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Non-Governmental Organisations Contribution to Primary School Environmental Education in Bulgaria

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July, 2008

Budapest

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ABSTRACT OF THESIS submitted by:
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Environmental education is a main precondition for achievement of sustainable development by enabling future decision-makers with capacity to solve adequately complex and controversial environmental problems. Environmental education is regulated by governments but at the same time it is an area that allows cooperation and contribution from other interested parties. In this way partnerships with environmental non-governmental organisations could lead to improvements when weaknesses in the educational system are evident as well as organisations' own contribution could be beneficial to enhancement of the EE.

The present research aims to identify environmental non-governmental organisations' contribution to EE in primary grades in Bulgaria. Firstly it makes analysis of the weaknesses and strengths of the educational system in Bulgaria and then identifies ENGOs contribution, in what way it responds to the weaknesses in the system, what are the most preferred activities and weather they are sustainable. Also it considers different factors that affect the level of ENGOs success and tests educational material developed by an ENGO for its superiority over a material elaborated by state experts.

The research was designed on the grounds of inductive reasoning with the use of triangulation approach. Thus, information obtained from documentary research, interviews with ENGOs experts, teachers and state experts, questionnaire to ENGOs are used simultaneously in order to compare different points of view, to very the stated assertions and to make conclusions. Comparison between an ENGO developed EE material and material prepared by experts from the state educational system is done in order to find whether the former material is better. This is achieved through case study focused on written test with four grade students in two schools using either the former or the latter material.

It was found that ENGOs contribute to EE in primary grades in Bulgaria mainly through extra-curricular activities. The stress on the education *in* the environment, on practical-oriented activities delivered through interactive approaches. This and all other ENGOs activities were found to tackle weaknesses in the educational system. The success and the sustainability of ENGOs activities were found to be dependent on external factors like the state institutions conservatism and unwillingness for cooperation, school principals, students' interest, etc. Internal factors like project-based financial insurance, diverse areas for operation, lack of narrow specialists were also found to be influential. In general, ENGOs contribution on school level scored decrease on the account of national level activities. The comparison between the educational materials proved that the one elaborated by an ENGO is more beneficial in knowledge and awareness rising of students in primary grades.

Keywords: environmental education, environmental non-governmental organisations, primary education, Bulgaria

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List of Abbreviations

BBF	**Bulgarian Biodiversity Foundation**
CEIE	**Centre for Environmental Information and Education**
EE	**Environmental Education**
ENGOs	**Environmental Non-Governmental Organisations**
FEE	**Freely Elective Education**
ICTs	**Internet and Communications Technologies**
SDE	**Sustainable Development Education**
NPE	**Nature Protection Education**
ME	**Mandatory Education**
MEE	**Mandatory Elective Education**
MoES	**Ministry of Education and Science**
MoEW	**Ministry of Environment and Water**
REC	**Regional Environmental Center for Central and Eastern Europe**
REI	**Regional Education Inspectorate**
NPDSPE	**National Programme for Development of School and Pre-School Education**

1. Introduction

Education has found to be a national priority and a topic with great importance for the Bulgarian society in recent years (MoES 2005). This perception came after the political changes in 1989. The process of transition between political regimes caused a deep economic crisis in the country. Social problems and constant changes of governments "deprived environmental education from long-term investments" (Green Balkans 2008). Currently, governmental efforts are targeted to improvements of the educational system through development of diverse national programmes, with implications respectively on the environmental education in primary grades, such as teachers' qualifications module, development of out-of-class and out-of-school activities module, etc. Still, these areas are weak and cannot achieve reasonable level of EE (MoES 2005, Boneva *et al.* 2005). Furthermore, national policies purposefully targeting environmental education in schools were not found to exist. At the same time EE is an area of competence not only for the Bulgarian government, but for interested parties like environmental non-governmental organisations (ENGOs). ENGOs in Bulgaria are actively involved in dissemination of information, education and trainings (REC 1997, Marinov *et al.* 1998). ENGOs utilize different approaches in communicating environmental awareness to youngsters. Often they organise drawing competitions, trips to natural sites, celebrations of international environmental dates, etc. Thus, they add to EE, received in schools, or they nurture qualities, untouched in class. But unlike state institutions, which operate with yearly allocated budgets, organisations from the third sector rely on donor funded projects. Therefore, it can be assumed that limitations to their contribution on EE in primary grades could arise because of donors' requirements and because of the unstable nature of their financial dependence. Additionally, positive results in EE in primary grades could be achieved by joint partnerships and consultations between the interested parties. On the one hand, this would mean institutions open to cooperate and recognise other expert opinions and, on the other hand, it means that ENGOs can reach national coverage, not single case, local contribution. Finally, the latest national analysis entirely on the state of EE in schools in Bulgaria dates from 2003 and analyses on the contribution of ENGOs to primary EE were not found in the literature.

Taking into account the lack of analysis of ENGOs contribution to EE in primary grades in Bulgaria, the aim of the present research was defined as:

To identify the role and the factors that influence NGOs' achievements in enhancing environmental education in primary grades in Bulgaria.

Several objectives were developed for fulfillment of the aim:

- *To identify the current state of the educational system with implications on the environmental education in primary grades, viz. its strengths and weaknesses.*
- *To identify and analyse in what way ENGOs contribute to the primary EE, to analyse the motives for implementation of such activities, to identify the factors that influence NGOs contribution during project implementation and to analyse the sustainability of ENGOs activities.*
- *To ascertain whether an ENGO developed EE materials are better in achievement of educational goals in mandatory elective environmental education than those, prepared by state experts.*

The present research is a qualitative examination with a number of quantitative analyses that eventually serve to prove qualitative assertions. The utilized approach is based mainly on inductive reasoning, i.e. it is built on on-going hypothesis formulations, but some deductive processes are also evident, when verifications of claims are found necessary. Documental research, questionnaires and interviews serve to verify different claims on debated issues and to assist in assertions development. The combination of methods increases the reliability of the made inferences. Case study of two schools, which use educational materials, prepared by experts from governmental and by experts from the non-governmental sector, is undertaken in order to reveal in what way ENGO developed materials is more beneficial to materials, prepared by state experts. Finally, a test for students from fourth grade is conducted to prove the qualities of the former material over the latter one.

The main body of the research is designed to follow naturally the preliminarily set objectives. It starts in **Chapter Four,** outlining strengths and weaknesses in the educational system, raised by ENGOs experts. Verification of ENGOs assertions with state and independent analyses on the issue is performed in order to increase the accountability of the raised assertions. The outcomes of the analysis from this chapter are used as a basis for assessment of the ENGOs contribution in the next one. **Chapter Five** deals with ENGOs activities for EE in primary grades. It lists activities that are performed by ENGOs, gives explanation on ENGOs choice on their activities and on the factors with influence during projects implementation. Furthermore, the chapter provides an explanation of the contribution to the EE in primary grades, using the findings of the previous chapter, in terms of covering weaknesses in the educational system and in terms of covering educational elements. Finally,

the chapter deals with the sustainability of the debated activities and the sustainability of the third sector joint actions for EE. **Chapter Six** includes a case study analysis of two schools using different sets of educational materials with the aim to prove that EE materials, developed by an ENGO, are better than EE materials, developed by state experts. Analysis on the results of fourth grade students' written tests from these schools is made in order to verify the hypothesis.

The findings of the analyses should depict the political and legal environment in which ENGOs work, the nature of their activities, how their contribution is enhanced or hampered and if their work could be regarded to be sustainable in terms of repetition and focus. The paper will end with policy recommendations and some specific steps that can be undertaken by ENGOs.

2. Theoretical Framework for EE and NGOs

Discussions in the theory of environmental education and environmental non-governmental organisations in general, and in Bulgaria in particular, are meant to set the baseline for understanding the current research outcomes. Arguments in this chapter are aiming to outline the course of environmental education since its commencement in 1970s and its linkages with the development of environmental thinking. Also, basic features of the educational system are presented - educational elements such as acquisition of knowledge, skills, attitudes, participation; curriculum planning; teacher training and research, done on EE are debated below. Non-governmental contribution is touched upon as well, but the limited available literature on the topic imposed considerable constraints on profound examination of the topic. Finally, a reflection of EE in schools and ENGOs' contribution in Bulgaria are considered. The overall objective of the chapter was to structure the presentation of the theoretical framework from general topics to country specific ones.

2.1. Historical Milestones in Environmental Education

The historical development of environmental education needs to be outlined in order to clearly understand its present state and to show environmental thinking impact on education over the years. The beginning of environmental education in the international arena is considered to be set in 1970 during the International Working Meeting on Environmental Education in the School Curriculum in Nevada, USA. The event was called a "landmark meeting" by Palmer (1997) because it introduced a definition of environmental education (EE) for the first time:

Environmental education is the process of recognizing values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the interrelatedness among man, his culture, and his biophysical surroundings (IUCN 1970).

The second milestone was the International Workshop for Environmental Education, held in Belgrade in 1975. The objectives of the Belgrade Charter elaborated under the auspices of the event were generally to build individuals' awareness, knowledge, attitude and skills about the environment and the human activities' impact on it, as well as to empower people to tackle and actively participate in resolving environmental problems.

The International Conference on Environmental Education, held in Tbilisi, Georgia in 1977 and jointly organized by UNESCO and UNDP, developed further the field of environmental education and could be regarded as the third milestone in EE history. The

declaration once again recognized the importance of knowledge acquisition, awareness raising and public participation with special emphasis on the need of "new patterns of behaviour of individuals, groups and society as a whole towards environment (Tbilisi Declaration 1977).

Environmental education continued to be a crucial element of the 1980s and 1990s environmental realm, being perceived to be of great importance for the desired change in social behaviour towards sustainable development. This trend is present in the World Conservation Strategy from 1980, the Brudtland report from 1987, and the Rio Declaration and Agenda 21 from 1992. Environmental education in the early 21st century is closely related to the topic of sustainable development, while at the same time the concept of sustainable development requires elaboration of new educational content and ways of presentation.

2.2. Environmental Education Content

The educational content should deliver not only the new concept of sustainable development, but also ecological concepts to children in an intriguing and much more complex manner than other subjects in the curriculum. It is clear that mere statements of facts, based on science, are insufficient for a full understanding of these issues. Scholars in the field argue that environmental education, like other disciplines, was and continues to be mostly scientifically-based in some countries' curriculum (Palmer 1997, 1998; Cole 2007). Recent developments in the field acknowledge the importance of scientific elements that bring about a basis for understanding of environmental phenomena, but at the same time scholars claim that science is insufficient to achieve thorough comprehension of the issue. According to Palmer (1997), scientific concepts are crucial for environmental understanding, but EE does not lie exclusively in the field of science education. It is not, and should not be, an "adopted child" of this field – something to be co-opted by science education alone. Payne provides supportive assertion saying that "learning should be seen as an enabling process rather than mere knowledge acquisition" (2006).

The state of the environment is a result of complex societal and economic characteristics and changes, an issue that cannot be neglected by contemporary environmental education programmes and its elements cannot be studied separately from each other: "environmental crisis should not be treated as a series of resource, pollution, and conservation issues to the exclusion of social, political, economic, and aesthetic concerns" (Palmer 1997). There is "necessity to develop the areas of peace, civil rights, democracy, and environment not only in a common policy, but also in all of the areas of education" (UNESCO 1994). As a result, twenty years after the Tbilisi Declaration, an international meeting in Tessaloniki

adopted a new declaration where "environmental education is virtually nonexistent in the Declaration… in only 2 of the 29 statements … was environmental education mentioned" and "the Tessaloniki Declaration laid a foundation for education for sustainability" (Knapp 2000).

In the beginning of the new millennium, environmental education became explicitly bound up with sustainable development after the UN General Assembly in 2002 when the Decade for Education for Sustainable Development was declared to start in 2005 and to continue up to 2015. One of the Decade's objectives is to "foster an increased quality of teaching and learning in education for sustainable development" (UNESCO 2008). Sterling and Cooper (1992) makes recommendations on the education for sustainable development from a different angle, viz. the interrelation between environmental concerns from the local to the global level. He argues that environmental issues have broadened to incorporate a much wider ranging and integrated view, inclusive of local and global scales, and the human, political and economic aspects of environmental concerns. Given the arguments above, it is clear that international developments in the field are endorsing recommendations for incorporation of several subjects such as social science, economy, ecology, etc. in school curriculum.

2.3. Environmental Education in the Curriculum

Besides the knowledge and understanding that are fundamental parts of each subject and any level of education, EE teachers should develop a mixture of qualities in children and future active decision-makers. EE strives to develop students' attitudes, values, skills and other qualities that will enhance their capacity as knowledgeable citizens, their understanding of environmental problems complexity and their creativity in finding the most relevant solutions in context-based situations. In this regard, scholars have discussed several elements which need to be included in the environmental education curriculum. For instance, NCEET (1994) defines five elements constituting the educational process:

- **Awareness** – sensory awareness of the world around us, as well as an awareness of societal issues and problem solving strategies
- **Knowledge** – knowledge and understanding of natural processes as well as social, political and economic processes
- **Attitudes** – students' attitudes may change or mature as they develop a deeper appreciation of and respect for the natural world and for individual people and cultures

- **Skills** – the development of process skills involves teaching students how to think, not what to think. This enables them to become more effective decision-makers
- **Participation** – ultimately, the goal of environmental education is to encourage students to … participate in decisions.

Palmer (1998) and Palmer and Neal (1994) talk about three dimensions of the learning process: *knowledge and understanding, skills and attitudes*. The knowledge and understanding category from Palmer's definition correspond to the awareness and knowledge category provided by NCEET. Both skills categories, according to Palmer and to NCEET, strive to achieve one and the same goal in EE. The last category mentioned is about formation of attitudes. Attitudes category to a certain extent includes participation, i.e. "to participate in environmental decision making.. to participate in initiative" (Palmer and Neal 1994). Therefore, all categories from both classifications correspond to each other, despite of their naming. Sterling and Cooper (1992) also have a five-stage process model of environmental education, which for them includes awareness; understanding and knowledge; skills; attitudes and values and action. A specific feature of their interpretation is that those stages may not be consecutive but can happen at the same time during the learning process. Fig. 1 shows the model of environmental education according to Sterling and Cooper.

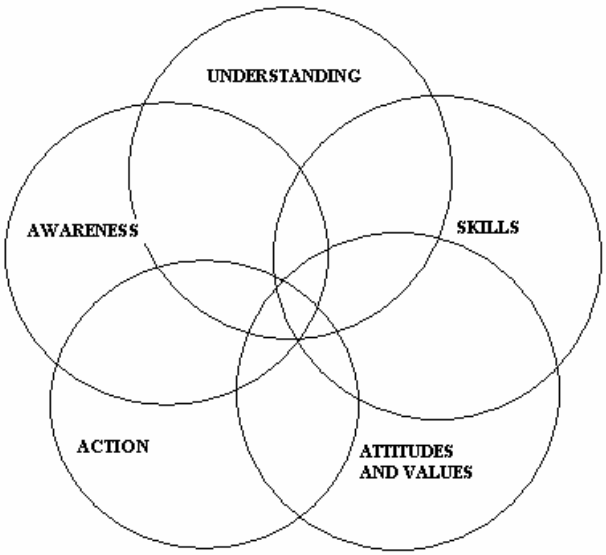

Figure 1. Model of environmental education. Sterling and Cooper. 1992.

Using the main adopted elements of environmental education, experts have developed approaches which emphasise different elements of EE learning. For example, O'Loughlin (1998) stresses the multisensory study of experiences of various environments that should lie in the process of inquiry, discovery, and articulation by the group. According to her,

education will be most effective when the awareness is achieved by a variety of environments. Ernst (2007) discusses environment-based education which has a "focus on issue and action skill development … project- and issue based pedagogy" besides the common trend for interdisciplinarity. Thus, the approach, proposed by Ernst, emphasizes on participation and skills development, if we consider NCEET's definition of educational elements.

Curriculum planning should take into account not only the five elements of environmental education, but the way they are embedded in the educational process. There is a threefold framework of environmental education:

- education *about* the environment
- education *for* the environment
- education *in* the environment (Palmer and Neal 1994)

Each type of educational process includes certain educational elements. Education *about* the environment develops "knowledge and understanding about values and attitudes" (Palmer and Neal 1994). Education *for* the environment develops attitudes, skills and participation and education *in* or *through* environment develops knowledge, skills and sensory awareness.
Effective results can be achieved only if the threefold framework is utilized in curriculum planning. Generally, education *about* and *in* environment are utilized by educators. Education *for* environment is covered less (Palmer 1997). At the same time depending on the students' age, stress can be put on different elements and serve as a ground for development of the next. For example, primary school children are impressed easily by interacting with nature, therefore education *in* environment is "a prerequisite to a concern *for* it" (Palmer and Neal 1994). Thus, the shares in the overall programme of education in, about and for the environment must be precisely set in the curriculum.

Research into environmental education is a relatively new and still developing body of research. Various approaches to incorporating the elements discussed above have been considered by researchers. Palmer (1998) discusses two approaches – a positivist (empiricist) paradigm and an interpretivist (constructivist) paradigm. "… the positivist view of environmental education tends to see its purpose as learning 'about the environment', … the interpretative view …[places] emphasis on activities 'in the environment'" (Palmer 1998). The positivist paradigm in environmental education means:

- knowledge about the environment
- teacher's role is a role of authority in knowledge
- students are passive recipients of disciplinary knowledge
- curriculum is supported by prepared solutions to environmental problems

The interpretivist paradigm in environmental education consists of:

- activities in the environment
- teachers are organizers of experiences in the environment
- students are active learners through environmental experiences
- curriculum supporters are external interpreters of the learners' environments (Palmer 1998)

Various gaps between rhetoric and practice in EE have been noted, and these can be filled or worked on in cooperation with ENGOs in order to introduce change or improve the situation. The gaps between rhetoric and EE practice outlined by Palmer (1998) are: the contradiction between the rhetoric for change in people's way of life and the purpose of schools to sustain present values and norms; the fact that environmental problems require an interdisciplinary approach, which is not characteristic in subject-based curricula; environmental problems need group work and new methodologies that require a lot of effort to control, while teachers prefer methodologies that are easier to control.

Besides the trend for interpretivist educational approaches applicable to all grades, and implementation of the threefold framework for environmental education, primary EE has some characteristics in terms of putting an emphasis on certain educational elements. Teaching methods for achievement of environmental educational goals are also specially tuned to students' age abilities for perception of the taught content. According to Palmer and Neal (1994) "essential place on the first hand experiences in the environment" should be given in EE in primary grades. This means education *in* and *through* environment. Acquiring knowledge, formation of skills, attitudes and appropriate behaviour can be done through suitable approaches like "comprehension exercises, research studies, games, role play situations, art and craft work, debate, quizzes and dramatic representations" (Palmer and Neal 1994). The same authors propose issue-based education with interdisciplinary approach.

2.4. The Role of Teachers in the EE Process

A successful environmental education programme is highly dependant both on the taught content and on the educators' knowledge, skills and attitudes. Firstly, as many environmentalists claim, people need to change their way of thinking in order to achieve positive results in protection of environment. This statement is relevant for educators as well. "Teachers, like other adults whose views have already attained certain inflexibility, have to make a conscious effort to change their own attitude before they can hope to direct the children they teach toward a desirable commitment to the environment." (UNESCO 1983).

