

Methodology for calculating the contribution of the Manabí Prefecture to the 2030 Agenda of the Sustainable Development Goals

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Abstract

The methodology to calculate the global contribution of the prefecture to the 2030 Agenda is constructed based on various considerations, starting from the minimum fulfillment of the different indicators located in the Territorial Development and Management Plan (PDOT, abbreviation in Spanish), obtaining in a more precise way the individual contribution of the prefecture to each Sustainable Development Goals (SDG). It also considers the direct alignment of each SDG to the five dimensions proposed in the Territorial Prosperity Index (IPT, abbreviation in Spanish) in order to assign a weighted rate of attention to each SDG according to the gap identified in each dimension. In addition, the competences of the Prefecture are delimited, and the different goals of the 17 objectives are analyzed one by one to establish how many goals are aligned with the competences. From these goals, we identify how many of them we are currently working on, obtaining a quotient between our coverage of competences and our total competences. Finally, the global calculation of the contribution to the agenda is done by adding the product of the weighted rate of attention of each SDG, its individual contribution, and its quotient of coverage of competences.

Key words: 2030 Agenda, Territorial Prosperity Index, Sustainable Development Goals, Territorial Gaps, Territorial Development and Management Plan.

1. Introduction

In 2015, the United Nations (UN) together with member countries proposed 17 goals by 2030 to achieve global sustainable development. In accordance with this 2030 agenda, political leaders have made their government plans by aligning their objectives with the targets of the Sustainable Development Goals (SDGs).

The main motivation for carrying out a Voluntary Local Report (VLR) is to be able to analyze, make decisions, monitor, and evaluate what is proposed to contribute to the achievement of sustainable development in the territory.

Analyze, since the fulfillment of the different goals through the indicators needs to be contextualized according to the characteristics and problems of the territory.

Make decisions, for the pursuit of goals, through articulated actions and oriented towards a state of well-being of the territory.

Monitor, since when considering the alignment of these plans towards the 2030 agenda it is important to know the progress through indicators that allow us to know where we started from (baseline), where we are (most recent result) and where we are going (goal at the end of the period).

Evaluate, based on knowing the impact that the fulfillment of our goals has on the territory or society, to know if there is a relationship of the operations carried out towards structural or paradigm changes that generate sustainable development in the territory.

Stating the above and given the need to report from a provincial government in Ecuador its progress and contributions to the 2030 Agenda, the construction of a methodology that calculates in a general way the contribution of a provincial government and is homologated at the national level is proposed.

Under the construction of this methodology, a clear and coherent framework is established to carry out the evaluation, which allows to establish objectives, criteria and specific indicators that guide the collection and analysis of data.

Thus, the consistency and comparability of the results between different evaluations is guaranteed. This is particularly important when conducting evaluations in different Provincial Governments at different times, which can help identify trends and patterns in the implementation of the 2030 Agenda at the global level.

On the other hand, it will help to ensure the quality of evaluation by establishing clear and rigorous processes for data collection and analysis. This is essential to ensure that the evaluation is objective, reliable and valid, which in turn increases the credibility of the results.

Finally, it is intended to be a tool for finding gaps in areas where improvements are needed and good practices in the implementation of the 2030 Agenda. By establishing clear criteria and indicators for evaluation, it is possible to compare results and determine where more resources and efforts are needed to improve the implementation of the 2030 Agenda.

2. Methodology

2.1 Agenda 2030, 17 SDGs

Is an action global plan adopted to the United Nation's members states on September 2015. This Agenda established a Sustainable Development's objectives and goals frame that must accomplish until 2030 year.

The 2030 Agenda is a global action called to ensure that development will be sustainable and benefit everyone, including presents and futures generations. Every country is responsible to implement and monitor the progress toward to the full achievement of the SDGs (PNUD et al, 2016).

This SDGs must be raised in the different Territorial Development Plan and could be measured through different indicators, in the case of Manabí, it is obtained through the Territorial Prosperity Index (IPT, abbreviation in Spanish) in 2021.

2.2 Territorial Prosperity Index (IPT, abbreviation in Spanish)

Is an indicator that measures the regions and territories' development and wellness and is used to evaluate persons who live in its' progress and life quality.

Based on the idea that territory prosperity is not measured by economics incomes levels, but also for another factors as health, education, security, Ambiental sustainability, social cohesion, and the institutions quality (Bateman et al, 2021).

Is compounds by many subs index that measure different aspects of territorial prosperity as the education level, health, basic public services access, security, Ambiental sustainable, institutions quality, among others. Every sub index is compounded by specific indicators as child mortality rate, literacy rate, crime index, potable water access.

