Evaluation and Proposals for Improving the Situation of Environmental Education in Morocco

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Abstract This work aims to highlight the different foundations, actors, tools and approaches of environmental education (EE) and to evaluate the tools and approaches to EE in Morocco based on an intersectorial approach. Research data have been collected via two complementary tools: a questionnaire and face to face interviews. Fourteen questions made our questionnaire that we administered in place or through emails and social media networks. The sample of the research is composed of 720 interviewed. The results show that EE in Morocco is characterized by a diversity of tools and approaches. However, the development of environmental education is faced with several obstacles. Concrete actions in environmental education in Morocco need to be strengthened; Most of them focus on education about the environment. Improvement is needed to fill gaps and to develop EE in the various Moroccan ministerial departments in harmony with the specificities and cultural heritage of the country. To this end, we suggest some ways to improve the development of EE well adapted to the Moroccan context.

Keywords: environmental education, tools, approaches, obstacles, improvement, moroccan context


1. Introduction

Today the whole planet is confronted with a series of questions about environmental problems such as; pollution, deforestation, salinity, urbanization and climate change ... etc. caused by an essentially anthropogenic source, these problems reflect the aberrant human behaviors namely: the overexploitation of natural resources, the change in production and consumption patterns, along with the change in the relations maintained between Man and his environment, whose impact has escalated as a result of population growth. The man is often held responsible for the degradation of his environment [1]. Since thirty years; the global awareness of the emergence of environmental problems has favored the gradual rise of a new educational field, Environmental Education (EE). According to Sauvé (1999 in [2]), this new dimension of education aims to optimize the relationship between man and the environment. The ongoing education of the population should permit awareness, knowledge transfer and the acquisition of a sense of values, behaviors and skills necessary for the preservation of the environment [3]. For a long time, Environmental Education has mainly taken shape in non-formal education settings [2]. Today, Environmental Education has become a key to solving environmental problems and maintaining global sustainability [4,5].

According to several researchers [6,7,8], the estimated costs of environmental degradation in Morocco come to 13 billion dirhams, equivalent to 3.7% of national GDP. In response to these challenges, the country is currently experiencing a real environmental transition. It is one of the countries that attaches great importance to environmental and EE issues. In this context, it has set up several projects that concern of renewable energies, namely the "Nour" photovoltaic power plants in Ouarzazate, the wind projects in the North and South of the country, the “Zero-Mika” project, regarding the prohibition of manufacturing, trading and using plastic bags. Furthermore, Morocco has also hosted several international events dealing with the theme of the environment such as; the 5th PLANET'ErE forum and the 7th World Environmental Education Congress (WEEC7) held in Marrakech in 2014, as well as the COP7 and COP22 organized in Marrakech in 2001 and 2016, respectively.

At the national level, the mobilization to the preservation of the environment is across-the-board and comprehensive. This is depicted by the sundry initiatives adopted for this purpose by the various ministerial departments, NGOs, civil society, the private sector, the semi-public sector, etc. Thus, several stakeholders are responsible of the environment management. The efforts of all these actors also integrate the educational dimension using diverse approaches and tools.

The very few studies carried out on EE in Morocco have mainly focused on the education sector and NGOs; hence there is dire need to broaden the scope of the study to other stakeholders concerned with the field.

• Research problem

During these last decades, Morocco has implemented several initiatives based on environmental education to protect its environment. These initiatives are based on foundations,
actors, approaches and tools for integrating education in different sectors. However, and according to many national studies and reports [6,7,8,9]. The environment is continually deteriorating, raising questions about the adaptation of EE tools and approaches to the Moroccan context. The EE assessments conducted so far have only affected the field of education, hence the interest of this study. Following this preliminary observation, we decided to carry out this research in order to highlight the foundations, the actors, the approaches, the tools and the obstacles of development of the environmental education in the different Moroccan sectors having a commitment of preservation of the environment. For this purpose, this study was conducted with a sample that is of great importance in the success of these environmental initiatives.

• **Purpose of the research**

The study aims to achieve four main objectives corresponding to the: (1) analysis of the current situation of EE in Morocco (2) review the approaches and tools of the EE implemented; (3) identification of tools and approaches that should be improved, strengthened or developed; (4) proposal of solutions for addressing barriers and improving the EE approaches and tools.

