

Determination of the inside provincial disproportions that impact in the local development of Guantánamo

Determinación de las desproporciones intraprovinciales que inciden en el desarrollo local de Guantánamo

Determinação das desproporções intraprovinciais que afetam o desenvolvimento local em Guantánamo

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ABSTRACT

In the current context of quick change and polarization of wealth and interests at world level, the regional disproportions are secured. It is expressed through a development where incompatibilities exist in the economic activity, the environmental sustainability and the social welfare. To provincial scale, the application of indexes that they measure these disproportions could contribute to define the situation of the municipalities. Consequently, this research has as general objective: To determine the territorial disproportions, starting from the use of indexes, as contribution to the taking of decisions in function of the local development of the county Guantánamo. To develop the research theoretical and empiric methods are used, together to the procedures: analysis and synthesis, abstraction, induction - deduction, axiomatic - deductive and technical as the interview and the documentary analysis. As conclusive results, the municipalities with more disproportions were visualized: El Salvador, Yateras, Manuel Tames; and the most advantageous: Guantánamo, Baracoa and Caimanera, what will condition the way of use of the capacities and opportunities, as well as the forms of negotiating the endogenous and exogenous resources according to the conditions of well-being and quality of life of the population.

Keywords: local development; disproportion; dimensions; rates



RESUMEN

En el contexto actual de cambio acelerado y polarización de riquezas e intereses a nivel mundial, las desproporciones regionales se afianzan. Esta se expresa a través de un desarrollo donde existen incompatibilidades en la actividad económica, la sostenibilidad ambiental y el bienestar social. A escala provincial, la aplicación de índices que midan dichas desproporciones podría contribuir a delimitar la situación de los municipios. Consecuentemente, esta investigación tiene como objetivo: determinar las desproporciones territoriales, a partir de la utilización de índices, como contribución a la toma de decisiones en función del desarrollo local de la provincia Guantánamo. Para su realización se utilizan métodos teóricos y empíricos, unido a los procedimientos: análisis y síntesis, abstracción, inducción-deducción, axiomático-deductivo y técnicas como la entrevista y el análisis documental. Como resultados concluyentes, se visualizaron los municipios con mayores desproporciones: El Salvador, Yateras, Manuel Tames; y los más ventajosos: Guantánamo, Baracoa y Caimanera, lo que condicionará el modo de aprovechamiento de las capacidades y oportunidades, así como las formas de gestionar los recursos endógenos y exógenos en función de las condiciones de bienestar y calidad de vida de la población.

Palabras clave: desarrollo local; desproporciones; dimensiones; índices

RESUMO

No atual contexto de mudança acelerada e polarização da riqueza e dos interesses a nível global, as desproporções regionais estão a ficar enraizadas. Isto se expressa através do desenvolvimento onde existem incompatibilidades na atividade econômica, na sustentabilidade ambiental e no bem-estar social. A nível provincial, a aplicação de índices que medem estas desproporções poderia ajudar a delimitar a situação dos municípios. Consequentemente, esta pesquisa visa: determinar as desproporções territoriais, com base no uso de índices, como uma contribuição para a tomada de decisões em termos de desenvolvimento local na província de Guantánamo. Para a sua realização são utilizados métodos teóricos e empíricos, juntamente com procedimentos: análise e síntese, abstração, indução - dedução, axiomática - dedução e técnicas como a entrevista e a análise documental. Como resultados conclusivos, foram visualizados os municípios com maiores desproporções: El Salvador, Yateras, Manuel Tames; e os mais vantajosos: Guantánamo, Baracoa e Caimanera, que irão condicionar a forma como as capacidades e oportunidades são utilizadas, bem como a forma como os recursos endógenos e exógenos são geridos de acordo com as condições de bem-estar e qualidade de vida da população.

Palavras-chave: desenvolvimento local; desproporções; dimensões; índices

INTRODUCTION

Issues related to territorial development and its treatment in the current context of globalization are increasingly present in the discussion and debate agendas of governmental, academic and social actors. The problems of regional development are found in both economically advanced and underdeveloped countries, but their character and the forms of solution must be different, taking into account the context in which they are found.

