

Educational program for socio-environmental management in communities in vulnerable situations

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ABSTRACT

Socio-environmental management allows environmental education from the university to the community. The objective of this article is to propose an educational program for the socio-environmental management in communities in vulnerable situations in the municipality of Imías-Guantánamo. It goes through the systematization of theoretical references and community diagnosis, to the design of the proposal for its implementation, with socio-environmental activities that respond to the structural components: design, implementation and evaluation. The theoretical and practical validity of the activities was demonstrated through consultation with specialists and their introduction into pedagogical practice.

Keywords: Environmental education; Environment; University; Environmental sustainability

Introduction

Contemporary environmental challenges in the twenty-first century constitute a socio-cultural need, which is why there is an urgent need for socio-environmental management in the community, which intervenes in the use of policies that contribute towards the transformation of a socioeconomic model that is climate-balanced, resilient and with a focus on sustainability.

From this perspective, the Summit of the Community of Latin American and Caribbean States (CELAC), Argentina (2023). In the Declaration of Buenos Aires, it reiterates:

The commitment to progress in regional political, economic, social and cultural unity and integration, and the decision to continue working together towards sustainable development to address the health, social, economic and environmental crisis caused by the COVID-19 pandemic, climate change, the growing risk of disasters and the degradation of the planet's biodiversity, among other factors. (CELAC, 2023, p. 2)

The Republic of Cuba, included in this socio-environmental context, recognizes the accelerated impact of climate change in recent years, so they assume legal parameters that legitimize environmental education, education being one of the ways that can contribute to the improvement of social relations and thus comply with the 2030 Agenda and the Sustainable Development Goals (SDGs), stipulated by the United Nations Organization, when it accentuates the need to "Guarantee inclusive, equitable and quality education and promote lifelong learning opportunities for all" (United Nations (UN), 2018).

One of the strategic lines of the Ministry of Higher Education (MES) is to facilitate the socio-environmental management process, whether at the national, regional and local levels. At the same time, it ensures that it has sufficient capacity to achieve scientific-technological, academic and intellectual progress, which guarantees to prosecute the social and institutionally accumulated knowledge, for the treatment of socio-environmental management.

Hence:

Socio-environmental management in vulnerable communities must be addressed to promote the participation of the inhabitants, in the care and protection of the environment, from a perspective of the work of the Municipal University Centers (CUM) with the accompaniment of the municipal government. (Gamboa & Osorio, 2024, p. 2)

In this sense, the widespread incorporation of CUMs into the functioning of the Municipal Administration Councils (CAMs) is interpreted as a step forward in the training of social

factors, including governments, and the use of knowledge in socio-environmental management for the deployment of local policies.

Education, as a social process, fulfils functions that express a general pedagogical conception in synergy with environmental education and socio-environmental management, which is related at the same time to the human being, nature and society. For its part, from the educational institutions, it is also conceived as an organized and consciously planned process, whose object does not only include students and teachers in the school, but extends to the family, the community and other socializing agencies.

The elements presented are in correspondence with what is referred to in Law No. 150 of the Natural Resources and Environment System (2023), which emphasizes "the importance of developing and applying science, technology and innovations that allow preventing, evaluating, controlling and reversing environmental deterioration, and providing alternative solutions to problems related to the protection of the environment" (National Assembly of People's Power (ANPP), 2023, pp. 82-83).

Consequently, the demands that the CUMs demand at the present time from their extension work and their systemic relationship with environmental education, still denote insufficiencies that limit the scope of socio-environmental management in residents of the municipality of Imías. Insofar as it is declared as objective: to propose an educational program for socio-environmental management in vulnerable communities, from the municipality of Imías in Guantánamo.

Development

In the educational context, it is common to address the word program, for example: popular education, literacy, student exchange, and others. Also in the field of environmental education, recycling and environmental education programs are often expressed, from which it can be deduced that the term program in the regional and local context is recognized in society.

Studies carried out by authors from various countries, including: Cuba, Angola, Bolivia, Ecuador and Colombia, provide as a scientific result an educational program in various

topics; from the pedagogical perspective, with a series of learning activities and resources aimed at the person to improve their life.

It is agreed that the educational program:

It must express the coherence of a system of pedagogical actions from the theoretical-methodological for the development of an educational institution in its practice with respect to the objectives to be achieved, the behaviors that students must manifest the activities and contents to be developed. (Lugo, 2012, p. 98)

The aforementioned frames the pedagogical actions to be carried out in the educational institution to achieve the objectives proposed during the planned activities, in a close theoretical-practical link and in dependence on the social demands of the context.

The analysis carried out on different program structures allowed the researcher to assume the phases defined for an environmental education program (Bucaran *et al.*, 2018, p. 83).