• **Research questions**

The present study attempts to answer the following four questions relative to the EE in the Moroccan context. First, (i) the management of the environment sector by multi-stakeholders is it favorable to EE? Second, (ii) what are the EE approaches and tools used? Third, (iii) what are the obstacles that hinder EE? Fourth, (iv) How can EE be improved?

### 2. Methodological Approaches

#### 2.1. Methods of Collecting Information

In order to achieve the above objectives, and to answer our research questions, we have made use of two primary tools for collecting information from EE actors in Morocco: questionnaires and interviews.

- The questionnaires composed of 14 questions. We chose a mix of the three categories of questions: open, closed, and multiple-answer questions, divided into 7 axes (1st axis: Identification of the person questioned, 2nd axis: Foundations of the EE, 3rd axis: Actors of the EE, 4th axis: Approaches of the EE, 5th Axis: EE Tools, 6th Axis: Obstacles of the EE and the 7th axis: Proposals for the improvement of the EE), have objective to determine the bases, the tools and the approaches used in EE in Morocco.

These questionnaires were prepared in Arabic and in French to facilitate their understanding by the participants in the study, depending on their proficiency in only one or these both languages.

The used methods depend on the objectives of this research. The similar studies have been consulted [10,11,12]. The linguistic and content verification has been validated by specialties each in his field.

- Direct interviews were conducted with 10 EE actors in different domains:
  - i. Members of Religious Scientific Councils;
  - ii. Secondary and primary school teachers;
  - iii. Association members;

#### 2.2. Target Population of the Study

The target population for the study is selected on the basis of their relation to the subject content, in order to understand the question of this research. The EE actors included in the study are environmental club coordinators, government department heads, presidents and members of associations and non-governmental organizations, local religious scientific council presidents, teachers and primary and secondary school students, students, journalists, doctors, engineers, elected officials.

Questionnaires were distributed to the participants in the study either directly or via e-mail and social networks on the Web. The number of completed and retrieved questionnaires is 720 out of the 1000 distributed (Table 1).

<table>
<thead>
<tr>
<th>Institutional supervision of the actor</th>
<th>Actor</th>
<th>Number of interviews</th>
<th>City</th>
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</thead>
<tbody>
<tr>
<td>MNEVT (Minister of National Education and Vocational Training)</td>
<td>Regional Center for Education and Training Trades.</td>
<td>2</td>
<td>Fez</td>
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<tr>
<td></td>
<td>Regional Academy of Education and Training Fès-Meknes.</td>
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<td>Delegations:</td>
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<td>○ Delegation of Fes</td>
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<td></td>
<td>High Schools and Public Colleges:</td>
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<td></td>
<td>○ Lycée IBN Mandour</td>
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<td>○ Al Kindi High School</td>
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<td>○ Ali Benbarri high school</td>
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<td>Private High Schools:</td>
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<td>○ Al FALLAH High School</td>
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<td>Ministry of the Interior</td>
<td>Wilaya of Fez-Meknes</td>
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<td>○ Urban Planning and Environment Department.</td>
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<td></td>
<td>Province of Taza</td>
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<td>Taza</td>
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<td></td>
<td>○ Urban Planning and Environment Department.</td>
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Table 1. Cities and institutional supervision of the questioned or interviewed actor.
<table>
<thead>
<tr>
<th>Institutional supervision of the actor</th>
<th>Actor</th>
<th>Number of interviews</th>
<th>City</th>
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<tbody>
<tr>
<td>OHCWFFD (Office of the High Commissioner for Water and Forests and the Fight against Desertification)</td>
<td>• Regional Direction of Fez-Meknes</td>
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<td>• North East Regional Direction</td>
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<td>• AESVT of Morocco</td>
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<td>Fez</td>
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<td></td>
<td>• Casa-Environment</td>
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<td>Taza</td>
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<tr>
<td>NGOs (Non-Governmental Organizations)</td>
<td>• Moroccan Forum of Environmental Initiatives</td>
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<td>El-Hoceima</td>
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<td></td>
<td>• Oxygen Association of outdoor sports - TAZA</td>
<td></td>
<td>El-Jadida</td>
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<td></td>
<td>• Other environmental associations</td>
<td></td>
<td>Tangier, Oujda, Marrakech, Agadir</td>
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<tr>
<td>Urban Communes</td>
<td>• Taza urban district</td>
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<td></td>
<td>○ Green space division</td>
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<td>○ Municipal Works Division</td>
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<td>• Ministry Delegate to the Minister of Energy, Mines, Water and Environment, in charge of the Environment</td>
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<td>Rabat</td>
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<td></td>
<td>• Party of the Green Left of Morocco</td>
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<td>Rabat</td>
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<td></td>
<td>• Justice and Development Party</td>
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<tr>
<td>Political parties</td>
<td>• Authenticity and Modernity Party</td>
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<td>• Party of Istiqlal</td>
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<td>• Unified Socialist Party</td>
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<td>Taza</td>
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<tr>
<td>Ministry of Agriculture and Maritime Fisheries</td>
<td>• Provincal Directorate of Agriculture of Taza</td>
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<td></td>
<td>• Provincal Directorate of Agriculture of Fez</td>
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<td>Fez</td>
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<tr>
<td>Ministry of Habous and Islamic Affairs</td>
<td>• Scientific Council of Fez</td>
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<td>• Scientific Council of Taza</td>
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<td>• 2M Television Channel</td>
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<td>• Al Oula Television Channel</td>
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<td>Media</td>
<td>• National Radio</td>
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<td>• Attajdid Written Journal</td>
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<td>• Journal written in Monaataf</td>
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<td></td>
<td>• Maghreb Arab Press (MAP)</td>
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<td></td>
<td>• Ibn Baja Hospital</td>
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<td>Taza</td>
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<tr>
<td>Ministry of Health</td>
<td>• Ibn Baja Clinic</td>
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<td>Taza</td>
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</table>