Consequently, the theoretical apparatus employed in describing the problems, in illuminating underlying forces and factors, and in formulating policies must also be different. The term regional disparity is used to designate inequalities in well-being or development between regions, the use of the term implies above all a normative approach to what is acceptable or unacceptable (Hernández, 2006). Regional disparity or inequality must be sought to be eradicated through local public policies.

The discussion of the problem of regional inequalities is important for the analysis of both the internal disparities of the countries - urban or local - and their study within the regions at different scales (province, municipalities). The need arises, therefore, to better understand the current dynamics within provinces and to apply strategies for a better distribution of development. In this context, it is necessary to statistically process indicators that make it possible to treat the concept of local development through data.

In Cuba, local development is understood as a dynamic process in which local actors intervene with full rights, in the search for permanent alternatives to improve their reality, where the economic, social, political and environmental dimensions must be interrelated (Arias et al., 2019). This conception is based on assuming the concept given by Torres (2016, p. 23) who defines it as:

Process of social construction and structural change, which from an innovative territorial environment and led by local governments, develops capacities to manage public policies, strategies, programs and projects aimed at exploiting endogenous and exogenous resources, promoting economic, social, natural and political institutional transformations in the localities on a sustainable basis, with active and leading citizen participation, in order to raise the quality of life of the population.

These precepts become more relevant in the Cuban context, in view of the updating of the economic and social model and the necessary revitalization of the municipality as an appropriate scenario to promote diverse initiatives (Ivonet, 2016; Limia, 2015; Marín de León & Rivera Rodríguez, 2015; Torres, 2016; Triana, 2012) as a solution to conflicts and social demands. Before dissimilar complexities inherited in the municipal scale, of centralized logics that have not managed to attenuate territorial disparities, it becomes necessary to assume management approaches that provide governments with real possibilities of transformation of complex local systems (Arias et al., 2019).

These elements, influenced by the limited decision-making power of the municipality and the "specific conditions of Cuba, with a mostly centralized economy, have been adjusting

the knowledge provided and generating new proposals and models of indigenous local development management" (Arias et al, 2018b), which must be conditioned by an environment of increasingly active, direct, systematic, real and effective citizen participation (Arias et al., 2018a, 2019), which is not reduced to the election of representatives, but rather to the proposal, implementation and social control of public decisions as a legitimate source of power (Arias et al., 2018a; Tamayo, 2016; Torres, 2016; Triana, 2012) and the construction of a responsible citizenship.

From the point of view of governments, participation helps to address conflicts and encourage agreements, as well as to increase the legitimacy and effectiveness of decisions. In the face of its modernization, the management of local governments is oriented to the citizen from the results it achieves, in articulation with the actors, territories and decision levels; and with the participation in public affairs in an integral way, from the planning, execution, organization, monitoring, evaluation, control and accountability of local development strategies (Arias et al., 2018b).

According to Torres (2018), national, provincial and municipal policies and initiatives aimed at reducing economic concentration and spatial inequalities, generating more endogenous circuits of accumulation in the territories and more deconcentrated value chains acquire relevance.

The above is related to the role assumed by the Articulated Platform for Integrated Territorial Development (PADIT in Spanish), led by the Ministry of Economy and Planning (MEP in Spanish), the Ministry of Foreign Trade (MINCEX in Spanish), the Physical Planning Institute (IPF in Spanish) and the Economic Research Institute (INIE in Spanish), with the support of the United Nations Development Programme (UNDP), which aims to improve the living conditions of the population in the Cuban territories linked to the program, as well as to promote development (municipality and province) based on the country's strategy, so that the municipalities are strengthened, with the necessary autonomy and a solid economic, productive, socio-cultural, institutional and environmental base, which should lead to the reduction of the main disproportions among them as an element to measure its effectiveness (Torres, 2018).

To this end, they propose tools and their generalization, among which the experience of calculating the Territorial Development Index (IDT in Spanish) stands out. The IDT, with the limitations it may have associated fundamentally with the availability of statistical information available at the sub-national levels and the non-weighting of the different dimensions it proposes, is an index composed of indicators that in some way reflects the country's territorial development and considers four dimensions.

It contributes to attenuate one of the weaknesses currently identified in the Cuban economy associated with the theoretical progress on local development and its measurement (Domínguez, 2019). Its application could contribute to delimiting the situation of the municipalities towards the interior of Guantánamo province, as a tool for relevant decision-making and the proposal of public policies from the local governments, which take into account the disproportions that affect the local development of the municipalities of Guantánamo.

