Territorial management instruments of poverty in countries of the global south

POLICY BRIEF

Project Management for development

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Multidimentional Poverty: from the habitat to the microterritory

This document compiles a series of reflections on the operationalization of indicators and dimensions integrated into the traditional measures of multidimensional poverty -adapted to the context of each country- against the subjective conceptualization of multidimensional poverty thresholds, structured from a community consensus that, through a rigorous process of statistical validation, dictates descriptive and prescriptive methodological instruments of the specific needs of the population, given the priorities and current demands of the citizenry from the habitat to the micro-territory.

The objective is to present, around a theoretical analysis of the measurement of poverty, an adaptation to the existing methodologies for calculating the MPI, through an exercise that combines the analysis of the choice of equal weights for each of the dimensions that make up the index (IMP) and an approach of subjective weights including dimensions in relation to habitat conditions. Its application is innovative since it has a structure of axiomatic properties that facilitate the achievement of a comparable multidimensional poverty profile and comparable with income; second, it is flexible and easy to read by the non-specialized population; Third, it admits the inclusion of dimensions associated with quality of life that reflect direct actions on the territory and finally, it favors the stimulation of multisectoral coordination (Angulo, Díaz, & Pardo, 2011, p.11).

Poverty and microterritory

Poverty is a phenomenon that has an imbalance between equity and prosperity, both urban and rural, with limitations from the axiological and the constitutional, regarding the social realities in a Social State of Law. That is why, -based on territorial management and planning for public policy decision-making- the use and applicability of poverty measurement instruments appropriate to the micro-territory, is a necessary condition capable of spatializing and determining a framework of analysis regarding living standards in contrast to those coupled in genere by the legislator, which determine well-being in a society.

The importance of the analysis from the academy territorial planning, is based on the orientation o and its implementation as a method off the social management processes applied for the decision-making of public policy and the improvement of the quality of life, from the technical vision. -scientific knowledge to action. At the micro-territorial level, his slogan focuses on the definition of regulatory thresholds consistent with the set of socio-spatial demands of citizens at an intra-urban scale, alienated from the principle of favor libertatis - the legal obligation to optimize the exercise of rights - with the objective of overcoming those atypical values that foresee a process of urbanization and accelerated demographic increase,

with an exponential growth trend of 1.02% per year in cities such as São Paulo, Lima or Bogota D.C. and they place Latin America as one of the regions with the greatest inequality since the signing and implementation of the New World Urban Agenda.

Its operationalization within the framework of planning theories, allows reflecting the nformation on the states and life situation of people, being necessary to include the evaluation of this in relation to the lack of basic capacities that lead to well-being, including - basic capacity- as the ability of people to achieve certain living conditions or as Amartya Sen (2012) affirms "a series of real opportunities that one has regarding the life
that can lead" (Sen, 1987, p. 36)

For this, the application methodology is based on Alkire & Foster (AF), which provides a framework for the aggregate analysis of poverty, through the use and categorization of dimensions and thresholds of joint distribution of deprivations from the habitat to the micro-territory. . These go beyond considering a citizen who has an income below the threshold necessary to live with quality of life as poor. In contrast, it uses two weighting methods as a measure to diagnose and define the incidence, gap, and severity of poverty under: identification and aggregation. By "the identification method (dual court approach) a person is identified as poor when they suffer deprivation in k dimensions" (Foster, J, and Sabina, A., 2007, p.35).

On the other hand, through the aggregation method, a series of indicators were established, such as: the incidence of poverty (H), which is defined as the proportion of multidimensionally poor people in relation to the total population: $H= q/n$, where "q" represents the number of people identified as poor and "n" the population (Alkire, et al., 2015, p. 50). Finally, the adjusted headcount rate is the mean of the deprivation score vector, which takes into account the incidence H (the percentage of the population that is poor) and the intensity of poverty A (the number of deprivations suffered by each head of household); this is calculated by multiplying the percentage of people who are poor by the percentage of the dimensions in which they are deprived ($M_0= H \times A$) (Alkire, S. et al., 2015, p. 16).

Multidimensional poverty index at intra-urban scale

The intra-urban poverty index is a statistical instrument that makes it possible to measure and spatialize poverty at the micro-territorial scale through the combination of vectors of weights by dimension and character indicators: nested and subjective. This arises as a variant of the current integrated indicators of statistical validation of multidimensional poverty at the national level.