Figure 1. Geographic location of cities where the study was carried out (modified with permission of the author)
2.3. Study Areas

The City concerned for this study are of different sizes and belong to different socio-economic Areas: Fez, Meknes, Taza, El Hocéima, Casablanca, El-Jadida, Rabat, Tangier, Oujda, Marrakech and Agadir (Figure 1).

2.4. Results Analysis

2.4.1. The Methods of Counting

The examination of the questionnaire made it possible to draw up a double-entry table, one for the categories targeted by the survey (interviewed) and the other for the different items treated (Foundations, actors, approaches, tools, obstacles and proposals for improvement). The data of the table consisting of the number of responses for each pair of entries.

2.4.2. Statistical Treatments

From the collected data, we calculated the relative percentages of responses for each pair of entries. The graphical representations of the values obtained with the "Excel" spreadsheet enable easy reading and analysis of the results and also facilitate comparison between the responses of the population targeted by the study in Morocco.

3. Results

As mentioned above, we present in this article some results of our study conducted with several EE stakeholders in Morocco. We aim to highlight the different foundations, tools and approaches of the EE as well as the obstacles that hinder its development in Morocco so that we would propose some tracks for its improvement.

3.1. Foundations of EE in Morocco

The question asked was: “What are the foundations of EE in Morocco?”

Figure 2 shows that, according to the study participants, the EE in Morocco has several foundations that can be categorized according to the percentage of the proposals in decreasing order as follows: Meetings, international conventions and reports (25%); speeches and royal directions (17%); environmental laws (16%); the national charter of the environment (14%); ministerial notes (9%). Environmental university researches; the Moroccan Constitution 2011 and the recommendations of the Economic, Social and Environmental Council in Morocco represent 5% each. Other foundations represent a percentage of 4%, including national strategies (2%), government orientations and the Quran and Sunna (1% for each).

3.2. Actors of EE in Morocco.

The question asked was: “What are the different actors of EE in Morocco?”

According to the results of Figure 3, the actors of the EE in Morocco can be classified according to the percentage of the answers of the study participants in decreasing order as follows:

The Ministry of National Education (30%), NGOs (20%), Office of the High Commissioner for Water and Forests and the Fight against Desertification, urban communes and the Ministry delegated to the Minister of energy, mines and water responsible for the environment (8% each), the media (5%), the Ministry of the Interior, the Ministry of Habous and Islamic Affairs and the Ministry of Agriculture (4.5 % each), the political parties (3%), the Ministry of Youth and Sports and the Ministry of Health (2.5% each), the Ministry of Higher Education and the Ministry of Justice (0.5% each).

