

Project life cycle: A guide to designing and implementing local development projects

Ciclo de vida de proyectos: Guía para diseñar e implementar proyectos de desarrollo local



Ciclo de vida de projetos: Uma guia para a concepção e implementação de projetos de desenvolvimento local

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ABSTRACT

Local development and projects design related to it that substitute imports and generate export items have become one of the Cuban economy priorities in its development plan up to 2030. That is why, the objective of this research was to offer a guide for the design and implementation of local development projects, of productive and economical type. To attain this objective, it was analyzed the life cycle stages of several types of projects and the elements to be developed in each of them, besides, it was carried out interviews and reviews of the local projects reports in Cuba. The main result of the research was a guide that, through actions to be carried out in each stage of their life cycle, contributes to achieve the effectiveness of these projects and serves as a reference material for their managers. Based on the characteristics of local development projects in Cuba, four stages in their life cycle were identified and a series of actions to be carried out at each stage were designed. The implementation of this tool in more than fifteen local development projects in Holguín province allowed achieving better results, both the increase of the projects in execution and a greater effectiveness in those that were in operation.

Keywords: life cycle; local development; effectiveness; local development project

RESUMEN

El desarrollo local y la ejecución de proyectos relacionados con este, que sustituyan importaciones y generen rubros exportables, se convirtieron en una de las prioridades de la economía cubana en su plan de desarrollo hasta el 2030. Es por ello que el objetivo de esta investigación fue aportar una guía para el diseño e implementación de proyectos de desarrollo local, de tipo económico productivos. Para lograr este objetivo, se analizaron las etapas del ciclo de vida de varios tipos de proyectos y los elementos a desarrollar en cada una de ellas, además, se realizaron entrevistas y revisiones de informes sobre los proyectos de desarrollo local en Cuba. Como principal resultado de la investigación se aportó una guía que, mediante acciones a realizar en cada etapa de su ciclo de vida, contribuya a alcanzar la efectividad de estos proyectos y sirva como material de consulta a sus directivos. A partir de las características de los proyectos de

desarrollo local en Cuba, se identificaron cuatro etapas en su ciclo de vida y se diseñaron una serie de acciones a realizar en cada etapa. La implementación de esta herramienta en más de quince proyectos de desarrollo local de la provincia Holguín permitió alcanzar mejores resultados, tanto el incremento de los proyectos en ejecución como una mayor efectividad en los que se encontraban en funcionamiento.

Palabras clave: ciclo de vida; desarrollo local; efectividad; proyecto de desarrollo local

RESUMO

O desenvolvimento local e a implementação de projetos com ele relacionados, que substituem as importações e geram rubros exportáveis converteram se numa das prioridades da economia cubana no seu plano de desenvolvimento local até 2030. É por isso que o objetivo desta investigação era fornecer um guia para a concepção e implementação de projetos de desenvolvimento local, de tipo económico produtivo. Para atingir este objetivo, foram analisadas as fases do ciclo de vida de vários tipos de projetos e os elementos a desenvolver em cada um deles, além disso, foram realizadas entrevistas e análises de relatórios sobre projetos de desenvolvimento local em Cuba. Como principal resultado da investigação, foi fornecido um guia que, através de ações a realizar em cada fase do seu ciclo de vida, contribui para alcançar a eficácia destes projetos e serve como material de consulta para os seus gestores. Com base nas características dos projetos de desenvolvimento local em Cuba, foram identificadas quatro fases do seu ciclo de vida e foi concebida uma série de ações a serem realizadas em cada fase. A implementação deste instrumento em mais de quinze projetos de desenvolvimento local na província de Holguín permitiu alcançar melhores resultados, tanto o aumento dos projetos em execução como uma maior eficácia nos que estavam em funcionamento.

Palavras-chave: ciclo de vida; desenvolvimento local; eficácia; projeto de desenvolvimento local

INTRODUCTION

The updating of the socioeconomic model in Cuba has impacts in all areas as a multidimensional and integral process, in which the different economic and social activities and sectors intervene. In the conceptualization of this model, the economic, social and environmental sustainability of the country is associated with local development. In recent years, it has become one of the priorities of the Cuban economic development plan to promote local development and the implementation of related projects that replace imports and generate exportable items (Díaz-Canel Bermúdez et al., 2020; Mep, 2020).