The proposed educational program consists of the following phases:

- Preparation Phase It consists of pre-organizational activities and consensus prior to the execution phase.
- Implementation phase it conceives specific activities for the development of environmental education. Information collection is also carried out both at the beginning and at the end of this phase, for evaluative purposes.
- Evaluation phase it is the phase of analysis of the data collected in the previous phases, and in order to make adjustments for continuous improvement. Also in this phase, aspects such as the organization, the performance of the facilitator, the results achieved, the positive and negative aspects of the program are evaluated.

It is also assumed that environmental education is fundamental for the subjects and corresponds to the context in which the educational practice is developed, the objectives to be achieved, the people who participate, the available and necessary materials, as well as the time and premises for the environmental activities to be carried out.

Therefore, “when designing an environmental education program, it should be considered that this is a process that extends to all social sectors and in which educational institutions have a special leadership role” (Fernández & Fallas, 2007).

In the previous idea, the process character of environmental education is ratified, which involves all social sectors, where educational institutions have the responsibility to plan environmental activities according to the possibilities and characteristics of the context.

Therefore, it is necessary that the program to be developed conceives activities that respond to the possibilities of the community to educate the inhabitants, in the knowledge of the place where they live, their environmental reality, their experiences and their experiences. The collaboration of those people and institutions that converge in the social context where they interact is important. In the structural conception of the proposed program, the activities presuppose the interrelationships between the participants to solve a social problem.

Consequently, the community constitutes an intermediate mechanism between society and the individual. In it all the interactions of the inhabitants materialize, where each individual receives in a unique and simultaneous way the social influences as immediate. And it is there that the human being acts individually or collectively, reflecting the most general social aspects.

In this sense, CUMS play a fundamental role in linking with communities, productive agents and local institutions, while creating capacities to disseminate local knowledge and initiatives in global spaces that offer opportunities.

From this perspective, it is necessary to systematize the activities of university extension, which contributes to the socio-environmental management in the communities for their transformation from the relationship that exists between the university-society.

In line with this, the university extension allows socio-environmental management in the activities applied in the communities of La Playa and La Chivera belonging to constituency 1, of the Imías people's council in Guantánamo; communities in a vulnerable situation.

According to the final report of the provincial Environmental Impact Assessment group, belonging to the Ministry of Science, Technology and Environment (CITMA, 2024), these communities directly received the impacts of the disaster caused by Hurricane Oscar on October 20 and 21, 2024, a region that normally suffers from intense drought, leaving in its wake a trail of destruction and significant effects, reflected in severe flooding, loss of life, damage to agriculture, as well as to property and material resources, personal and state, which are essential.

In these communities, the accumulation of solid waste on the coast predominates, giving rise to micro landfills, water pollution, the deterioration of the marine ecosystem, deforestation, breeding grounds for disease-transmitting vectors, at the same time, there is the practice of illicit games, disengaged young people, early pregnancy, single mothers with more than three children, as well as the poaching of endangered species. The

diagnosis made shows that there is insufficient socio-environmental management in the communities.

In this sense, it was decided to apply a program for socio-environmental management with activities aimed at the selected communities, implemented with teachers and students of the Socio-cultural Management for the Development program of the CUM de Imías. These present the following structure: title, objective, participants, place, methodological guidelines and evaluation.

Activity 1

Title: Educational program for my community.

Objective: Explain in the cloisters of the schools, the objectives, characteristics and work methodology proposed with the program for socio-environmental management in the communities.

Responsible: Professor CUM (Coordinator of the Sociocultural Management for Development career)

Participants: CUM teachers, social worker, cultural promoter, school teachers, district delegate, community environmental promoter, presidents of the CDR, FMC and the “Mirando al mar” detachment.

Place: School classroom.

Methodological guidelines: prior to carrying out the activity, it is coordinated with the group of actors to participate, to guarantee attendance and participation. The premises, time, date are determined.

Next Steps

- Installation of technical equipment (computer, projector) for the projection of scientific and teaching materials.
- Presentation of the need to design and implement a program for socio-environmental management and the determination by consensus of the main environmental problems present in the communities and that school must take into account for environmental education.
- Distribution of teaching materials for participation in the development of the program (desk materials; environmental education documents and environmental legality in Cuba).
- Information and argumentation of the environmental activities developed by the schools, to establish the positive and negative aspects, in the educational work carried out

by educational institutions.

- Application of group techniques such as brainstorming, to reach a consensus on a more complete vision of socio-environmental management in the community, taking into account more relevant pedagogical needs to be solved in the planning of the proposed activities.

Evaluation: An assessment is made through the PNI technique (positive-negative-interesting), of why, why environmental education and the importance of implementing the program for socio-environmental management, why in vulnerable communities.

Activity 2

Title: Workshop "Environment and sustainable development"

Objective: to prepare the faculty of both schools, for their active participation in the design, execution and assessment of activities, according to environmental law (laws and procedures), for the awareness of teachers and the commitment to environmental education of their schoolchildren and the inhabitants of both communities.