MCIR: Meetings, Conventions and International Reports; SRD: Speeches and Royal Directions; EL: Environmental Laws; NCE: National Charter of the Environment; MN: Ministerial Notes; RESECM: Recommendations of the Economic, Social and Environmental Council in Morocco; EUR: Environmental University Research; MC: Moroccan Constitution 2011; other foundations (≤3% for each). The (%) represents the number of proposals of the considered EE foundation compared to the total number of proposals of all the EE foundations.

Figure 2. Foundations of EE practices in Morocco according to the opinion of the study participants
3.3. EE Approaches in Morocco

The question asked was: “What approaches do you use in the field of EE?”

As stated by the study participants, the approaches are varied and can be categorized according to the percentage of responses in the following decreasing order: participatory approach (45%), educational approaches (22%), awareness raising (15%), incentive competitions (8%), religious, spiritual and ethical approaches (5%). The four remaining approaches, representing 2% each, are: the methodological approach, the territorial approach, the partnership approach and the global approach.

3.4. Tools of EE in Morocco

The question asked was: “What tools do you use in the field of EE?”

Observing the graph in Figure 5, we note the preponderance of the organization of awareness campaigns, cleanliness and gardening (23%), followed by the organization of training and reflection sessions (presentations, workshops, internships, seminars information, and round tables), and by the organization of national and international meetings (symposia, forums, congresses, seminars and national and international conferences, meetings, debates, walks and environmental gatherings ....) (17% each), then the celebration of national and international days (11%), the organization of educational and ecological excursions (8%); and finally (6%) for each of the following tools: the organization of incentive competitions (student creativity, theater, poetry, innovation and competitions), the use of written tools (leaflets, stickers, booklets, posters and teaching guides) and of audiovisual ones (CD-ROM, documentaries, environmental issues, advertising ...). The tools with a percentage lower than or equal to 5 includes: advocacy on environmental issues (5%), the activities of religious institutions (Mosque, Koranic Schools, Traditional teaching, prediction, orientation and Friday sermons) (4%), and selective sorting, collection and recycling of waste (3%). Some actors use other tools, such as legal sanctions.
3.5. Obstacles to the Implementation of the EE According to the Participants in the Study.

The question asked was: “What obstacles do you think are hindering the development of EE in Morocco?”

Figure 6 presents the different proposed obstacles that hinder the development of EE in Morocco. According to study participants, the EE faces a number of obstacles that can be ranked in the following decreasing order: Lack of EE training and skills (20%); lack of materials and tools, EE learning is limited to the transmission of knowledge, and the lack of exploitation of public spaces of substantial interest (12% each); the difficulty of access to information (9%); lack of integration EE in different continuing education programs (8%); multi-stakeholder management without cooperation and partnership (7%); lack of environmental information and EE knowledge (6%). Other barriers were cited by the participants, and represent a total of 22%, such as: Lack of interest among adults (5%); Lack of scientific knowledge of EE (5%); Lack of time among some EE actors (4%); Lack of awareness for the citizens (3%).
IEECT: Integration of EE in Continuing Training; AR: Awareness Raising; ITA: Improvement of Tools and Approaches; EEBFE: Encouraging Education By and For the Environment; IEEARI: Integration of EE in the Activities of Religious Institutions; PBEEA: Partnership Between EE Actors; SEP: Support for Environmental Projects. The (%) represents the number of the considered improvement proposal in relation to the total number of all improvement proposals.

Figure 7. Improvement proposals for EE practices in Morocco suggested by the study participants

3.6. EE Improvement Proposals of the Study Participants

The question asked was: “What do you propose to improve EE in Morocco?”

Figure 7 shows the main proposals of improvement of EE in Morocco suggested by the study participants. These are varied and can be classified in the following decreasing order: the integration of EE in the various continuing education courses (41%), the improvement of the awareness campaigns (18%), tools and approaches improvement (12%), encouragement of education for and by the environment (10%), the integration of EE into the activities of religious institutions (8%), the encouragement of partnerships between EE actors (6%), and finally support for environmental projects (5%).

