations	12,162

Table 7 State of Veracruz, distribution of locations according to degree of social exclusion, 2010
Source: estimates based on data from INEGI. Population and Housing Census 2010

It corresponds to the coverage of the Development Program Priority Areas, it is estimated that 213 localities registered a high degree of indigenous presence, with a very high and very high level of marginalization and with a very high and high social gap index, so they identified as capable of being incorporated in the given degree of social exclusion Program (PDZP): very high and high.

That is, 5 locations had a very high degree of social exclusion, and are located in the municipalities of Soteapan, Tequila and Texcatepec.

Moreover, 55 locations show a high degree of social exclusion, being located in the municipalities of Acultzingo, Atlahuilco, Benito Juarez, Chalma, Ilamatlán, Ixhuatlán Madero, Mixtla Altamirano, Papantla, Rafael Delgado, Tehuipango, Zongolica and Zontecomatlán Lopez and Fuentes. See Table 8.

In the study area	Year 2014
Degree of social exclusion: Very High	5
Degree of social exclusion: High	55
Degree of social exclusion: Medium	153
Degree of social exclusion: Low	0
Degree of social exclusion: Very Low	0
Total locations	213

Table 8 Veracruz state distribution inporadas be susceptible locations in the Development Program Priority Areas, according to degree of social exclusion 2014
Source: own estimate based on information from SEDESOL, Register of beneficiaries PDZP 2014 program

153 localities which recorded an average degree of social exclusion, are located in the municipalities of Acultzingo, Astacinga, Atlahuilco, Benito Juarez, Camerino Z. Mendoza, Chalma, Chicontepec, Coxquihui, Espinal, Filomeno Mata, Ilamatlán, Ixhuatlán Madero, The Reyes Martinez de la Torre, Mecatlán, Mixtla Altamirano, Papantla, Rafael Delgado, Soledad Atzompa, Soteapan, Tantoyuca, Tehuipango, Tequila, Texcatepec, Tlachichilco, Tlaquilpa, Zontecomatlán de López y Fuentes, Zozocolco de Hidalgo.

This is necessary to indicate, once identified the towns and municipalities according to their degree of social exclusion, then it analyzes whether these locations were beneficiaries in the Development Program Priority Areas in 2014. It is important to note that of the 213 locations identified as capable of joining the program (PDZP), only 8 localities were beneficiaries in the program (PDZP) and 205 localities were not beneficiaries of the program (PDZP). That is, 59 seats of the latter group not considered, they showed a degree of social exclusion very high and high. What characteristics do these localities that were excluded in the operation of the program in 2014 PDZP respect to their degree of social exclusion? See this information in Table 9 below.

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Degree of social exclusion	Participate in the PDZP	Not participate in the PDZP	Total
Very high		5	5
High	1	54	55
Half	7	146	153
Low	0	0	0
Very low	0	0	0
Total	8	205	213

Table 9 Locations in the study area according to degree of social exclusion and their participation as beneficiary in the Program Development Priority Zones (PDZP) 2014
Source: prepared based on data from INEGI. Population and Housing Census 2010; SEDESOL Register of beneficiaries PDZP 2014 program

Identifying 213 localities that meet the criteria of PDZ [(GPLIm IM RS)] and which one confronts is done with the information obtained from (PDZP) for the list of beneficiaries of this social program in 2014, observed the following:

a. Considered in the PDZP in 2014.- Of the 213 locations identified as susceptible to joining PDZP, only 8 localities were included in 2014 in the PDZP. The towns are located in the municipalities of Ilamatlán, Soledad Atzompa, Tehuipango, Tequila and Zontecomatlán. These locations have a very high and high marginalization and in all of them is the predominant Nahuatl Indian language. These 8 locations have a degree of slow expansion on its index of ethno-linguistic replacement and problems identified in relation to the following locations:

- Alcohol or drug abuse: 1 location.
- Lack of road and transport: 2 locations.
- Lack of employment or emigration: 3 locations.
- Lack of infrastructure or water service: 2 locations.

b. Not considered in the PDZP in 2014.- 205 localities were not considered and / or did not operate in the PDZP in 2014. These are located in the municipalities of, Astacinga, Atlahuilco, Benito Juarez, Camerino Z. Mendoza, Chalma, Chicontepec, Coxquihui Espinal, Filomeno Mata, Ilamatlán, Ixhuatlán Madero, Los Reyes Martinez de la Torre, Mecatlán, Mixtla Altamirano, Papantla, Rafael Delgado, Soledad Atzompa, Soteapan, Tantoyuca, Tehuipango, Tequila, Texcatepec, Tlachichilco, Tlaquilpa, Zongolica, Zontecomatlán de López y Fuentes and Zozocolco de Hidalgo. The features in the 205 localities that did not participate in the PDZP in 2014, relative to ethno-linguistic replacement index, shows the following:

- 159 localities have a degree of slow growt.
- 3 locations have a degree of accelerated extinction.
- 22 localities have a degree of balance.
- 21 locations have a degree of slow extinction.

Regarding the problems identified in the 205 localities that did not participate in the PDZP in 2014, we have:

Social dimension:

- Alcohol or drug abuse in 13 locations.
- Crime or insecurity in 2 locations.
- Irregularity or disputes related to land tenure in 3 locations.
- Not specified 12 locations.
- Another kind of problem.
- 5 locations.

Economic dimension:

- Lack of government support or deficiency in a 1 locality.
- Joblessness and emigration in 56 locations.
- Lack of financial resources in a 1 town.
- Poverty or marginalization in 31 locations.

Dimension of infrastructure and services:

- Lack of road transport or 20 localities.
- Lack of drainage and sewage in one locality.
- Lack of electricity in 6 locations.
- Lack of equipment or health services in 4 locations.
- Lack of equipment or services for education in 5 locations.
- Lack of infrastructure or water service in 26 locations.
- Lack of other services or equipment in 10 locations.

Environmental dimension:

- Drought, floods or bad weather in March.
- No problem in 6 locations.

Conclusions

The results show that:

1) The localities in which a degree of indigenous presence and a very high or high degree of social exclusion were recorded, have been excluded in the strategy proposed by the Development Program Priority Areas (PDZP).

2) The condition of indigenous language speakers in locations with high or very high rate of marginalization, as well as high or very high level of social underdevelopment are factors that determine a high rate of social exclusion, under the condition of the condition of having high indigenous presence (% GPLIloc) and have a social gap index (RS = high or very high) is a trigger to have a high rate of social exclusion factor. 3) We believe that the fight against poverty, although it is true recognizes its multidimensional nature, examining the level of poverty and income level are not sufficient conditions to determine the allocation of areas for priority attention to give support programs of social development as it is not considered the degree of social exclusion in municipalities and localities with high presence of indigenous language speakers, since the selection criteria in the rules of operation of PDZP program to transfer federal public resource applied PDZP level localities is exclusive and does not consider the rate of social exclusion. 4) Finally, the current policy of social spending aimed at combating poverty is not inclusive to solve the problems observed in communities with high participation of indigenous language and in particular the problem of social exclusion.

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