Palmer and Neal (1994) also add that the environmental awareness of the whole school environment should be increased, including teachers', if children's awareness is to be increased. An efficient EE process "…depends upon teacher subject knowledge, awareness, and enthusiasm for the task" (Palmer and Neal 1994).

Secondly, students in pedagogical departments as future professionals in the educational field receive pre-service training. Pre-service education has two broad goals:

1. To ensure that pre-service teachers themselves posses the knowledge, cognitive skills and affective attributes they are expected to impart to students at the primary level.

2. To ensure that pre-service teachers acquire these attributes in a manner that satisfies the goals of environmental education and that serves as a model for their own teaching (UNESCO 1983).

By this means, the first goal of teachers' pre-service education is generally to provide knowledge, understanding, skills and attitude, educational elements that are also required to be taught by them.

According to surveys almost all of the pre-service trained experts confirm that environmental literacy should be a significant component in students programme (Powers 2004). Nevertheless this "does not address whether or not these teachers are equipped to carry out their intentions" (Powers 2004). Actually, the results show that teachers are not ready to educate for, about or in the environment and it seems to be one of the most prominent weaknesses in the EE "None of the issues facing environmental education are as important as the lack of quality educator training" (Knapp 2000). In practice, there is a gap between what is believed to be needed and what is achieved due to barriers in pre-service education such as: lack of time in the overburdened student curriculum; competition of ideas about what should be taught and how; political pressure from different environmentalist groups on which specific problems should be stressed in the school curriculum; aversion to science of many students, etc. (Powers 2004). Similar constraints are reported by Heimlich *et al.* (2004) in a national study on pre-service education.

Thirdly, practitioners in the field could receive in-service training. The objectives of in-service training are the same as those within pre-service EE training. The Tbilisi Declaration recommends that in-service training should "be made in close co-operation with professional organizations of teachers both at the international and national levels" (UNESCO 1985). Additionally modules of in-service training should be enriched by environmental elements and even new environmental modules should be designed. Generally, the pattern of

educators training follows the same pattern of acquisition of knowledge, skills, attitudes, awareness that should be implemented with their own students.

2.5. Environmental Non-Governmental Organisations

Environmental education is perceived to be mainly the responsibility of governments. Nevertheless, gaps and imperfections could be found in the system. Furthermore, there are many interested parties involved in the educational process, such as local government, academia, parents and environmental organisations. ENGOs in particular are in possession of the power and capacity to influence environmental education "national organisations are all available for professional exploitation in the cause of furthering of environmental policy" (Palmer and Neal 1994). This assertion is supported by Rootes (1999) who argues for a shift in the contemporary history from public participatory organisations to public interest lobbies, organisations which are "managed by professional staff … and [put] emphasis on traditional pressure tactics" (Rootes 1999). Thus ENGOs could be regarded as a professional source of assistance to EE. ENGOs are indicated as promoters of broader or innovative environmental education as well. They are more responsive than state administration to innovations, meaning as Sterling (1992) puts it that "in most European countries non-governmental organisations have been instrumental in promoting environmental education, often in advance of government interest and support." They are both active in the non-formal and formal education fields. ENGOs are valuable in many countries' schools that lack coordination and structured policy. In such cases schools become "largely dependent on the enthusiasm and commitment of teachers and community and environmental leaders" (Sterling 1992). In summary, ENGOs' contribution to environmental education should not be underestimated because they are well organized and highly skilled groups of professionals, responding to modern developments in research and practice faster than state institutions.

Another important feature of NGOs is that they "do not accumulate profits" (Marinov *et al.* 1998; Geneshki and Daskalova 2002). Most NGOs sustain themselves by implementation of projects. Thus, financial limitations and donor requirements determine the extent of their contribution to EE. Also, they are distinguished by their "independence from the state and other public sectors" (Marinov 1998). Thus NGOs could be engaged in a dialog with the public sector ". According to Marinov (1998) "NGOs could be engaged in sustainable development programmes elaboration when their capacity is best used in education, poverty reduction and environmental protection and restoration." Marinov (1998) argues about co-operations between interested parties in democratic spirit, provoked by the

public authorities "The acknowledgement of NGOs as equal partner is an indicator for the level of democracy in a country". Geneshki and Daskalova(2002) substain the same argument, but from an NGO point of view, saying that they have to "take active participation in the development, implementation and assessment of state policies … [and] support and stimulate the co-operation with the public sector". Given these facts, ENGOs could be expected to perform activities in the EE policy development, implementation and monitoring in partnership with national, regional or local authorities.

2.6. Environmental Education in Primary Schools in Bulgaria

Debates in the Bulgarian primary education realm are also concentrated on the same elements as international practices. They are named with different terms but reveal the same meaning. Zheliazkova (2001) states that the aim of Bulgarian schools is to make children familiar with the environment and to build environmental awareness and behaviour. Sheitanksa (2006) describes the aims of environmental education specifically for third grade children. The objectives are to strengthen and elaborate useful and durable habits, skills and beliefs, which help develop consciousness behaviour and active participation in environmental problems. Finally, Tsanova (2006) talks about the three effects of education in third and fourth grade in Man and Nature programme. These are: a) motivation-value sphere development (attitudes, beliefs, interests, purposefulness of the individual as a whole); b) cognitive-logical sphere development (notions, concepts, logical operations, intellectual approaches of the cognitive activity); c) practical-motional sphere development (skills for development of own practical sphere, use of knowledge for real-life problems resolution). All these definitions can be related to international ones, proposed by NCEET, i.e. cognitive-logical sphere with knowledge and understanding, awareness; the practical-motional sphere with skills and participation; and the motivation-value sphere with attitudes and values.

Moreover, education *in* the environment is emphasized in the Bulgarian theory for EE in primary grades. Mircheva (2001) states that teachers' work in primary schools is not confined merely to theory. The students' contact with nature through all their senses is becoming more and more important in the contemporary education. Sheitanska (2006) emphasizes that when school children are educated in nature they master their knowledge and keep it longer. The emotional stimulus during education *in* the environment is a premise for success and creates possibility for independent resolution of practical tasks. Kirilova (2008) suggests different forms of education in the environment as "projects for improvements if the school environment … trips to natural environments, visits to museums, farms, academic

centres, botanic gardens". Radeva (2007) is also asserting the positive outcomes of the project-based education "through project realization student activate their knowledge, gain new one, develop practical and scientific skills". A comparison between Bulgarian debates on EE reveals the same characteristics as those on international level. Sheitanska (2006) and Kirilova (2008) discuss the same emotional EE in different environments as O'Loughlin (1998) does. Kirilova (2008) and Radeva (2007) suggestions about project-based activities coincide with Earnst's (2007) ideas for project-based pedagogy. In conclusion, the EE debates in Bulgaria follow the international rhetoric. Despite some differences in the terms, the message is the same.

A shift in educational paradigms is present in the works both of Bulgarian scholars and on international level. Radeva is asserting that "In the new school programmes the educational aims are shifted from reproductive to productive learning strategies" (2007). Those terms correspond respectively to positivist and interpretivist paradigms, which were previously mentioned in the discussion. Lazarova (2007) makes the point that teachers are expected to be informed, briefed and to integrate new elements in their work. Vasileva (2006) adds that teachers should believe in children's independent and responsible actions: ideally, teachers will leave children to be leaders and intervene only when children are diverted from the accepted system of mutual responsibility. Vasileva (2005) also states that an atmosphere should be established where the pupil has an active position in his cognitive search. Given these arguments, it can be concluded that the interpretivist paradigm has a place in the environmental education theory in Bulgaria.

The EE in primary grades in Bulgaria is embedded in the following subjects: The World around Us, Man and Nature and Man and Society. These subjects are integrated and provide knowledge and skills about objects and phenomena in nature, about humans and their health (MoES 2000). If a comparison between EE in primary grades in Bulgaria and EE in primary grades according to Palmer and Neal (1994) is made, it will be found that both stress on the education *in* the environment and counting on the teachers interpretivist approach for contemporary EE are in place. To add, both are interdisciplinary. Hence, no difference is found.

Information on the quality of pre- and in-service education of teachers was found in very few sources. Information on this issue seems to be scarce in the Bulgarian journals or books with educational content. Kostova (2003) claims that Bulgarian pre-service training is obsolete: "Teachers should be prepared to meet the diverse challenges of the EE nowadays. The activities in this direction are outdated. Introduction of subjects like ecology and

environmental protection should be provided for in all pedagogic specialties". The same author argues about the in-service training asserting that "The self-dependent teachers' preparation is not sufficient because there is no feed back". Hence, the conclusions about the quality of teachers training are the same as those reached by Neal and Palmer. Therefore Vasileva (2005), for instance, calls for a new level of professional competence not only for teachers but for all interested parties in the educational process in order positive that meaningful change can be achieved.

2.7. Environmental Non-Governmental Organisations in Bulgaria

As already mentioned, the EE process is not solely a priority of the government, as ENGOs also play an important role in its proper functioning. There were about 191 ENGOs in Bulgaria in 2001 according to REC's database of CEE ENGOs (REC 2001). A study by REC in 1997, revealed that half of Bulgarian NGOs operate on the national level, 10 percent operate on the regional level and 16 percent on the local level. According to the same research "The most common activities in Bulgaria are disseminating environmental information (73 percent), environmental field work (49 percent), and education and training (48 percent)." (REC 1997). It is also important to emphasise what the main approaches for achievement of ENGOs goals are. According to Heijden (2001) there is a change in CEE ENGOs [refers to Bulgaria as well] "constructive lobbying replaced protest and grassroots activism gave away to professionalism). The same assertion was already given by Rootes (1999) on global level. The success of ENGOs activities, being in the sphere of EE, is dependent not only on factors stemming from the organisations themselves but from outside factors as the effective cooperation with other stakeholders. A REC publication (1997) reveals that NGOs do not consider their cooperation with the public sector productive. "Only four percent of Bulgarian NGOs believe that cooperation with the national government is close and constructive, and only six percent cooperate with other national governmental bodies and agencies. Cooperation with government officials on a local level is much better: 18 percent admit to having close and constructive cooperation with local governments, and 19 percent cooperate with local government agencies".

Given these facts, ENGOs in Bulgaria are professional organisations working mostly on a national level. At the same time, their success is also dependent on cooperation with other interested parties and generally with the public sector, a process which is regarded by ENGOs as a poor one. Finally, literature on ENGOs in Bulgaria and those working for EE is

scarce, a fact, which hindered the full disclosure of the character of their actual EE work in primary schools, the obstacles met or the partnership process with the state institutions.

Conclusion

The theory displayed above establishes the grounds for further research. EE in the curriculum is widely debated in the literature, and discussions about educators' competence can be found as well. Literature about the Bulgarian EE and educational system is also available, but ENGOs' contribution seems to be less investigated or at least such literature is very limited. Therefore, the present research is determined both to provide an update on the current state of primary EE in Bulgaria and to uncover ENGOs contribution to it.

3. Methodological Framework of the Research

3.1. Research design

The present work is a qualitative study of Bulgarian environmental non-governmental organisations (ENGOs) contribution to the state environmental education in primary schools. It was designed to answer questions like what type of activities ENGOs are executing to improve the primary EE; are these activities filling gaps, or enhancing the existing practices in the state educational system; how effective and sustainable in practice is their contribution and what are the factors that influence their project activities within the school environment. The thesis was designed on the grounds of inductive reasoning. That is an examination of the empirical world "and, in that process, develop a theory consistent with what you are seeing" (Esterberg 2002). The inductive reasoning in the course of the research was based mainly on collection and structuring of data on the field and revision of some available documents in order to build theory for the researched topic. Deductive reasoning was not appropriate for the present research because the available research on this topic for Bulgaria was scarce. The literature review done in the previous chapter showed that purposeful research on this topic was not found in the examined legislative and state analysis documents, academic and independent experts' texts on national or international level. In conclusion, if a developed theory on the researched topic had been found, the design of the research would have been based on deductive reasoning and would have been testing it on national level and for the contemporary conditions. But as such theory wasn't found, the design of the present research relies on inductive reasoning.

The general research strategy used for the present work was grounded theory. It is such a research strategy that "starts with open mind, aiming to end up with theory" (Punch 1998). Additionally, most of the research objectives, from 1 to 3, were dominated by triangulation where the accuracy and the comprehensiveness of the findings for each of the research objectives has been increased by different methods of data collection, e.g. interviews, questionnaires, field notes, documentary research, etc. Finally, the choice of triangulation is based on the assertion made by Esterberg (2002) that multiple research strategies tend to be the strongest ones.

3.2. Methods of data collection

3.2.1. Documentary research

Since triangulation is the leading strategy for implementation of the activities under all project objectives, various methods were employed to collect data under each objective.

The initial steps undertaken were to review academic literature and documents relevant to the research topic. Firstly, programme documents were found to be useful. These are MoES National Programme for Development of School and Pre-School Education, 2006 – 2015 (NPDSPSE) and National Programme for Support of Sustainable Development Education (2005), a document prepared by a team of non-governmental experts. Secondly, reports review was done in search of relative information on the topic. The following reports were examined: Report on Implementation of NPDSPSE for 2006/2007 school year (MoESa 2007); Implementation of National Programmes for Development of Secondary Education Report (MoESb, 2007) and Education for Everyone Report (Stanev *et. al* 2002). Only one report developed by ENGOs was found and used, viz. Environmental Education in Formal Schools in South-Eastern Europe (REC 2003). Legislative documents of the MoES were also reviewed. Fewer documents about non-governmental organisations working on EE were found and information about ENGOs contribution specifically to primary EE in Bulgaria was not found. In conclusion, documental research was a useful method for historic comparison of data with the present data gathered by interviews. It also served as a basis for development of interviews, questionnaires and a general understanding of the state of environmental education in Bulgaria.

3.2.2. Interviews

Interviews with "'information-rich' cases …from which [is learned] much about issues that are important to the study" (Powell 1998) were taken after documental research. The respondents were selected using a purposeful sampling method and more precisely by chain sampling. The first respondents under the research were chosen due to their key role as state experts in the MoEW, MoES, as well as environmental organisations working predominantly or partially on environmental education. One interview was taken with an expert in the MoEW and one preliminary meeting with an expert from the MoES was arranged. An interview with the expert from the MoES was not possible due to circumstances that made the expert unable to attend a second meeting. Chain sampling in the present research was achieved by respondents providing contacts of other experts who were relevant for interviewing. Some of the interviews were conducted with ENGOs by random purposeful

sampling following questionnaire distribution to national mailing list of ENGOs. After receiving eleven answers to the questionnaire, random selection of ENGOs was made and experts from seven organisations were interviewed. A third group of interviewees were teachers working in the 2 case study schools. Teachers were chosen basically by criterion sampling, i.e. teachers that teach "Man and nature" module in 4th grade. One teacher from the Georgi Benkovski School and two teachers from Petko Slaveikov School were interviewed. A list with all contacted persons in provided in Appendix III.

Regarding the format of the conducted interviews with the first interviewees, experts from ministries and national organisations on education and/or environment, it was unstructured in-depth interviews. The reason for choosing this type of interviews was that it is "capable of producing rich and valuable data" (Punch 1998) and that it doesn't follow preliminary elaborated plan for conducting. Thus, the possibility of the researcher to overlook important issues was minimized as much as possible. The interviews with ENGOs that were randomly selected after obtaining answers of the questionnaire were semi-structured interviews. The choice was justified by the already available information provided by them through filling in the questionnaire and, with the help of semi-structured interviews, it was possible to clarify some given answers and to further elaborate on the problematic with their own words and opinions.

The last group of respondents, i.e. primary school teachers, was subject of unstructured in-depth interviews. Again, the aim of receiving as much data as possible was leading in the preference for this type of interview. Interviews with principals were envisaged but external assessment of primary grade students was done simultaneously during the research and it turned out that principals were not available for interviews.

Follow-up means for contacting the respondents were used. Numerous calls and e-mails were sent to an expert in the MoES, who in the end wasn't interviewed, nor did provide information asked from him. Many calls and e-mails were made in order to contact the regional inspectorate of the MoES in Plovdiv. The expert provided information in written form. E-mails were exchanged with some of the interviewees, e.g. an expert from the MoEW and an expert from Borrowed Nature for provision of some relevant documentation.

3.2.3 Questionnaire to NGOs

The questionnaire was sent to a mailing list with high number of subscribers among the ENGOs in Bulgaria (Appendix I). The mailing list is a common means for correspondence and information on a daily basis for the environmentally concerned community in Bulgaria.

Many state authorities use the mailing list for dissemination of information to the third sector. Therefore, it is presumed that it is highly representative and covers a great number of existing organisations within the country. The questionnaire was developed especially for the research and did not use any other existing questionnaire as a template.

Section A consisted of attribute questions that "are designed to obtain information about the respondents' characteristics" (De Vaus, 2002) like name, location, year of establishment, etc. The purpose of these attribute questions was to outline that the respondents to the questionnaire were a representative sample of the ENGOs working on the primary EE in Bulgaria through demonstration of experience, capacity and geographical coverage of their activities. Additionally, the obtained information was beneficial for the improvement of the communication with them and a further snowball sampling for relevant respondents for interviews.

The last questions of the section were behavioral in order to "establish what people do" (De Vaus 2002). They asked the respondents to list what activities they have performed or what materials they have developed in order to contribute to the educational process. The purpose was to determine where ENGOs were more beneficial – in the curriculum or outside it. The last questions were also important in terms of finding if there was follow-up cooperation between ENGOs and schools i.e. if the former are confined only with completion of the project. Additionally the last question indicates if the outcomes of the project were replicated in other schools and if the organisation is following on this.

Both questions in **Section B** of the questionnaire were the so-called knowledge questions because they "seek to discover respondent's knowledge of particular facts" (De Vaus 2002). In the present case they refer to the respondent's knowledge of positive and negative sides of the Bulgarian educational system. The questions were open-ended to allow provision of information in as much detail as possible. Those types of questions were used due to insufficient up-to-date information on the topic and to avoid being incomplete or inaccurate if close-ended questions were designed.

Section C mainly consisted of close-ended questions. The table in Question 1 was developed to make a comparison between the strength of number of factors, influencing different project implementation stages. This was achieved by a 5-point semantic differential rating scale where "this method [provided] opposite adjectives, rather than attitude opinions to describe someone or something" (De Vaus 2002). The following questions' aim was to determine specifically either positive or negative characteristics of each factor within the project implementation framework. This was achieved using the 7-point Likert rating scale.

The following questions regarding institutional factors' influence were both dichotomous and open-ended due to the possibility of either of those authorities to have had influence or not and because of lack of useful literature to help designing close-ended questions.

Finally, an opportunity for developing the issue is provided in the last question. This was considered to be useful if the researcher hadn't covered some important aspects.

3.2.4. Questionnaire for fourth grade children

A questionnaire was developed to test fourth grade children's environmental knowledge, awareness and participation qualities received during 2007/2008 educational year in MEE (Appendix II). The children were aged between 9 and 11. Fourth grade children were chosen to be tested, because they are in the last grade of primary educational level and should reflect the achievement of targeted educational aims in first level of the Bulgarian educational system. Also, one of the schools used the ENGOs materials for fourth grade, therefore testing students from other grade would be pointless. Sixteen students in fourth grade took the test in Georgi Benkovski School and twenty in Petko Slaveikov School.

