

ORIGINAL RESEARCH ARTICLE

Environmental strategy of improving green space in Tawaka City, Barinas State

Lenies Jesús Piña Retamoza

Libertador Experimental Pedagogical University, UPEL, Barinas 5201, Venezuela. E-mail: leniesjp@gmail.com

ABSTRACT

Green areas are the starting point of a city because they represent the greatest purification of any pollutants in the surrounding environment, which is caused by the discovery of different reasons for population growth, the lack of environmental programs, and human indifference to environmental problems. This affects the overall formation of man because he needs environmental balance, that is, human nature. Therefore, this behavior leads to the reduction and generation of environmental degradation. The main objective of this work is to develop an environmental strategy to improve the green area. Department C, “Terrace Community Council on 28 July”, is located in Tawaka City, Barinas City, Barinas State. The method used is quantitative, and the type of research is a feasible project with an on-site design. The tool used for data collection is the questionnaire to obtain the results. The study population was 192, and the sample was represented by 57 subjects. On the other hand, reliability was proved after the instrument tabulation, and the result was 0.92. In this sense, this conclusion is handled according to the objectives proposed in the study because the application of environmental technology helps to improve green space in the short term, as is the case with Tawaka urban development. If the green space is a space, it has been phased out because the residents of the department have not taken any strategy to maintain it, where they provide residents and tourists with the aesthetics of the area and the relaxing benefits provided by the green space.

Keywords: sustainable development community participation; quality of life; environmental education

1. Introduction

The growth of environmental pollution stems from the complexity of human development, such as globalization, indiscriminate use of technology, little interest in the formulation and/or implementation of environmental programs, negative attitudes towards environmental protection, etc. It must be recognized that the well-being of organisms is combined with the environmental balance between man and nature.

Therefore, attention must be paid to environmental changes to take care of and protect the environment, which means meeting the needs required by human nature itself. In this regard, it is necessary to develop an environmental strategy to improve the green area, namely the terrace community committee of “C” District in Tawakale City, Barinas City, Barinas State, on 28 July. The Committee has strengthened the improvement of the green area as a useful and effective alternative to preventing environmental pol-

ARTICLE INFO

Received: July 16, 2021 | Accepted: September 1, 2021 | Available online: September 17, 2021

CITATION

Piña Retamoza LJ. Environmental strategy of improving green space in Tawaka City, Barinas State. *Eco Cities* 2021; 2(2): 7 pages.

COPYRIGHT

Copyright © 2021 by author(s). *Eco Cities* is published by Asia Pacific Academy of Science Pte. Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>), permitting distribution and reproduction in any medium, provided the original work is cited.

lution and contributing to air purification.

Under this premise, Venezuela's population growth is significant. Therefore, housing construction is important for the social and economic welfare of the population, which means reducing green space to achieve growth and development. This is the case in Barinas State, especially in the parish of Upper Barinas. There, an urban complex called "Tavacare City" has contributed to solving the housing problem by building about 5,360 apartments, divided into terraces and four floors, i.e., 16 apartments. Each block has an infrastructure, including three bedrooms, two bathrooms, a kitchen, a restaurant, and a parking lot, and provides small plots for the green area of the whole residential area.

Although it can be observed that there are terraces (four block buildings) and residents pay less attention to the environment, these terraces are deteriorating, including the community committee on 28 July. Therefore, planned urban planning and construction is a way to meet human needs, but green areas must be considered because green areas are a mandatory factor in urban planning and construction. Therefore, people are concerned about seeking environmental strategies as another option to protect these spaces.

Therefore, the practice of planting plants helps to have a positive impact on the environment and brings benefits to the people involved in this activity, that is, the popular communities in the urban system. Therefore, in the process of seeking well-being, mankind finds opportunities to live together, so as to interact with social reality and find feasible solutions to meet their expectations. This is the case with tree planting commensurate with urban space, which provides endless benefits to these communities: they help minimize environmental degradation, beautify the environment, encourage community participation, etc.

2. Theoretical basis

The theoretical basis of the following research

plays a key role because it enables people to understand the problem clearly and easily. This section seeks the theoretical information related to this study according to the positions of different authors and information sources, so as to accurately determine the basic aspects of the theoretical basis related to this study.

2.1. Environmental strategy

Strategy refers to the ability of individuals to implement strategies at a specific time, which is necessary to formulate and implement environmental strategies in a critical period of environmental deterioration. In this regard, Rodriguez^[1] pointed out:

The term "ambitious strategy" was first mentioned in the document of Agenda 21 signed at the Earth Summit held in Rio de Janeiro, Brazil, in 1992 (June). The document is the most extensive meeting of world leaders and calls on governments to adopt national sustainable development strategies. They must be developed with the broad participation of all sectors, including non-governmental organizations and the public.