The objective of this scientific article is therefore defined as: to determine the territorial disproportions, based on the use of indexes, as a contribution to decision-making in terms of local development in the province of Guantánamo.

The research topic is important since, within the analysis of development in the Cuban context, it is necessary to establish spaces for the discussion of the problem of inequalities within the regions if one takes into account that local structures inherit logics from the functioning of a traditionally centralized economy that has not managed to attenuate certain economic indicators and that impact on the regions, provinces and municipalities.

MATERIALS AND METHODS

In order to carry out the research, theoretical and empirical methods were combined with their corresponding procedures and techniques, which made it possible to form the thread and logic of thought necessary for the presentation of the results.

Within the theoretical methods, the analysis-synthesis was used for the assessment of the theoretical-methodological framework related to the process of local development management and its evaluation from the use of indicators and indexes; the historical-logical to analyze the evolution of the elements associated with the determination of territorial disproportions. The empirical methods combined documentary analysis and interviewing in the location of information for the calculation of indicators and their assessment in each of the municipalities of the province of Guantánamo. In addition, descriptive statistics were used for data processing and analysis.

To determine the intraprovincial disproportions, the Territorial Development Index generalized by PADIT in Cuba is used, which, in the authors' opinion, gives continuity to the research carried out by Méndez and Lloret (2005). PADIT's IDT tool homogenizes at the country level the analysis of disproportions from a multidimensional perspective.

It is composed of indicators grouped into four dimensions, chosen by national expert methods in accordance with the Sustainable Development Goals. In its calculation, the deprivation suffered by a municipality in each of the selected indicators is delimited, with respect to the remaining municipalities in the province. To this end, the source of the indicators by municipality was taken from the Guantánamo Provincial Statistical Yearbook, version 2018 of the National Statistics and Information Office, the institution responsible for the country's official statistics. However, the capture of some indicators was facilitated through data provided by the Institute of Physical Planning, as well as the Ministry of Science, Technology and Environment of the province.

To find the deprivation, a maximum and a minimum value was determined based on the values of all the municipalities in the province. The deprivation measure is classified in the range of zero to one, calculated as follows:

I_{ij} - Index of deprivation of indicator i in municipality j

X_{ij} - Value of indicator i in municipality j in the current year

Max. X_i - Maximum desired value of indicator i

Min. X_i - Minimum desired value of indicator i

j - Municipality

As a result of this analysis, an average deprivation indicator was defined from the formula:

$$I_{ppj} = 1/n \sum I_{ij}$$

I_{ppj} - Average deprivation rate for municipality j

n - Number of variables

The ITD is calculated:

$$IDT = 1 - I_{ppj}$$

The result ranges from zero to one, and the evaluation scale is:

- High level of municipal development = 0.700 or higher
- Average level of municipal development = 0.58 to 0.669
- Low level of municipal development = less than 0.58

It was taken into consideration the extraterritoriality of some data, as well as the lack of availability of others at moment of their localization, hence of the ones proposed by the Tool, there are used only the shown in the table 1.

Table 1 - Indicator of IDT tool used

DA: Environmental Dimension
<ul style="list-style-type: none">• IA1: Quotient between the rate of land consumption in human settlements and the rate of population growth• IA4: Green areas per inhabitant
DE: Economic Dimension
<ul style="list-style-type: none">• IE2: Land Idle Index• IE3: Gross value added per capita

- **IE4:** Investments per capita
- **IE5:** Per capita tax collection
- **IE6:** Work productivity

DS: Social Dimension

- **IS2:** Age dependency ratio
 - **IS3:** Percentage of the population with access to drinking water
 - **IS4:** Percentage of population with access to sewerage
 - **IS5:** Total municipal migration balance
 - **IS10:** Infant mortality rate
-

Source: Own elaboration from the ITD tool

In addition to this analysis, it was decided to incorporate three other indicators to complement the environmental and economic dimension, among which are

Environmental dimension:

I_{A7}: Investment expenditure for environmental protection

I_{A8}: Quotient of solid waste collected among total population

Economic dimension:

I_{E11}: Quotient between number of enterprises and territorial extension

RESULTS AND DISCUSSION

The management of local development in the province of Guantánamo is supported by a Development Strategy, which includes the priorities and strategic axes on which work is being done until 2030, in which the programmes for the integral development of the municipalities and the value chains with the introduction of research and technology transfer projects stand out. As part of this strategy, a series of initiatives and projects are being developed with the aim of transforming the territory's productive matrix. Figure 1 summarizes the situation of the local development projects from the use of tools of the spatial georeferencing, which makes possible to make visible the agglomeration of them in certain municipalities in detriment of others with total absence.