Questions in the written test were divided figuratively into questions of knowledge, awareness and participation. Questions of knowledge were predominant because according to the Common State Educational Standards (MoES 2000) the general aim in primary school is acquisition of knowledge. Thus questions # 1, 3, 7, 8, 9, 10, 13, 14, 16, 17, 20, 21, 23 and 24 from the test in Annex II were designed to be questions for demonstration of knowledge. Awareness "of the world around us, as well as an awareness of societal issues and problem solving strategies" (Bones 1994) was also decided to be tested with reference to fourth grade students. Awareness questions from the test had the following numbers: 2, 4, 6, 11, 12, 18 and 22. Attitude-participation was the third figurative category of questions in the test which aimed to reveal whether the students have developed any personal behaviour and attitude to environmental issues. Questions #5, 15 and 19 were respectively under this category.

A mixture of types of questions was designed for each of the categories. Close-ended questions with certain numbers of answers were used mainly in the knowledge category. The awareness category of questions was predominantly comprised of questions with given number of answers and following empty space for justification of the answer. Two out of three questions in the attitude-participation category were completely open-ended and one was given several answers and some empty space for justification of the student's choice.

Finally, the test included some pictures and drawings due to the considerable/large number of questions and because such approach would be very adequate for students' aged

10-11 years according to the teachers from the case study schools. The figurative categories of questions were mixed within the test in order to keep children focused and not to bore them with the volume of the test. The test was developed and conducted for two hours in the selected schools.

3.2.5 Case Studies

Comparative case study approach was used to demonstrate the effectiveness of ENGOs' educational material implementation in two fourth grade classes from two different schools. Since the case study "is occurring in a bounded context" (Punch1998), the present case studies were confined within the school itself as a single unit; for the fourth grade students – subject of the written test and the teachers of Man and Nature module. Punch (1998) points out that one of the characteristics in a case study for profound information obtainment is the use of multiple sources of data and multiple data collection methods. Thus, the employed methods were interviews with teachers and principals, field notes and written test. A comparative case study was made based on the selection of two schools with similar characteristics – equipment, teachers' length of service, number of students in class, students' interest, etc. The main contrast between the two cases was chosen to be the utilization of education materials in the curriculum, one of the schools using materials developed by ENGOs and the other – by experts in the state educational system. The assumption after analysis of test results was to exclude all variables with similar values and justify the results by different materials that were used by teachers. The selected case studies helped understand the real causes behind student test results. Generalization about schools with similar characteristics, such as equipment, teachers' educational experience, etc, was not possible to be made; only assumptions for similar outcomes were given under certain conditions.

3.3. Data analysis

The analysis of interviews and questionnaires data was done through coding of the available information, creating and comparing it with theory, documents and information on internet and creating inductive hypotheses on particular issues. Another means for data analysis was development of categories for some data which had common characteristics, i.e. out of the curriculum activities category with sub-categories of out-of-school activities sub-category, in-class activities sub-category, etc. Thus the analysis was made easier. A third type of data analysis was mainly the comparison of information to the existing theory in the field of EE, i.e. ENGOs contribution by inclusion of educational elements such as knowledge,

attitudes, awareness, etc. Given these examples, the analysis was mostly based on comparisons between different available data and formation of assertions.

Two of the employed methods in the research were based on written answers acquisition, the questionnaire sent to ENGOs and the test for fourth grade children. Some parts of them required some quantitative evaluation. For example, the answers to Section B of the questionnaire sent to ENGOs were analyzed using the mode of the given answers, thus emphasizing on the strength of certain factors. The answers to the test were also assessed by using the mode, emphasizing on the extent of conducted education success. Finally, quantitative evaluation was the means through which the qualitative analysis produced further assertions.

3.4. Limitations

Limitations in the research could be defined firstly as limitations in time. Two weeks of the research period were lost due to national holidays in two subsequent weeks. A limiting factor for organisation of more meetings with respondents was as explained by them “the busy period for projects implementation, development and submittion to donors” (Open Education Centre, Ecology 21, Ecomission 21).

Case study period coincided with external evaluation in fourth grade classes. This was general limitation for taking interviews with principals and devoting more time on interviews with teachers, as well as implementation of additional methods for achievement of more comprehensive depiction of the school environments.

The limitations were tackled by taking interviews with some information-rich subjects and by adjustment of researcher’s programme according to the informants’ schedule.

4. Results and Discussions

The aim of the research is to give an account to ENGOs contribution for primary EE in Bulgarian schools. In order to provide assessment for their contribution, weaknesses and strengths of the EE in primary grades were estimated. Then the benefits ENGOs provide to tackle weaknesses in the primary EE were appraised by their sustainability. Factors with an impact on the success of ENGOs projects in primary EE were defined and related to extent of outcome effectiveness. A case study of two schools was designed to verify whether ENGOs elaborated materials were more beneficial than materials, prepared by experts from the state educational system. Results and discussion on the above described research objectives will follow.

4.1. EE in Schools in Bulgaria – Strengths and Weaknesses.

Results and the respective discussion on them will be done simultaneously in this chapter of the research. The first objective of the research, viz. to reveal the strengths and weaknesses of the Bulgarian educational system was achieved through a combination of methods. This includes documentary research, questionnaire and interviews analysis in order to embrace as many points of view as possible.

Documents that were reviewed included Ministry of Education and Science reports, programmes and independent organisations' analyses. Some legislation was also taken into account in order to verify the authenticity of further stated opinions of non-governmental experts, teachers and civil servants. Another source of information about the strengths and weaknesses of the educational system were the answers obtained by ENGOs by filled questionnaires and interviews. Likewise, interview, given by a state expert from the Ministry of Environment and Water and teachers, was taken into consideration as a valuable, information-rich source on the issue.

The initial overview on the problems in the Bulgarian educational system and in the environmental education in particular is a summary of the answers to a questionnaire sent to ENGOs mailing list. The obtained answers can be regarded as reliable and representative due to the wide coverage of the list and the subscribers with acknowledged professionalism and long experience in the non-governmental sector. Respondents are some of the most active ENGOs in Bulgaria that implement projects in different regions of the country. The results showed the following picture of strengths and weaknesses after analysis of the given answers to the questionnaire.

Weaknesses

Ten organisations out of eleven respondents in total have filled in this section. Analysis of the given answers is placed in Fig. 2. The figure shows that the biggest weakness of the EE in Bulgaria is teachers' poor qualification, followed by the lack of motivation and lack or insufficiency of educational materials and information. Poor equipment, insufficient school budget and the lack of practical-oriented education are categories of weaknesses, each defined by fewer experts. It is interesting that only two people claim that MoES is conservative and after the interviews most of the experts came to this conclusion. Out-of-class activities that are missing or insufficient, aged teachers, etc. are categories, which are defined as weakness by a rather small number of experts. Out-of-class activities is a category that despite its low significance as weakness according to the questionnaire, will receive much more attention from ENGOs according to the research findings.

Strengths

Strengths on the Bulgarian educational system are indicated by eight out of ten organisations. Summary of the analysis is provided in Fig. 3 below. The biggest strength is defined to be the interested, motivated and knowledgeable teachers. Another considerable strength is the opportunity for out-of-class and out-of-school education and the common state educational standards for EE and SDE as well. Pre-service and in-service education are thought to be strengths according to the received answers but it is seen as strength without determining its effectiveness. Claims like children being interested or ENGOs work defined as strengths by the respondents are disputable. I rather consider them as factors with contribution or as premises for enhancement of the EE.

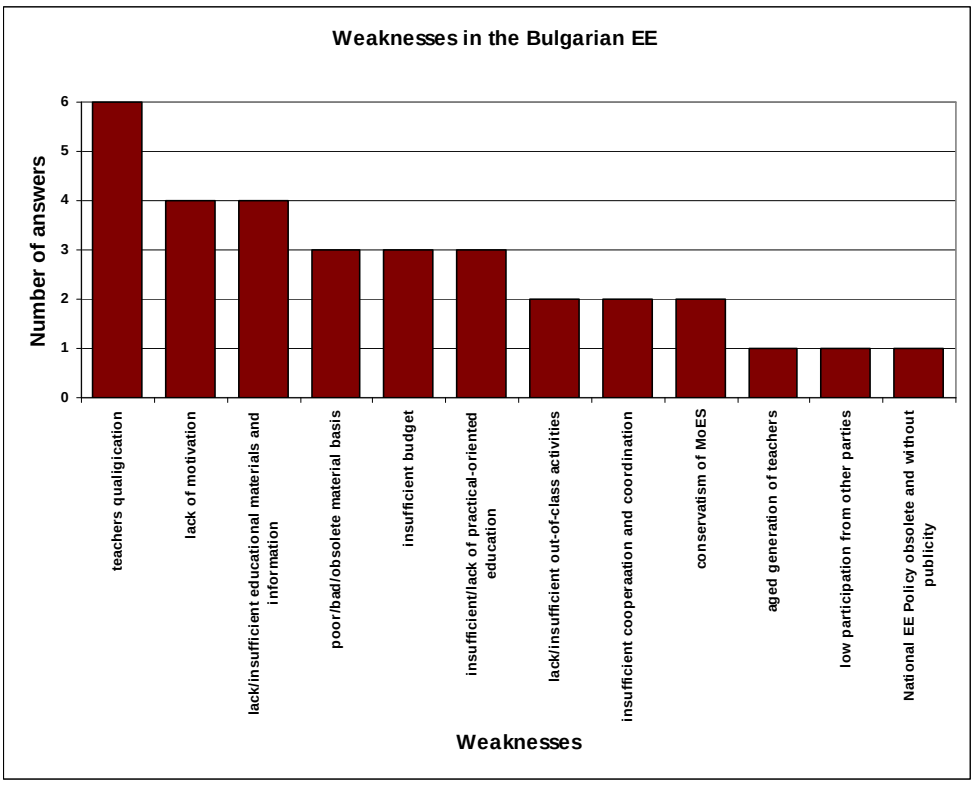

Fig. 2

Figure 2. Weaknesses in the Bulgarian Environmental Education in Schools. Results from ENGOs Survey. 2008.

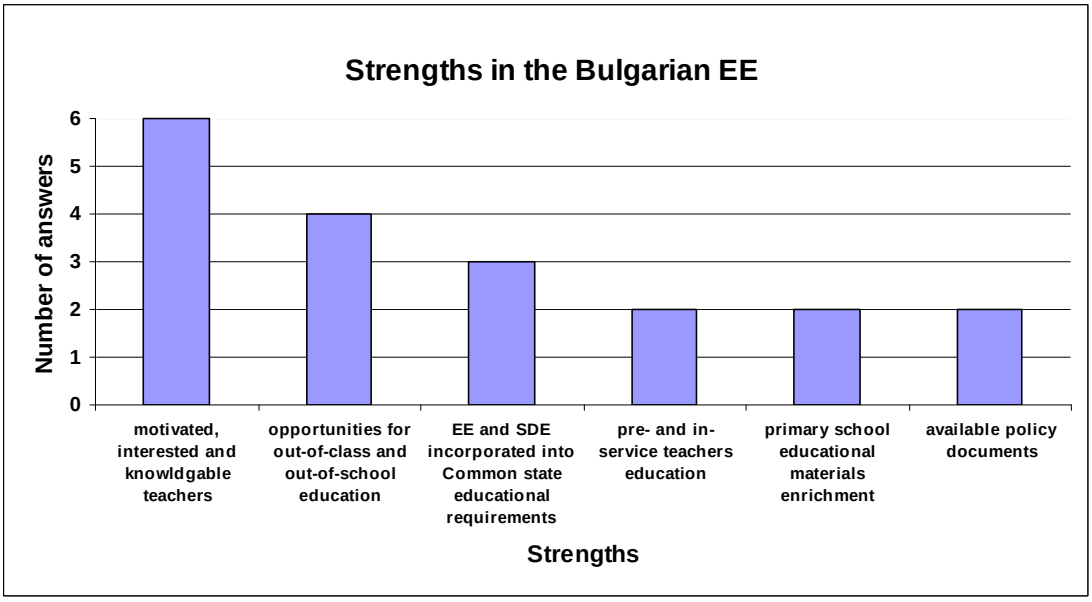

Fig. 3

Figure 3. Strengths in the Bulgarian Environmental Education in Schools. Results from ENGOs Survey. 2008.

The questionnaire results were taken as grounds for further analysis of the issue. The strengths and weaknesses in EE, raised by the ENGOs, refer to primary grades because of the discussions on their work for this educational level. Detailed analysis on the parameters, defined as weaknesses or strengths will be done in the text below.

4.1.1. Qualification of Teachers

The most frequently mentioned weakness, viz. the poor teachers' qualification, can be divided into two sections of consideration – pre-service training and in-service training. Firstly, some organisations claim that teachers leave universities with "very broad training", that they "don't have the necessary competency to teach about biodiversity and different processes in the environment" (TIME; CEIE; BBF pers. comm.) and "their training is based mostly on factology and lacks methodological approaches for interactive and interdisciplinary education" (Borrowed Nature pers. comm.). ENGOs assertions are confirmed by the interviewed teachers from Plovdiv "we studied botany, a set of knowledge without any practical implementation" (Petrova pers. comm.) and "My achievements result only from my practical work" (Dimitrova pers. comm.). There are also statements such as "May be the state policy is to seek lower level of education where everybody is allowed to graduate, but what the price is …" (CEIE pers. comm.). Sofia University Department of Pre-School and Primary School Pedagogy offer one mandatory educational course for undergraduates – Didactics of the Knowledge of Nature and Home Land. Details about aims of the course and studied topics are not displayed on their web site. Subject with an environmental or sustainable development title was not found in the undergraduates' curriculum. Students from some specialties in the Biology Department to the Sofia University can teach Man and Nature Module but not in primary level (Asenova pers. comm.). Finally, the above facts reflect one common trend, touched upon in the literature section, i.e. in-service training does not adequately equip future teachers for education *for*, *about* and *in* the environment.

Secondly, the already practicing teachers are offered possibilities for enhancement of their qualification or the so-called in-service training. In-service training is ensured by three regional Departments for Information and Improvement of Teachers. The one, situated in Sofia, offers a number of paid short trainings on EE for teachers. Students from the Sofia University Biology Department, who want to receive pedagogic diploma and be able to teach from 1st to 4th grade should attend one-year paid courses to the Sofia University (Asenova pers. comm.). Also, a National Qualification Programme for practicing teachers has been

developed by the MoES but there were no EE trainings for primary education teachers done until now or envisaged in the future due to the foreign language skills improvement priorities of the programme. Given these facts, it can be concluded that in-service EE is available but it should be paid by those interested.

There is a relatively small number of ENGOs that consider the presence of pre- and in-service trainings as strength. It can be regarded that the mere existence of such trainings is perceived as a positive feature of the system without taking into account the quality of education they offer. The attendance and affordability of such trainings is very low according to some experts from ENGOs (TIME, Green Balkans pers. comm.). They also acknowledge the fact that the remuneration teachers get is by far demotivational to raise their qualification. Some of the teachers share this real-life problem "I have to put up with a pain in my heart that I myself cover the expenses for conferences and meetings in other towns." (Petrova pers. comm.). The events the teacher talks about are related to enhancement of her qualification, events she does not attend anymore. Another teacher is adding that "our improement is a result of our colleague sharing her experience from trainings she has taken" (Dimitrova pers. comm.). Therefore, the inadequate school budget and the insufficiency of state subsidies result in poor in-service qualification in EE and also adds to decrease of teachers' motivation for further improvements. Adding to the depicted situation, there are views of experts bringing out another perspective on this issue. Some claim that "Bulgarian teachers are extremely lazy. The problem is not only the low salaries and the lack of additional motivation. Teachers are used to the system and they think that they should teach in one and the same way their whole life." (TIME pers. comm.). Other NGOs support this statement and put emphasis on its relevance for teachers in Sofia. An expert from the Ministry of Environment and Water shares her experience about their educational activities held in Sofia "They take our actions for granted. They rely on media that was brought by us for more publicity" (Barouh pers. comm.). Thus, examining the problem with poor in-service education, unexpected findings were made – the absence of motivation is not only due to low salaries, but also due to teachers' laziness. Though, it is not to say that there are no enthusiastic, motivated teachers, a strength which is given the biggest attention by the NGOs according to questionnaire answers. ENGOs rely predominantly on these teachers when they are implementing projects. All experts have been pleasantly surprised by such teachers' creativity and will to work for EE in a situation where budgets are inadequate and where there are many other factors with negative influence. Finally, according to the opinions above, teachers' motivation for improvement of their qualification for EE is hindered by outer factors like salaries and insufficient subsidies.

Inner factors have also been taken into account, viz. personal interest and motivation. Teachers, according to those inner factors, fall into two groups, i.e. ones who are self-motivated and willing to improve themselves and ones who are used to old models of teaching and do not want to develop themselves.

It is necessary to verify if the opinions about weaknesses in pre-service and in-service training, raised by non-governmental experts and teachers, do match those, published in documents of the Ministry of Education and Science and other institutions. The review of documents from earlier periods shows fairly similar problems raised by ENGOs and state authorities. In a report from 2002 The National Education Institute to the MoES claimed that "there is a tendency for insufficient pre-service training especially in the area of civil and environmental education". Another report, made by the REC, is describing the problem on a national level:"Still there is no official programme of the Ministry of Education and Science for practical training on environmental education and besides there is no unified approach. National Strategy of the Ministry of Education and Science for monitoring and analysis of the process of training on environmental education in Bulgarian schools does not exist." (2002). Actually, documents review was unsuccessful in finding such programme notwithstanding that one of the ENGOs experts is mentioning about such programme existence. Contemporary insight in the problem can be given by the National Programme for Development of School and Pre-School Education (NPDSPSE) "Teachers are not paid adequately. There is a lack of system for career development, qualification and lifelong education" (MoES 2005). Therefore, the National Qualification Programme for Qualification and Differentiation in Remuneration was developed to stimulate teachers to enhance their qualification by financial incentives for better achievements. The NPDSPSE programme implementation report for 2006/2007 school year shows some progress in legalization of the system for differentiation of teachers' remuneration, but nothing particular about increase of qualification in EE for primary grades teachers. In summary of the made observations, it can be said that pre-service and in-service environmental education policy is not in place and teachers are still poorly trained for delivery of EE. The consequences will be irrefutably for future generations and their incapability to solve the environmental problems.

4.1.2. Methodology for EE

Closely related to teachers poor pre- and in-service qualification is the low quality of teaching, i.e. inadequate methodology of teaching. According to ENGO experts that means teachers are not skilled enough to apply "interdisciplinary approach and methods for

development of attitude and skills in students during the teaching process" (Borrowed nature), "there is a need for more interactive education" (Green Balkans pers. comm.) or, in other words, there is a "Lack of understanding and knowledge about contemporary methods of environmental education" (TIME; CVS pers. comm.) to lead to "lack of experience to lead practical lessons" (CEIE; Ekology 21; EkoObshtnost pers. comm.) or, all of these necessary for conduction of EE lessons (all ENGOS). The documents, produced by the MoES, support the stated weaknesses in the methodology. It is emphasized that "wider application of the interdisciplinary approach should be made" (Stanev *et al.* 2002). The NPDSPSE outlines that "a stress should be put on practical education … so the student will be more active" (MoES 2005). Finally, after external examination of fourth grade children in 2008, MoES made some recommendations:

- Teachers are to work purposefully and systematically for development of children thinking and formation of skills for implementation of knowledge in non-standard situations;
- Emphasis is to be put on the practical implementation of knowledge (MoES 2008).