Therefore, recognizing the importance of the origin of the term environmental strategy will produce an encouraging prospect, because the sole purpose of this meeting is to encourage the people of the world to apply environmental technologies from reality, which help to minimize the damage caused and growing to nature. Because there is no strategy to curb this situation, the document also calls on governments to involve the environment in their national strategic plans, so as to stimulate people's participation and jointly achieve sustainable development.

2.2. Importance of environmental strategy

One of the challenges facing mankind in achieving the greatest well-being is to take into account the protection of the environment because the environment is the starting point for the social structure to move towards environmental balance,

which is the goal of environmental protection. To this end, it is necessary to commit to the large-scale participation of communities and make them aware of the damage to nature. Therefore, we can benefit from environmental actions to improve the quality of environmental life. We can also wisely adopt feasible solutions that contribute to the sustainable development of communities and become a model of global prosperity at the local, regional, and national levels, bearing in mind the need to go from concrete to general, that is, from solving household environmental problems to the wider application of functional technologies.

We cannot talk about the implementation of environmental strategy without talking about environmental education, because it is a way to solve environmental problems because it covers the whole community. For example, when talking about formal environmental education, we mentioned the intersection in curriculum design. Therefore, Tobasura and Sepúlveda, quoted by Fuentes *et al.*^[2], pointed out that “environmental education cannot be an isolated course in the educational curriculum at all levels, but a systematic and organized process involving all existing disciplines and knowledge.”

According to the author, it shows the importance of environmental education in formal education at all levels because it has clear objectives for environmental education, and the implementation strategy will be easier to achieve for any environmental problem in a specific place. Therefore, teachers’ academic preparation is the starting point of good strategies. These strategies are based on their experience and knowledge, which in turn is responsible for teaching students, so they mainly provide solutions to institutions.

2.3. Green area

Green areas make a significant contribution to people’s quality of life because their operation enhances the advantages of a pollution-free environment. Therefore, they need to pay special attention to their composition, including their location, spe-

cies, and maintenance in all areas. In this regard, the green area is pointed out by Ojeda and Espejel and cited by Marquez^[3] as follows:

From a broader perspective, green space is composed of all parks, gardens, camels, roundabouts, nature, and sports areas that form part of a city. These parks, gardens, camels, roundabouts, nature, and sports areas have changed from secondary elements of the landscape only for aesthetic and recreational purposes to areas of significance because of their functionality and ecological benefits to society.

The above citation relates to the identification of green spaces in the city or a community that may be surrounded by tree-climbing plants; that is, the combination of these plants makes the place attractive and called a garden, which in turn brings natural benefits, such as breathing pure air for the surrounding organisms. It also provides a place for people who interact on-site to relax.

Therefore, the green space is composed of plantations, in which trees, shrubs, and creeping plants are any species, so that each space can meet needs such as leisure, entertainment, ecology, protection, etc. Therefore, in order to enable human beings to live in harmony with nature without causing any damage, individuals must participate in environmental work throughout their academic training, including the theme of green areas, because they bring great benefits to human life.

Despite the fact that there are indeed regrettable situations in the green field, they show a different situation from formal education, that is, they deteriorate and/or are used for other purposes. Therefore, environmental education and training must be carried out at all levels and communities (families, schools, and communities), so as to help achieve the goal of reversing ecosystem damage.

In addition, the role of public or private industries and enterprises that cause significant damage to the environment cannot be isolated. Therefore, the production activities of these industries and en-

terprises should be regulated, as they are the functions of competent authorities and state and environmental organizations, such as the Ministry of People's Power, the Ministry of Ecological Socialism and the Ministry of Water Resources. Work together to restore areas that used to be green in a natural way, so interaction with nature is part of human physical and mental health care; that is, green space is part of the required quality of life because it enhances people's well-being. Contact with green space contributes to health in all aspects, especially those living in cities, because it is a way to feel free and relaxed enough to be recommended as a one-time treatment. Therefore, as we all know, the relationship with green and open space is an ideal choice to reduce pressure, but everyone who takes an appropriate attitude has the free choice of "love or destruction". The intention is to love nature. Just as pets get the necessary care, this is also the necessary care for nature, which is the health guarantee of present and future generations in a better world.

2.4. Green space in urban design

Green space in urban planning is a space for leisure, entertainment, and decoration in which all people living in the area can enjoy the best entertainment. Therefore, it is defined by the National Environment Commission. Del Pozo^[4] defines it as "urban spaces, or peripheral to them, predominantly occupied with trees, shrubs, or plants, which may have different uses, either to fulfill leisure, recreational, ecological, ornamental, protection, recovery, and rehabilitation of the environment, or similar functions."