Local development projects are part of the change in the Cuban socioeconomic model and represent one of the ways to respond to national and local needs and generate greater welfare. Their implementation makes it possible to activate development through production and services with competitive possibilities or with an important socioeconomic contribution.

The decentralization of government competencies and their strengthening, together with the changes in the Constitution of the Republic of Cuba (2019), which strengthens its autonomy (Article 168), seeks, among other purposes, to increase economic and social development through the use of endogenous resources, both material and spiritual, the creation of jobs and an increase in the income generated.

In recent years, in Cuba, greater importance has been given to the need to increase these projects as a way to achieve the socioeconomic development of the localities. However, the expected results are still not obtained. Jam Massó (2018) enunciates a group of obstacles at the municipal scale to achieve the implementation of local development projects, some of which, in the opinion of the authors of this research, are fully valid, among them: the lack of communication, information and coordination among the different actors, the disarticulation of planning processes, insufficient information and training on local management of leaders and cadres, among others.

The document approved by the Ministry of Economy and Planning (Mep in Spanish), in force since 2011, called Methodology for the elaboration of local development projects,

in what refers to the presentation of local development projects, includes the financial and logistical mechanisms, the objectives of the working groups, the proposal for the design of projects and the procedure for the operation and administration of the funds, but it does not include the steps that must be followed to achieve the execution of the project, it does not identify the processes that the management of these projects goes through and it does not establish the elements to be taken into account for the analysis of the results once in operation.

The review of the reports on the results of the local development projects, elaborated by the Provincial Direction of Economy and Planning of Holguin in the closings of the year 2014 until 2019 and the participation of the researchers in meetings of the provincial group of local development and in tours of the group by several municipalities, allows to state that there are limitations in their management, the projects that are managed to be presented and approved are insufficient, with the only exception of those that are designed and managed in the provincial head. Existing projects are limited in their execution, and are not based on a diagnosis that takes into account the potential of endogenous resources and are not derived from municipal development strategies.

On the other hand, the feasibility studies present difficulties and show a lack of knowledge on the part of the directors on what steps to follow to achieve the operation of the projects, in addition, there is dispersion and lack of integration among the main actors. Likewise, there is a lack of tools for monitoring the projects in operation and their results, which would allow for the necessary regulation of the process.

These shortcomings suggest the need to conceive knowledge management resources that contribute to reduce some of the existing limitations in local development projects, which is the purpose of this contribution, which aims to provide a guide for the design and implementation of local development projects, of an economic-productive type. Based on the conception of the stages of the life cycle of these projects, it includes actions to be carried out in each one of them, which will be useful to their managers to promote their implementation, foster the fulfillment of their objectives and the achievement of better performance. In other words, to achieve the pertinence and effectiveness of the project.

MATERIALS AND METHODS

Theoretical methods such as analysis-synthesis were used as a basis for characterizing the object and the theoretical-methodological elements related to local development projects, obtained from the study of specialized literature. They also served as a guide for the elaboration of the conclusions in order to identify the most relevant contributions. The historical-logical approach revealed fundamental elements of the design and management processes of local development projects in their trajectories in order to characterize and analyze the results obtained.

The ascent from the abstract to the concrete thought allowed unveiling the dynamics of the whole and its parts, from the characterization of each project development phase, observing actors, scenarios for the analysis of theoretical conceptions on project life cycles and effectiveness. The system approach allowed structuring and explaining the life cycle sequence for local development projects in Cuba and the actions to be developed at each stage.

From the empirical methods, interviews and participant and non-participant observation were used to determine the elements that have a negative impact on the management of local development projects. The review of documents made it possible to systematize previous studies in which elements of importance for the realization of the result presented were found. Among the analyzed documents, there were highlighted degree thesis, scientific articles, reports on the results of the local development projects of the Provincial Direction of Economy and Planning of Holguin.