Certainly steps toward improvements in the state system were not outlined in the given recommendations. Therefore, we can say that the MoES acknowledges the poor qualification of teachers to deliver some of the essential elements of the environmental education like participation and skills formation, but it doesn't engage itself in any particular action or guidelines for improvement.

4.1.3. Out-of-class and out-of-school activities

The answers of the questionnaire, which point out insufficiency or lack of out-of-class and out-of-school activities, were very few but after interviews with ENGO experts, teachers and other relevant stakeholders, this issue was regarded to have a much bigger significance and was tackled intensively by ENGOs. Education in variety of environments is contributing to awareness raising, if Loughlin's concept of EE is considered. These activities also build strong emotional memories in youngsters. One of the teachers stresses on the need of out-of-class and out-of-school activities "We have to be outside. Children watch Discovery and Animal Planet every day. They have to see it in real, to sit on the grass, to breathe clean air, to feel the nature with all their senses." (Petrova pers. comm.). ENGOs also acknowledge "One cannot teach only by using textbooks. Children should see and touch" (CEIE pers. comm.). Interviews reveal that there is no realization of out-of-class and out-of-school education as an important element in the state policy. EkoObshtnost asserts that there is no "unified and centralized system for provision of out-of-class education and 'green schools". Part of such

policy would have been financial resources, allocated to activities unavailable at present: "[there is] Lack of financial resources for out-of-class educational activities in terms of additional payment for teachers and necessary materials" (EkoObshtnost, Green Balkans pers. comm.). Teachers also confirm this assertion (Petrova, Ivanova pers. comm.). Moreover, the government has developed more stringent requirements for out-of-school activities that additionally complicate the organisation of such activities. ENGOs are not satisfied with these new requirements "After the case of Lim, the regulations were made more stringent" (BBF, CEIE pers. comm.). [The case of Lim is a tragic accident of more than 10 Bulgarian students on out-of-school activity drowning in a river in Montenegro when the bus slipped off road during night travel, 2004]. Out-of-school activities are very often in the form of green schools, a practice, widely used by ENGOs. Interviewed teachers also say that the set of documents needed for such activities is huge and time-consuming. "One out-of-school activity requires at least one week of organisation" (Ivanova pers. comm.) and "green school organisation lasts a month" (Ivanova pers.comm.). It is most probably the cumbersome and time-consuming procedure that frustrates those who would take the initiative for out-of-school activities, not that stricter measures for children safety have been taken. Finally, out-of-class or out-of-school EE activities cannot be adequately conducted due to poor methodological preparation of teachers and administrative obstacles and, most importantly, the lack of unified regulations for out-of-school activities.

Document research supports the same conclusions, made by the interviewees. A REC report, prepared by Bulgarian ENGOs in 2002, clearly outlines the lack of out-of-school educational forms. NPDSPSE also acknowledges its insufficient involvement in development of out-of-class and out-of-school activities. MoES envisages amendments of its legislative documents and issuing of new ones. In the latter category of MoES actions, an issuance of Out-of-class and out-of-school activities regulation is envisaged. Hopefully, it will be developed by consultation with all stakeholders, who can provide valuable, adequate and practical recommendations. Another relatively positive development is the Out-of-class and Out-of-school Activities Development Module, part of the National Programmes for School Education Development (MoES 2007a). It is a project-based module that finances projects, elaborated according to the children needs. There is no detailed description of the topics of the financed projects in 2007. Thus, no conclusion about the presence or the share of projects with environmental content can be made. The conclusion is that on paper the MoES tries to tackle the same weaknesses, raised by the ENGOs, and admits that its actions are no sufficient. Still, there was no positive reflection on MoES action in that direction.

The interviews in particular revealed one weakness of out-of-school education that was not mentioned among the answers of the questionnaires. It is related to the so-called "green schools", a one-week educational form, which only bears the name "green" because the educational process is carried out in an out-of-school environment, but performs normal educational activities on the subjects studied in class (Badeshte sega pers. comm.). "My daughter carries her Mathematics and Bulgarian language textbooks with her. Actually they do not perform activities they should, but are just moving the educational process outside the school" (Green Balkans, Badeshte sega pers. comm.). On the other hand, one of the interviewed teachers talked about the green school they had organized and the educational activities carried out seem to be completely the opposite way round. "During the last green school we visited historical sites, natural landmarks, caves …we walked on eco-trail" (Ivanova pers. comm.). Finally, green schools' dependency on teachers and schools' organisation abilities confirm the need of regulation about out-of-school and out-of-class activities. Therefore, those EE activities rely entirely on teachers' qualifications, which were previously discussed to be poor.

4.1.4. EE textbooks

Besides the abilities of teachers to deliver qualitative EE, the need for good textbooks is irrefutable. Most ENGOs experts admit that the textbooks content is in conformity with the common state educational requirements, i.e. "environmental issues are included in the national curriculum, in the subject content and in the programme requirements" (Borrowed nature, Ekology 21, TIME pers. comm.). It is a fact, acknowledged by state and ENGOs analyses. Another positive point in relation to primary education textbooks is their increasing volume (Borrowed Nature pers. comm.). However, the characteristics that are weak, according to the ENGOs, exceed the achievements. Some of them think that here is a "lack of narrowly specialized textbooks" (EkoObshtnost, BBF pers. comm.). Another problem is the manner in which the textbooks are written. Some consider it as too sophisticated for children to understand (Green Balkans pers. comm.). The following statement supports the opinion given by Green Balkans: "to rid textbooks of their academic style" (MoES 2005). Moreover, it is interesting that this issue was on the agenda back in 2002: "An overall look at the educational content of every school book strengthens the opinion of superficiality and lack of profundity" (REC 2002). The claim is still valid according to the previously raised assertions. Another EE shortfall is the "lack of educational materials, including in electronic format" (Ecology 21 pers. comm.). The MoES is working on this issue, but still electronic lessons

from first to fourth grade were not found during browsing of educational web pages. The National Educational Portal (http://content.e-edu.bg/course/) offers freely accessible e-lessons from fifth grade onwards. Probably the lessons one of the teachers is mentioning, "there are ready lessons, slides on the MoES web site. I was pleased to find that we are eased in our work" (Petrova pers. comm.), are accessible only after registration. There is one more web site where materials are available but registration is needed again, i.e. the Network of Innovative Teachers http://www.teacher.bg/default.aspx. A third web site offers open access to all of its materials, www.znam.bg, but lacks any EE e-lessons. In summary, according to the respondents' opinions and state documentation a strength of the system is the achievement of compliance with primary EE textbook content requirements, but the main weakness of the textbooks is the inappropriate language they are written in. To add, another weakness in the system is the lack of electronic lessons on EE for the primary grades freely accessible to students.

Interviews with teachers revealed another perspective on the textbooks regarding their quality. Petrova shared her experience "The quantity of the material is insufficient and it is scattered. Here you have something about animals, then something about plants. They should realize that there is a relation between everything". Ivanova, a teacher from another school in Plovdiv, is arguing on the same issue. "Textbook quality is not good. Children take the initiative by themselves to understand what the connections between the lessons are". Taking into account the previous positive accounts on the textbooks contents, other reasons could be put forward to justify the depicted situation. These could be teacher's skills to ensure good understanding of the subject and the hours devoted on this subject: "Extremely insufficient … Children forget what the material from the previous week was" (Petrova; Ivanova pers. comm.). Therefore, in the interviews with ENGOs a question on textbook quality was asked. The results confirmed again that ENGOs regard textbooks up to the fourth grade to be of good quality "there are many good things in the Man and Nature textbooks" (Badeshte sega, Green Balkans pers. comm.). It seems that reasons behind the available problem are mostly related to teachers' qualification and other factors such as prolonged teachers' strikes during the 2007/2008 educational year. "Financial problems, strikes. … For me these are factors that urge teachers to rush through the material and to decrease the volume" (Borrowed Nature pers. comm.). The deduction of the contradictory points of view, raised above, is that the strength of the EE in primary grades are textbooks in compliance with the state educational requirements with contents that are adequate to the age and needs of children. The weakness, according to the discourse, is the language they are written in. Finally, the most important

conclusion is that despite the adequate content, teachers' qualifications are the determining qualitative delivery factor.

4.1.5. Material Basis and Technologies in Schools

Adequate and up-to-date delivery of EE can be achieved through good equipment, available to teachers. Equipment is generally regarded as "poor", "bad" or "obsolete" by ENGOs. Desks and other assets needed for teaching in normal environment are provided for by the National Programme for School Development in 2007. The report acknowledges that the available resources are enough to respond to about 30% of the total needs that schools claimed. Therefore, the ENGOs arguments hold true. Another relevant point for contemporary EE in class is the availability of computers, internet and multimedia, and teachers' capacity to manage them. In the NEI report in 2003 "no positive conclusions can be drawn from the data about the computer qualification (6%)" or, in other words, this is one weakness of the system. Nowadays, ENGOs are recognizing the governmental efforts to supply computers and high-speed connection to every school and train teachers to handle it. According to the Report to the NPDSPSE following accomplishments are said to have been made: "high speed internet (99%), teachers' computer literacy training (95%)" (MoES 2007a). Teachers confirm the achievements related to ICT in schools. "It is wonderful that we have computers at our disposal" (Petrova). In summary, one of the preconditions for modern in-class teaching of environmental issues, the availability and knowledge how to use ICTs, is being substantially achieved, a fact recognized by all parties. Therefore it could be defined as strong premises for the EE in Bulgaria, a factor that does not require any contribution from ENGOs.

4.1.6. MoES and other stakeholders in EE process

Finally, attention will be paid to the national policy and the cooperation between stakeholders, two features that determine the general framework of EE in Bulgaria, applicable to all grades. On the one hand, many negative opinions have been raised by ENGOs about Bulgarian ministries' conservatism and the lack of will for cooperation with other stakeholders on EE issues, e.g. "the respective ministries on national level are hardly interested in partnerships with ENGOs… It is due to wrong understanding of competition." (CEIE pers. comm.), "lack of support or difficulties when working with MoES" (BBF pers. comm.), "usually good ideas are shattered in the bridge-head of the MoES" (Badeshte sega, BBF pers. comm.), "we came across extreme conservatism in the MoES" (TIME pers. comm.). A fact, figuratively confirmed by teachers, is that "education is one very

cumbersome machine" (Petrova, Ivanova). Additionally, negativism is attached to the openness for changes in EE programmes and methodologies, viz. "application and introduction of innovative practices and materials is extremely hard" (Badeshte sega pers. comm.) and "they hardly ever accept proposals for programme changes from external sources and at the same time the interest to EE inside is weak" (CEIE pers. comm.). Some experts are arguing about MoES internal policies: "MoES is an extremely centralized system" (TIME pers. comm.) and "things can happen only when higher hierarchical levels are informed" (TIME; Badeshte sega pers. comm.). The last point was also noticed in Stanev *et. al*. report, "There are no policies at regional level. The reason for this is the much centralised character of the educational system" (2002). The NPDSPSE sets one of its aims for national development to be "decentralization of the system's management" (MoES 2005). In the report for execution of the NPDSPSE for the 2006/2007 educational year it is indicated that a pilot project will be implemented for "establishment of school boards with the participation of municipalities, REI representatives, teachers and parents". It is not mentioned that local civil organisations should be sought as valuable participants or consultants to school boards, which can be considered an omission in the envisaged pilot project. Finally, the MoES lacks readiness to cooperate with ENGOs and be innovative, thus imposing considerable constraints on ENGOs actions and determining the effect of their activities. Measures for decentralization are in their initial stages and are localised to restricted number of municipalities. Therefore, there are still negative responses from the non-governmental sector. However, the absence of open, cooperative steps by the MoES have been strongly emphasised by the ENGOs. This is a weakness that ENGOs have been trying to fight against for years.

Some ENGOs recognize that there are positive steps towards EE in Bulgaria. Borrowed Nature, an NGO working closely with the Ministries, is confirming that, but at the same time is explaining "The question is that there is no persistence on this issue, there are initial steps, but further on everything is done according to the known state standards". The initial steps are defined by them as Memorandum for Collaboration between the Ministry of Environment and Water and the Ministry of Education and Science, signed in January 2004. The text of the Memorandum was found neither on the MoEW web site, nor on the MoES web site. Except the news on MoEW web site from the same year, when the document was signed, no more publications on it were found on the internet. The text of the document was obtained from an expert from the MoEW. Essential points made in the Memorandum were the following: "exchange of information … work groups … for the above mentioned activities financing should be sought including from European and International organisations".

Additionally, one of the responsibilities of the MoES is outlined in the document "Monitoring of the EE and SDE in schools". Reports on such monitoring were not found anywhere on MoES web site. It was interesting to ask other NGOs whether they are acquainted with this document's existence and the outcomes of the stated cooperation. Another cooperation initiative was found in the course of document research, viz. a Consultative Council is envisaged to be established (Boneva *et. al.* 2005). It is an issue that ENGOs were asked about as well. The analysis of the interviews showed that most of the organisations haven't heard about the existence of a work group under the Memorandum. The only organisation that had updated information was Borrowed Nature: "Programme was developed, Politics work group was formed". An expert from the MoEW is explaining about the content of the document, "most of the things are said in a broad manner" (Barouh pers. comm.). The impression made by the analysis is that the work of the group does not have the necessary publicity, but most respondents consider such initiatives as a good idea. Additionally, the MoEW seems to be the more active institution in realization of their responsibilities for seeking of subsidies for EE, viz. "what we have done is projects development and looking for financing in Bulgaria and abroad" (Barouh pers. comm.). MoES is absolutely detached from their obligations under the Memorandum, a conclusion drawn from the absence of any information on their web site. It can be inferred that, on the one hand the working of interdepartmental group is strength of the EE system, but on the other, the lack of publicity is questioning its transparency. With regards to the Consultative Council, the situation is very similar to the Memorandum's activities. The difference is that it hasn't become operational. Not many organisations were aware of it, but some provided valuable insight in its destiny. An expert from TIME is recalling what the reasons that hampered its establishment were: "MoES management has a very negative attitude for cooperation with NGOs. There is one unwritten rule that it is forbidden to work with NGOs", supported by expert from Borrowed Nature. The MoEW published on its web site news section information about intentions for realization of this initiative in 2005 and after that again the outcomes, being positive or negative, are not publicly available. Given these facts, we can conclude that again the idea for this structure is regarded as positive by ENGOs.

To conclude this chapter of the research, an emphasis will be put on the national policies in the realm of EE in schools. The findings of the analysis show that MoES policies for EE are weak. The most important moments are the lack of policy for teachers EE training and monitoring of the results, the lack of policy for out-of-school activities and the lack of partnership mechanisms to ensure inclusion of expert opinions from different parties. The

MoES has taken some initial steps for establishment of the above mentioned national policies but until now they seem to be only on paper or some of them do not have enough publicity. There are also some important accomplishments of the MoES that are related to in-class EE like the computer literacy trainings for teachers and computer equipment and internet connections provision to great number of schools in Bulgaria. There are some initial steps for decentralization and increase of teachers' motivation that have to be regarded as positive. Still, these are not acknowledged by the ENGOs because these steps are implemented in pilot projects and are in their very beginning. The outlined weaknesses in this chapter are a valuable source of information for ENGOs that can decide which area of weakness to cover. The strengths depicted above could be also valuable pieces of information for ENGOs which, in this way, will know what they can rely on when developing activities for EE in primary grades.

5. ENGOs Contribution to Environmental Education in Primary Grades

5.1. ENGOs' characteristics.

The main focus of the present research was to reveal what the actual contribution of the ENGOs to the primary EE is, what educational elements are covered, what gaps in the state educational system are filled in, its effectiveness and sustainability and finally what the factors constraining ENGOs' effectiveness are. A questionnaire sent to the national mailing list of ENGOs, ngos@bluelink.net, and following interviews with selected respondents were the tools in favour of detailed information obtainment on the researched issues. The first step was to understand who the respondents are and what their experience, EE activities coverage and capacity are. Table 1 presents in summary organisations' profile.

Table 1. Respondent NGOs. Legal status, geographical coverage of EE activities in primary schools, location, year of establishment, personnel.

Table 1. NGOEs characteristics.

NGO	Legal Status[1]	Coverage	Location	Year of establishment	Experts
Future Now	Association	Regional	Smolyan	2006	15
BBF	Foundation	National	Sofia	1997	15
Borrowed Nature	Association	National	Sofia	1992	4, 20 (with external)
CEIE	Association	National	Sofia	1994	6, 70 (with external)
CVS	Association	Regional	Sofia	2002	7
Ecomission 21	Association	Regional	Lovech	2001	8
Education, Culture and Ecology-21	Association	National	Varna	1998	5
EkoObshtnost	Foundation	National	Sofia	2003	2
GreenBalkans	Association	National	Plovdiv	1992	21
REC – CO Bulgaria	Branch of International non-for-profit organisation	National	Sofia	1993	3
TIME Ecoprojects	Foundation	National	Sofia	1994	3

Besides mere presentation of ENGOs profile, the aim was to draw conclusions about the reliability and representativeness of the sample. The initial steps were to find a database of

[1] Legal status according to the Bulgarian legislation, Law on Non-profit Legal Entities, SG No 81/06. 10. 2000

operational organisations in the field of EE for primary grades in Bulgaria. A database of ENGOs with EE activities was found only on the REC web site (http://www.rec.org/REC/Databases/NGODirectory/NGOFind.html) but it was obsolete, dating from 2001, and covered ENGOs that delivered EE but it was not specified whether they had been involved in primary education in particular. Thus, conclusion for the representativeness on the sample based on the number of organisations who responded to the questionnaire and who have activities for primary EE was not possible to make. Other indices were used, viz. how long the organisations have been operational for, number of expert employees, area coverage of their activities and location. Half of them have been operational for more than 14 years and the average duration of operation for all 11 respondents is 10 years. The average number of expert employees in an organisation is 8. Given these facts, it can be claimed that the statements, made by them in the current discourse, are quite adequate due to their long professional experience, regardless of the relatively small number of full-time contracted experts. Also, more than 70% of the ENGOs have implemented activities in different regions of Bulgaria, which adds to the enrichment of their experience on national level. Hence, the arguments they have given on the primary EE in schools can be considered as reliable. More than half of the ENGOs are located in Sofia, a fact that could raise the question whether they are acquainted with the situation in the country, but the national coverage most of them have refutes this argument. Finally, the above stated arguments lead to the conclusion that ENGOs opinions on the researched issues should be regarded as reliable and representative.

5.2. Curricular and Extra-Curricular Activities. Motives for the ENGOs choice.

An important part of the research deals with the type of activities that ENGOs have implemented and the educational elements they have covered. Received answers to Section A, question #6 of the questionnaire (Appendix I) and analysis of the interviews with selected respondents were summarized in two general categories, curricular and extra-curricular activities with respective sub-categories. The categories and organisations that have executed a certain type of activities are shown in Table 2.

