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Original article

INSTRUMENT FOR THE STRATEGIC LOCALIZATION OF THE SUSTAINABLE DEVELOPMENT GOALS IN CUBAN MUNICIPALITIES

INSTRUMENTO PARA LA LOCALIZACIÓN ESTRATÉGICA DE LOS OBJETIVOS DE DESARROLLO SOSTENIBLE EN MUNICIPIOS CUBANOS

Dariel de León García [I] * https://orcid.org/0000-0001-5807-5628
Maylin Esther Castro Premier [I] https://orcid.org/0000-0002-1109-6461
Niria Castillo Arzola [II] https://orcid.org/0000-0002-2644-4967
Iroel Cantillo Cartaya [III] https://orcid.org/0009-0005-5425-7965

[I] Center for Local and Community Development CEDEL, Havana, Cuba
darieldeleongarcia@gmail.com dariel@cedel.cu
[II] University of Ciego de Avila "Máximo Gómez Báez", Ciego de Avila, Cuba
comunicaamppflorencia@gmail.com
[III] Science, Technology and Environment Delegation (CITMA), Guantanamo, Cuba
iroelcc1972@gmail.com

* Author to address correspondence: darieldeleongarcia@gmail.com dariel@cedel.cu

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Abstract

The article shows in detail the Strategic Localization Procedure of the Sustainable Development Goals (SDG) in Cuban municipalities as a novel instrument contextualized to the needs of local administrations. The objective of the research was to methodologically organize the strategic localization process. The tool used in the research to determine the work route was the general procedure for the definition and solution of problems in an organization (the municipality), which is a representation of the activities related to the Management Cycle: Plan, Do, Check, and Act. To evaluate the satisfaction of the

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municipalities with the proposed procedure, the IADOV technique was applied. The procedure for the Strategic Localization of the SDGs in Cuban municipalities is based on 17 steps grouped in five stages and has a high satisfaction (0.92) in Cuban municipalities.

Keywords: strategic localization, Sustainable Development Goals, municipal development strategies, problem definition and solution, Plan-Do-Check-Act management cycle.

Resumen

En el artículo se muestra de forma detallada el Procedimiento de Localización Estratégica de los Objetivos de Desarrollo Sostenible (ODS) en municipios cubanos como un instrumento novedoso y contextualizado a las necesidades de las administraciones locales. El objetivo de la investigación fue organizar metodológicamente el proceso de localización estratégica. La herramienta que en la investigación se empleó para determinar la ruta de trabajo fue el procedimiento general para la definición y solución de problemas en una organización (el municipio), que se trata de una representación de las actividades relacionadas con el Ciclo de Gestión: Planear, Hacer, Verificar, Actuar. Para evaluar la satisfacción de los municipios con el procedimiento propuesto se aplicó la técnica de IADOV. El procedimiento para la Localización Estratégica de los ODS en municipios cubanos se basa en 17 pasos agrupados en cinco etapas y cuenta con una alta satisfacción (0.92).

Palabras clave: localización estratégica, Objetivos de Desarrollo Sostenible, estrategias de desarrollo municipal, definición y solución de problemas, ciclo de gestión Planear-Hacer-Verificar-Actuar.

Introduction

The 17 Sustainable Development Goals (SDGs) and their 169 targets [1,2] are far more integrated, comprehensive, and complex than the Millennium Development Goals (MDGs), contain a better balance between the economic, social, and environmental dimensions of sustainable development, and provide the opportunity to trigger systemic change toward a sustainable future.[3,4] This framework is one of the most ambitious and important global agreements in recent history and challenges communities, industry, and governments to drive more sustainable development models.

However, while the SDGs help set the goals to be achieved by 2030 and identify indicators and metrics, the 2030 Agenda says very little about how to implement them,[5] localize them, and how to analyze the impact that public policies can have on them.[6,7,8] The long-term planning perspective and cross-cutting nature of the SDGs pose many challenges for national, regional, and local governments in terms of localization, implementation, evaluation, measurement, and monitoring.[9,10] The success or failure of the goals will largely depend on governments measuring the distance they need to travel to achieve each target on the one hand, and tracking progress through a combination of metrics on the other.[11-14] The development of an instrument such as the one presented in this research is the key to promoting public policies that truly advance the achievement of the SDGs.

