

## **Community environmental education from the university extension in the territory**

Imilsis de los Ángeles Virelles Espinosa<sup>1\*</sup> <https://orcid.org/0000-0002-6101-4567>

Camilo Orozco Acuña<sup>1</sup> <https://orcid.org/0000-0003-2934-2496>

<sup>1</sup>Universidad de Granma, Cuba.

\*Autor para la correspondencia: [ivirellese@udg.co.cu](mailto:ivirellese@udg.co.cu)

### **ABSTRACT**

Community environmental education is a process that requires the contribution of its inhabitants and local actors, from a conscious participation in the search for solutions to environmental problems. For this, it is necessary an educational intervention from the execution of sociocultural transformation projects. The work was carried out in the Pedro Pompa community, Bayamo municipality, with the objective of designing educational actions for environmental transformation in the community as a contribution to environmental education for sustainable development from the extension of the university in the territory.

**Keywords:** Community environmental education; environmental problems; sociocultural transformation projects

### **Introduction**

The worsening of global, regional and local environmental problems at the present time requires systematic, participatory, active and creative actions that lead to human sensitivity as an alternative to minimize these problems. In this sense, environmental education constitutes one of the practical solutions of science to these problems and should be present in all contexts of human action, with the objective of promoting the

necessary attitudes to understand the interrelationships between society and the environment.

From this perspective, the university of the present century has the mission to preserve, develop and promote the culture of humanity and in this sense should become the main agent of change to respond to environmental problems and challenges of sustainable development in today's society, from the substantive processes that take place in it (the teaching-educational, research and university extension). The latter, through the implementation of its different components, strengthens the university-society link and contributes to promote and enhance the environmental education of the university community and its social environment.

University extension as one of the most dynamic processes developed in university institutions through the implementation of social transformation projects, considered as key proposals for solutions to environmental situations and cultural and human development, in close connection with the various local actors, promotes spaces for interaction from their identity and individuality, influencing the environment and generating states of transformation and social welfare.

The Extension Project: Formation of capacities for the management of local development to actors of the Pedro Pompa community, within the lines of work is environmental education in local development as an effective instrument for social transformation in search of sustainable development.

In view of this, a research is carried out in the Pedro Pompa community, in Granma province, where work is being done on the levels of environmental education for the sustainable development of community members and local actors. The Pedro Pompa community is located in the city of Bayamo. It is a place marked by vulnerability in local development that has a negative impact on the quality of life and social welfare of the community.

The objective of the work is to design educational actions for environmental transformation in the mentioned community as a contribution to environmental education for sustainable development from the university extension in the territory. For this purpose, it was necessary to use research methods such as observation, survey, interview, life stories, documentary analysis. In addition, we worked with the historical-logical,

analysis and synthesis and induction-deduction methods. The mathematical-statistical method was used, all on the basis of the participatory action-research methodology, based on the need for the involvement of community members and local actors who in one way or another have some degree of involvement in the environment.

## **Development**

The Ministry of Higher Education (MES), from the systematic management of processes, pursues the achievement of an integrated, innovative, more revolutionary and relevant university, which has a significant impact on the human and sustainable development of Cuban society, based on the comprehensive training of professionals committed to the Revolution, their country and their territory. It has participated permanently and in coordination with CITMA and other agencies of the Central State Administration in strengthening national environmental policy and management.

Environmental education is the key to renewing values and perceptions, developing an awareness and commitment that enables change from small individual attitudes and the participation and involvement of local inhabitants and actors in solving environmental and development problems, in the community context, by getting involved in social impact tasks to achieve the desired transformations.

Environmental Education for Sustainable Development (EESD) as: An educational process that incorporates in an integrated and gradual manner the economic, political-social and ecological dimensions of sustainable development in the education of students and teachers of the National Education System and is expressed in ways of thinking, feeling and acting responsibly towards the environment (Santos, 2009, p.11). (Santos, 2009, p.11).

This definition is proposed from the perspective of school institutions, but it allows identifying the economic, political-social and ecological dimensions as fundamental indicators to evaluate this process in the different contexts in which it takes place, and which should be considered as an element to be taken into account by educators when establishing links between the educational process and the community.

The National Environmental Strategy sets out the specific objectives of Environmental Education for Sustainable Development. Among the goals proposed are those aimed at:

- ✓ Incorporate all government agencies and institutions, social organizations, and in general the entire population.
- ✓ To expand the development of Environmental Education for Sustainable Development activities that promote greater community participation and increased awareness of sustainable development.
- ✓ To determine the specific policy elements related to the role of the mass media in general in the development of the environmental culture of the population.
- ✓ To expand and strengthen the spaces for participation of social organizations, fundamentally at the local level in the processes of elaboration, implementation and monitoring of environmental policies and environmental management processes in particular (Ministry of Science, Technology and Environment, 2016, p. 31).