Table 2. ENGOs activities in contribution to primary school EE

EXTRA-CURRICULAR ACTIVITIES	
Networking and Information Provision	
Web site	

- *for exchange of information between students* - *for specific topic (fungi)* - *school web site development* - *EE, SDE and NPE web site*	Bade6te sega BBF Bade6te sega TIME, Boorowed Nature; Ecology 21
Networking between schools, between eco-clubs	Bade6te sega
Videocentre (video materials)	Borrowed nature
Informational materials provision	All ENGOs
In- and out-of-school activities	
Interactive exhibition	BBF; CVS; EkoObshtnost; TIME
Plays	BBF
Environmental holidays celebration	Bade6te sega; BBF; CEIE; Green Balkans; Ecomission21
Competitions	Bade6te sega; BBF; CEIE; Ecomission21
In-school and in-class activities	
In-school and in-class activities *-presentations* *- experiments; practical application of knowledge (E audit)* *- Improvements of school environment, inside (eco-clubs rooms) and outside*	- EkoObshtnost; Green Balkans; CEIE - EkoObshtnost; TIME - Bade6te sega; BBF; Ecomission21
Out-of-school activities	
Out-of-school activities – camps, green schools, games in the nature	Bade6te sega; BBF; CEIE; CVS; Ecology 21; REC; Ecomission21
Visit to museum, Protected area, nature in general, Animal rescue centre	Bade6te sega; BBF; Green Balkans
Educational centre	Green Balkans
Out-of-school programmes development	CVS; BBF; Badeshte sega; TIME
Materials	
Student textbook development	BBF
Student textbook adaptation	Borrowed Nature
Teacher textbook for EE	The REC; EkoObshtnost
Teacher textbook adaptation	CEIE; EkoObshtnost; Borrowed Nature
Manual - Trainers of teachers in EE - Green school	 Ecology 21 TIME
Teachers training	
Teachers training - interactive approaches	Ecology 21; EkoObshtnost; TIME; Borrowed Nature;
Training visits abroad	Borrowed Nature
Policy for EE	
Report - National on EE - National on NPE	 Borrowed Nature Ecology 21
National Programme for EE and SDE	Borrowed Nature; TIME

Seminars, conferences (national level, regional level)	Borrowed Nature; Ecology 21; REC
CURRICULAR ACTIVITIES	
Student textbook (MEE)	Ecology 21; TIME: Borrowed Nature
Teachers textbook	Ecology 21; TIME; Borrowed Nature
Educational programme for MEE *Man and Society 1st-4th grades*	Ecology 21; TIME; Borrowed Nature

Firstly, Table 2 shows that most of the organisations are oriented to extra-curricular activities. Only three organisations implemented activities recognised by the MoES and can be included in the curriculum, i.e. student and teachers' textbooks and educational programme for MEE, all from first to fourth grade. It should be emphasized that these organisations worked in partnership on projects entirely devoted to NPE and EE in Bulgaria. The projects were named 'Supporting the development of nature conservation education in Bulgaria' and 'Environmental education in primary schools in Bulgaria'. Explanation about their success in recognition by MoES probably lies in the fact that the projects were focused only on EE and SDE activities.

Secondly, Table 2 displays prevalence of ENGOs developing extra-curricular activities. They were asked for explanation of their choice for implementation of extra-curricular activities in question #9 from Section A in the questionnaire. Their answers are grouped into negative, positive and neutral factors in Table 3

Table 3. ENGOs motives for implementation of extra-curricular activities

NEGATIVE FACTORS	
Less efforts for co-ordination with stakeholders	Badeshte sega; Ecomission21; EkoObshtnost
Cumbersome procedure for materials approval by the state administration	Badeshte sega; BBF; EkoObshtnost; TIME
Lack of flexibility and conservatism of MoES	BBF; CEIE; TIME
Teacher training on the produced materials is time-consuming	Badeshte sega
The school curriculum on EE requires a wide spectrum of knowledge and we are narrow specialists	Badeshte sega
Weak teachers interest	CEIE
Low teachers motivation	CEIE
POSITIVE FACTORS	
Actions on local and regional level are easy to achieve	Borrowed Nature
Out-of-class activities are wonderful opportunity for	Borrowed nature; CEIE

free inclusion of topics and materials	
There are more opportunities for students creativity	Ecomission21
There is a need of educational activities for engagement of students in their spare time	EkoObshtnost; Green Blakans
Certain region specifics is a premise for choosing of activities development targeted to FEE	REC
NEUTRAL FACTORS	
The official curriculum does not include practical and out-of-class and out-of-school activities	CEIE; CVS; Green Balkans; Badeshte sega

The reasons behind ENGOs choice to perform extra-curricular activities actually are due to weaknesses of the system. Weaknesses of the Bulgarian educational system such as cumbersome procedures in the MoES, MoES conservatism, lack of motivation or interest in teachers, previously defined by the same organisations, obviously pose constraints for ENGOs to develop activities for inclusion in the school curriculum. If the number of organisations which consider one and the same constraint is counted, difficulties in the work with MoES will take the leading position among all negative reasons behind ENGOs choice.

Other reasons, raised by ENGOs like Badeshte sega, are that they are not wide-range specialists and therefore they cannot develop quality curricular activities. Additionally, the interviews revealed another important point on this issue, i.e. most of the ENGOs have educational activities as part of their work, “EE is not the only issue we are working on” (CEIE, Green Balkans pers. comm.). In some cases they do not have narrow specialists (Green Balkans pers. comm.) or don’t have the needed capacity (CEIE pers. comm.). Hence, extra-curricular activities are preferred option due to constraints by the weaknesses in the educational system. Additionally, ENGOs preferences are based on the diverse areas they work in, which does not allow them to focus specifically on EE or the lack of narrow specialists within their teams.

Teachers without interest and motivation are among the reasons for ENGOs choice. No explanation is received on this issue. Still, it can be argued that teachers’ lack of will to work in improving EE in primary grades is a big demotivational factor for ENGOs, because if they intend to contribute with curricular activities, there is a necessity to cooperate with teachers, and teachers, who are not interested or motivated, will definitely contribute to no or poor outcomes.

Among the positive incentives for ENGOs activities outside the curriculum is their easier accomplishment on local or regional level (Borrowed Nature pers. comm.). Results

from the questionnaire support the raised assertion. Four out of six organisations answered negatively to the question whether their activities were somehow influenced by the MoES and all of them have had contacts with REI in the course of their work. Also, explanation can be found in the conservative MoES, which is notorious for its cumbersome procedures on a higher administrative level according to the ENGOs. Another fact that cannot be omitted when we are discussing the local/regional co-operation with public authorities is that ENGOs cannot work without prior permission from the respective REI. Thus, on the one hand ENGOs say that it is easy to work on lower levels, but on the other authorities on lower levels cannot be skipped and formally are the link between ENGOs and schools. This is confirmed by interviews and the questionnaire. An expert from BBF explains that "they [REIs] provide us with support letters for project implementation in their respective region schools." The rest of the respondent ENGOs have had the same type of cooperation with REI (Ecomission21, CEIE pers. comm.). In fact REI prove to be not only the compulsory unit between ENGOs and schools, but also more open and cooperative than MoES, whose involvement is related mainly to provision of administrative support.

This was about the most important reasons ENGOs defined for preference on curricular or extra-curricular activities. Discussion on the ENGOs type of activities and the contribution these activities provide to the primary EE will follow. The discussion will start with the predominant activities ENGOs implement, will continue with their contribution to confronting the biggest weaknesses in primary EE and will finish with their contribution on national level. The sustainability of their actions will be discussed as well, because qualitative contribution can be achieved only when it continues in time, follow up actions are taken and it is built up on previous experience.

5.3. ENGOs contribution to primary EE. Types of activities.

5.3.1. Out-of-School Activities

The results showed a definite preference to out-of-class and out-of-school activities by the researched ENGOs. Insufficiency or lack of out-of-class and out-of-school activities are weaknesses in the primary EE, also recognised by the public sector as discussed previously in the paper. The MoES attempt to overcome this weakness is a National Programme that finances projects for out-of-class and out-of school activities, but detailed information about what type of activities were financed was not found (MoES 2007a). On the other hand, most ENGOs activities are out-of-class and out-of-school, fighting this weakness and at the same time covering one of the three main strategies for EE, namely education *in* the environment.

Many of their activities are related to organisation of trips to different natural sites in students' regions in order to improve children's knowledge and building a sensory awareness (BBF pers. comm.). "Field trips and open air games" were organised during the spring vacation with Ecomission 21 Century Project. Previous discussions made clear that field trips that are within the curriculum are time-demanding and the formal procedures have been complicated by the MoES. Therefore field trips, organised by ENGOs as extra-curricular activities, are the easier option in the given circumstances. As mentioned before, schools generally envisage in their curriculum one week of studying out of school, called 'green school'. Answers to the questionnaire and interviews with ENGOs show that in general they were not asked for assistance in the organisation of a green school programme or for provision of experts or volunteers during the one-week trip (Green Balkans, EkoObshtnost, Borrowed Nature pers. comm.). Teachers were not active in searching for ENGOs help for 'green schools', a fact, supported by the negative answers of interviewed teachers from Plovdiv. Given the assertions from both sides, neither of them is active in search of the other for 'green schools organisation'. ENGOs in most cases work for EE as part of number of other activities and thus are the passive respondent to school invitations. Schools, in turn, should be more active and also aware which organisations in their respective areas are able to help them. Finally, ENGOs organize 'green schools' by themselves, independently, out of the school curriculum (REC, CEIE pers. comm.), but, as they shared, being part of project activities. Badeshte sega, has its own facility and organizes eco-academies in the nature, educational forms similar to 'green schools'. In this way they do not need to comply with any requirements of the state educational system.

Another way ENGOs contribute to overcoming weaknesses in the primary EE is through elaboration of programmes for out-of-school activities. TIME, for example, has developed a paper, called 'A Practical Guidebook for Green Schools Organisation' covering activities for children at the age between 7 and 11. In summary, the ENGOs are contributing to out-of-school education through 'green schools' and programmes in nature but it seems that these are occasional and not sustainable ad-hoc events. This should not be regarded as criticism because at the same time it is acknowledged that most of the ENGOs work on diverse environmental topics. The guidebook for green schools should be regarded as a very valuable contribution especially when there is no special state regulation on the out-of-class activities organisation and educational content.

5.3.2. In-School or Out-of-School

Apart from the activities that are performed entirely out of school, some activities can be organized both in school and out of school and are grouped in a separate category. Competitions are part of this category. They are very much used by ENGOs as supplementary activities to many projects (researcher's experience) – drawing, essay, video or picture competitions. The common trait between competitions is the specific environmental problem they cover. The competition organized by BBF is only about Natura 2000 and the one co-organized by CEIE is about the Danube River. The differences are in the educational elements each competition covers. The contribution of CEIE can be defined as inclusion of more educational elements through visits of natural sites and opportunities for creative and practical activities. The contribution of this activity is execution of activities *in* and *through* environment that enhance children's knowledge, awareness and attitudes through taking pictures of natural sites, through joint work with natural materials, etc. The competition, which is organized by BBF, is more about knowledge and awareness raising because it is in the form of a test on certain material. The contribution to the state system is in terms of improvement of children's knowledge on specific topics and in terms of increasing their awareness about controversial topics that are on the agenda. The CEIE activity can be defined as sustainable firstly because it is organized yearly, which ensures its repetition. Secondly, it is organised in different age groups that allows one student to continue his or her participation in the competition for a couple of years. And thirdly, it is sustainable and valuable, because the number of EE out-of-class activities could increase. Also, competitions on environmental topics on a national level are not organized for primary schools unlike mathematics or language competitions (MoES 2008). Competitions on environmental topics are more regularly organised by the MoEW (all ENGOS). Given these facts, environmental competitions organised by ENGOs, do not display sustainability in most cases, exceptions are the international ones. Contribution to the EE is the focus of these events on certain topics, which are often not in the programme or are more specific.

BBF mentioned about another form of EE they funded years ago, i.e. dramatic representations. This type of contribution is recognised by Borrowed Nature. "When we talk about teaching in an interdisciplinary, interesting and interactive manner, we shouldn't forget that there are other ways for better teaching of environmental topics like actor appearances, psycho-drama". One of the interviewed teachers from Plovdiv is asserting that "students are not impressed by hard copy materials. Some visual activities like multimedia presentations and plays are needed". Therefore, this approach is beneficial for EE in primary grades due to

the provided opportunity for creativity and some personal involvement that develop children's awareness and participation qualities.

A new educational form that was not found in the reviewed literature, but is widely used by Bulgarian ENGOs is the so called 'interactive exhibition'. The interactive exhibitions are mostly topical, for mushrooms, for bears and wild goats but they could be broader as well, e.g. for biodiversity or sustainable development in general (BBF and TIME). Those exhibitions could be managed by organisation's experts or by teachers, parks' experts, etc. Thus, a possibility to work with it in different regions within the country is ensured. The ones, elaborated by BBF about the mushrooms and biodiversity, are in the form of illustrated informational boards, game devices, with recorded animal sounds. The one, developed by TIME, 'The Globe', is an inflatable plastic globe, through which students can study in an interactive, practical manner and in an atmosphere, offering opportunities for discoveries. TIME EcoPorjects expert explains why they have chosen the educational approaches they work with and this one in particular, "Small children are more inclined to play games, to draw, to make applications. Artistic approaches are very much utilized". That type of EE is beneficial to the primary EE because, on one hand schools, as already mentioned in the discussion, are lacking resources and in that way are unable to provide their students with materials for interactive education. Exhibitions also allow educational approaches to be transformed from reproductive to interpretivist one. On the other hand the possibility these products to be managed solely by teachers increase the change more schools to benefit from them. The weakness of this approach is that the TIME exhibition is paid. Generally, the comments of BBF expert can prove the success of this EE approach, "it [the exhibition] started to live its own life".

Another very widely used form for contribution to primary EE is celebration of environmental dates that can be organised in or out of class or school. The MoES does not have traditions in celebrating holidays, related to the environment. Celebrations in school are entirely initiatives of school management and teachers. ENGOs contribution to these events is provision of materials in e-format or hard copy, competitions, presentations, etc. Green Balkans contribution for instance is by "organisation of competitions, games" for celebration of environmental dates. The REC's contribution in 2007 for the Earth Day was provision of materials to one school in Veliko Tarnovo and to another one in Sofia. Generally environmental dates' celebration is a contribution that does not require a lot of effort and preparation in advance by ENGOs and is, thus, performed by many organisations. It is beneficial due to provided materials that are otherwise financially unaffordable for schools

and due to the raised awareness in students. But it is not sustainable, because not every year one and the same schools are approached (Green Balkans pers. comm.).

5.3.3. In-Classroom and In-School Activities

In-classroom or in-school activities are other categories of contribution that ENGOs implement within or out of their projects. They could be initiated by an ENGO to present its materials or could be result of either ENGO's or a teacher's willingness to present a particular topic to the students. The first type of contribution is actually an essential activity, when the organisation has some products like textbooks or interactive exhibition materials (BBF pers. comm.) or models for construction (EkoOBshtnost pers. comm.), to be predominantly delivered by ENGOs experts. By these means, the real contribution to the primary EE is the developed product, not its presentation. The second case should be paid more attention to due to the fact that the given lectures are on specific topics and thus the ENGOs are competent to deliver them unlike teachers, who possess much less knowledge and qualifications, as stated in the discussion. In that course, it was interesting to find who initiates the presentations and other contribution activities that are not within ENGOs projects, schools or ENGOs. Most of the ENGOs, who were asked, pointed schools as the more active side or initiator of such topical lectures (BBF, Borrowed Nature, CEIE pers. comm.). One of the reasons is that EE is not the main sphere of operation in ENGOs. Therefore their active involvement is lower. Another reason was put forward by Borrowed Nature, viz. 'we are trying to develop products on national level unlike 10 years ago, when there was much more interest for co-operation with particular schools'. CEIE adds more comments on the issue, i.e. 'there is natural development in ENGOs firstly to deal with problems easier to resolve and influence on… the first step is EE". Finally, delivered presentations that are not part of projects are beneficial because they provide specific, professional and very practical insight into environmental or sustainable development problems that are out of the teachers' knowledge and qualification. Still, these presentations are mostly initiated by schools.

There are some practical classroom and school activities that utilize practical approaches for knowledge accumulation. These are, for instance, the renewable energy models of EkoObshtnost, which are produced abroad, and improvements of school environments – planting trees, cleaning the yard, putting insulation, separate waste collection, pot plants for classrooms and other (BBF, EkoObshtnost, Ecomission21 pers.comm.). Thus, ENGOs try to tackle one of the weaknesses in the primary EE, argued by them, the lack or the insufficiency of practical-oriented activities. But mostly the practical-oriented lessons were

result of preliminarily established goals in their projects. Additionally, ENGOs limited financial resources do no allow them to increase the extent of their contribution in the school environment and their attention to out-of-school activities consumes the greater part of them. Activities executed in-school are not as valuable as out-of-school activities, which is supported by teachers' as well, "It would be better to build a big facility… and kids to be out-of-school" (EkoObshtnost pers. comm.).

5.3.4. Teachers' Qualification

ENGOs contribute to the poor EE qualification of teachers, the biggest weakness in the primary EE, according to the respondents in the present research. ENGOs trainings are more or less related to the materials they produce. Therefore these trainings are beneficial for teachers' qualification both for curricular and extra-curricular EE education. Table 2 displayed the organisations engaged with teachers training activities. It should be reminded in the beginning of the discussion that teachers in primary grades are delivering all the subjects within the curriculum, including those with environmental and sustainable development focus. The first important step to efficient EE according to an expert from TIME is to change adult perceptions towards environment, i.e. "we have to change teachers mentality first, then to turn to children's mentality" (TIME pers. comm.) and "as the years pass we, as adults, have been restricting our abilities for influence on any problems only by ourselves and our perceptions" (Borrowed Nature pers. comm.). Therefore, it seems that the trainings, provided by the non-governmental sector, initially stress on the change of teachers environmental attitudes, then on the methodological aspects and on the less in the content: "seminars should be targeted more on skills development rather than on content" (Borrowed Nature pers. comm..) and "teaching should be different from the standard questions and answers lectures … they should provoke active behaviour in children" (EkoObshtnost pers. comm.). A widely renowned approach for accomplishment of contemporary qualitative education, used by ENGOs, is the interactive type of education. It is a type of education that can be described by "opportunities for knowledge gaining, perceptions and behaviour formation are provided … education is achieved by rationalization of experiences" (Lazarova and Dimitrova 2001). The methodology of interactive environmental education is included in teachers' trainings by Borrowed Nature, Ecology 21 and TIME. An expert from REI Plovdiv also confirms the wide use of interactive education approaches in ENGOs materials development and teachers trainings. Given these facts, ENGOs contribution to improvement of teachers' qualification for primary EE cannot be neglected because it develops essential attitudes and qualities in

otherwise poorly prepared teachers. These trainings shift the reproductive type of teaching to interpretivist one (Borrowed nature, TIME pers. comm.). Again we should have in mind the nature of the organisations and their financial resources, which hinder education on a regular basis or interaction with broader audiences. There are some exceptions like voluntary out–of-project activities, but they are isolated cases (Borrowed Nature pers. comm.). Generally, those trainings can be perceived as beneficial because of the new methodological approaches they offer and the gap they fill in general, viz. the poor teachers qualification in present environmental topics. The contribution is not sustainable in terms of monitoring the outcomes, but at the same time it should be reminded that ENGOs are not narrow specialists and continuity of the activities depends on steady flow of funding, which is not possible to be ensured by non-for-profit organisations.