The results of these projects in the province of Holguin from 2014 to 2019 were analyzed, which allowed identifying the main difficulties existing in their management and the limitations to achieve their implementation. Elements that served as a base for the elaboration of the guide that is exposed and that has been object of implementation and generalization in local development projects of the province and proposals for its application in other provinces of the country are analyzed.

RESULTS AND DISCUSSION

Projects and their life cycle

It is important to start from the analysis of different conceptions of projects and their life cycle, taking into account the different modalities, forms and variants that they find in the territories and their characteristics.

Gavilán et al. (2010) state that projects, to the extent that they are configured as a tool for innovation and learning, based on experience, constitute a fundamental instrument for the deployment and updating of the mission of the entities.

They also state that project management is a complex process that involves:

- Continuously adapting to a changing reality, interacting with other people, social agents and innovating, identifying new ways of doing things, in order to provide alternative responses to emerging social needs and problems
- Facing different moments or phases: identification and maturation of the idea, design and formulation of the project, implementation and execution, evaluation and end of the project (Gavilán et al., 2010, p. 6)

A project is a unique (non-standardized) process that involves the identification, design, implementation, execution and evaluation (planning) of untested response alternatives (innovative nature), in order to achieve certain objectives within a given timeframe and thus respond to a detected need or problem, generating a situation that is better than the starting situation (Gavilán et al., 2010).

On the other hand, the PMBOOK Guide (PMI, 2017) states that a project is a temporary effort that is carried out to create a unique product, service or result. The temporary nature of projects implies that they have a defined beginning and end.

There are different types of projects, depending on the purposes they pursue. Some of the types listed in the PMBOOK Guide (2017), according to that criterion, are:

- The development of a new product, service or result

- The implementation of a change in the structure, processes, personnel or style of an organization
- The development or acquisition of a new or modified information system (hardware or software)
- The performance of research work, the results of which will be properly recorded
- The construction of a building, industrial plant or infrastructure
- The implementation, improvement or enhancement of existing business processes and procedures

Social projects are also carried out, which, according to Gavilán et al. (2010), are understood as those aimed at personal promotion and social inclusion, others linked to the environmental field or international development cooperation, civic, cultural, etc.

Other types of projects, which have been gaining importance in recent years and which constitute the object of study of this research, are local development projects. These, from a theoretical point of view, are understood by Rodríguez and Zeballos (2007, p. 17) as "transformation proposals that, based on a certain conception of social change, intervene in specific areas or dimensions of reality to improve it and, thus, directly or indirectly benefit populations that, in general, can be located territorially".

The Center for Local Development Studies (CEDEL) (2020), states that these projects represent a process where a set of resources, efforts and actions are made available -in a specific time period and place- with the purpose of transforming an existing situation into a desired one, providing certain products, goods and/or services. In addition, it characterizes them as projects dedicated to contribute to the development of the territory/s and community/s where they operate, and to impact the quality of life of the population, under the fundamental criterion of strengthening the capacities of the participating groups and actors and taking advantage of their own resources and potentialities in the solution of the problems posed.

In the particular case of Cuba, in the Methodological Indications for the elaboration of the 2020 plan of the Ministry of Economy and Planning, it is considered that:

Local development projects are established as a way to achieve an active participation of municipal and provincial administration councils in their development strategy, through the management of projects with impact in the economic-productive, socio-cultural, natural and institutional areas, which enable the use of endogenous and exogenous resources by state and non-state actors, based on the improvement of the quality of life of the population (Mep, 2019, p. 273).

The proper management of a project involves going through different stages, all of which are necessary and interdependent. Thus, the project cycle starts with the identification of an initial situation (need or problem detected), on which action is to be taken by means of a planned intervention with the intention of generating a better final situation.

The life cycle of a project is the series of phases it goes through from inception to closure. The phases are generally sequential and their names and numbers are determined based on the management and control needs of the organization(s) involved, the nature of the project itself and its area of application (PMI, 2017).

On the other hand, according to Castillo, Vega and Meneses (2020, p. 634), "the life cycle of a project is a sequence of phases that connect the beginning to the end of a project. They make it possible to define what technical work should be performed in each phase, when deliverables should be generated, who is involved in each phase, and how to control and approve each phase."