These objectives declare the need for the incorporation of the entire society in the tasks related to the sustainable use of resources and their preservation for present and future generations, in addition to allowing the understanding of the need for community participation in this process, as one of the basic scenarios from which the integrality of the three dimensions of the EESD can be managed.

According to Miranda, Pell and Viñet (2012, p.3) "Community Environmental Education must have a systemic and integral character, but starting from a more participatory process, that is, it is to educate by participating, not as depositary entities, in which environmental knowledge is endowed, but as active entities, which participate and transform".

For this reason, it is necessary to have prepared people in the communities to deploy this work and to join forces in this sense. In response to the aforementioned purposes, the university extension process at the University of Granma is working on various projects to provide effective and relevant responses to the various problems that arise in social contexts, thus contributing to their development.

In 2004, the National University Extension Program was approved, thus readjusting the definition of university extension to be stated as: "Process that aims to promote culture in

the intra-university and extra-university community, to contribute to its cultural development" (Ministry of Higher Education, 2004, p. 6).

Tommasino and Cano (2016; p 14) on university extension by recognizing it as:

"The process based on the search for collaboration between university actors and other actors, which is based on equality, dialogue and the combination of their respective knowledge in the service of socially valuable objectives. In this way, it constitutes a transforming process where there are no stereotyped roles of educator and student, since in it both students and professors can learn and teach".

In that order of ideas, from the potentialities offered by the university extension to promote the socio-cultural transformation of its environment in accordance with the conception of an environmental education for sustainable development, it uses as an effective way the socio-cultural projects that constitute a particular type of project that is recognized in its intentions committed to a transformation from, with and for the human essences, in its methods of concretion and in the transcendence of its results, possessing distinctive characteristics, such as:

- ✓ Intentionalities defined in favor of cultural development.
- ✓ Diagnosed and diagnosable environments based on the needs and potentialities that emerge from cultural processes.
- ✓ Eminently endogenous character, considering the recognition of the protagonism that corresponds to those who are beneficiaries, whose strengths and opportunities are put in function of solving deficiencies and threats, from the mobilization of their own knowledge and resources, as ways to achieve sustainability.
- ✓ Participation, which is expressed in the motivated and active presence of all those involved, from the recognition of the diversity of roles and functions that the diagnosed needs and conditions impose throughout the process of design, execution and evaluation of the project, with special attention to decision making as a circumstance that defines the legitimacy and hierarchy of the links at the social level.
- ✓ Use of the autochthonous expressions of the artistic manifestations, as methodological resources for the achievement of the objectives oriented to the social and human development, with special attention to the forms of the popular

and traditional culture, without ignoring the value of global forms of the culture that in their interaction can enrich the spiritual world of the participants.

Taking into account these elements, the strengths and weaknesses of the Pedro Pompa community, the Community Extension Project was developed: Formation of capacities for the management of local development of actors of the Pedro Pompa community, which had as objective: To form functional capacities in the local and community actors of the Pedro Pompa community from the generalization of scientific results obtained, cultural, recreational and educational exchanges that allow them to respond to the challenges posed by the current Cuban society in relation to local development. Based on the inadequacies detected in the diagnosis of the community, lines of work were proposed, including environmental education, which allows the intervention of the university community in the promotion of environmental culture through educational actions focused on non-formal environmental education to enhance the solution of environmental problems in the community.

Non-formal environmental education is aimed at all sectors of the community, with the purpose of providing greater knowledge and understanding of global and local environmental realities, in order to promote improvement processes that incorporate the various groups of society, men and women, ethnic groups, organized communities, productive sectors, government officials, etc. It is generally expressed in workshops, seminars, courses and other educational and training activities, inserted in community social development programs, or in educational plans at the national, regional or local level.

The triangulation of the results, during the application of the scientific methods, allowed revealing coincidences as to which are the most significant environmental problems in the Pedro Pompa community, among which are: dumping of solid waste in different points not conditioned for its deposition, lifestyles that affect the environment and health such as alcoholism and smoking, insufficient sanitation in the community environment, the non-existence of sports, recreational and educational areas; noise pollution in the work, construction, socio-cultural activities and railroad transportation; soil pollution by dumping of pits with direct effects on human health; inadequate management of solid waste, construction waste and housework.

In addition, the causes of the detected problems are determined as follows: lack of knowledge of the community's environmental problems on the part of the community members and local actors, low awareness and concern for the environment and its associated problems due to insufficient educational activities, training, information and environmental dissemination that contribute to the improvement of the problems raised, insufficient level of community participation in the development of environmental education activities, low levels of coordination between organizations for the solution of the community's environmental problems.

The strengths are listed below:

- ✓ Common interests among the mass and social organizations, the government, represented in the figure of the delegates of the constituencies, family doctor and other local actors that facilitate the possibility of integration.
- ✓ Leadership of the district delegates.
- ✓ Great sense of belonging for the improvement of the community and interest in environmental issues in most of the community members.