5.3.5. Primary School Environmental Education Materials

Diverse problems on studying materials were revealed during the discussion on strengths and weaknesses in primary EE in Bulgaria. ENGOs contribution in this respect can be divided in two types, one being development of materials outside state requirements as additional resource for teachers and the other – textbooks for use in MEE and FEE. The former type is filling the gap of information needs for specific topics like biodiversity in specific areas, ozone hole, water pollution, etc. BBF and the REC, for example, elaborated textbooks on biodiversity that include both general information and information with regional specificity. Additionally, ENGOs are involved in adaptation of successful foreign educational packages independently or in cooperation with each other and/or with the government. This practice is very beneficial in terms of application of recognized international experience instead of attempts to discover new approaches with the risk to fail to respond to students' interests, needs and abilities to comprehend the presented topics. ENGOs like the country office of REC in Bulgaria, Borrowed Nature in partnership with MoEW were able to adapt the "Green Pack", EkoObshtnost adapted the Danube Box and CEIE adapted Slovenian and Slovak teacher textbooks. Therefore ENGOs provide additional information for EE classes in primary grades through the materials they have elaborated or adapted, which is beneficial in a situation where the lack of materials is argued to be an educational system shortfall.

The latter type of contribution, materials for MEE and FEE, is an area predominantly covered by ENGOs, whose scope is focused by and large on the EE. Borrowed Nature, TIME and Ecology 21 are such organisations and in most of their EE projects they cooperate with each other. The outcomes of two important projects they implemented jointly are textbooks

from first to fourth grade, viz. “The world around us” and teacher manuals for the same grades. The ENGOs contribution is materials, elaborated in conformity with the Common State Educational Requirements and developed by experts, who are practitioners. Also, as debated previously, the third sector is easily accepting and utilizing novelties in their respective sphere, therefore the produced materials carry opportunities for implementation of new interactive educational approaches to be implemented by teachers, diverse presentation techniques and covering sustainable development topics rather than mere environmental education. An expert form TIME shares her experience of visiting various schools and witnessing the use of the textbook in practice, viz. “teachers in one school conducted some lessons using a computer programme… in another school teachers used classes, dedicated for drawing to present one of the topics”. Moreover, the approach, used in the textbooks, allows interdisciplinary approaches like computer literacy and arts education to be implemented. In conclusion, materials developed by ENGOs and recognized by the MoES are a great achievement if we have in mind the discussion for the introvert state institution, uninterested to work with other parties. The contribution to the primary EE is the materials’ relevance to European level standards like the UN EEC SDE Strategy, interdisciplinary relations with other subjects in order to establish the basics of sustainable development notions.

Finally, we should consider the sustainability of this activity. Materials are issued by ENGOs as part of financed projects. After projects completion, the outcomes can be defined as unsustainable if follow-up is not sought. About half of the ENGOs (Ecomission 21, Borrowed Nature, BBF pers. comm.) were aware, who is using their materials, and seek cooperation with schools they already know. In this sense ENGOs contribution is decreased by the fact that not all ENGOs monitor the outcomes of their contribution in the long run. Sustainability in ENGOs contribution is also the republishing of their materials. All ENGOs, who were asked about this issue, admit that the initial publishing of materials is subject to funding from donors and materials were free for the beneficiaries (Green Balkans, Borrowed nature, TIME, Badeshte sega pers. comm.). Second edition of the materials is, according to them, possible when a new donor is found because, as Green Balkans expert asserts, “Bulgarian schools cannot afford to buy materials”. Borrowed Nature made a statement about a practice when “in many cases we are financing materials publication and then we sell them without any profit, just to cover the printing expenses”. Sustainability for very popular materials is sought also in contracts with printing companies because, unlike the first edition, the second one can be sold. Thus, sustainability of materials reproduction is the responsibility of ENGOs and the success of the activity is mostly dependent on them through elaboration of

new projects and on donors because of the low budgets of Bulgarian schools that cannot afford to buy the materials for MEE and FEE.

5.3.6. Policy Contribution

Finally, ENGOs make attempts to contribute on national level, besides the project activities related to one-time materials, events, etc. In this regard, the contribution for EE in Bulgaria was a report, developed by Borrowed Nature and other Bulgarian and Balkan countries, partners within REC's project, named "Environmental Education in formal Schools of South Eastern Europe – Needs, Achievements, Partnerships and Perspectives" prepared for the Ministerial conference in Kiev, 2003. The Bulgarian report in particular provides detailed overview of the policies, curriculum, and teachers' education, NGOs participation in this field and SWOT analysis. The Borrowed Nature expert is emphasizing the outcomes of their product, "the Common State Educational Requirements are already fact following the report. Also, more attention was paid to the EE problems in schools and many seminars and meetings on national level also took place."

Another important document developed by TIME and Borrowed Nature is the "Programme for Support of Sustainable Development Education". An expert form TIME explains that the initial intention for elaboration of this document was different but it changed due to a lack of will for involvement by the responsible parties "We wanted to develop a strategic document but there was no political support about that. Therefore, we developed a programme with guidelines for both ministries [MoES and MoEW] and stated where the focus of SDE should be put". Given these facts, both documents are beneficial to the EE in general and respectively to the primary EE because they reflect the second viewpoint, derived from ENGOs practice in line with the international theoretical and practical tendencies in EE and SDE.

During the interviews another unexpected finding about ENGOs geographical distribution of activities, respectively contribution, was made despite of the initial impression for national coverage, previously debated in the paper. Most of ENGOs EE activities were outside the capital of Bulgaria, i.e. Sofia was sidelined by the ENGOs. All ENGOs that were asked why they prefer to work outside Sofia answered that they have already established contacts outside the city and, for future projects, they would choose the schools and people they already know because "it is easier to accomplish something in a place where you already have some experience and where you know things will happen for sure" (Badeshte sega; BBF, Borrowed Nature, EkoObshtnost pers. comm.). Another important moment ENGOs rely on is

"schools in the country are much more enthusiastic and are trying to show that interesting things happen in the small towns of Bulgaria too" (Borrowed Nature, BBF, Badeshte sega pers. comm.). Some organisations openly state that schools in Sofia are not interested in environmental topics at all (Badeshte sega, TIME pers. comm.). In summary, ENGOs do not contribute to the EE in primary schools in Sofia as much as the rest of the country. Focused efforts to contribute for primary EE in Sofia were neither found at present nor envisaged in the future after analysis of the ENGOs interviews.

5.3.7. Sustainability of joint ENGOs Activities

It is important to discuss the sustainability of NGOs actions on more general grounds, not only the specificity in each and every type of contribution in order to build up a broader picture. The first received filled in questionnaire made the point that "Active and uniform actions within the NGO sector are lacking. Couple of years ago there was a boost on this issue, but now everybody is working in its region and separately." (BBF pers. comm.). Since that answer was received attempts to understand the reasons that provoked the decrease of ENGOs contribution were made in the interviews with other ENGOs, of course when the direction of the interview allowed this. The same organisation was asked for explanation on the stated assertion and the answer was "couple of years ago many educational projects were funded… [and] unfortunately the conservational problems next years focused our resources in that direction and EE was left behind". Badeshte sega supports the reasons, stated by BBF, "I think the decrease in ENGOs activities is a result of the many problems that have to be tackled and the lack of resources". Funding is defined as a constraint for sustainable actions by each and every organisation, "we have developed one web site for EE but it is not maintained because there is no capacity and resources at the moment" (TIME pers. comm.). The donors' funding is perceived as constraint not only for single organisation's actions but for cooperation among ENGOs "organisations are restricted by financial frameworks … this is the reason why strategic and long-term planning cannot be made" (Badeshte sega pers. comm.). CEIE claims that sustainability cannot be achieved if their efforts for EE in primary schools and elsewhere are hindered by factors outside ENGOs-projects-donors relationship, "the EE topic is the last one the society pays attention to … change in social attitudes requires time" and "children are taught these topics in class and when they go out they see a totally different situation". NGOs sustainable contribution to EE in primary grades is, as repeatedly mentioned in the discussion, hampered by the unwillingness of the MoES to communicate with the third sector. A surprising fact about the reluctance of the MoES to support EE

initiatives was made clear by TIME, i.e. "The web site we created [about EE] was initially planned to be put on MoES web site, to be managed by their financial resources… it wasn't accepted". In conclusion, the reasons ENGOs define as obstacles for sustainable actions, were mostly related to changes in donor interest for funding, increase of other urgent and diverse environmental problems and the hard cooperation with MoES. Interesting localization patterns for contribution were found, viz. Sofia was sidelined by ENGOs in their contribution to primary EE. To summarize, ENGOs contribution takes the form of filling some of the most important gaps in the primary EE despite the irregular manner of and depending on donor resources and organisations capacity with varying success in achievement of sustainability.

ENGOs contribution should be analysed in terms of educational elements they cover through their activities. The discussion below will focus on that.

5.3.8. Educational Elements Covered by ENGOs.

The literature review section provided theoretical basis on the educational elements that need to be incorporated in the EE with stress on the "first hand experiences of the environment" (Palmer and Neal 1994). Table 4 provides summary of the educational elements covered by the interviewed organisations. Activities of organisations, which were not interviewed, were not included in the table because only listing of activities is not sufficient for drawing accurate conclusions about the educational elements they could have covered.

Table 4. Educational elements covered by ENGOs in EE in primary grades

ENGO	Educational elements
BBF	- *knowledge* – additional knowledge to the one they receive in school, build-up on nature protection and biodiversity knowledge; - awareness – trough education *in* the environment - *values* – valuing the regional and nation biodiversity; - *attitudes* – change in attitudes (especially negative ones towards Natura 2000) Emotional element; teaching through art;
Badeshte sega	- *knowledge* – additional to the one received in school; - *awareness* – sensory awareness via education *in* nature; - *attitudes* – appreciation, care, concern - *skills* – through experiments in the environment, analytical and observational skills Emotional element; teaching as adventure; interpretivist educational approach – studying not as process forced by someone; games; interactive approaches (team work; discussions)
Borrowed nature	- *knowledge* – "up-dated and accurate"; - *values* – valuing all aspects of nature - *skills* – analytical and observation, civic skills; Emotional – head-heart-hand approach; experiments; discovery; games;

	group work; interactive approaches;
CEIE	- *knowledge* – on problems of interest of both students and teachers - *values* –nature - *awareness* – sensory and through visualization by documentaries and other video materials - *skills* – analytical and observation skills Emotional element; adventure; studying by having fun, not forced by someone process; education through art
EkoObshtnost	- *knowledge* – the most important and worked on - *attitudes* – appreciation, care, concern to nature - *values* – nature resources - *skills* – analytical, Interactive approaches; empirical approach
Green Balkans	- *knowledge* – issue-based - *awareness* – on certain topics (environmental dates celebration); sensory awareness (visits to organisations wild life rescue centre) - *values* – biodiversity - *attitudes* – appreciation and respect to nature Lectures; visits to organisation's centre; materials provision
Time EcoProjects	- *knowledge* – environmental, social and economic topics interrelation (SDE) - *attitudes* – change in the consumer behaviour; perception to other nationalities - *values* – "valuing nature through sensible love" Games, drawing, application (art approaches); interactive approaches

The summary, made in the table above, shows a tendency of ENGOs paying attention to knowledge acquisition on diverse environmental topics, predominantly related to their field of work. They rely on the knowledge gained in school and build on it. Formation of values is another educational element that organisations try to achieve, like valuing nature resources, biodiversity, etc. Achievement of awareness, sensory and on social issues is also sought by ENGOs. Then, change in attitudes is pursued. For instance BBF strives to change the negative attitude towards Natura 2000 in Bulgaria. Appreciation, care, respect of nature is the type of awareness that ENGOs try to nurture in primary school children. Skills formation is paid attention to but these are mainly observational skills and analytical through execution of experiments in class or in a natural environment. BBF, Badeshte Sega, Green Balkans and CEIE have activities that form all these qualities in children from first to fourth grade by first-hand experience in the nature, i.e. education *in* the environment. Approaches, used for ENGOs activities, are interpretivist, interactive, empirical and education by art. Finally, ENGOs have in mind that formation of qualities is dependent on children's age perception abilities. Therefore, their contribution is focused on knowledge, values, attitudes and some simple skills formation. Higher rank qualities like active participation, awareness of more

complicated sustainable development issues and decision-making are priority for the higher grades (Borrowed Nature 2008). Given these facts, ENGOs strive to accomplish education *in* the environment in conformity with Palmer and Neal (1994) suggestions. They too do not neglect the EE *for* and *about* the environment with the use of all recommended approaches, mentioned in the literature review.

This chapter analysed ENGOs contribution to the EE in primary schools. According to the research ENGOs worked more on policy level, than with individual schools. Their contribution in this respect was related to fostering partnerships with all interested parties and development of documents which analysed the status of the EE in Bulgaria and gave directions for actions. Their success was highly dependent on the state authorities will for cooperation, which was acknowledged to be minimal. Thus, some of the initiatives, like the National Consultative Council on EE, did not become operational.

5.4. Factors affecting ENGOs contribution

The previous discussions were focused on the types of activities ENGOs implemented in order to contribute to primary EE. Sustainability of their contribution was analysed and also factors that influenced their effectiveness were outlined in relation to each type of activity. But one of the objectives of the present research was to disclose which factors influenced ENGOs activities in different stages of project implementation or to get a more general picture of ENGOs-schools-government relations. Consequently, they were asked in writing what the extent of influence of each factor in preliminary listed set of factors was. Semantic differential rating scale was used for this survey. The analysis was based on the most frequently given answers, i.e. the mode of the variables. Table 5 provides information of the most frequent answers that were given. The meaning of values is: ***0*** *– I don't know,* ***1*** *– was not influential,* ***2*** *- had small influence,* ***3*** *– had moderate influence,* ***4*** *- had strong influence,* ***5*** *– had very strong influence.*

Table 5 Different factors influence on ENGOs EE project implementation

Factor	Influence		
	Materials/activities elaboration	**Approval processes**	**Implementation**
a. Principal's readiness for cooperation	**5**	**5**	**3**
b. Material and technical equipment of the school	**2**	**2**	**2;3**
c. School budget	**1**	**1**	**1**
d. Teachers knowledge about ICT	**4**	**2;4**	**4**

e. Teachers' length of service	**1**	**1;3**	**3**
f. Parents interest and support	**1;2**	**1**	**3**
g. Students interest	**3**	**4**	**5**
h. Other (please specify)	**-**	**-**	**-**

The table reveals that the factors with strongest influence on all project implementation stages are the principal's readiness for cooperation, teachers' IT knowledge and student interest. On the opposite side, factors with no influence for project implementation are school budget and, with very small to moderate influence, material and technical equipment of the school, parents interest and support and teachers length of service. The results made clear that principals' readiness to cooperate is the most essential factor for development of one project, after all schools are beneficiaries and without their active willingness and role there can be no ENGOs contribution. The previous discussions confirm this fact by ENGOs admitting that they choose their beneficiaries among schools that are active and interested in EE. Another very influential factor defined by the ENGOs answers is teachers' computer literacy, multimedia utilization and other modern technologies in help of EE. Some of the new materials, developed by ENGOs are in the form of multimedia packages, e.g. Green Pack, and they require the respective skills to handle different types of technical devices. Therefore, it can be presumed that this factor has high influence at project implementation stages. The last factor with strong influence is the student interest. Most probably it can be referred rather to activities, than to materials. Previous discussions made clear that ENGOs are not the active side for contribution to primary EE, but schools are those searching for assistance. Hence, it is understandable why students' interest is a factor of great impact.

Table 5 shows factors of no or very small influence of ENGOs contribution through project activities. The factor that has no influence at all is the school budget. The explanation is undoubtedly based on the one hand on insufficient school budgets that fail to cover anything but teachers' salaries and, on the other hand projects, are developed by ENGOs relying on donor resources. A factor with small influence of project activities is the school equipment. Explanation can be sought in the poor basis of schools, fact acknowledged in the previous discussions. Therefore, ENGOs do not rely on school equipment. The majority of activities they execute are out-of-school, *in* the environment, without any equipment requirements to the respective schools. Second factor with small influence is parents' interest and support. Parents, according to ENGOs, are not interested in EE issues, a trait valid for the

whole society (TIME, CEIE, EkoObshtnost pers. comm.). Therefore, it can be concluded that ENGOs do not rely on them. ENGOs do not develop activities in a way to engage them, something which will be discussed later in recommendations section. Finally, teachers' length of service seems not to be an influential factor as well. It can be presumed that ENGOs were not dependent on this factor because of the poor qualification teachers have in regards to EE despite of the length of their service. Also, they cannot be useful in cases, where ENGOs are acting on their own as external lecturers or just need teachers' approval and supervision.

The next question to ENGOs from the questionnaire was aimed to establish the direction of factors influence, i.e. positive or negative and to support the conclusions, made in the previous paragraph. Table 6 presents a summary of the most frequently given estimates. The used scale comprises of these categories: *1- very poor, 2 –poor, 3- somewhat poor, 4 – neither poor not high, 5- somewhat high, 6 –high, 7- very high.*

Table 6. Direction of factors influencing ENGOs contribution

Factor	Most frequently given answers by ENGOs (mode)
a. Principal's readiness for cooperation	5
b. Material and technical equipment of the school	4
c. School budget	2;4
d. Teachers knowledge about ICT	2;5
e. Teachers' length of service	5
f. Parents interest and support	3
g. Students interest	6
e. Donor's requirements (CEIE)	6

The table shows that principal's readiness for cooperation in most of the cases was somewhat high. Again principals' readiness is confirmed to be an important factor that had very positive influence on the ENGOs EE projects implementation. School budgets are, according to ENGOs, inadequate or moderate but, notwithstanding this fact, it is a factor with no influence. Another factor of significance, according to ENGOs answers, is teachers' knowledge on ICT. It falls into two mostly mentioned categories by the researched organisations – poor and somewhat high. The conclusion is that teachers ICT skills varied within a factor with big influence on ENGOs activities. Teachers' length of service was

satisfactory for the aims of the implemented projects, but it is of negligible impact. Parents' interest was defined by most ENGOs as somewhat poor. Parents are not interested in EE. ENGOs in turn do not engage them in their projects and thus they do not have influence on EE projects development for the primary grades. Students' interest was high according to the analysis of the results. Students are the target group and their interest had vital importance and influence on the project activities. CEIE adds another factor with high value of adequacy, viz. donors' requirements. Perhaps the organisation wanted to express that donors' requirements corresponded to the needs of the beneficiaries and the developed activities by the organisation.

The above review of different factors influence to ENGOs projects and their adequacy according to the organisations' experience showed that projects cannot happen without principals' readiness for cooperation in EE for primary grades and students are the driving force for projects to happen due to their high interest in environmental matters. An interesting finding was arrived at during the analysis and can be regarded as omission in ENGOs contribution to primary EE, i.e. negligence of parents as participants in activities with environmental character together with their children. In conclusion, the smooth project activities implementation was dependent on a number of factors that, according to the analysed answers, were very adequate. Only teachers' knowledge of ICTs varied and should therefore be paid attention to if proper execution of in-class activities is targeted.