Its relevance lies as a diagnostic and identification tool in forecasting the growth of social gaps, through the revitalization of territorial intervention, as well as the strengthening of strategies that make transparency viable in the execution of territorial public management, the optimization of public resources and adequate monitoring and control under the provision of the fully agreed action plan by each of the parties involved in the process of materializing successful social management practices in a defined geographical space.

Currently, 4 out of 10 Latin American cities present a high number of population deficiencies in access to multiple goods and services. One of the most outstanding cases is the city of Bogotá D.C. in which an imbalance between the poor and non-poor persists, with a growing trend of the incidence[1] of poverty by 1.2 percentage points between the year 2015 -2016 based on DANE (2017), which shows the existence of gaps in the comparison of deprivation percentages among the population considered poor that can be analyzed based on multidimensional poverty methodologies such as that of Alkire & Foster (AF), adapted in Colombia by the National Planning Department and in Bogotá by the District Planning Secretariat. Bogota D.C.

From the definition of the Alkire-Foster method, it is necessary to determine a general process of application and decision of the multidimensional poverty index proposal for the San Agustín neighborhood of Bogotá D.C. This process is based on guiding the discussion around what is the definition of poverty applicable at the micro-territorial scale, what is the objective of the indicator proposed for the neighborhood and what are the desirable attributes that the indicator possesses. in which you want to deepen taking into account the relationship of the interaction of people. The equal weights approach took into account that all dimensions are equally important in terms of well-being and quality of life and that an individual will be considered poor when the weighted sum of their deprivations is equal to or greater than the aggregate cut-off value of K point. . Additionally, each variable included in the MPI has the same weight within each dimension, that is, they are nested weights (Angulo, Pardo, & Díaz, 2015).

Table No. 1
Dimentions and variables   Multidimensional poverty index at intra-urban scale

Educación	Trabajo	Salud	Vivienda y servicios públicos	Hábitat
Bajo logro educativo	Desempleo de larga duración	Aseguramiento en salud	Acceso a fuentes de agua mejoradas	Calidad ambiental
Analfabetismo		Acceso a servicio de salud dada una necesidad	Eliminación de excretas	
	Tasa de desempleo		Pisos	Calidad urbana
			Paredes exteriores	Calidad sensorial
			Hacinamiento crítico	

The subjective weights approach took into account a vector of hybrid weights according to the preference of the individuals. For this, the established preference weights are "based directly on the perception of a representative group of individuals who come together in a territory" (Maasoumi, 2008, p.42). Penagos (2016) affirms that "including this approach tends to generate a comprehensive understanding of the phenomenon of poverty, empowering poor people in relation to their condition, providing legitimacy to the process of composition of public policies to overcome poverty" (p .40). The dual cut of poverty that was based on the characterization of poverty, was carried out in the following way: "it is poor if it is private $c_i \geq k$" (Sabina, 2016, p. 33) dimensions k = 6 where H = average of the proportion of deprivations among the poor and A= total deprivations 5/14 = .33/ 33% increasing M0. (Table No. 2)

Table No. 2

Pesos de variables por dimensión IPM, barrio San Agustín: enfoque pesos anidados vs. Pesos subjetivos.

Dimensiones	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Pesos anidados	0,04	0,04	0,04	0,04	0,04	0,067	0,067	0,067	0,1	0,1	0,1	0,1	0,1	0,1
Pesos subjetivos	0.051	0,051	0,051	0,051	0,051	0,128	0,128	0,128	0,064	0,064	0,051	0,051	0,064	0,064

Nota: Fuente: Gutiérrez, A. (2017). Cálculos elaborados a partir del ajuste de pesos de IPM-C y resultados de encuestas. Bogotá D.C.

Study area, neighborhood San Agustín

The selected study area is the San Agustín neighborhood, a territory contiguous to a prison space located in UPZ2 No. 55 (Diana Turbay)3, corresponding to locality 18 (Rafael Uribe Uribe), to the south-east of the city of Bogotá. CC, Columbia. (Map 1). The selection criteria for the San Agustín neighborhood as an object of study are limited to four categories: incidence and intensity of poverty, demography, household economics, and socioeconomic stratification and habitat.

[1] UPZ: Área urbana de planificación del desarrollo urbano a escala zonal.
[2] UPZ Diana Turbay clasificada como unidad tipo 1, caracterizada por ser residencial de urbanización incompleta. Esta posee sectores periféricos no consolidados en estratos socioeconómicos 1 y 2. Igualmente, está emplazada sobre un área de extensión equivalente a 211,4 (He).con una representación del 15,3% con respecto a la localidad con un total de 714 manzanas (Barreneche, 2004, pág. 14).