The importance that the 2030 Agenda attaches to the local level is precisely one of its main characteristics: all the SDGs include targets related to competencies and responsibilities of the municipal sphere, mainly in the provision of basic services and the promotion of Entities, and more than 68% of the 169 SDG targets need to be implemented from the local level to be achieved.[7,15]

Localizing is the process of considering subnational contexts in the achievement of the 2030 Agenda, from setting goals and targets, to determining the means of implementation, and using indicators to measure and monitor progress made.[16-20] Localization relates both to how local and regional governments can support the achievement of the SDGs through bottom-up action, and how the SDGs can provide a framework for local development policy. It can be argued that local spaces are ultimately the key locus for provision and development, and, as such, local governments are central to the success of sustainable development.[21-24]

The general objective of the research presented in the article was to design an instrument for the Strategic Localization of the SDGs in Cuban municipalities to guide and influence the formulation of public policies in order to generate an environment that facilitates sustainable action at the local level. The article shows in detail a Procedure for the localization of the SDGs aligned with the Municipal Development Strategies (MDS), hence the name Strategic Localization. The instrument that has been generated for the municipalities of Cuba is novel and contextualized and meets a need in local public administration. The proposal has scientific, methodological and practical values, which have been developed within the framework of the Program for Strengthening Municipal Capacities for Local Development (PRODEL).

Different research methods and tools were used in the study, such as documentary review, the method of analysis and synthesis, and also mathematical tools for data analysis of the results of participatory techniques. The main result is an SDG Strategic Localization Procedure that also constitutes a useful resource for local policies, civil society organizations, academia and any actor involved in the implementation and monitoring of the SDGs.

Materials and Methods

The tool used in the research to determine the work path was the general procedure for defining and solving problems in an organization (the municipality), which is a representation of the activities related to the Quality Control Cycle: Plan, Do, Check, Act (PHVA), also known as the Shewhart or Deming Cycle.[25] This procedure26 (see **Figure 1**) consists of the following seven steps:

1. Definition of the problem.
2. Recognition of the characteristics of the problem (Observation).
3. Search for the main causes (Analysis).
4. Actions to eliminate the causes (Action).

5. Confirmation of the effectiveness of the action (Verification).permanent elimination of the causes (Standardization).
6. Review of the activities and planning of future work (Conclusions).

The first three steps correspond to the action of Planning, the fourth to the action of Doing, the fifth to the action of Verifying and the sixth to the action of Acting, of the Quality Management Cycle. With step seven, this Cycle starts again.