ENGOs according to the analysis strived to "fill the holes" in the primary EE. They executed activities like teachers' trainings, provision of materials with updated information on specific topics, organised out-of-school activities or activities that could be implemented both in and out-of-class. Some weaknesses in the educational system turned out to be constraints for ENGOs more efficient contribution, e.g. conservative MoES, lack of motivation in teachers. Sustainability of ENGOs contribution was hampered by factors based on the fact that they are non-profit entities relying on projects with limited period of implementation. Therefore, their contribution if follow-up projects are not funded is a single occurrence event. Also, it was not possible, due to the same reasons, to perform monitoring on the results of their activities. It should be taken into account that the ENGOs contribution has decreased in recent years due to diverse nature of urgent environmental issues that require ENGOs resources, both financial and human. Most of the interviewed organisations worked on variety of environmental issues and EE is just part of them. As it can be seen many factors impose limitations for wider and sustainable contribution of ENGOs to primary EE. However, activities they execute are beneficial to EE in primary grades especially when they confront

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weaknesses like insufficient out-of-school activities, poor qualification and low motivation of teachers.

6. ENGO developed EE material in use of MEE for fourth grade. Case Study.

The discussion above introduced ENGOs contribution to the primary EE in Bulgaria. It revealed the areas of preference and the ways ENGOs' activities filled the gaps in the Bulgarian EE in primary grades. It was debated how sustainable and beneficial this contribution is and what the factors influencing organisations' work for realization of their EE projects were. After this detailed analysis only one objective remained intact. The following discussion will try to assess whether an environmental textbook elaborated for fourth grade students by ENGOs and adopted by the MoES for inclusion in school curricula can be more beneficial than environmental material, elaborated by experts in the educational system with the same characteristics.

Two schools were chosen for this purpose and the research was made in the period 19 – 23 May 2008 in Plovdiv. The town was selected as representative for the big cities in Bulgaria like Varna, Bourgas, Rousse, Stara Zagora, Pleven where the population numbers and economic settings are similar. Generalization is sought to be made only for schools in the above mentioned cities. Sofia was not considered to be suitable to partake in the case studies due to the difference in social and economic factors, as compared to the rest of the country, and population numbers, far exceeding other big towns. These particular schools were chosen after numerous attempts to contact different schools in Plovdiv. It should be mentioned in the beginning that an obstacle to more detailed examination on the research subjects was posed by external examination of fourth grade students at the time the research was done. This obstacle could not be overcome because of the two-week long school holidays before the time research was actually done. Research on later date was not possible either, because after 24th of May (bank holiday – the Day of Slavonic writing) fourth grade children were finishing their studies and principals were not inclined the research to be executed in this period. Therefore the only opportunity for conducting the research was in the fourth week of May.

The first step in the analysis was to define and compare factors or variables that, if not similar or equal, will affect negatively the final conclusions. This means that the goal of the analysis was to distinguish only one factor that differs between schools, viz. the educational materials, used by teachers. Interviews with teachers were held to receive information about those variables. Additionally, on-site research visits made possible some observations of the school environment. The chosen schools are Georgi Benkovski Elementary School and Petko Slaveikov Primary School. The variables and their 'values' are the following:

Environmental education taught in the fourth grade is part of ME, MEE, FEE. The textbook developed by Borrowed Nature and Ecology 21 "The world around us" is designed for MEE and it is applicable for FEE as well (Penin *et. al* 2007). EE in Georgi Benkovski School, where this textbook is used, is conducted in *MEE* for *one session a week*. EE in Petko Slaveikov School is conducted by the use of another textbook, developed by experts from the state educational system, in *MEE* for *two sessions a week*. The difference in these factors is the doubled time for studying the subject in the latter school. After review of the test results the influence of this factor will be discussed.

A second variable that is considered to have similar values is teachers' length of service. Mrs. Ivanova from Georgi Benkovski School (changed names by request of the teachers) has been teaching for 16 years in primary grades including environmental and social subjects. Mrs. Dimitrova from Petko Slaveikov has been teaching such subjects for 17 years such subjects. It should be borne in mind that it is common practice in primary grades one teacher to deliver all subjects in the programme and rarely do teachers on specific subjects take any classes. The results of the interview show that both teachers' experience is almost equal. None of them has received in-service training on EE so far. As a result, we can omit teachers' length of service as having impact on the final conclusion.

A third variable for comparison is the number of students in class. It is chosen because depending on the number of students, different levels of success in teaching can be achieved. The class of Mrs. Ivanova had sixteen children and the class of Mrs. Dimitrova - twenty. A difference of four children will not be considered significant and will be neglected in terms of influencing the final conclusions.

A fourth variable, examined in both schools, is the material and technical equipment. It was selected for comparison because it affects in-class activities by ensuring good educational environment and opportunities for education based on modern technologies. The on-site visits helped in finding about this variable. Both school buildings were well maintained, painted and clean. The equipment, e.g. desks and chairs, blackboards in both schools were in similar condition. No computers or multimedia were seen in either of the classrooms. Therefore, we can say that both schools are similarly equipped and this should not affect the final conclusions.

A fifth variable with great importance is students' interest. It is perceived to be a factor that affects educational processes. Mrs. Ivanova claims that her students "are extremely curious … display independence, creativity". The same assertion is given by Mrs. Dimitrova,

"children are very much interested in this subject". Hence, we will not take into account this factor as influential for the final conclusion.

Finally, the last variable that was initially set to be different between both schools is the educational materials for EE classes. The national legislation on educational textbooks (MoES 2003) imposes certain requirements for the content of the textbooks, but there are no requirements about the exact topics, their number and sequence. The textbook, developed by Borrowed Nature and Ecology21 "The world around us" is used in Georgi Benkovski and teachers in Petko Slaveikov School use other materials (Man and Nature 2005) developed by experts from the state educational system. Both sets of materials have been elaborated in line with the Common State Educational Requirements for educational content (MoES 2003). Both are to build up students' knowledge received in the ME, to develop additional knowledge and skills in conformity with the age abilities for perception of the educational content, to establish intra- and inter-relations with topics and subjects in the fourth grade curriculum. The authors' approach in the textbook "The world around us" is to include sustainable development issues by emphasizing on "ideas and practices leading to sustainable consumption and production" through "practical activities, participation in research, experiments, experiences in the environment and dialogue" (TIME). Additionally, the authors pay attention to issues like poverty and war, which are connected in one way or another to environmental issues. The other textbook also includes sustainable development issues. Though it seems that the emphasis is on "attitudes for environmental protection …deeper understanding and assimilation and their practical implementation" (Man and Nature …..). Taking into account the above information, it can be said that both textbooks comply with the national standards, but the approaches for delivery of EE and the revealed topics are different. The former strives to include more practical education with individual, student driven cognition approaches with partial focus on change of the personal behaviour, whereas the latter aims to deepen students knowledge and understanding mostly on environment and its protection mainly through experiments. Generally, the ENGOs developed textbook can be defined as an SDE oriented one with links between environmental, economic and social issues, whereas the second text book – more as oriented towards the links between environmental issues and human impact and environmental responsibilities.

The questionnaire developed for students in fourth grade has contained 24 questions that were figuratively grouped into questions of knowledge, awareness and of attitude-participation. According to the Common State Educational Requirements for primary educational level students have to "receive basic knowledge about objects and processes in

nature and about human beings and their health" (MoES 2000). Therefore more than 50 % of the questions sought demonstration of knowledge. The MEE also "ensures additional education within the cultural – educational areas" (MoES 1999). Thus MEE ensures both building up on the ME and the development of additional qualities. Thus, the questionnaire included some questions to reveal what awareness children have developed during their mandatory elective environmental education. Students' participation is not embedded in the state educational format, but it was interesting to test whether children at the age of 10-11 have changed their behaviour or are making decisions that could affect their school, neighborhood or society. That is why three questions on attitude and behaviour were included in the test.

The results in Georgi Benkovski School show that about 88% of the students have given correct answers to the "knowledge questions". "Awareness questions" received slightly lower scores – about 80%. Finally, "attitude-participation questions" correct answer rates were at about 68%. Results of students from Petko Slaveikov School are: 85% right answers to 'knowledge questions', 65% for 'awareness questions' and only 60% for 'attitude-participation questions'. Results in testing students' knowledge are with minimum variation of 3 % between the schools. Awareness in fourth grade students from Petko Slaveikov School is 15% less than in Georgi Benkovski School and the right answers to attitude-participation questions in students from the former school are 8% lower than the latter school. Hence, both schools have achieved almost the same level of knowledge in their students, but G.Benkovski outcompetes P. Slaveikov in awareness rising. The results of attitude-participation questions cannot be compared because one of the textbooks targets developing this quality and the other does not. Finally, it should be taken into account that the time allocated to EE in G.Benkovski School is twice less than in P. Slaveikov School. Thus, when the test results in the former school are equalized to those in the latter in terms of devoted time for education, Georgi Benkovski school results are far better for each of the categories.

Another analysis could be made on the basis of achieved results for each category in the respective schools. Knowledge and awareness results show very high level of achievement if we assume that each category is set to achieve 100% results. Analysis of the attitude-participation category as a single category in the case of ENGOs developed textbook is possible to make, because authors set a target to increase students' participation through changing their consumer attitudes. Therefore, 68% correct answers is not a very high achievement. In conclusion, results show good achievement of knowledge, attitudes, but lower than expected attitude-behaviour qualities acquisition.

The results in P. Slaveikov School also display high level of accomplished knowledge. The results in the awareness category were low (68%) for a quality which is targeted to be developed in students. It is surprising that attitude-participation questions have very similar level of right answers in this school compared to G. Benkovski despite that the textbook wasn't intended to achieve change in students' behaviour. In summary, awareness results are low and surprisingly those for attitude-participation are fairly good as a quality which is not envisaged to be developed by the authors of the second textbook. The reason for this unexpected result is the teacher's personal contribution.

If we analyse the contribution of both textbooks according to the test results in the separate categories, it can be claimed that ENGOs textbook developed knowledge and awareness in students at similarly high levels. The other textbook failed to develop awareness in students compared to the ENGOs educational material. Comparison between both textbooks will not be done for attitude-participation category because the ENGOs developed textbook included accomplishment of such qualities in its goals and the other textbook didn't. Thus, the ENGOs developed textbook is more beneficial to environmental knowledge and awareness raising in students from fourth grade award goes to the textbook, developed by experts in the educational system.

Another important moment was revealed as a result of the test. The teachers' own contribution in terms of development of qualities that are not preliminary set in the used textbooks seems to be very influential factor. A fact that is supported by the test results of attitude-participation category in the P. Slaveikov School. It should be recognised that teachers' roles are quite important alongside with the used educational materials. This finding supports previous debates on the variety of teachers' motivation and initiative approaches, from very motivated to extremely disinterested. Finally, the ENGOs textbook contribution can be acknowledged based on the test results. Also, teachers' contribution proved to be an additional factor of importance to environmental qualities achievement.

7. Conclusion

The aim of the research was to give an account about NGOs contribution to the EE in primary grades. This was achieved through analysis of the weaknesses and strengths of EE in schools, through finding the most frequently performed activities by ENGOs for EE in primary grades and through identification of the educational elements they cover. Analysis of factors with influence on ENGOs choice to execute certain activity and on their sustainability was done as well. Finally, a comparison between ENGO develop EE material and state experts material was done in order to prove that the former is more beneficial for EE in primary grades. As a result the following findings were made:

1. **With regards to EE system in schools**: The MoES conservatism, reluctance for establishment of partnerships with other interested parties and cumbersome procedures were undisputedly acknowledged as one of the greatest weaknesses by all ENGOs, whenever assistance is needed or partnership initiatives have to be established. A big weakness was concluded to be the lack of national policies on these issues. The MoES hasn't developed any policy for improvement of teachers' qualification on EE and monitoring of the results. Out-of-class activities were found not to be regulated under any legislative act yet. It was found that the legal act for educational materials does not provide any guidance on the exact topics, their number and consequences, otherwise, if regulated, equal quality of EE could be achieved. Specific weaknesses, outlined during analysis of ENGOs assertions and documents revision, were the poor qualification and low motivation of teachers, the lack of out-of-class, out-of-school activities and insufficiency of educational materials. National programmes for some of these weaknesses were found to be developed by MoES but at the same time very low positive response on their outcomes was given by the respondents. Finally, the MoES undertook some initiatives for partnership with MoEW in the form of Memorandum for Cooperation on EE with MoEW that is not adhered to. The dialogue with ENGOs is ascertained to be more productive on regional than on national level.

   EE strengths were fewer than the weaknesses. Teachers, who are motivated, interested and knowledgeable, were regarded to be the biggest strength of the educational system. But it was discovered that teachers and schools in Sofia do not fall into this category. All other raised strengths proved to be only preconditions, on paper, that are not operational or efficient in practice.

2. **With regards to the ENGOs contribution**: It was found that ENGOs contribution to EE in primary schools is mostly in the form of extra-curricular activities. The main reasons for their preference proved to be some of the weaknesses in the educational system like the bad communication with the MoES or teachers with no motivation. However, reasons like opportunities for more freedom of action and more creativity were equally leading for their choice as well.

The most frequently performed activities by ENGOs were found to be activities out-of-school in the form of trips to natural sites, visits to museums, animals centres and green schools. The compiling of a Manual for Green Schools is perceived to be very valuable in situations, where regulations and guidelines for this type of education are absent. Thus ENGOs contributed by filling one of the gaps in the EE, viz. education *in* the environment but at the same time this contribution is found to be mostly in the form of single-time initiatives or being a responsive, passive contribution.

Interactive exhibitions that give an opportunity for implementation in or out of class are found to be much favoured by ENGOs. Their contribution is expressed by ensuring educational tools which schools don't have; they provide opportunities for teaching in different environments and they ensure interactive education. Also, they can be entirely managed by teachers to increase their wide geographical coverage and, in turn, increases the extent of ENGOs contribution.

Lectures on specific topics are deemed to be beneficial for the EE in primary grades. Lectures were predominantly school initiative, but despite that the benefit for the EE is the provided information on topics, where poorly qualified teachers were not as competent.

It was ascertained that ENGOs contributed for tackling the biggest weakness of the EE, namely the poor teachers' qualification. It was found that organisations with predominant environmental education profile have had the biggest input for this activity. Trainings were beneficial because they firstly strived to achieve change in adults perceptions, then to provide them with knowledge on contemporary methodologies for EE and, finally, to deliver environmental content, a strategy that ensures thorough training of teachers for adequate EE in primary grades. It was found that those trainings were related to educational materials the same ENGOs have developed, therefore, they did not have national coverage, neither did they possess sustainability in terms of monitoring the outcomes of the trainings.

Finally, ENGOs' contributed by developing educational materials, something that is an acknowledged weakness. ENGOs materials on specific topics assisted teachers for more in-depth review of environmental problems in class. ENGOs also elaborated materials, which were adopted by the MoES for use within the curriculum in MEE or FEE. This can be regarded as a big achievement in a situation, where the MoES is reluctant to cooperate with the non-governmental sector. Those materials contribution will be discussed later in the case study example.

3. **With regards to influential factors to ENGOs activities implementation and sustainability**: Factors that proved to influence ENGOs activities for enhancing their efficiency could be formally divided into external and internal ones. The most influential external factor turned out to be the MoES. Its influence was assessed to be very negative by all respondent ENGOs due to its unwillingness for cooperation with other stakeholders, cumbersome procedures and conservatism, but it was also found to be the main negative reason for preference on extra-curricular contribution by ENGOs. Teachers or schools, which were not motivated to develop EE in primary grades through partnerships, were found to be another obstacle to ENGOs contribution for wider coverage. More external factors that affected project implementation were found to be students' interest and teachers' computer literacy and multimedia knowledge. Teachers' knowledge of ICTs was discovered to vary from a factor with very positive to very negative impact. Students' interest was defined to be with very positive influence on ENGOs contribution to EE in primary grades because all respondents pointed out children were extremely interested in EE. Additionally, an external factor that was found to have influence were donors of ENGOs projects. Donors affected ENGOs contribution through availability of funding and requirements about the type of project activities. Internal factors also influenced the success of the activities and the possibility for their repetition or increase of area coverage. The legal nature of the environmental organisations turned out to be a factor that checked increase of their sustainability for repetition of some activities like re-publishing of educational materials. Then the variety on issues ENGOs have worked on proved to decrease the financial and human resources that could be allocated to EE and the lack of narrow specialist has had negative influence of ENGOs contribution as well. Thirdly, the joint actions of ENGOs for EE in primary grades and in schools decreased due to the emergence of urgent environmental problems, which necessitated allocation of resources into this direction.

4. **With regards to assertion of better achievements in primary EE by the use of ENGOs educational material than material developed by state experts**: It was found, after analysis of fourth grade students written tests, that the former material is more beneficial for increasing of children's knowledge and awareness than the latter. Also, the results of the analysis showed that the set target of changing children's consumer behaviour was not achieved but comparison was not possible to make, because the second set of material did not have such objectives. Unexpectedly, it was found that the students in the latter school showed acquirement of attitude-participation qualities. Given this fact, conclusion about the teachers' importance as direct authority can be made, but it also emphasised the importance of teachers' trainings for achievement of similar level in EE teaching.

Finally the research findings can be beneficial for interested parties, who work on EE in primary grades in Bulgaria. The analysis of the weaknesses in the educational system will allow those, who envisage contributing to primary EE, to target exactly those weaknesses. Furthermore, the analysis of the strengths will give them a clue on what elements they can rely on. The analysis of the current ENGOs contribution to EE in primary grades gives an idea where improvements can be made for accomplishment of more efficient results and also gives explanation why in some cases the ENGOs contribution cannot be increased. The recommendations at the end of the paper could serve as a starting point for joint cooperation between the governmental and the non-governmental sector on EE, as well as guidelines for activities that can enhance their contribution.

8. Recommendations

Having in mind the previous discussions on the strengths and weaknesses in EE, on ENGOs contribution and on the factors affecting the achievement of sustainable outcomes, in this chapter, some steps that could improve the present situation in primary grades EE in Bulgaria will be proposed. Firstly, suggestions for policy measures are made due to the author's perception that such measures should be prioritized, if implementation of the listed recommendations is to be taken into account. Then some measures, which target ENGOs exclusively, are proposed.

1. Establishment of National Consultative Council on Environmental Education (NCCEE).

The NCCEE was envisaged to be established in 2005 but was not successful. The consultative body should include experts from:

- Ministry of Education and Science
- Ministry of Environment and Water
- Associations of School Teachers
- Academia
- ENGOs

Type of weakness tackled

- The lack of dialogue between interested parties, working on primary EE;
- Passive governmental attitude towards EE;
- Lack of monitoring and sustainable activities for EE.

The establishment of a Consultative Council might be found difficult but it has the highest priority among all other proposed actions due to the inclusion of ENGOs representatives, who will foster the work of the consultative body towards active development of necessary policies and compliance with contemporary international tendencies in the EE realm.

2. Election of ENGOs representative in NCCEE

Experts from the environmental non-governmental sector should be elected by the Internet Platform "Civil E-Delegation", managed by BlueLink Information Network. The platform is common means, through which experts from ENGOs are elected for participation in different commissions, working groups, expert councils to the MoEW and

interdepartmental bodies. The platform ensures that the election procedure is open for organisations to propose whichever candidate they deem relevant and also ensures transparency of the selected ENGOs representative.