Responsible: CITMA Specialist.

Participants: specialist, CUM teachers, social worker, cultural promoter, school teachers, district delegate, community environmental promoter, presidents of the CDR, FMC and the "Mirando al mar" detachment.

Place: School classroom.

Methodological guidelines: in advance of the workshop, participants are asked to prepare to comment on the following topics:

- Socio-environmental management and human activities.
- The situation of water, soil and community agriculture.
- Assessment of the Environmental Impact of the disaster caused by Hurricane Oscar in Imías.
- Biological diversity, hazards posed by coastal areas of communities.

Next Steps

- Exhibition with the use of images of the essential contents of the workshop topics by a CITMA specialist. (disaster caused by the hurricane)
- Through participatory techniques, establish an exchange of knowledge, with the help of the specialist and the inhabitants. Observation of videos of the need to learn how to protect the environment in communities.

Evaluation: considerations and experiences in relation to the workshop topics by the participants. Assessment of the workshop using the PNI technique. Reading of the final report. Delivery of attendance and participation certificates.

Activity 3

Title: Conference “Vulnerability and Integrated Community Work”. Objective: to prepare local actors on issues of Integrated Community Work in vulnerable communities.

Responsible: Professor CUM.

Participants: CUM teachers, social worker, cultural promoter, school teachers, district delegate, community environmental promoter, presidents of the CDR, FMC and the “Mirando al mar” detachment.

Place: School classroom. Methodological guidelines

Next Steps

- Application of a participatory technique to deal with knowledge related to vulnerable communities.
- The different types of vulnerability. Importance. Possible transformation.
- Integrated Community Work with the peculiarities of the three aspects to be considered in environmental activities: awareness, mobilization and evaluation.
- Demonstration and joint development of socio-environmental education activities for the proposed program.

Evaluation: Each participant expresses their opinion of the activity taking into account the positive, the negative and the interesting. It is placed on a banner for the final assessment.

Activity 4

Title: Excursion to the community.

Objective: Recognize the main environmental problems of the community, by schoolchildren and residents for awareness and positive action.

Responsible: School professor.

Participants: CUM teachers, social worker, cultural promoter, teachers, community environmental promoter, schoolchildren and parents.

Place: From school to the shoreline in the community.

Methodological guidelines: coordinate with the factors and parents committed to the activity, to guarantee resources and equipment to be brought. Determination by the managers of the excursion, the itinerary to be followed, the stops and the observation

points in the communities, taking into account the disasters caused by natural phenomena such as the case of Hurricane Óscar.

Training of teams of students and managers (3), to carry out the excursion, show the objective of the excursion, the points to be taken into account on the route, the rules of action to ensure safety.

Next Steps

- Carrying out the excursion, notes must be made, graphic records such as: sketches, drawings, photographs, taking samples of findings of interest for subsequent discussion and exhibition.
- Identification by the teams of the community sites, with greater and lesser environmental impact due to the direct action of the human being.
- Meeting with groups to describe the community's most significant environmental issues, which then morph into impacts as well as proposals for actions for environmental education, achieving the redesign of other activities.
- Carrying out a graphic exhibition, with the images, sketches, drawings, photographs, taking samples of findings to show the results of the excursion, in the community. (taking into account impacts and direct actions of the human being)

Assessment: using PNI techniques. Activity 5

Title: Environmental day.

Objective: to assess the importance of environmental protection through active participation in the cleaning and sanitation of the premises, as well as the surroundings of the school.

Description:

- Information to schoolchildren and students, that on the last Friday of each month the Environmental Day will be held, which may coincide with the celebration of Explorer's Day, the objectives and activities to be carried out are set out.
- In the days leading up to the day, small groups of schoolchildren visit families in the community to invite them to participate in the activity.
- On the days indicated, in addition to cleaning actions, maintenance, collection and classification of raw materials and other proposed activities can be carried out.

The environmental day ends with the reading of environmental content reviews (news, poems, phrases, results of the impact assessment report of Hurricane Oscar) by first-choice schoolchildren.

Evaluation: through the assessment of the behavior and performance in the activity by the participants.

Conclusions

In the research, the theoretical and methodological references that support the process of design, implementation and evaluation of a program are determined education for socio-environmental management in the vulnerable communities of La Playa and La Chivera.

In socio-environmental management, its potential for carrying out the pedagogical process from school and towards the community is specified and reinforced by its contribution to the inhabitants, in the theory-practice link for environmental education.

The program for the socio-environmental management of the communities of La Playa and La Chivera conceived, allowed to concretize in practice the scientific foundations of environmental education and specify the pedagogical requirements for the proposed socio-environmental management program in vulnerable communities.