The IPT is used to compare development level with wellness of the different regions and territories and is used to identify the strengths and weaknesses of each one of them in terms of their ability to propitiate an ideal environment for the human development. This index is useful for the governments and other organizations which work into regional development, since it allows them to identify areas that require a higher investment and attention to better population' life quality.

For all this, is an useful indicator that must be used for the governments and others organizations which work into regional development, since it allows identify the neediest areas, and the government have to include this results in their Territorial Development and Management Plan (PDOT, abbreviation in Spanish).

2.3 Territorial Development and Management Plan (PDOT, abbreviation in spanish)

Is a planning tool that has as objective establish a territorial organization model for a region, city, or municipality.

The PDOT also establishes the necessaries policies, strategies, actions, and programs to manage and regulate territory' using, considering the naturals resources, region's characteristics. Its mission is promoting sustainable development, according to the population's needs and aspirations (STPE, 2019).

Is important to highlight that the development and implementation of a PDOT should be carried out in a participatory manner and in line with existing laws and regulations. A PDOT can contribute to sustainable territorial development and improve the quality of life of the population. It must be aligned with the Annual Operating Plan (POA, abbreviation in Spanish) to achieve compliance with the programs proposed therein.

2.4 Annual Operating Plan (POA, abbreviation in Spanish)

It is a planning and management tool used by organizations, companies, and government entities to establish the objectives, goals, strategies, and activities that must be carried out during the period of one year.

The POA is an important tool for the efficient and effective management of available

resources, since it allows planning and coordinating the actions necessary to achieve the objectives and goals established within a given period. In other words, the POA is a detailed plan that lays out what should be done, by whom, when it should be done, how it should be done, and with what resources it should be done.

Importantly, the POA must be aligned with the overall strategy of the organization or entity and must be updated and adjusted periodically to adapt to changes and challenges in the environment. The POA is a key tool for effective management and informed decision-making, and its proper implementation can contribute to improving the efficiency and effectiveness of an organization or entity (SNPyD, 2016).

3. BI Dashboard

The results visualization tool is an interactive tool that synthesizes the results obtained from the exercise of measuring the indicators that contribute to the development of the Sustainable Development Goals (SDGs) at their different scales. The purpose of this tool is to facilitate the visualization of the progress and efforts that the Prefecture of Manabí has made to contribute to the SDGs in the Province of Manabí.

The operation of the tool is based on two main databases structured in Excel format. Each one contains the results of the indicators aligned as follows: POA Projects Budgets, POA Monitoring, POA-PDOT Alignment, PDOT Indicators Alignment-PDOT Programs, PDOT Programs Alignment-PDOT Axes and PDOT Axes-SDG Goals Alignment. In addition, there is a structured basis with the results of the alignment of PDOT Indicators and their contributions to the SDGs. These indicators are grouped according to the SDGs they address to facilitate users' understanding.

See more at: [Manabí SDG Dashboard](#)

4. Alignment Methodology

4.1 POA-PDOT- SDG Alignment

PDOTs are planning tools that aim to contribute to the implementation of the SDGs in a specific territory. The POAs, in turn, are management tools that allow carrying out the necessary actions to achieve the goals established in the PDOTs and, therefore, contribute to the achievement of the SDGs. In short, the SDGs are the global agenda, the PDOTs are the tool to plan local action and the POAs are the tool to execute and carry out that local action aligned with the SDGs (Gutierrez y Morales, 2021).

So, the PDOT, since its construction is directly aligned with the 2030 Agenda, according to the competencies of the provincial GAD. The competences of a Provincial GAD in Ecuador are established in the Constitution of the Republic of Ecuador and in the Organic Code of Territorial Organization, Autonomy and Decentralization (COOTAD).

The competences described in the COOTAD must be planned in the POA, directly aligned with the PDOT and its axes of intervention, which in the case of the Prefecture of Manabí are 5 (Manabí Connected, Manabí Humano, Manabí Vivo, Manabí Sustainable and Manabí Articulated), guaranteeing its execution through Programs, Projects, and

Activities, according to the current programmatic structure of the institution.

The programs are directly aligned to their corresponding axes of intervention of the PDOT, and at their minimum level of Activities they contain interventions that are direct operations in the territory and are aligned with the SDGs.

4.2 Direct alignment of Indicators and targets (PDOT) with SDGs and respective targets according to competencies Provincial GAD

The Direct Alignment of Indicators and Targets (PDOT) with SDGs is a process in which it is sought to establish a clear relationship between the Sustainable Development Goals (SDGs) and the indicators and goals of the Development and Territorial Planning Plan (PDOT) of a Provincial Decentralized Autonomous Government (GAD). This allows the efforts and actions carried out for development and territorial planning to be aligned with the global sustainability objectives established by the UN 2030 Agenda.