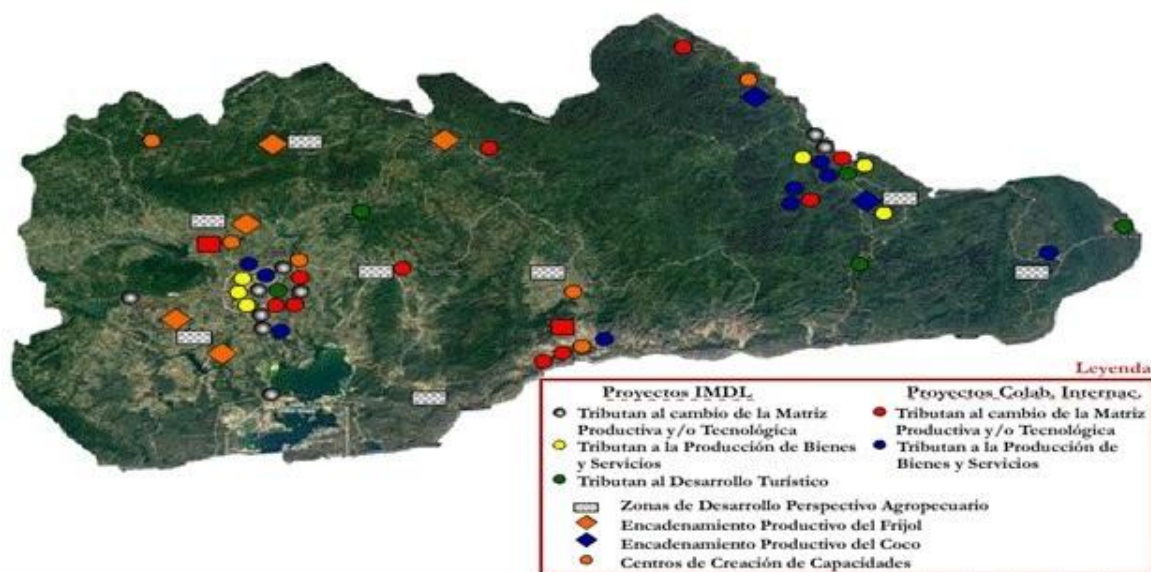
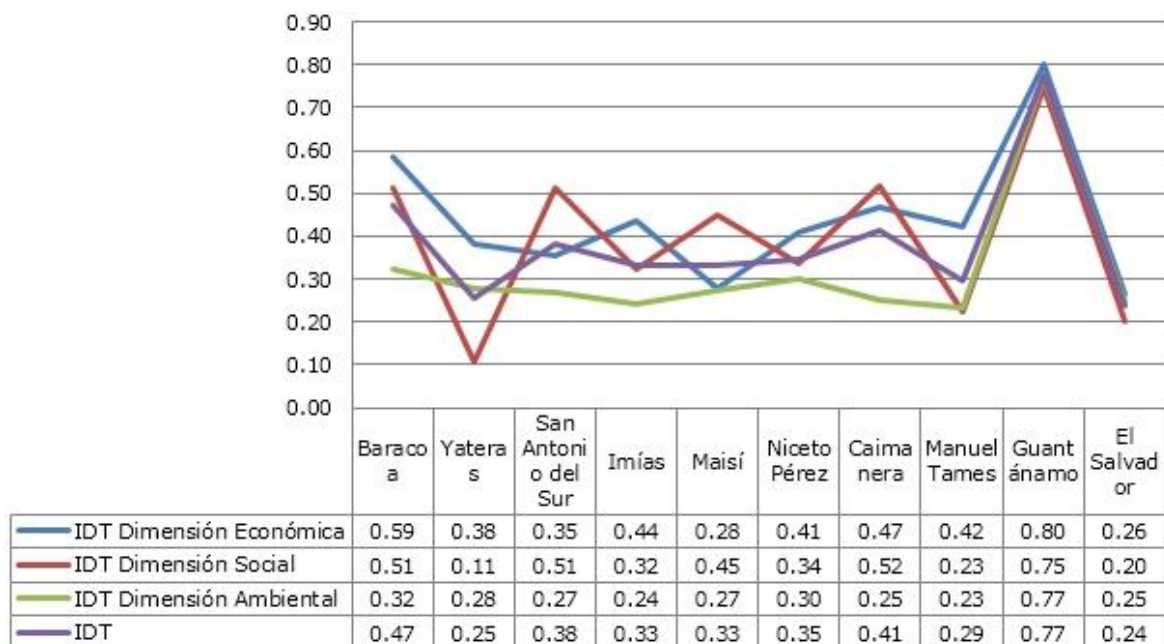