4. Discussion

4.1. On the EE Foundations

The analysis of the results obtained (Figure 2) allowed us to classify the bases favoring the development of EE in Morocco into two groups:

The first group includes the main national foundations (Speeches and royal orientations, Moroccan constitution, national strategies, government orientations ....). This diversity implies that Morocco has made significant efforts over the last few years to protect the environment, human development and sustainable development. Thus, Environment preservation became a priority for Moroccan society especially, after the speech of His Majesty King Mohammed VI on the occasion of the Throne Day in August 2009. He called for the setup of a project for a national charter of the environment and sustainable development that will create a new dynamism in environmental protection and reaffirm the Kingdom's commitment to better environmental management [13].

This commitment of the State declined in various actions: The establishment of the economic, social and environmental council that provides a roadmap about the state of the environment by publishing annual reports; the creation of a delegated ministry for the environment to the Minister of Energy and mines, which is considered today as one of the most active players in the field of EE by inaugurating several EE centers in different regions of Morocco; The ministerial notes that organize and sometimes encourage actors to implement set the national strategies; The Moroccan constitution of 2011, especially the two articles 19 and 31, which determine the human right to a clean environment [14].

Interestingly, University researches addressing various topics related to EE and the establishment of several research laboratories dedicated to environment and environmental education and sustainable development. Religiously speaking, the Quran and Sunnah are the two oldest Islamic tools that encourage man to preserve and respect the environment through several verses in the Qur'an and the Hadiths of the Prophet.

The second group includes bases to which Morocco attaches a great importance namely, the international foundations (25%) originating international meetings like symposia, forums (PlanetERE), congresses (WEEC7, COPs 7 and 22). The organization of seminars and conferences is an opportunity for the exchange of environmental information between different actors. The results also showed that some participants do not master the difference between the EE bases and the causes of environmental degradation.

4.2. Concerning the EE Actors

The diversity of EE actors in Morocco (Figure 3) constitutes a great wealth and a real asset for the territories. The Ministry of National Education ranks first among the most active players in the field of EE. In fact, the ministry supervises a large number of schools that are engaged in
the environment preservation through creating environmental clubs. The Ministry requires schools to set up an EE annual program indicating very clearly the objectives and the activities to be carried out. NGOs play also a decisive role sensitizing and engaging populations to the protection of the environment. The other actors, although they are making enormous efforts in the field of EE, they were represented by a relatively low percentage among the proposals of the study participants. This can be explained by a weak dissemination of the work done in this area. As it may be attributed to the lack of a real common field of work where national or even regional and local EE activities could be synchronized, harmonized for better economy of efforts and means. Multi-stakeholder management is accompanied by a lack of partnership between the majority of these actors. This highlights the difficulties of developing EE in Morocco.

4.3. Regarding the EE Approaches

The analysis of the results obtained (Figure 4) shows that the participatory approach is the most dominant approach. This is explained by the importance of the commitment of the various actors to engage a wide range of people in protection of the environment. Such a context of participatory engagement is eminently educational: it offers the opportunity to learn together, through inquiry and action [15]. In the second position comes the educational approach. This approach focuses on the content via the transmission of the expertise and knowledge. Therefore, this approach is the most dominant approach especially in the Moroccan school system. These results are consistent with those previously obtained by Benamar and Riouch [16] and by Hamouchi, Essafi, and El Hajjami [13]. As for approaches that lead to the acquisition of actions and behaviors respectful to the environment, as well as those where one learns in contact with the nature, the results of the study show that they are rarely used in Morocco.

4.4. Regarding the EE Tools

The tools for implementing EE in Morocco (Figure 5) are mainly activities that are carried out in the establishments or departments to which the participants in the study belong, such as: Cleaning, bleaching and embellishment of the sidewalks, painting, planting, gardening, hygiene campaigns. This is probably due to the ease of their execution as well as the fact that they do not require too much financial and material means. These tools do not allow the target population to be in touch or to get closer to environmental issues as educational and ecological outings allow. Other tools such as organizing caravans and festivals, national and international meetings, or training and reflection sessions that are considered important, are used by a few EE actors participating in the study. However, the exploitation of public spaces of substantial interest (Media and religious institutions) remains limited to occasional events (celebration of national and international days).