In this sense, each competency of the Provincial GAD must establish its own direct alignment of PDOT indicators and targets with the SDGs and their respective targets. Some of the competences that a Provincial GAD could have included territorial planning, mobility and transport, environment, economic and productive development, among others.

For example, taking into consideration infrastructure competition, it can be aligned with SDG 9 (Industry, Innovation, and Infrastructure) and SDG 11 (Sustainable Cities and Communities). Goals could include improving road infrastructure and fostering the development of sustainable and resilient communities. This alignment should be carried out through quantitative and qualitative analysis.

4.2.1 Alignment's Quantitative Analysis

This analysis is based on the idea of knowing the total targets of each SDG, how many competencies are of the GADs, and this new universe of goals aligned according to competencies in how many are being contributed through interventions of the Prefecture.

4.2.2 Alignment's Qualitative Analysis

This analysis is the complement of the quantitative analysis, being of great contribution to projects that the provincial GAD is executing but that are not in the PDOT and contribute to the fulfillment of the SDGs. Likewise, for projects that are being executed in the form of concurrent management agreements that are not included within the universe of exclusive competences and that are contributing to the SDGs.

This analysis complements the POA, PDOT and SDG alignment, obtaining a landed contribution to the legal framework that delimits the contributions of the Provincial GADs and their contributions to the SDGs, within the framework of their exclusive competences and attributions/responsibilities or others that are executed under the modality of co-management agreements.

4.3 Weight Allocation through Alignment's SDG-IPT dimensions.

To align the Sustainable Development Goals (SDGs) with the dimensions of the Territorial Prosperity Index (TPI), it is necessary to understand that both frameworks seek to measure and improve the social, economic, and environmental well-being of communities and territories.

The IPT developed by the Prefecture of Manabí in collaboration with UN Habitat is based on five main dimensions: Social Cohesion and Equity, Environmental Sustainability and Resilience, Urban Economics and Municipal Finance, Infrastructure Development, and Urban and Territorial Planning and Governance. Each of these dimensions is composed of several indicators that are used to assess the level of territorial prosperity of a region or territory.

To align the SDGs with the dimensions of the IPT, the following steps should be taken:

Identify the relevant SDGs: Identify the SDGs that relate to the dimensions of the IPT and the areas in which the organization has a greater capacity for impact given the gaps in the territory.

Identify relevant IPT indicators: Identify IPT-specific indicators that relate to the selected SDGs.

Set specific targets: Set specific targets for each of the IPT indicators related to the selected SDGs. These goals must be impactful, achievable, and consistent with the organization's strategy.

Results-based management: It is important to regularly monitor and measure progress towards established targets and IPT indicators. This will allow the organization to adjust in the strategy and activities necessary to achieve the goals and improve the territorial prosperity of the region or territory.

In summary, aligning the SDGs with the dimensions of the IPT implies identifying the relevant SDGs, the related or replacing IPT indicators, setting specific targets, measuring, and regularly monitoring the proposed targets. In that sense, the organization will achieve greater alignment between the strategy and the measurement of social, economic, and environmental progress of the region or territory (Rodríguez-Miranda y Castro-Fernández, 2021).

The following alignment is obtained between the 5 dimensions IPT and the Sustainable Development Goals.

Dimension	SDG
Social Cohesion and Equity	1,2,3,4,5
Environmental Sustainability and Resilience	6,12,13,14,15
Urban Economics and Municipal Finance	8,10
Infrastructure Development	9,11
Planning, Urban and Territorial Governance	16,17

Table 1. Alignment's SDG-IPT dimensions
Own Elaboration

4.4 Calculation of individual SDG contribution.

It is a set of indicators that are measured in different units and dimensions, which contribute directly to the fulfillment of goals proposed in the PDOT that are directly aligned with the goals of the respective SDGs.

The calculation is made by weighted average, being the weighting of the different units of measurement of the indicators. If there is no explicit quantitative criterion within the different units of measurement, the assignment will be made by expert criteria.

$$\text{SDG Contribution's Level (A)} = \sum_{i=1}^n \text{Accomplish Percentage}_i * W_i$$

Where:

Accomplish Percentage_i = Percentage of Compliance Indicator aligned to the SDG. Being equal to the quotient between the result of the period for the planned.

W_i = Weighting that is assigned according to the units of measurement of the indicators, otherwise assigned by expert criteria.

4.5 Calculation of aligned goals met on total goals according to provincial GADs competencies.

It starts from the scoop that at least 65% of the goals are difficult to achieve. This is due to the competences that each level of government has (Ciambra, 2020).