Fig. 1 - Map of local development projects in Guantánamo province
Source: elaborated from data of the Department of Local Development of the University of Guantánamo

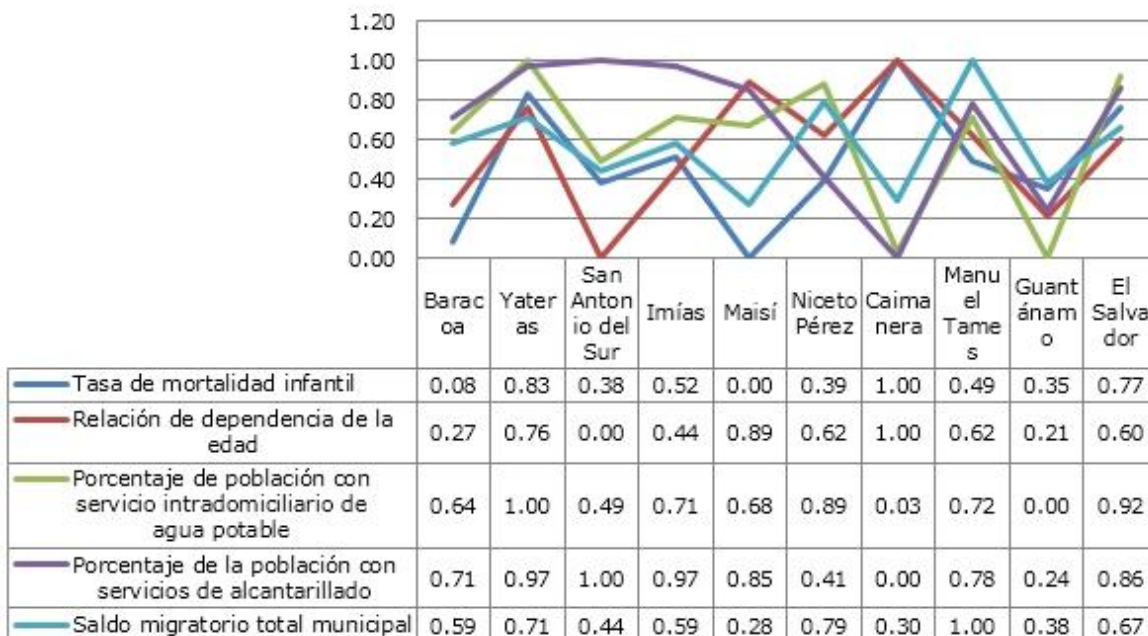
Currently there is an encouraging trend in the structure of projects aimed at changing the productive, technological and energy matrix of the province and overcoming the economic indicators of local development projects in the productive economic modality. However, it is considered that the project portfolio in the province is still insufficient in view of the tendency to concentrate projects in the municipalities of Guantánamo and Baracoa. The identification of the RTD by each of the municipalities made it possible to complete the visualization of the disparities as a guide to public policies that can be formulated at the provincial level to help mitigate them.

Based on this, once the information has been collected and the methodological steps for determining the disproportions have been applied, the results obtained can be seen in graph 1. The three municipalities with the highest TDI in consecutive order are Guantánamo, Baracoa and Caimanera. In the case of Baracoa and Caimanera, their values associated with the social dimension have a positive impact. The municipalities with the lowest RTD are El Salvador, Yateras and Manuel Tames, which generally present the lowest values in all dimensions, highlighting the low value of Yateras in the social dimension.