These researches agree that the life cycle of a project spans from inception to completion. From this, the project life cycle can be determined or shaped based on a variety of criteria, including the unique aspects of the organization, industry, or technology employed. While every project has a defined beginning and end, the specific deliverables and activities that are carried out will vary widely, depending on the characteristics of each project. The life cycle provides the basic framework for conducting the project.

In the PMBOOK Guide (2017), it is stated that, although projects vary in size and complexity, they can all be configured within the following generic life cycle structure: Project Initiation, Organization and Preparation, Work Execution, and Project Closure.

There are several researches in which life cycles are defined for different types of projects; among them, those carried out by González, Sánchez and Heredia (2019), related to mining projects, Castillo, Vega and Meneses (2020), who propose a life cycle for business intelligence projects, which comprises six stages: preliminary analysis, definition, information gathering, design, implementation and project closure.

Enshassi, Al Ghoul and Alkilani (2018), incorporate sustainability factors to be included within the stages of the life cycle of construction projects. On the other hand, Crespo, Bueno and Ometto (2016), work on the evaluation of impacts of sustainable product life cycles. Meira and Rojas (2012) propose a life cycle model for social enterprises.

Regarding this topic, among the most internationally recognized documents is the Guide to the Fundamentals of Project Management (PMI, 2017), which aims to provide guidelines for the management of individual projects and to define concepts related to project management. It also describes the project management life cycle and related processes, as well as the project life cycle. In this, the following stages are identified: Initiation, Planning, Execution, Monitoring and Control, and Closure.

Specifically for local development projects, several researches that propose life cycles for different types of projects were analyzed, including the following:

Guide for Project Management in Local Development, Malta (2003). Its main objective is to state the steps for the formulation of social and community projects and their financial management. The stages it comprises are: Preparation and studies, Execution and Operation or permanent functioning.

Guide for the management of social projects, Gavilán et al. (2010). Its objectives are to facilitate the management of social projects, while offering guidelines and tools for the planning, formulation, implementation, execution and evaluation of social

projects. It proposes some basic keys for incorporating important cross-cutting issues such as gender, intercultural and environmental perspectives into projects.

It presents the following stages in the life cycle: Initial phase, Project design or development phase, Start-up phase, Execution and follow-up phase, Ex-post evaluation.

Project management methodology, Center for Local Development Studies (2020). In it, actions to be carried out within each phase of the projects are defined. These are: Identification and analysis, Planning, Feasibility assessment, Negotiation and presentation of the project, Implementation and monitoring and Final evaluation.

The life cycles collected in these researches are focused on projects fundamentally of social and community types, with the participation of international collaboration, among others. In Cuba, in Decree Law 33 of 2021 of the Council of Ministers (2021), local development projects are classified into economic, productive, socio-cultural, environmental, institutional and research, development and innovation projects.

Specifically, the productive economic projects that constitute the object of this contribution are defined as those that generate marketable goods and services for local benefit and in a sustainable manner for the sectors of the economy and social services, with emphasis on food production for domestic consumption, contributing to exports, import substitution and monetary-mercantile flows within the territory, as well as promoting the management of sustainable local tourism and productive linkages (Council of Ministers of the Republic of Cuba, 2021).

Not having found in the literature consulted a tool that fits the characteristics of these productive economic projects and given the importance they have for boosting the economy of the country's municipalities, the guide was conceived to include the actions to be carried out at each stage of their life cycle.

Table 1 shows the characteristics of each stage of the life cycles of some of the tools mentioned above, which served as the basis for the elaboration provided in this study, which defines the stages of the life cycle for productive economic projects and includes

the actions to be carried out in each of the stages, adapted to the needs and characteristics of these projects in Cuba.

Table1 - Stages and characteristics of project life cycles

Tool	Stages of project life cycles	Characteristics
Guide for project management in local development, Malta (2003).	Preparation and studies	Analyses and designs are carried out in order to have a viable project option and make decisions to recommend the best alternative for the successful progress of the project.
	Execution	Assembly of the project, during which the processes that will make the project ready to operate are carried out.
	Permanent operation or functioning	Stage in which the project is ready to operate.
Guide for the management of social projects, Gavilán et al. (2010).	Initial phase: identification of the idea	Reality analysis, including the identification of stakeholder expectations and demands; definition of the need or problem and impact factors, resource analysis, identification and prioritization of innovative alternatives. (<i>Ex-ante evaluation</i>)
	Project design and development phase	Definition of the target population, formulation of objectives, implementation plan, resource plan, evaluation plan, project report. (Evaluation of project design, feasibility and sustainability).
	Start-up phase	Communication to stakeholders and recruitment of beneficiaries, resourcing.