The SDGs add up to 169 targets to achieve the 17 sustainable development goals. However, having different levels of government, with general and specific functions and competencies, subnational governments have limitations in achieving all the goals set. For this reason, a first filter of the 169 goals is carried out, in which those that are not possible to achieve are discarded because they do not have competition from the provincial GADs. In addition, in case of not having competence but that there is intervention in the SDG goals proposed, either by direct or indirect execution (agreements), we proceed to place that goal as aligned and fulfilled.

Being the second filter, the proportion of goals that are aligned and have intervention or are being contributed.

$$\text{SDGs Alignment Level and Goal's Accomplish (B)} = \frac{\text{Number of goals aligned by competencies covered}}{\text{Total goals aligned by competencies}}$$

Where:

Number of goals aligned by competencies covered = It is the result of the review from goal-to-goal SDG for the alignment of PDOT goals according to competencies delimited in the COOTAD, and then through indicators verify which goals are being covered.

Total goals aligned by competencies = It is the result of the review from goal-to-goal

SDG for the alignment of PDOT goals according to competencies delimited in the COOTAD.

4.6 Calculation weights dimensions IPT, according to IPT Human Settlements results

The IPT methodology has been extended to measure the state of prosperity at the state level, based on the importance for its management, the rural-urban interconnection and intermediate subnational governments that integrate several urban territories and their respective rural areas, and the flexibility that characterizes the CPI. In general, this index aims to be a diagnostic and monitoring tool for the province's PDOT.

The construction process was based on the methodology developed by UN Habitat for the state of Pará, Brazil (UN-Habitat, 2017).

Based on the IPT 2021 results for Manabí carried out by the prefecture in agreement with UN Habitat, 5 dimensions are established. That when consolidating them, the multidimensional index called IPT of 53.88 is obtained, which is in the "Moderate Solid" interval, concluding that Manabí has deficiencies in its dimensions that do not allow it to better consolidate its territorial prosperity.

The dimension with the greatest gap is sought to have greater weight of intervention in them.

Taking the results by dimension of the IPT, we proceed:

1. *Calculation of distance (gap) towards the ideal (100%) = $100\% - ResultDim_i$*
2. *Average gap calculation (geometric mean) = $\sqrt[5]{Dim_1 + \dots + Dim_5}$*
3. *Calculation attention prioritization rate from the average gap (geometric mean) = $\frac{GapWeightDim_i}{\sum_{i=1}^n Mg*Dim_i}$*

Where:

Dim= Dimention that compounds the IPT

Mg= Geometric mean

Gap= Margin not covered

4.7 Calculation of weights of each SDG according to its alignment to IPT dimensions

As its main objective is the contribution of the provincial GAD to the 2030 agenda, according to its competences, weights are assigned to each SDG in which the GAD is intervening in search of the achievement of sustainable development goals. Through which it is obtained that given the exclusive competences and the possibilities of concurrent management, local governments do not contribute to the achievement of 100% of the targets of the different sustainable development goals.

By having the direct alignment between the SDGs and the dimensions of the IPT, the weight of the dimension is assigned to the respective SDGs aligned uniformly.

Calculating the weight of the SDGs according to their IPT alignment $(W) = \frac{1}{n} (wDim_i)$
 $i=1, \dots, 5$

Where:

n = Numbers of SDGs aligned to its dimension respective

w = Weighting of the IPT dimension calculated from 4.6

Dim = IPT dimension

4.8 Calculation of GAD Provincial global contribution to the 2030 Agenda

The measurement is determined directly through the calculations made and described above, obtaining a multidimensional index that allows to know the contribution of a provincial GAD according to its competences, interventions aligned and not aligned to the PDOT during a given period within the framework of the country's legislation.

Calculation of GAD Provincial global contribution to the 2030 Agenda $(D) = \sum_{i=1}^{17} A_i B_i W_i$

Where:

A = Individual SDG contribution (4.4)

B = Level of alignment and fulfillment of targets by SDGs (4.5)

W = Weight of the SDGs according to their alignment to the IPT dimension (4.7)

The results obtained are approved by means of the IPT results scale, where the following interval is given:

0 -30% Very weak contribution

30-40% Weak Contribution

40-50% Moderate weak contribution

50-60% Moderate Solid Contribution

60-80% Solid Contribution

80-100% Very solid contribution

The results for the Prefecture of Manabí of its contribution to the 2030 Agenda according to its competences regulated by the COOTAD, fall in the range of a Solid Contribution by obtaining a result of 78.48%.