Therefore, the author's references affirm the benefits of green spaces, especially in urban planning, because they provide comprehensive benefits and because urban plantations improve air quality.

In this regard, Tawakale, like other urban planning, was composed of green space at some point. Before it became a city, it was a farm com-

posed of trees and grassland, divided into potreros. Therefore, with the movement and rethinking of the land, all green space disappeared, leading to complete deforestation. After the completion of urban planning, they planted some plants that were dry due to lack of maintenance, and others were pulled out and placed in the surrounding area.

Therefore, this does not mean that there is no green space in Tawaka. On the contrary, residents reforest these areas, just like area "C", which has the same space for voluntary restoration to add value, as was the case with the terrace Community Council of area "C" on 28 July. However, there is no activity plan, which requires an organized plan to respond effectively to the restoration and maintenance of the green space in the community.

3. Methodology

The approach adopted aims to promote an environmental strategy to improve the green space in area "C" of the terrace of the community committee in Tawaka, upper Barinas Parish, Barinas City, Barinas State, on 28 July. The research method is oriented toward quantitative research. Hurtado and Toro^[5] pointed out:

From the perspective of methodology, quantitative research is usually called quantitative research, which mainly tends to use measurement and comparison tools. The data provided by these tools needs to be studied by mathematical and statistical models. In contrast, research using information acquisition and processing tools is called qualitative research, and these tools do not start with the necessity of using statistics or mathematics to draw conclusions.

In addition to the survey method, another study was identified as projective, in which Hurtado^[6] pointed out that "it attempts to propose solutions to specific situations based on the previous survey process. It involves exploring, describing, explaining, and proposing alternatives to changes, but not necessarily implementing the proposal.

Consequently, this type of research is also known as a “feasible project”, which according to the Universidad Pedagógica Experimental Libertador^[7]: Includes “research, development, and the development of suggestions for a feasible mode of operation to solve the problems, requirements, or needs of social organizations or groups.” In this regard, the proposed study is a proposal to be implemented in the community committee terrace “C” area of Tawakale City, Barinas State, on 28 July, in accordance with the environmental strategy to improve the green area. According to Arias^[8], this is a “design to collect all information directly from the reality of the investigated object or the place where the event occurred.

In addition, population is regarded as a prominent aspect of research. Chavez^[9] pointed out: “The purpose of the research area is to summarize the results. It consists of features and backgrounds that enable people to distinguish between different themes. The study involved the urban complex of Tawaka city in the “C” district on 28 July, which was composed of 192 subjects. In order to concretize the research, it is necessary to collect information from the main sources. For this purpose, a tool called a questionnaire is used. Arias^[8] defines it as “a survey conducted in writing through a paper tool containing a series of questions... filled in by the respondent without the intervention of the investigator.”

Table 1. Material conditions of green space improvement in “C” District of Tawaka City

Indicator	Yes		No		Total	
	Fa	%	Fa	%	Fa	Fr%
Ground	40	70	17	30	57	100
Surface area	35	53	22	47	57	100
Position	50	88	7	12	57	100
Water	57	100	0	0	57	100

Source: Data obtained from responses provided by residents of “C” District, Tavacare City, Barinas Prefecture; Author (2017).

Finally, the data is processed and transformed according to the target, and then the frequency table related to the answers provided is used for clustering and corresponding analysis. Balestrini^[10]: It is suggested that “based on the analysis and interpre-

tation of the results, all aspects and attributes constituting the research problem will be attempted to be specified and displayed.” For analysis, two tables and their respective standards are proposed in order to formulate a strategic plan to improve the green space of the above departments as the research object (**Tables 1–2**).

In this regard, it is conducive to the improvement of green space. According to the questionnaire adopted, the following results were obtained:

Ground: 70% of respondents believe that soil conditions do affect the improvement of green space, which means that soil nutrients and types should be analyzed to determine the species to be sown in the improvement of green space, and 30% of respondents deny that soil conditions affect the improvement of green space. Therefore, extensive guidelines need to be provided to demonstrate that soil types and their nutrients are the key to keeping green spaces in good condition.

Area: The urban green area accounts for 35% of the area required by urban planning because the space is enough to plant and maintain the green area to beautify the area and protect the environment. However, 22% of people deny that the area is not ideal because the development and maintenance of green space require larger and better conditions.

Location: With regard to the above indicators, 88% said that the space used for urban green areas met the expectations that is, they were outside the housing needs, so they could make the best use of these spaces to improve these areas, while 12% said that their location was not good, and the ideal way was to shape and understand the varieties to be cultivated so as to shape the image of the city.

Water: This is another prerequisite for improving green space because it is an indispensable resource for any crop, such as ornamental plants. Therefore, the proposed development is considered feasible because this resource, shows that the conditions required to start the plan are already in place, which will enable an effective environmental strat-

egy to solve the problems raised.