	Execution phase	Development, evaluation, readjustments and changes during implementation. (Evaluation and monitoring of the intervention)
	Final phase: adjustment or end of the project	If the needs or problems remain, make the necessary adjustments to the project or design and implement a service. (Ex-post evaluation and final report)
Project Management Methodology, Center for Local Development Studies (2020)	Identification and analysis	The project proposal is defined with the possible variants conceived to solve the need that gives life to the project idea. This implies researching the reality where the project intervenes in order to identify the process to be transformed or developed and the ways to do it in an appropriate way.
	Planning	The project proposal is detailed. This involves clarifying and ordering what is to be achieved and, based on this, organizing and planning the inputs or components (resources, efforts and actions) that must operate in the project to achieve the purposes outlined and how these will be monitored.
	Feasibility assessment	The project proposal is evaluated in order to assess whether or not it is feasible to carry it out and to improve its management alternatives.
	Project negotiation and presentation	The commitments and contributions of key stakeholders are established to ensure the implementation and success of the project proposal. This involves presenting and discussing the project idea with key stakeholders in order to obtain the approvals,

		agreements and contributions required for its implementation.
	Execution and follow-up	The project proposal is implemented. This involves the deployment of the planned strategies and actions and the financial and material execution of the project to gradually achieve the proposed objectives. It includes, in turn, the monitoring and control of the project's performance and the results and effects it produces.
	Final evaluation	Research is conducted on the effectiveness and sustainability of the project or the impacts generated by it, once concluded. It involves the analysis, comparison and general assessment of the results of the project in correspondence with the objective of transforming reality.
Guide to the fundamentals of project management (PMI, 2017).	Beginning	Those processes performed to define a new project or new phase of an existing project when obtaining authorization to initiate it.
	Planning	It includes the processes required to establish the scope of the project, refine the objectives and define the course of action required to achieve the proposed project objectives.
	Execution	Those processes performed to complete the work defined in the project management plan to meet the project specifications.
	Follow-up and control	Those processes required to track, review and regulate the progress and performance of the project to identify areas where the plan

		requires change and to initiate changes accordingly.
	Closing	Comprised of the processes performed to finalize all activities across all Process Groups to formally close the project or a phase of the project.

Source: Own elaboration

Effectiveness in a local development Project

Project effectiveness is understood as the relationship between the objectives and the results achieved under real conditions (Bouza Suárez, 2000). From different perspectives, several authors relate it to the achievement of objectives (Sumanth, 1990; Mallo and Merlo, 1995; González, 2002; Gutiérrez, 2007), cited by Rojas et al. (2018), while others associate it with the result of effectiveness and efficiency, as in the case of Quijano (2006), cited by Rojas et al. (2018).

In the specific case of a local development project of a productive economic type, the position that links effectiveness by achieving the goals and objectives of the project with efficiency and effectiveness is assumed. In other words, that the approval of the designed projects is achieved and, subsequently, their successful implementation. In addition, once in operation, they should show a robust economic-financial health, which allows them to comply with the commitments made, including their tax burdens and contributions to local government bodies if it is in their responsibilities (in the case of the Cuban experience, these bodies are called Municipal Administration Council-Cam) and achieve the objectives proposed during its design.

In order to increase the effectiveness of projects, it is also necessary to use resources according to the design and to achieve client satisfaction. If the relationship between these elements is not effective, it is necessary to regulate the process through actions that emanate from the periodic control that must accompany the projects through the

evaluation of indicators and post-investment analysis, all of which will allow the identification of opportunities for improvement (Almaguer Torres et al., 2020).

Another fundamental element to increase their effectiveness would be the integration of processes and, in addition, of local development dimensions and internal and external actors.