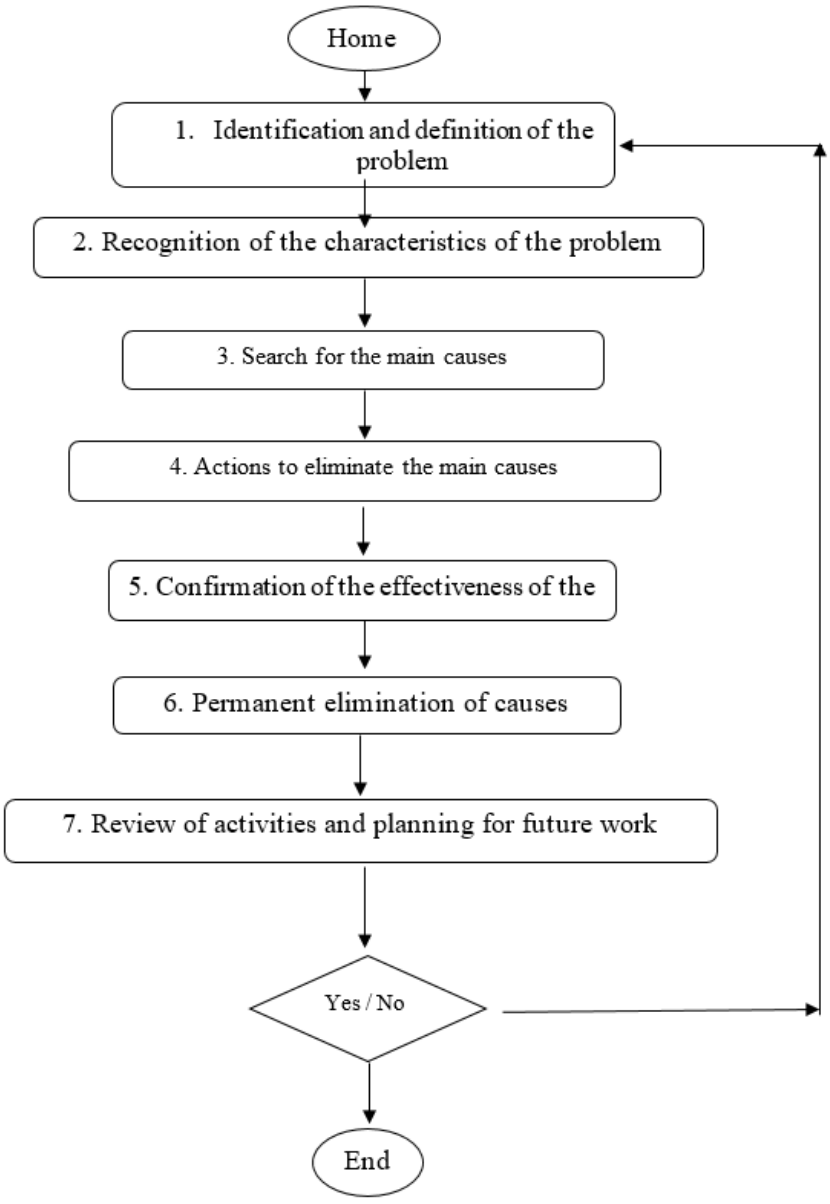

Figure 1. General troubleshooting procedure.
Source: Based on[26]

The novelty of the research lies in the conception of a procedure for the localization of the SDGs in alignment with the Municipal Development Strategies. The research is of a descriptive-explanatory type, based on a qualitative foundation, given that it allowed analyzing, explaining and describing the results derived from this study. In addition, participatory tools and techniques were used with specialists and other tools and techniques for the review and analysis of documentary information. On the other hand, practices that integrated other branches of knowledge such as mathematical models and descriptive statistics were applied to evaluate satisfaction with the proposed procedure.

To evaluate the satisfaction of the municipalities with the proposed procedure, the IADOV technique was applied with the collaboration of 27 professionals from Cuban municipalities, these are specialists who have been working for more than a decade in municipal development issues. The IADOV technique owes its name to its creator V. A. Iadov. The researches that have used it describe it as an effective tool for the study of the level of satisfaction of the participants in different training contexts. It consists of three closed questions inserted in a questionnaire and whose relationship is unknown to the respondent. Its objective is to assess the level of satisfaction.[27]

Results and discussion

The procedure presented in the article aims to methodologically organize in a sequence of logical steps the process of Strategic Localization of the SDGs in Cuban municipal spaces. It has as paradigms of action two strategic ideas, the first is the management of municipal development in the short and medium term through an MDS, and the second is the establishment of the control of municipal strategic management. The scope of the procedure is in the municipal sphere, specifically the Cuban one. The procedure takes into account the multilevel relationships that Cuban municipalities have, since they are open systems in development issues.

The applicability of the instrument is based on three fundamental premises:

1. Strategic management in the municipality.
2. Control of municipal strategic management.
3. Municipal institutionality aligned with the MDS.

The verification of these premises generates two situations: compliance and non-compliance. Compliance leads to the application of the procedure, by demonstrating the existence of initial conditions that favor its success. Partial or total compliance would imply the prior assurance of these initial conditions. The procedure designed for the Strategic Localization of the SDGs has five stages and 17 steps (see **Figure 2**).