It would be important to note the diversity of tools used by some EE actors, as opposed to others showing a lack of appropriate tools, mainly related to a lack of means to develop or obtain tools more in line with local conditions especially, the cultural and linguistic diversity of Morocco. In the extreme case, some EE actors in Morocco use tools that are not very adapted to national realities and obviously do not contain up-to-date information on natural heritage and national environmental problems.

4.5. Regarding Obstacles to EE Development

The analysis of the results obtained (Figure 6), shows that the implementation of EE in the different ministerial departments is currently facing various obstacles that can be classified into three categories of different natures, which does not mean that they do not influence each other:

- Pedagogical obstacles represented by the difficulties of integrating EE in the school curriculum and in initial and continuing training.
- Personal obstacles represented by the lack of interest of citizens.
- Structural and organizational obstacles represented by lack of time (coordination, meeting ...), the difficulty of organizing ecological and educational outings, lack of concrete actions, lack of resources (material, financial ...).

5. Prospects for EE Improvement in Morocco

At the end of this diagnostic study of the state of the EE in Morocco, it turns out that in spite of its richness revealed notably by the diversity of the actors, the tools and the approaches the environment is in continuous degradation which underlines the limit or the inefficiency of certain approaches and tools and requires their improvement or replacement by others. It is therefore imperative to improve and strengthen what is already in place, but also the creation of new tools and the proposal of new approaches.

The review of the main obstacles to the development of the EE in Morocco mentioned above (Figure 6) makes it possible to envisage some ways of improvement, which will have to be taken into consideration by the different actors to remove the obstacles, to reinforce and to improve the tools and the approaches of EE.

5.1. Concerning the Lack of Interest of the Citizens

Regarding the lack of interest of the citizens mentioned by the participants in the study as an obstacle to the development of the EE, should we not remember that one of the major objectives of the EE is precisely to arouse the interest of the population for the environmental cause and raise awareness. This challenge in Morocco is shared with many countries. In France, for example, the need is still urgent to support the development of EE for all and at all ages of life, the consideration of EE by politicians, the development of projects allowing extend EE to populations that are still under-targeted, such as out-of-school children, the general public (Anonymous, 2010). However, the approach must be contextualized, allowing the
development of an EE in harmony with the specificities and the cultural heritage of the country and which critically evaluates the value of the local experience and avoids solutions imposed or imported from the outside. If not, these initiatives run the risk of becoming mere folklore programs. In this context, EE actors should be supported to produce tools more adapted to local specificities through the production of tools in Tamazight, Tachelhit or Arabic dialect, alongside those in classical Arabic or in French. To change environmental attitudes, it would be necessary to develop other approaches such as project-based learning [17], the development of nature-based education [18] and the development also of an environmental policy in all schools through the creation of new environmental options [19]. In addition, there is also a need to strengthen the tools whose efficiency and appeal to the public is well established, such as botanic gardens that adopt different age-appropriate approaches to their educational activities around the world.

5.2. Concerning the Lack of Qualified Human Resources

The success of any EE activity also requires the qualification of the actors who practice it. A considerable effort of qualifying training remains to be done in Morocco in this area which is part of the green jobs. Public and private university and non-university higher education institutions and vocational training institutions should contribute to this effort through the creation of specialized courses in the training of qualified EE trainers (EE educators, eco-animators, facilitators of the environment…). Similarly, given the preponderant contribution expected from the School in the field of EE, EE training should be made mandatory in initial and in-service teacher training. In addition, there is a need to review and adjust school curricula to effectively integrate EE and strengthen its place in school projects.

For the other sectors, EE should also be reinforced as part of the in-service training of each ministerial department.

5.3. On the Lack of Partnership between the Actors

EE in Morocco is a central preoccupation for many actors. The environmental management depends on multi-stakeholders. In some cases, this "polycephaly" which governs the management of the environment and, consequently, the EE, unfortunately leads to results contrary to those expected.

In this context we propose the support and the incentive of the different actors of the EE to engage and to gather in environmental networks with the unification and the creation of the tools and approaches in each EE network more adapted to the peculiarities from each region. As we must develop a national strategy based on cooperation between the different actors. The question of partnership is fundamental in EE, for this reason it is necessary to reinforce the partnership between the different national and foreign actors.