Projects managed according to these logics will operate considering the purposes conceived in the design that allowed their approval. Under current development conditions, emphasis is usually placed on the impact that every project must have on the various facets that make up the social life in which it operates. The aim is to have an impact on economic, socio-cultural, institutional and environmental aspects, supported by the participation of key actors for its proper functioning, such as the project idea's managers and, with them, the workers involved, the governing company, the municipal and provincial government, the territorial economy agencies, the community, among others.

In Cuba's experience, one element that can contribute to achieving the effectiveness of local development projects is to have a guide that includes the actions to be carried out in each of the stages of its life cycle, since this will allow its managers to know what to do at each moment to achieve the project's performance and its effectiveness.

In the opinion of the authors of this study, achieving effective performance of local development projects is facilitated if their management is conceived through different stages or phases of their life cycle.

Specifically, for the management of local development projects in Cuba, it is advisable that the actors leading the process have a clear understanding of the characteristics of the project life cycle and the stages that make it up, taking into account their characteristics and particularities. Among these particularities, it stands out the fact that these projects must derive from municipal development strategies that, in their concept of profitability, incorporate responsibility before the local society, which is materialized, among other forms, by the contribution of up to forty percent of their profits to the Municipal Administration Council.

Based on the above analysis, the following stages of the life cycle of local development projects are defined for the Cuban context:

Project idea: identification of possible projects, taking into account the lines of development outlined in the municipal development strategy, according to the needs and problems of the municipality.

Elaboration: project design, formulation of objectives, preparation of feasibility study, preparation of the project dossier and request for endorsements. Once all the documentation is in place, it must be submitted for approval at the corresponding levels.

Execution and start-up: creation of infrastructure conditions, technological requirements, furniture and logistics for the subsequent operation of the project. Preparation of production or service plans and contracting with suppliers and customers.

Functioning: this is an extremely important stage in the life cycle of productive economic projects, since it denotes the stability achieved by the project after start-up. It is the stage in which the production or rendering of the services for which the project was created, contribution to the Cam of the established percentage of its profits, evaluation of indicators, performance of the post-investment study and, based on the results of such study, the improvement of the operation is carried out.

After conceiving the stages through which a local development project of a productive economic type in Cuba must go through in its management, and taking into account the documents that govern its presentation, approval and subsequent operation, a group of actions to be carried out in each stage of its life cycle was designed.

Guide for the design and implementation of productive economic local development projects

Project idea:

- Identification of the needs and problems of the municipality that can be addressed through possible local development projects, in accordance with the lines of development outlined in the municipal development strategy

- Determine which of the municipality's endogenous resources can be used to solve the problems to which the project responds
- Apply surveys to the population and the community to know their opinion about the project
- Determine the actors that will participate in the project
- Identify which strategic line, within the Municipal Development Strategy, the project responds to

Elaboration:

- Diagnose the problem to be solved and define the project's mission, which expresses its purpose. For this purpose, the project manager can use the "brainstorming" technique, with the participation of the actors considered relevant to the life of the project, who may be part of the Board of Directors and employees of the entity or institution with which the project is directly linked. This may favor commitment to its achievement and it is suggested that it be approved by the Board of Directors
- Definition of objectives. These express where the project is going and should be aimed at fulfilling the mission, results and benefits expected to be obtained with the project. This action offers the possibility of consolidating the project's goals in the group of actors executing the project, provided that the proposed objectives are socialized and a space for debate is generated with them to produce the effect of social appropriation of the project's objectives among all those in charge of making it a reality. This is part of a social technology that influences individual and collective commitment and facilitates the creation of a climate of trust and appropriate communication
- Determine the actions and activities to be carried out to achieve the objectives. These must be aimed at achieving the objectives established in the previous action
- Conduct the feasibility study. The costs of the investment are determined through pre-investment studies and engineering and architectural projects, if necessary; the estimation of possible income, the design of the cost sheets of the products or services to be provided and, based on these and the rest of the expenses

incurred for the final sale of the product or service, determine the costs, in addition, the time of recovery of the investment, the internal rate of return, among other financial indicators are specified. It is also very important to carry out a market study to determine potential customers, competitors and the types of products or services to be offered. In addition, it is necessary to sign letters of intent with suppliers and clients, as well as environmental and social feasibility studies