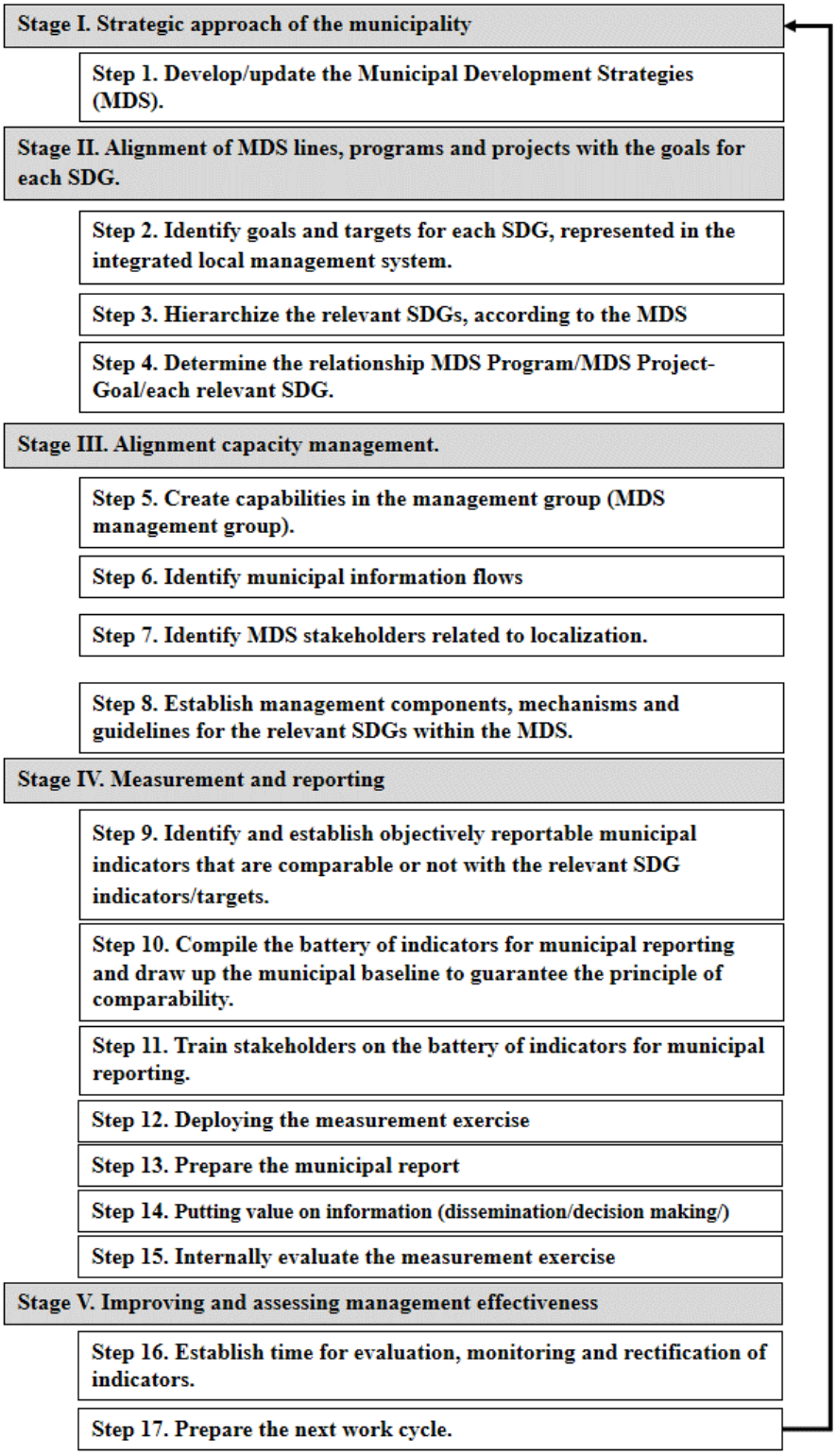

Figure 2. Localization procedure of the SDGs aligned with the Municipal Development Strategies.

Source: Own elaboration

In Stage I. Strategic approach of the municipality, step 1 refers to the elaboration/updating of the EDM.

In Stage II. Alignment of lines, programs and projects of the MDS with the goals for each SDG includes the following steps: Step 2 Identify goals and targets for each SDG, represented in the integrated local management system. Step 3 Hierarchize the relevant SDGs, according to the MDS and step 4 Determine the relationship MDS Program/MDS Project-Goal/each relevant SDG.