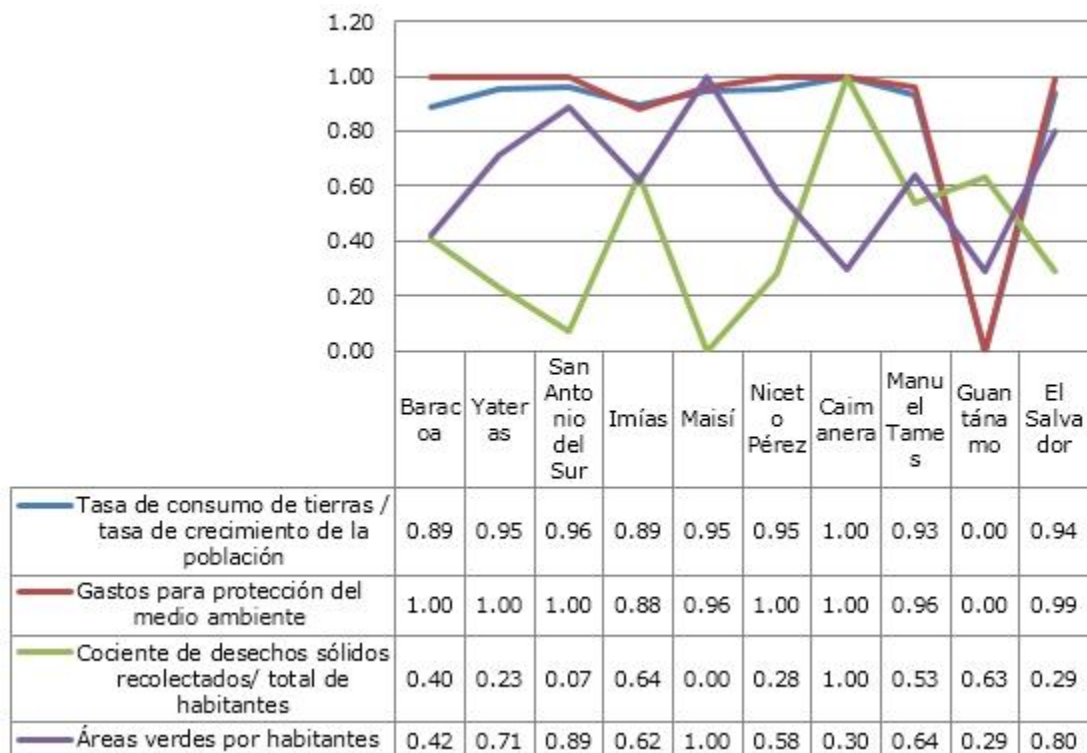
Graph 1 - General and dimensional ITD
Source: Own elaboration from database

Doing a specific analysis for each of the dimensions, it is visualized that, in the case of the social dimension (Graph 2) the greatest disproportions are given in the case of the percentage of the population with intradomestic drinking water service (Yateras, El Salvador, Niceto Pérez); as for the percentage of the population with sewage services (SAS, Imías, Yateras and El Salvador), the worst migratory balances are found in the municipalities of Manuel Tames, Niceto Pérez and Yateras and the infant mortality rates in Caimanera, Yateras and El Salvador.