5.4. About the Lack of Time

Lack of time and availability hamper the development of EE in several ministerial departments; for this reason we propose the allocation to the EE of a space-time which allows its implementation.

5.5. On the Lack of Means

The implementation of the EA requires means that are generally far from sufficiently available. To overcome this constraint that blocks the development of the EE we advocate the integration of EE in the policy of each ministerial department through the granting of a budget that is specifically dedicated to it especially for the local authorities for their own EE activities and for the support of the NGO activities in this field.

5.6. Concerning the Lack of Exploitation of the Public Spaces of Substantial Interest (Media and Mosques) by the Citizens

5.6.1. Need to Strengthen the Role of the Media in the Dissemination of the EA

The media is considered one of the most effective tool for spreading EE around the world given the broad spectrum of social groups it can reach. The media has a great responsibility to make people aware of environmental problems. For the media to fully play this role, it is necessary to increase the share of environmental emissions through dissemination, information and analysis on environmental issues and the encouragement of a social debate in this area. In addition, broad dissemination of environmental information also requires the production of documentary films on the country's environmental assets and challenges. All this requires the upstream training of journalists and directors specializing in the environment; but in the absence of such training so far in Morocco, this kind of professional profiles is almost non-existent, which severely hampers media communication on the environment.

The internet and new media, like social media, can play a vital role in EE and environmental protection given the large number of members who access them.

5.6.2. Need to Integrate EE into Friday Sermons

Muslims in general and Moroccans in particular, largely give undeniable importance to religious considerations. The mosque is considered as one of the living institutions offering a dynamic forum capable of reaching a large part of the population by drawing attention to the importance of the health of the environment and urging it to consider it as a national and universal public good that must be protected and safeguarded.

It is therefore necessary to sensitize imams to become more involved, through daily and weekly teachings, given their proximity to citizens (5 times a day), in education and awareness of the latter for more respect for the living environment and to organize voluntary actions to improve it (cleaning, weeding, tree planting, etc…) to fight this ugliness that invaded, unfortunately, our neighborhoods and cities in total opposition to the
precepts of the Islam on the importance of moral and physical hygiene.

Friday prayers in mosques are important weekly opportunities in the life of a Muslim, so it has become necessary to involve them in the debate about the environment and the need for its preservation. Imams should prepare their Friday sermons taking into account an EE consideration; which requires first of all their participation in training sessions in this area.

6. Conclusion

This work allowed us to make an assessment of the EE situation in the different ministerial departments in Morocco by highlighting the different EE foundations and actors, on the one hand and approaches and tools, on the other hand, based on questionnaires and interviews. This was done using a comparative study and an interdepartmental approach. The analysis of the data collected from the questionnaires submitted to the different actors is based on a descriptive statistical method. The results obtained show that Morocco has made a great effort to protect its environment through the establishment of different foundations, actors, tools and approaches in favor of environmental education. Our main findings also reveal that there was a diversity of foundations, actors, tools and approaches. However, despite this diversity, the environment is continually deteriorating, which made it possible to highlight the limits of the tools and approaches used. Most of the approaches are aimed at transmitting knowledge without acquiring values and behaviors that respect the environment. The diversity of tools is not always adapted to national specificities. Improvement is needed to fill the gaps and to develop EE in the different Moroccan ministerial departments. In addition to evaluate the environmental education, better tools and mechanisms need to be explored and developed. This improvement must allow the development of a harmonious relationship between the information, knowledge, thoughts and actions implemented by people in relation to the environment with which they interact. Several ways for improvement are proposed in this work with a view to developing EE in Morocco and adapting it to the national context; we aspire to be taken into account by the actors in EE. According to study participants, the key element in activating environmental education in the different sectors seems to be Integration of EE in Continuing Training of actors. We also believe that the present study would be useful for researchers who can continue the investigation of the EE knowing that it represents one of the main pillars of the achievement of sustainable development to which our country aspires.

Abbreviations List

EE: Environmental Education
MNE: Ministry of National Education
NGO: Non-Governmental Organizations
WEEC: World Environmental Education Congress
COP: Conference of the Parties

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