- For the experience in Cuba, it is necessary to request guarantees and documents for the approval of the project in the different banking institutions and ministries related to the type of project
- Submit the project to the Municipal Administration Council or the Governor, as appropriate, for approval. For this purpose, a file must be submitted containing the following documents, as required by Decree-Law 33 (2021):
 - General data of the project
 - Diagnosis of the problem or situation to be solved
 - Justification and action proposal
 - Objectives, results and expected benefits
 - Schedule of activities
 - Amount and source of financial resources
 - Economic, social or environmental feasibility (Article 19.2)

Execution and start-up:

- Create the infrastructure conditions and technological requirements, which implies guaranteeing the facilities or their maintenance, equipment, furniture and technology necessary to carry out the production process or provide the service in question
- Projection of production, income and profit plans to be obtained by the project
- Elaboration of work plans to achieve the planned projections
- Planning of inputs and raw materials necessary to comply with the production plans projected for the operation of the project
- Establishing and/or updating economic contracts with suppliers and/or clients, which means the step by which the entity that supports the project makes the

contract with suppliers of raw materials, equipment or construction and assembly or maintenance, depending on the needs. Contracts are also made with potential customers. In the execution of the contracts, the terms for the provision of the service, the rights and duties of both contractors, as well as the terms for the execution of the contract and the pre-contracts that will guarantee the performance of the services must be taken into account. In addition, these actions must be approved in the investment plan of each entity for the year in which they will be executed

- To select, distribute and prepare the necessary human resources, in accordance with the organization of the project's functions. In the selection process, the personnel that will make up the project are determined on the basis of their training and performance and in accordance with the project's structure. In this step, it is important to promote employment basically for the local population
- Create a cost center for the project. This should be independent of the other cost centers of the institution to which the project is linked and reflect the project's income and expense ratio
- In the case of a partnership between two or more local stakeholders, a contractual partnership is formed and the owner(s) acting on behalf of the project for all legal purposes are defined

Functioning:

- Execute contracts with suppliers of material and technological resources. In this activity, it is important the formation of possible productive chains that guarantee the sustainability of the project's production over time. In addition, these can go beyond the limits of the municipality, generating development not only in the place where the project is located
- Execute the contracts with suppliers that were signed during the execution and start-up stage. In addition, to carry out the replenishment of raw materials and inputs, which can be in the wholesale market and if necessary in the retail market
- Organize the implementation of the production or service process. To do this, distribute resources, materials and inputs. Raw materials are distributed among

the different production or service areas, according to their functions, as well as the means available

- Realization of the production process or provision of the service for which the project was conceived
- Marketing and sale of the product or service
- Determine the profit after taxes, of which 50% will be distributed to the project itself and the other 50% will be contributed to the Municipal Board of Directors. This verifies the degree of profitability of the project, an essential aspect for its continuity and sustainability
- To carry out training actions in the preparation of human resources, based on the results of the performance evaluation
- Measure indicators to evaluate the effectiveness of the project
- Conduct post-investment analysis
- Based on the results of the project, implement the necessary improvement actions

Once the project's life cycle stage has been identified, it is necessary to analyze whether the actions corresponding to each stage have been fulfilled. This will serve as a diagnosis to evaluate the situation of the project and to be able to implement the necessary improvement actions to achieve its effectiveness.

The identification of the life cycle for local development projects in Cuba, taking into account their characteristics and particularities and the design of the actions to be carried out in each stage, constitutes a tool that has contributed to increase the number of projects that show positive results in their performance in Holguín province and to achieve greater effectiveness in the more than 15 projects in which they have been implemented. In addition, they are in the process of being introduced in all the local development projects in Holguín province, at the request of the Provincial Government Council and in other provinces that have shown interest in this tool.

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Authors declare not to have any conflict of interest.

Authors' contribution:

All authors designed the study, analyzed the data and prepared the draft.

Rosa Mercedes Almaguer Torres was involved in the collection, analysis and interpretation of the data.

All authors reviewed the writing of the manuscript and approve the version finally submitted.



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