In Step III. Manage alignment capacity, steps 5, 6, 7 and 8 are included which refer respectively to Capacity Building in the management group (MDS Management Group), identification of municipal information flows, identification of MDS actors related to localization and establish component, mechanism and management guidelines for the relevant SDGs within the MDS.

Stage IV. Measurement and Reporting, contains steps 9 to 15 which are related to: Identifying and establishing objectively reportable municipal indicators that are homologous or not with the relevant SDG indicators/targets, forming the battery of indicators for municipal reporting and drawing the municipal baseline to ensure the principle of comparability, training stakeholders on the battery of indicators for municipal reporting, deploying the measurement exercise, elaborating the municipal report, valorizing the information (dissemination/decision making/) and internal evaluation of the measurement exercise.

The V and last stage, Improvement and evaluation of management effectiveness, contains the following steps: step 16 establish observation and monitoring time and rectification of indicators and step 17 prepare the next work cycle.

The procedure in its design was conceived with five essential characteristics that distinguish it, these are[28]:

- Logical consistency: Coherence of the procedure, with the execution logic of the work processes, in the partial or total application, for the solution of the problems illustrated in this research.
- Contextualization: Adequate to the specificities of the conditions of the municipality of application, i.e., it must correspond to the concrete conditions of each moment.
- Flexibility: The procedure can be adjusted to the particularities and conditions of the municipalities, partially or totally applied. It assumes the constant evolution of the information management tools that support the results, given the potential for the incorporation of modifications and adjustments in the different processes.
- Parsimony: The structuring of the procedure, its logical consistency and flexibility allow the development of a complex process in a relatively simple way, which is valuable and motivating for the people in charge of its systematization.
- Sufficiency: Designed on the basis of the necessary systematic updating of information.

Strategic localization was conceived on the basis of functions that helped its operationalization. These functions are capable in a systemic way of defining the inputs that start from the municipal opportunities and conditions on which the MDS acts and also the outputs of the process that are supported by strategic

lines, local public policies, programs and projects of the municipality.[29-32] The localization functions are the following:

- F1-Focus: Consists of ensuring that the municipality has the MDS or updates it, as appropriate, in order to have a management platform capable of guiding the localization process in an objective and effective manner.[33,34]
- F2-Align: Consists of determining an adequate balance between municipal interests and possibilities, based on the MDS and the targets and indicators of the global and regional SDGs (mainly those of level 1). In performing this function, the municipality must be able to incorporate elements of improvement to the MDS. This function includes an important diagnostic and municipal capacity building component.[35-37]
- F3-Manage: Consists of organizing the necessary elements of the localization process, as provided for by the municipality in its strategic approach.
- F4-Measure - report: this is a composite function, since it must be able to measure the indicators determined for localization, essentially based on those provided by the management control instrument and others determined by the municipality. In its second part, the function will be able to process and report the measurement, putting in value the information, that is, using it for decision making. This function must comply with two aspects of utmost importance for the municipality. The first is: to make the municipality comparable with itself in other stages and achieve a contribution to the municipal progress index, and the second is to make the municipality comparable with others in those common aspects of public management that intervene in the localization process.[38,39,40]
- F5-Improve: consists of preparing the next measurement cycle in localization, naturalizing in municipal management the aspects established in the aligned SDGs. Targets and indicators that have been met or are yet to be met should be disincorporated and incorporated respectively.[41-44]

In general terms, the SDG localization process is not simply reduced to measurement; success lies in the incorporation into municipal management of the global elements provided by the SDGs, without losing the essence and uniqueness of each municipality.[45] The functions designed comply with the principle of open management, i.e., management that starts from strategic planning but allows the incorporation of elements from the management environment, both functional and geopolitical.[46, 47]

The relationship of the localization functions to the municipality's strategic management cycle is conceived as follows: Plan includes the function Focus, Align, in the case of Do includes Align and Manage. In the acting are the functions Measure-Report and in the last one of the cycles, which is Check, the function Improve is included. **Figure 3** shows a representation of the localization functions that were designed in the research.