References

Bateman, A. , Pinto, A. (2021). *Medición del índice de Prosperidad Territorial de la Provincia de Manabí*. Portoviejo, Ecuador: Onu Habitat y Prefectura de Manabí.

Ciambra, A (2020).(CGLU y ONU Habitat). *Guidelines for voluntary local reviews*. (Volume 1). Recuperado de:

<https://sdgs.un.org/topics/voluntary-local-reviews>

Código Orgánico de Organización Territorial, Autonomía y Descentralización [COOTAD]. 19 de octubre de 2010. Registro Oficial Suplemento 303 (Ecuador). Actualizado 31 de diciembre de 2019.

Consejo Nacional de Planificación (2017). *Guía metodológica para la elaboración del Plan Operativo Anual Institucional*. Quito, Ecuador: Consejo Nacional de Planificación.

Fiallos, F. (2018). *El Plan Operativo Anual y su importancia en la gestión pública en Ecuador*. Revista Científica de Administración, 6(2), 21-33.

GTLRG, ONU-Hábitat y PNUD. (2016). Primer módulo de capacitación sobre localización de los ODS. Recuperado de : <https://bit.ly/2JmfnUe>.

García, L., & Pérez, M. (2020). *Planificación estratégica para el desarrollo sostenible: La alineación del POA, el PDOT y la Agenda 2030*. Ciudad de México: Editorial Porrua.

García, J., López, M., & Rodríguez, A. (2020). Cálculo de los aportes de un gobierno local a la Agenda 2030: Una propuesta metodológica. *Revista de Gestión Ambiental*, 25(2), 1-15. DOI: 10.22490/21456453.4407

Gobierno de México (2020). *Guía para el desarrollo de revisiones subnacionales voluntarias*. Recuperado de:

https://www.gob.mx/cms/uploads/attachment/file/670811/Guia_para_elaborar_Revisiones_Voluntarias_Subnacionales.pdf

Gómez-Acebo, A., & Gutiérrez-Gracia, A. (2020). *Indicadores de sostenibilidad territorial en la Agenda 2030: el caso del índice de prosperidad territorial*. *Cuadernos de Desarrollo Rural*, 17(84), 29-52. <https://doi.org/10.11144/Javeriana.cdr17-84.ists>

Gutiérrez, A., & Morales, J. (2021). *La alineación del POA y el PDOT con la Agenda 2030: Una revisión crítica*. *Revista de Administración Pública*, 10(2), 22-38. <https://doi.org/10.15677/RAP.V10I2.321>

Hernández, R. (2022). La alineación de los planes de desarrollo territorial con la Agenda 2030. En J. García y M. Pérez (Eds.), *Planificación estratégica para el desarrollo sostenible: La alineación del POA, el PDOT y la Agenda 2030* (pp. 45-60). Ciudad de México: Editorial Porrúa.

Martínez-Carazo, P., & Castellanos-Sánchez, A. (2020). *Análisis de la contribución del índice de prosperidad territorial a la Agenda 2030*. *Revista de Estudios Regionales*, 118, 55-74. <https://doi.org/10.26892/RES.118.03>

Ministerio de Economía y Finanzas (2019). *Guía metodológica para la formulación del Plan Operativo Anual de Inversión (POAI)*. Quito, Ecuador: Ministerio de Economía y Finanzas.

Navarro, M., & Chamba, P. (2018). *Diseño y aplicación del Plan Operativo Anual para mejorar la gestión institucional: caso práctico de una organización pública en Ecuador*. *Revista Científica de Administración*, 6(1), 45-60.

Rodríguez-Miranda, A., & Castro-Fernández, M. (2021). *Evaluación de la alineación del Índice de prosperidad territorial con los objetivos de la Agenda 2030 en España*. *Ekonomiaz*, 110, 200-217.
<https://doi.org/10.1080/0013791X.2021.1913650>

Secretaría Nacional de Planificación y Desarrollo (2016). *Guía para la elaboración del Plan Operativo Anual de las entidades públicas*. Quito, Ecuador: Secretaría Nacional de Planificación y Desarrollo.

Secretaría de Planificación Nacional y Desarrollo. (2019). *Plan Nacional de Desarrollo 2019-2023: El Plan para el Desarrollo Sostenible*. Quito: Secretaría Nacional de Planificación y Desarrollo.

Secretaría Técnica Planifica Ecuador (2019). *Guía para formulación/actualización del PDOT Provincial. (1era edición)*. Recuperado de:
<https://www.planificacion.gob.ec/planifica-ecuador-pone-a-disposicion-de-los-gad-las-guias-para-la-formulacion-actualizacion-de-los-pdot/>