**Graph 2** - Disproportions in the social dimension (Ipj)

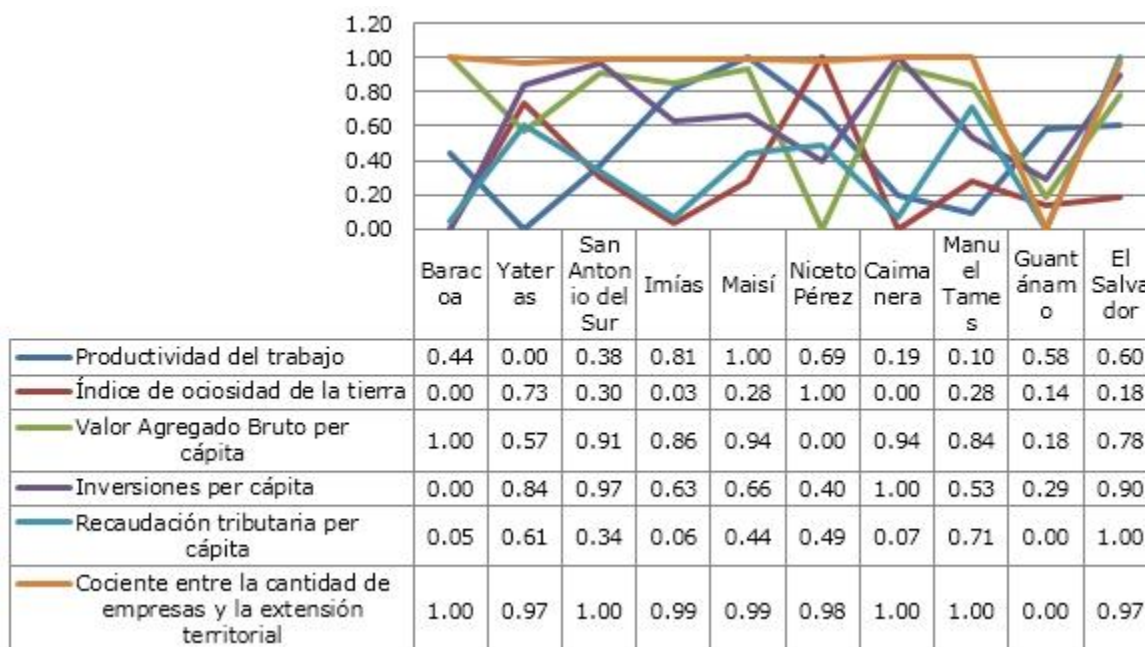
Source: Own elaboration from database

In the case of the environmental dimension (Graph 3) the greatest deprivation is associated with the indicators: quotient between the rate of land consumption in human settlements and the rate of population growth (San Antonio del Sur, Yateras and Niceto Pérez); in green areas per inhabitant (San Antonio del Sur, Yateras and El Salvador); investment expenditures for environmental protection (Baracoa, Yateras, San Antonio del Sur, Niceto Pérez, Caimanera) and the quotient of solid waste collected among the total inhabitants (Maisí and San Antonio del Sur).

**Graph 3** - Environmental disproportions (Ipj)

Source: Own elaboration from database

In the case of the economic dimension (Graph 4) the greatest disproportions in terms of the index of idleness of the land are in the municipalities of Yateras and Niceto Pérez, in terms of gross value added per capita "Baracoa, San Antonio del Sur, Maisí and Caimanera", in the case of investments per capita "Baracoa, San Antonio del Sur, Maisí and Caimanera", on the per capita tax collection "Manuel Tames" and in labor productivity the worst values are in Imías, El Salvador and Maisí.

**Graph 4** - Disproportions in economic dimension (I_{pj})

Source: Own elaboration from database

In general, the IDT behaves differently towards the interior of Guantánamo province. This situation is a warning signal for the actors and managers of the territory who must develop territorial public policies capable of contributing to achieve strategic alliances to strengthen the productive base of the territory and generate local development projects that contribute to its mitigation.

It is through the management of local development that conditions the way in which the capacities and opportunities available to the localities are used, facilitating the ways of managing endogenous resources in terms of the well-being and quality of life of the population. However, despite the growth of these management processes, certain disproportions persist in Cuba that go back to the colonial past and despite the efforts made to eradicate them, since the initial years of the revolutionary triumph, these disproportions have been maintained and constitute a problem that hinders the development of the country.

The research made it possible to apply a tool to determine the disproportions in the case of Guantánamo province, based on the calculation of a Territorial Development Index (ITD) resulting from a set of tools in the process of validation and generalization of the Articulated Platform for Territorial Development in Cuba.

The calculation of the ITD made it possible to conclude that the municipalities with the greatest disproportions in the case of Guantánamo province are El Salvador, Yateras and Manuel Tames; and the most advantageous ones are: Guantánamo, Baracoa and Caimanera.

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Conflict of interest:

Authors declare not to have any conflict of interest.

Authors' contribution:

The authors have participated in the writing of the paper and the analysis of the documents.



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