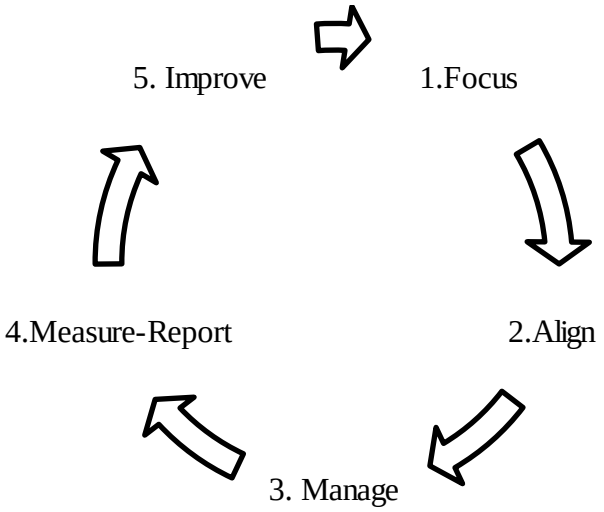

Figure 3. Representation of the location functions
Source: Own elaboration

Figure 4 Shows a map of the relationship of the procedure steps and localization functions.

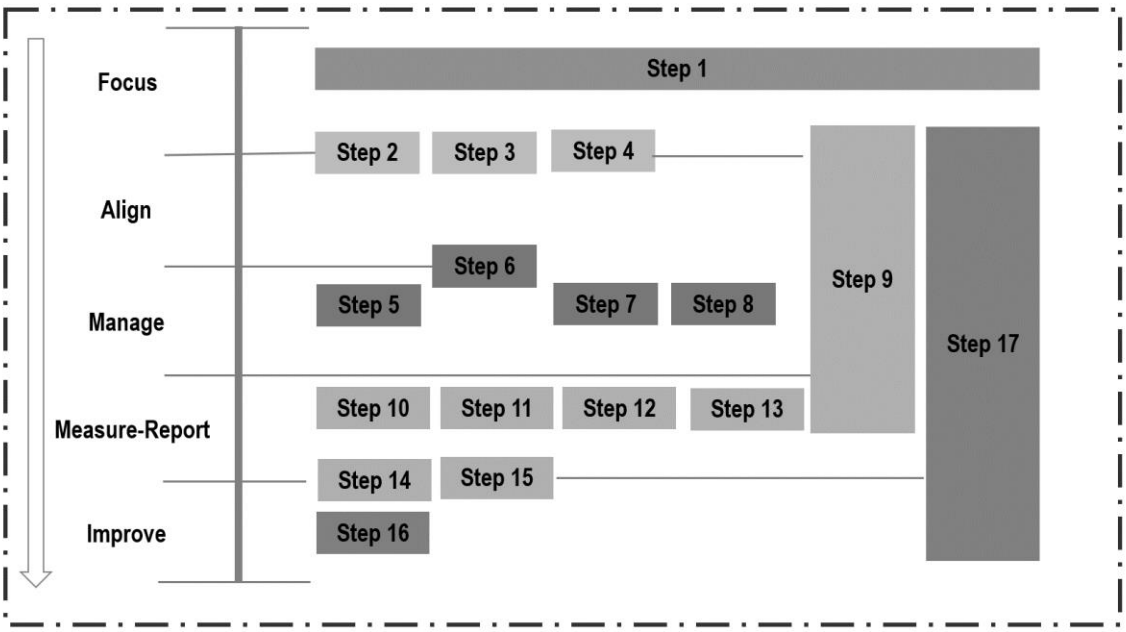

Figure 4. Map of the relationship of the steps of the procedure and localization functions.
Source: Own elaboration

Table 1 shows in detail the recommended activities, inputs and expected results in each of the steps of the SDG Strategic Localization Procedure.

Table 1. Activities, inputs and outputs in each step of the SDG Localization Procedure.