Taking into account the detected insufficiencies and strengths, the following objectives were outlined:

1. To develop awareness and concern for the environment and its associated problems.
2. To develop the skills to identify and solve environmental problems (Competencies).
3. To foster values and feelings of concern for the environment and the motivation to actively participate in environmental improvement and protection. (Behaviors).
4. Promote activities aimed at different age groups with current topics in various areas of knowledge, where debate, reflection, exchange of ideas and experiences among participants are promoted.
5. To promote communication, information and dissemination of environmental problems and alternative solutions in the community.

The following methods were used to develop the actions:

1. Group discussion: its main purpose is to modify personal and collective performances. This method helps to prepare the subjects for teamwork and

contributes to the exercise of opinion, responsibility and individual and collective performance assessment.

2. Field study: its purpose is to dynamize behavior in relation to the environment as it allows the subjects to have direct contact with both natural and human reality and thus contribute to improve their relationship, identification and commitment.
3. Clarification of values: it favors the examination of one's own and others' points of view in relation to various topics, contributing to the change of mental schemes and the commitment of the subjects to make decisions by facilitating objectivity in the evaluation of reality.
4. Research-action: consolidates teamwork and the preparation of reports with the use of inquiry and research techniques.

In order to achieve the objectives, a general poster was prepared and educational actions were developed:

Educational action # 1: The environmental problems caused to the community.

Educational action # 2: Presentation of the digital socio-environmental map of the community.

Educational action # 3: What does my community need?

Educational action # 4: Treatment of domestic waste at home.

Educational action # 5: My family and community garden.

Educational action # 6: Social perception of noise.

Educational action # 7: Alcoholism and smoking.

Educational action # 8: The University in my community.

Educational action # 9: Video debate: before, during and after my community action.

The poster is the main companion in the actions to be developed, as a guide for the work to be done.

Poster structure:

Title: Environmental educational actions in the Pedro Pompa community.



**Objective:** To update and inform community members and local actors about environmental education actions and their importance for sustainable development.

**Abstract:** It includes the importance and objectives of community environmental education for sustainable development.

**Development:** The set of educational actions with the objectives and a brief synthesis of how it will be developed.

**Conclusions:** What is to be achieved with the actions to be developed?

**Bibliography:** Synthesis of the materials consulted that may be of greater interest.

**Methodology** for its use.

The poster is designed to be used in the meetings or workshops, it is presented in the first workshop or meeting with the objective of making visible in this format what we want to achieve in the community with the accompaniment of community members and local actors.

In the other meetings it will be presented to observe where we are going in the actions to be developed, accompanied by other materials in visual, graphic, printed and other formats.

Among the educational actions to be developed, there is Educational Action # 2: Presentation of the community's socio-environmental digital map with the objective of: Representing in a graphic way the levels of behavior of the environmental problems obtained in the elaboration of the map.

This facilitates data management and allows the analysis of the actions of the inhabitants on the community's environment and the consequences, in order to be able to intervene in the exact place once located. The map provides information on the streets or blocks where the environmental problem or problems are located and allows the nuisance values to be related to the factors that cause them and the population exposed.

This digital map is very useful for a critical analysis of the problems in order to reach conclusions and make proposals for environmental educational actions that can be worked on, as well as facilitating consultation and dissemination of the corresponding information among the population and local stakeholders.

Educational action # 9: Video debate: before, during and after my community action.

Objective: To value the role of the community members before, during and after the implementation of the educational actions.

For the realization of the video, images of the community were obtained without the educational intervention, that is to say, from the first day of visiting the community. Later, in each activity developed by the members of the project, evidence of the different problems and actions developed in order to reduce or eliminate each situation presented in close participation with the community and local actors were collected. This enabled the editing of the video of the locality in the different stages before, during and after the community action. After viewing the video, we listened to the evaluations of all the negative, positive and interesting aspects.

Once the evaluations have been heard, it is called to continue transforming the community in a positive way with the active participation of all its members.

The implementation of the actions of the university extension project at the different levels in which it is developed with the active, creative and collaborative involvement of its members, should lead to a gradual transformation of the environment that translates into a better quality of life and social welfare of the community.

## **Conclusions**

With the research, educational actions were designed for environmental transformation in the Pedro Pompa community, Bayamo municipality, as a contribution to environmental education for sustainable development from the university extension in the territory.

University extension is the process through which the university links directly with society to contribute to solve existing problems in the communities in close collaboration with the community and local actors.

Community extension projects favor the promotion of environmental education as a process using participatory methods and promoting more active environmental practices with a wide openness to the natural, social, economic and cultural environment, offering

effective and relevant responses to the various problems that arise in social contexts, thus contributing to their development.