Map No. 1
San Agustín, Neighborhood geolocation
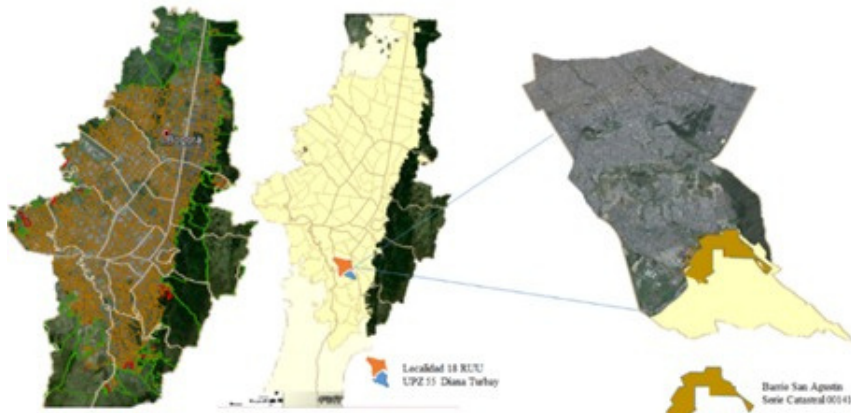
Fuente: Gutiérrez, S. (2016). Adaptado de Geo DataBase

The San Agustín neighborhood is located in Rafael Uribe Uribe, one of the localities of Bogotá D.C. with a higher incidence of inertial poverty (above the poverty line but with deprivation in MPI) and chronic (poverty in both measurements) with an estimated percentage between 29.8 and 42.1% that compared to all the localities is surpassed only by Ciudad Bolívar, Bosa, Usme and Santa Fe with a greater increase of 4.2 percentage points in each of the types of poverty. Additionally, the intensity of poverty (A) (measure that reflects the average deprivation of the poor population) shows that there is a high rate of 21.5% of the average deprivation among the poor population compared to that of Bogotá in the locality of Rafael Uribe Uribe, surpassed only by localities such as Ciudad Bolívar, Bosa, Usme and Santa Fe with a differential rate between 1.3 and 9.9 percentage points. (Table 3)

Table No. 3
Intensity of poverty for five locations in Bogotá D.C

Intensidad de la pobreza					
Bogotá, D.C.	Rafael Uribe	Ciudad Bolívar	Bosa	Usme	Santa Fe
38,9	60,4	70,3	65,1	63,8	61,7

Nota: Fuente: Torres, M. (2016). Medición mixta de pobreza multidimensional para cinco localidades de Bogotá: un enfoque de pesos participativos. Monterrey, México. Escuela de Gobierno y transformación pública, Tecnológico de Monterrey.

Secondly, in demographic terms, there is an average population density of 586.91 inhabitants. /ha according to calculations prepared from the georeferencing of the neighborhood, sustaining that many people settle in little territorial space.

.According to the analysis of the data pres ented as a result of this investigation, it is plausible to determine that more than 45% of the homes suffer from overcrowding, since an average of 4 and 5 people are concentrated in a single space, as there is also a 35 % of homes that live in sublease or in the modality as occupant in fact or possessor without title (Gutiérrez, 2017). In the third instance, there is limited access to the labor market in the neighborhood as a result of the limited specialized human capital that comes together and that would facilitate access to a 14 variety of qualified training programs, minimizing the income of each head of household. 94.5% of the neighborhood is from socioeconomic stratum two (2) and the remaining 6.5% from stratum one (1) the average salary per head of household is 0 to 1 SMLV with a representation percentage of 93% of people with a maximum educational level of secondary education (Gutiérrez, 2017).

Finally, a manifestation of problems associated with the deterioration of the habitat is identified in terms of urban, environmental and sensory quality. This, product of the environmental degradation of the Chiguaza ravine and the informal urbanization settled in areas threatened by mass removal, bringing with it negative consequences to the extent that the maximization of both physical and ecological risk of the people who settle is encouraged. on the natural environment located on the San Agustín neighborhood.

Results and Findings

Faced with the subjective conceptualization of multidimensional poverty thresholds, using the Alkire & Foster identification and aggregation methodology on all the dimensions and variables that make up the index on an intra-urban scale, it is plausible to determine that its reading depends on: the quantification in values absolute and self-perceived the mean deprivation of the population; the spatialization of poverty -seen as an aggregate that catalyzes those diagnostic processes between patterns of occupation and appropriation of geographical environments delimited by territorial prospective exercises- and, the combination of methods that come to assess those dimensions associated with quality standards of life.