Steps		Activity	Inputs	Outputs
Stage I	**Strategic approach of the municipality**			
step-1	Elaborate/update the Municipal Development Strategies (MDS).	MDS conformation or updating exercise	As established in Methodological Guides and technical and legal regulations	Municipal Development Strategy
Stage II	**Alignment of MDS's lines, programs and projects with the goals for each SDG.**			
step-2	Identify goals and targets for each SDG, represented in the integrated local management system.	Sessions relating lines/programs/projects to the targets and indicators of each SDG.	Management control tool or, if it does not yet exist, indicators related to each of the MDS dimensions would be used.	SDGs and targets relevant to the municipality
step-3	Prioritize the relevant SDGs, according to the MDS.			
step-4	Determine the relationship MDS Program/MDS Project-Goal/each relevant SDG.			
Stage III	**Manage alignment capability.**			
step-5	Build capacity in the management group (MDS management group).	Awareness raising, training, capacity building Coordination	Municipal stakeholders Tool for management control and MDS	Management mechanism implemented
step-6	Identify municipal information flows			
step-7	Identify MDS stakeholders related to localization.			
step-8	Establish management component, mechanism and guidelines for relevant SDGs within MDS.			
Stage IV	**Measurement and reporting**			
step-9	Identify and establish objectively reportable municipal indicators that are comparable or not with the relevant SDG indicators/targets.	Coordination	Tool for management control and MDS	
step-10	Form the battery of indicators for municipal reporting and draw the municipal baseline to ensure the principle of comparability.			

	Steps	Activity	Inputs	Outputs
step-11	Train stakeholders on the battery of indicators for municipal reporting.	Training and education	Battery of indicators, working mechanisms and documented information	Report on the measurement of municipal progress in the implementation of the SDGs
step-12	Deploy the measurement exercise	Deployment		
step-13	Elaborate the municipal report	Processing		
step-14	Add value to the information (dissemination/decision making/)	Advanced processing if necessary.		
step-15	Internally evaluate the measurement exercise	Reflection		
Stage V	**Improvement and evaluation of management effectiveness.**			
step-16	Establish time for evaluation, monitoring and rectification of indicators.	Monitoring and verification	Development of the process	Organizational improvements
step-17	Prepare the next work cycle.	Improvement		

Source: Own elaboration

For the theoretical verification study on satisfaction with the procedure, the IADOV Technique was used to collect the satisfaction criterion. This technique was used to determine the level of individual and group satisfaction based on an applied survey. The individual satisfaction results were: 17% were more satisfied than dissatisfied and 83% showed a clear satisfaction.

The Group Satisfaction Index (GSI) was obtained by associating the different levels of satisfaction of the respondents. The value of the General Satisfaction Index (GSI) of this research was 0.92. The value of the index is high, reflecting acceptance of the proposal, a recognition of its usefulness, inasmuch as the potential future users have issued criteria evidencing their satisfaction with the procedure.

Conclusions

The procedure for the Strategic Localization of the SDGs in Cuban municipalities is based on 17 steps grouped in five stages. The steps are related to localization functions designed in the research, which help the operationalization of the procedure and are harmoniously related to the Shewhart Cycle.

The implementation of the procedure for the localization of the SDGs has three premises and the verification of these premises generates two situations: compliance and non-compliance. Compliance leads to the application of the procedure, by demonstrating the existence of initial conditions that favor its success. Compliance, partial or total, would imply the prior assurance of these initial conditions.

It was possible to demonstrate from a theoretical point of view that there is a clear satisfaction on the part of the users with the design of the procedure, achieving a General Satisfaction Index

of 0.92. Individually, 17% of the specialists are more satisfied than dissatisfied and 83% are clearly satisfied.

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Conflict of interest

The authors declare no conflicts of interest

Authors' contributions

- Dariel de León García: Conceptualization, Formal analysis, Research, Methodology, Project management, Resources, Validation, Visualization, Writing, Original draft, Editing and proofreading.
- Maylin Esther Castro Premier: Conceptualization, Formal analysis, Methodology, Project management, Resources, Visualization, Writing, Original draft, Writing: proofreading and editing.
- Niria Castillo Arzola: Methodology, Writing: proofreading and editing.

- Iroel Cantillo Cartaya: Formal analysis, Methodology, Writing: proofreading and editing.