It is worth mentioning that water resources must be easily accessible because, at the appropriate time, those who have the commitment to perform this function within the scope of the responsibility of each social actor in the “C” District of Tawakale City must be able to improve the green space so as to prevent it from becoming a limiting factor for the effective implementation of the established plan.

Table 2. Feasibility of environmental strategic plan in improving green space

Indicator	Yes		No		Total	
	Fa	%	Fa	%	Fa	Fr%
Economical	50	88	7	12	57	100
Technology	50	88	7	12	57	100
Social	57	100	0	0	57	100

Source: Data obtained from responses provided by residents of “C” District, Tawaka City, Barinas State; Author (2017).

A prerequisite for the implementation of the strategic plan is feasibility, which is necessary for the formulation of the strategic plan. The feasibility aspects include:

Economics: 88% of respondents said that economically, it is feasible to implement a strategic plan to solve the environmental technology of improving green space in “Tawaka” urban planning, while 12% of respondents denied the economic feasibility of implementing the plan, which means that the cost of inflation across the country is very high.

However, in this case, it is a key issue to find alternatives. In this case, a plan can be implemented without high investment, and in this case, the profits directly affect the “Tavacare City” community. In this case, teamwork can create its own resources for maintaining and improving the green area.

Technology: With regard to technical feasibility, 88% said that if it were possible to implement a strategic plan, the technicality could be addressed through easily available tools that would help plant, trim, and maintain the entire green space. 12% deny the feasibility of implementing the plan without the use of technology but can prove that there are easily available technologies.

Society: 100% of people believe that it is feasible to apply environmental technology from a social perspective, because social values dominate in achieving the goal, as is the case with the improvement of green space in the “C” District of Tawaka City. Therefore, when society is actively organized, society itself will benefit.

4. Conclusions

Human beings have consciously and unconsciously taken actions against the green areas that lead to their destruction on a global scale. However, some people have realized and are working together for the cause of the environment, because they have joined macro and micro programs and projects. The objectives of these programs and projects are achieved within a specified timeframe. Now they must realize their current interests by considering environmental well-being. Of course, plants are the link to obtaining oxygen, which is an important part of all biological health and natural respiration.

On this premise, the proposed research confirms the benefits of green areas as part of the quality of social life. Although aware of this, it is still noted that some people take little action when joining the team taking care of green areas, but they are not aware of the gradual destruction. Therefore, it is necessary to provide people with internal and external incentives to achieve this goal, as is the case for the residents of “C” District of Tawaka City, especially on the terrace of the community committee on July 28, so as to increase and strengthen the green area, which, as an added value, helps to shape the corporate image of urban planning and leisure, both for people living there and visitors, including children and adults. Get personal satisfaction from those who do it and take care of it, because their actions provide much-needed help from nature.

Therefore, the implementation of environmental education strategies has always been aimed at raising awareness to prevent waste anywhere, not along the grass but in conditional spaces, not to

mention teamwork to maintain and take care of these spaces. This is not just uncontrolled sowing, but the attitude of maintaining social welfare from the perspective of environmental balance in time and space.

Conflict of interest

The author declares no conflict of interest.

References

1. Rodríguez L. Environmental strategy and professional training [Master's thesis]. Holguín, Cuba: Holkin University.
2. Fuentes L, Caldera Y, Mendoza I. La Transversalidad Curricular y la Enseñanza de la Educación Ambiental (Spanish) [Curriculum intersection and teaching of environmental education]. *OBIS Journal of Human Sciences* 2006; 2(4): 39–59.
3. Márquez O. Ornamental gardens as a strategy for local participation in the green area embellishment. *Revista Scientific* 2018; 3(7): 231–249.
4. Del Pozo S. Definition of green area. Chile: University of Chile; 2009.
5. Hurtado I, Toro G. Research paradigms and methods in the changing era. 5th ed. Carabobo, Venezuela: Edición Episteme Consultores Asociados C.A.; 2005.
6. Hurtado J. Research projects. 4th ed. Bogota, Colombia: Editorial Quirón-Sypal; 2006.
7. UPEL. Working manual for professional degree, master's degree and doctoral dissertation. 4th ed. Caracas, Venezuela: Liberator Experimental Education University Press; 2012.
8. Arias F. Research project's introduction to scientific methodology. 5th ed. Caracas, Venezuela: Editorial Espítome, C.A.; 2006.
9. Chavez N. Introduction to educational research, Maracaibo. Venezuela: Editorial Column; 2001.
10. Balestrini M. With the development of research projects. 5th ed. Caracas, Venezuela: Consultores Asociados B.L.; 2001.