Measure of Poverty

It is plausible to highlight that the research showed, based on the calculation of the MPI at the micro-territorial scale with nested weights, that 20.6% of the sample is poor, in addition to the intensity of poverty (A), that is, the average of deficiencies of the poor population is 0.39. Finally, the incidence of adjusted poverty M0 (HA) (which is defined as the product between the percentage of multidimensional poor and the proportion of deprivations they face on average) is 0.08. This means that in absolute values 103 people from the sample of the selected population have deficiencies greater than 33% according to the MPI dimensions adapted to the study territory.That is, one (1) out of every five (5) people is multidimensionally poor. When performing the calculation based on the consideration of the subjective weights, the result is different from the previous one, since the percentage of poor population is 12%, the intensity of poverty (A) is, as in the case of nested weights is 0.39 and M0(HA) is 0.05.

Spatialization of Poverty

The spatialization of poverty is useful to the extent that it allows us to understand how the phenomenon manifests itself on the territory. Likewise, in territorial research, spatialization makes it possible to carry out a series of correlations between variables that lead to the recognition of patterns that must be taken into account when making planning, management and financing decisions for urban development that imply direct intervention on the territory.

In the specific case of the San Agustín neighborhood, a cross-reference of data generated in GIS was carried out between the location of the nested and subjective poor and the Euclidean distance (straight line) to the education, health, citizen security and different recreational and endowment facilities. . In principle, the correlation between these variables is null, giving as a result that a person is not poorer than another if they are closer to facilities, or if they have greater or lesser accessibility and availability of public spaces. It should be noted that when generating an index between the distance to public space and public facilities vs. land prices, accessibility to goods for public use represents a better land price. Finally, at the block level, a more detailed comparison could be made by considering 34 surrounding geographical conditions and also cadastral values such as housing area, cadastral value, built area, etc.

Method Combination

When estimating the number of people who are poor, in at least one of the two types of poverty measurement (according to nested weights and subjective weights), it is observed that 112 people are poor (22%), of which 46 are poor. according to both methodologies (9.2%), 12 are poor according to subjective weights, but not according to nested weights (2.4%) and 57 are poor according to nested weights and not according to subjective weights (11.4%). (Table 3)

Table No. 4

Resultados de investigación: Número y porcentaje de personas pobres en el barrio San Agustín por metodologías de medición.

	Número de personas Pobres por metodologías de medición	% Pobres
Pobres Anidados	57	11,4
Pobres Subjetivos	12	2,4
Pobres Anidados y Subjetivos	46	9,2

Nota: Fuente: Gutiérrez, A. (2017). Procesamiento de datos elaborado a partir del cálculo de H anidado y H subjetivo. Bogotá, D.C.

Recommendations

The usefulness of an intra-urban indicator for public policy purposes is synthesized in the use and application of methodological instruments for the measurement of poverty at a micro-territorial scale with a subjective component that allows decision makers to inquire about the formation of population preferences. . citizens around the living standards that determine well-being. This subjective component suggests a change in the patterns that reflect the priorities and needs of the communities in the face of community territorial development processes. Likewise, it dictates a guideline on what is necessary to choose and/or determine a threshold that facilitates the differentiation of poor and non-poor (objective and self-perceived) to capture deficiencies, however related they are to poverty phenomena

According to the evidence and the findings found at the time of carrying out poverty measurements on an intra-urban scale, it is convenient to determine that public policy decision makers integrate a combined planning structure between Bottom Up and the traditional Top Down model, with the ultimate goal of to generate an accurate diagnosis of the deprivations suffered by people, thus minimizing the impacts associated with the phenomenon of poverty. The integration of mixed methods of planning must combine models of management and financing of open urban development, which allow establishing cognitive and critical feedback processes where dialogue helps to establish a detailed vision of social realities. In the same way, it is necessary to strengthen the participation scenarios, with the objective that citizens intervene directly in public policy decision-making.

The combination of Bottom Up and Top Down planning models starts from the consideration of learning by doing. From this perspective, the measurement of poverty must start from the fact of establishing rational consensus as a process of restoring actions that promote pluralism from micro-territorial scales and the promotion of cooperation methods that promote a sense of belonging to the territory and allow the concretion of ideas between State - Community for the subsequent decision-making of intervention from the habitat for the micro-territory.

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