Representative should be obliged to inform in advance the ENGO community through BlueLink about the issues that are going to be debated during the NCCEE meetings and, respectively, should report the outcomes of the meetings. In this way, there will be opportunity for those interested to make their input before consultative body meetings. This procedure secures transparency and possibility for coordination between interested ENGOs.

Type of weakness tackled

- Transparency in the work of the ENGOs representative and, respectively, transparency of the authorities;
- Lack of participation of ENGOs in the EE policy of MoES and MoEW.

3. Development of Action Plan on primary EE

The elaboration of an Action Plan on EE should be the responsibility of the NCCEE. Specific goals, activities and deadlines should be set in the plan. The Action plan should include:

a. *Improvements in teachers' qualification for EE* – National Programme for Qualification of Teachers for EE. The programme should deal with pre- and in-service trainings of teachers and should monitor and analyse the outcomes of the trainings.

Type of weaknesses tackled

- Poor qualification of teachers for EE in primary grades
- Lack of supervision on already conducted trainings

b. Elaboration of Out-of-Class and Out-of-School Activities Regulation - This legislative act will have to define exact requirements for organisation of such activities. EE counts at greatly on education *in* the environment, especially in primary grades, therefore, one of the chapters of the regulation should focus on out-of class/school EE activities. NCCEE will have to be actively involved in the elaboration process. Also, special attention during the elaboration of the act should be paid to the administrative process for organization of out-of-school activities in order to ease the process.

Type of weakness tackled

- Lack of unified approach for organisation of out-of-class activities, e.g. green schools.

c. *Elaboration of requirements for the content of the supplementary educational materials* – requirements for the exact topics included in the educational materials, their number and sequence should be developed.

Type of weaknesses tackled

- Lack of requirements about the exact content, number of topics and their sequence for the supplementary materials in MEE and FEE for primary EE
- Different levels and qualities obtained by students in primary grades within lessons on EE

c. *Funding opportunities* – there should be clearly stated intentions for search of national and international funding opportunities.

Type of weakness tackled

- Sustainability of implemented actions in the primary EE, e.g. re-publishing of educational materials.

d. *Establishment of a hub about EE*, i.e. a web site for exchange of information, good practices, e-lessons, database of ENGOs working on EE, including for primary grades, and links to other useful web sites is necessary to be developed under the auspices of NCCEE. The already existing web site www.ekoobrazovanie.net can serve this role. It should be maintained by the MoES. MoES, MoEW and teachers associations' web pages should put links on their web sites to this hub.

Type of weaknesses tackled

- Insufficient information about educational materials, activities; ENGOs with capacity to assist schools for EE in primary grades
- Lack of freely accessible e-lessons on environmental and sustainable development topics for primary grades

Except of the general policy recommendations, emphasis should be put on certain aspects in the work of ENGOs to contribute for the primary EE. These are:

- ENGOs should work intensively on the development of the interactive exhibitions approach for EE in primary grades and on the wide dissemination of this product. Plays that are performed by the students are another approach that is favoured in the educational literature and by interviewed teachers and that needs more development. This could be achieved by the

funding of new projects, which is stipulated as one of the goals of the Action Plan or by the Communication Strategy of Sustainable Development Strategies of Bulgaria;

- ENGOs should strive to work more on community projects or at least on in/out-of-school activities with the active participation of parents. The analysis showed that parents are not interested in EE of their children, nor do the ENGOs develop any activities with their participation, a situation that can be changed by the suggestion above;

- ENGOs, through the NCCEE, should focus on primary EE in schools from Sofia, a city that is sidelined by reasons, stemming out from schools and from ENGOs. This activity should not be neglected because of the considerable number of students, who are not affected by ENGOs activities for EE.

- ENGOs, if possible for acceptance by donors, should develop projects where a place for monitoring of the outcomes should be put. Thus, sustainability of the results will be observed.

The present list of recommendations is not exhaustive. Moreover, it is a preliminary set of joint actions that are found to be most necessary for initial implementation. They are supposed to cover problems or weaknesses by long term planning with clearly stated goals and actions. At the same time, the proposed national consultative structures are flexible to meet any new problems or to embrace in a timely and efficient manner novelties in the environmental education sphere. Proposed regulations will ensure equal quality of EE on a national level and the specific steps towards ENGOs are hoped to improve their contribution.

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Appendix I

Questionnaire to ENGOs in Bulgaria.

SECTION A. GENERAL INFORMATION

The contact data and answers to the questionnaire will be used only for research purposes and will not be disclosed to third parties without preliminary respondent's approval.

1. Name of the organization

.....

2. Contacts:

Address

.....

Contact person

.....

Telephone/fax

.....

E-mail:

.....

3. Year of establishment

.....

4. Number of employees

.....

5. Has your ENGO contributed to primary schools environmental education?

□ YES □ NO

If your answer is positive, what was your contribution? *(please underline the relevant answer)*

a. through activities within the curriculum
b. through activities outside the curriculum

Note: If you have underlined **Option a.,** please answer Questions 6 to 8.

If you have underlined **Option b.,** please answer only Question 6 and 9.

6. Activities/Materials developed in contribution solely to primary school environmental curriculum. *(Please list up to 5 projects. If you have implemented more than 5, consider the five most recent)*

Project Title	**Year**	**Donor** (if any)	**Partners** (if any)	**Beneficiary** (school #, town)	**Activity** (materials, teacher training, joint lessons, etc.)
1.					
2.					
3.					
4.					
5.					

7. Have you continued working with the schools mentioned in the previous question after project/s completion? If yes, which are the schools you are working with in the present educational year (2007/2008)?

□ YES □ NO

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.....
.....
.....
.....
.....

8. Do you know whether there are other schools in the country implementing your materials? If yes, please list up to 5 with names and/or number of the school and city.

□ YES □ NO

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.....

Note: To be filled in only by ENGOs having contribution outside of the school curriculum

9. What factors led to your decision in developing materials/organizing activities out of the school curriculum? (e.g. less coordination with stakeholders was needed; cumbersome process for approval of the developed materials by governmental bodies; time-consuming process for training teachers in implementing the materials; our area of expertise cover specific issues, not the broad school curriculum; etc.)

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SECTION B. STATE OF THE BULGARIAN EDUCATIONAL SYSTEM IN SCHOOLS – STRENGTHS AND WEAKNESSES

Such as legislative documents, budgets, information and communication technologies (ICTs), etc

1. What are the strengths of the educational system in general according to you? Are there any specific strengths in primary schools environmental education? *(please list as many as you feel appropriate)*

- .....
- .....
- .....
- .....
- .....
- .....

2. What are the weaknesses of the educational system in general according to you? Are there any specific weaknesses in primary schools environmental education? *(please list as many as you feel appropriate)*

- .....
- .....
- .....
- .....
- .....

SECTION C. FACTORS INFLUENCING THE NGOs SUCCESS IN THEIR CONTRIBUTION TO THE STATE ENVIRONMENTAL EDUCATION

NB: To be filled in only by ENGOs having contribution within the school curriculum

1. A. Underline the relevant degree of influence that the factors listed below have had at each project stage. *(where **0** – I don't know, **1** – was not influential, **2** - had small influence, **3** – had moderate influence, **4** - had strong influence, **5** – had very strong influence)*

Factor	Influence		
	Materials/activities elaboration	Approval processes	Implementation
a. Principal's readiness for cooperation	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
b. Material and technical equipment of the school	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
c. School budget	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
d. Teachers knowledge about ICT	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
e. Teachers' length of service	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
f. Parents interest and support	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
g. Students interest	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
h. Other (please specify)	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5

1. B. Please assess each factor degree of influence in regards to your project/s implementation by underlining it.

a. How do you assess principal's readiness for cooperation? *(please underline the relevant answer: 1- very poor, 2 –poor, 3- somewhat poor, 4 – neither poor not high, 5- somewhat high, 6 –high, 7- very high)*

□ **1** □ **2** □ **3** □ **4** □ **5** □ **6** □ **7**

b. How do you assess school/s' material and technical equipment? *(please underline the relevant asnwer:1 – very inadequate, 2 –inadequate, 3 – somewhat inadequate, 4 – neither adequate not inadequate, 5 – somewhat adequate, 6 –adequate, 7 – very adequate)*

□ **1** □ **2** □ **3** □ **4** □ **5** □ **6** □ **7**

c. How do you assess the school budget? *(please underline the relevant answer: 1 – very inadequate, 2 –inadequate, 3 – somewhat inadequate, 4 – neither inadequate not adequate, 5 – somewhat adequate, 6 –adequate, 7 – very adequate)*

□ **1** □ **2** □ **3** □ **4** □ **5** □ **6** □ **7**

d. How do you assess teachers' knowledge about ICT? *(please underline the relevant answer: 1 – very poor, 2 –poor, 3 – somewhat poor, 4 – neither poor nor high, 5 – somewhat high, 6 –high, 7 – very high)*

□ **1** □ **2** □ **3** □ **4** □ **5** □ **6** □ **7**

e. How do you assess teachers' experience/length of service? *(please underline the relevant answer 1 – very insufficient, 2 –insufficient, 3 – somewhat insufficient, 4 – sneither insufficient not suficient, 5 – somewhat sufficient, 6 –sufficient, 7 – completely sufficient)*

□ **1** □ **2** □ **3** □ **4** □ **5** □ **6** □ **7**

f. How do you assess parents' interest and support? *(please underline the relevant answer: 1 – very poor, 2 –poor, 3 – somewhat poor, 4 – neither poor nor high, 5 – somewhat high, 6 –high, 7 – very high)*

□ **1** □ **2** □ **3** □ **4** □ **5** □ **6** □ **7**

g. How do you assess students' interest? *(please underline the relevant answer: 1 – very poor, 2 –poor, 3 – somewhat poor, 4 – neither poor nor high, 5 – somewhat high, 6 –high, 7 – very high)*

□ **1** □ **2** □ **3** □ **4** □ **5** □ **6** □ **7**

h. Other factors *(please specify and assess)*

……...

□ **1** □ **2** □ **3** □ **4** □ **5** □ **6** □ **7**

2. Have the institutional factors listed below affected the realization of your project/s?
a. Ministry of Education and Science (MoES)

□ YES □ NO

If your answer is positive, please clarify in what way MoES affected your project/s.

……...

……
……
……

b. Ministry of Environment and Water (MoEW)

□ YES □ NO

If your answer is positive, please clarify in what MoEW affected your project/s.

……
……
……
……

c. Regional Inspectorate for Education (RIE)

□ YES □ NO

If your answer is positive, please clarify in what way RIE affected your project/s.

……
……
……
……

d. Municipality

□ YES □ NO

If your answer is positive, please clarify in what way the municipal government affected your project/s.

……
……
……
……

Other institutional factors

……
……
……
……

3. Please feel free to comment, to express ideas, attitudes and views that you think would help expand understanding about the challenges (i.e. barriers) and opportunities of implementing environmental education in Bulgaria.

……
……
……

Appendix II

Test for assessment of fourth grade students qualities in result of EE classes.

1. **Which materials we HAVE to throw in the recycle bins (yellow, green and blue bins)?**

1. a fruit jar 2. pizza leftovers 3. a nylon bag 4. newspaper
5. a tin 6. a battery 7. vacuum cleaner waste
8. old clothes 9. broken tiles from the bathroom
10. out-of-order mobile phone

2. **Why do we recycle and reuse?**

……...
……...
……...
……...
……...

3. **Which of the definitions below refer to <u>recycling</u> and <u>reuse</u>?**

- the package is cleaned and is used again - .....

- the package is processed and is used for production of new package or product - .....

4. **How we do NOT make environmentally-friendly shopping?**

1. when we carry a bag from home
2. when we buy more than we need
3. when we walk to the near shop
4. when we buy products with less packaging

5. **You have decided to prepare on your own the lunch for the school one-day trip. Which of the options below will you choose?**

1. Sandwich in nylon bag, boxed juice and waffle;
2. Sandwich in nylon bag, plastic bottle juice and friut;
3. Sandwich in plastic box, glass bottle juice and fruit.

Why did you choose this option?

……...
……...
……...
……...
……...

6. **Cookies production causes pollution of the environment. Which do you think is the best option for decrease of the pollution and why?**

1. I will place clarifying devices in the factory
2. I will check other existing options for less polluting or non-polluting production and I will use them
3. I will follow all stages where I can reduce the pollution - from production to use and disposal of the product and its package
4. This is not my responsibility. The government should take care of the pollution.

……...
……...
……...
……...
……...

7. **Why do we plant trees? How are they useful for people and nature?**

……
……
……
……
……

8. **Organisms in nature are connected between each other with food-chains. Put the numbers below the picture in the brackets to build a food-chain.**

1 **2** **3** **4** **5**

( ) → **( )** → **( )** → **( )** → **( )**

What will happen if the frog disappears?

……...
……...
……...
……...
……...
……...

9. Why bears live in woods and not in plains? What determines where bears will live?

1. water from the river
2. the food that bears eat
3. the clean air
4. the calmness of the wood
5. the shelter that bears find

10. Circle the places which are specially designated for plants and animals' protection.

1. national park
2. botany garden
3. dolphin entertainment venue
4. reserve
5. zoo

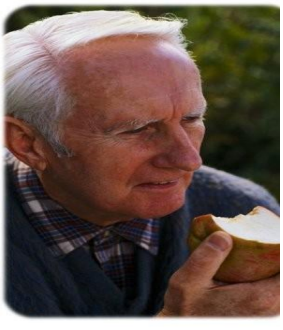
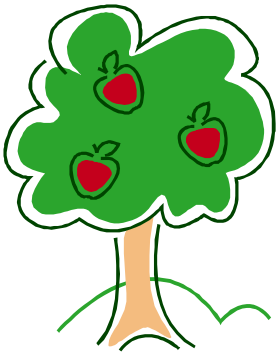
11. Bulgaria'a Red Book includes plants and animals that are vulnerable, threatened or lost from our country. How do we threaten our flora and fauna?

……
……
……
……
……
……

12. Which animals should be protected?

1. those that are small
2. those that we like
3. those that are few in numbers
4. those that are rare
5. those that gave birth to one baby or lay one egg

13. Those four pictures represent the path from polluter to humans. Arrange them in the right order by putting numbers below them indicating the consequence of the process.


…… …….. …….. ……..

14. **People use different vehicles. List as many as you can recall. Are there any between them that are less harmful for the nature? Which?**

……...
……...…
……...…
……...…
……...…
……...

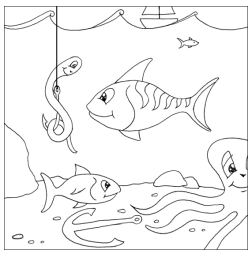
15. **Please advice your fellow-citizens what type of transportation to use? Provide reasoning for your advice?**

……...
……...…
……...…
……...…
……...…
……...

16. **Is it possible pollution from Bulgaria to reach our neighboring countries like Greece, Turkey, Romania or Serbia? How is it possible?**

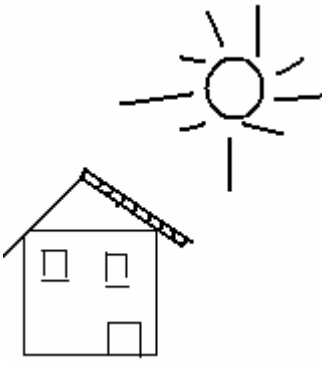
……...
……...…
……...…
……...…
……...…
……...

17. **Connect the pictures with the most suitable type of "clean energy" that can be produced on those places?**

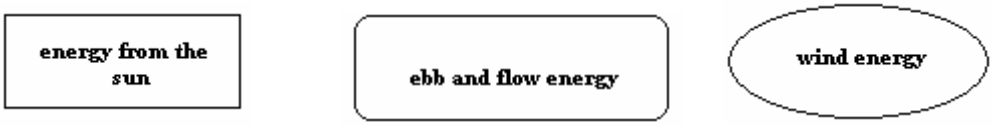


sea

hill



houses in the plain



18. The energy from non-renewable resources causes serious problems in the nature. The clean energy production causes some problems in the nature as well. Connect the environmental problems with the type of energy resources.

Energy form non-renewable resources (coal, oil)	**Energy from renewable and non-exhaustible resources (wind, plants)**

Air pollution

Threat for migratory birds

Big agricultural lands are taken

Soil contamination

A lot of waste is generated during the resources processing

19. How we can reduce electricity, water and heat consumption at our homes?

……...
……...…
……...…
……...…
……...…
……...

20. How detergents can NOT harm us?

1. when we inhale dangerous vapour from them
2. when we take them through the mouth
3. when we read the manual
4. when they are in contact with our skin

21. Detergents can be replaced by natural products harmless to nature and our health. Circle those products that you consider as harmless replacements of detergents.

1. vegetable oil	2. cheese	3. vinegar	4. lemon
5. sugar	6. brandy	7. salt	8. black pepper
9. baking soda	10. vanilla powder		

22. Circle the device or the mean for cleaning from the given pairs that you consider as more environmentally-friendly. Reason your choice.

1. vacuum cleaner
1. washing machine
1. cleaning of windows with detergent lemon juice

2. broom
2. manual dishes cleaning
2. cleaning of windows with water and

……...
……...…
……...…
……...…
……...…
……...

23. There are four articles. Who is responsible for air pollution reduction in each of the articles?

1. A World Summit in Rio De Janeiro took place in 1992. Representatives of countries around the world participated in the meeting. They signed a document, Kyoto Protocol, which aims at reduction of greenhouse gases.

2. The Bulgarian Air Protection Act aims at protection of present and future generations' health, animals and plants, their formations and habitats, nature and culture from harmful influences, as well as to prevent dangers and damages that are result of air quality changes from different activities.

3. The car producer Toyota sold recently its millionth Prius car. This model is famous for its low emissions and low fuel consumption. It is the favourite model to many Hollywood stars such as Leonardo Di Caprio and Cameran Dias.

4. More and more citizens prefer to walk, cycle or to use the public transport. It is healthy and they contribute to air pollution reduction.

1.....
2.....
3.....
4.....

24. Circle those organizations or institutions that do NOT protect the environment.

1. Ministry of Environment and Water
2. Rila National Park
3. Ministry of Education
4. World Wild Fund
5. Bulgarian Chamber of Commerce and Industry

Appendix III

Personal Communication

Asenova. Assistant in Sofia University Biology Facilty. Email communication. 15 June 2008.

Barouh, M. Expert in the Ministry of Environment and Water, Strategy, EU Integration and International Cooperation Directorate. Interview. 6 June 2008.

Expert from Badeshte sega. Questionnaire and interview. 10 June 2008.

Expert from Borrowed Nature. Questionnaire and interview. 11 June 2008.

Expert from Bulgarian Biodiversity Foundation (BBF). Questionnaire and interview. 27 May 2008.

Expert from Centre for Education, Culture and Ecology 21 (Eclogy 21). Questionnaire. 29 May 2008.

Expert from Centre for Environmental Information and Education (CEIE). Questionnaire and interview. 3 June 2008.

Expert from CVS. Questionnaire. 5 June 2008.

Expert from Ecomission 21. Questionnaire. 7 June 2008.

Expert from EkoObshtnost. Questionnaire and interview. 4 June 2008.

Expert from Green Balkans. Questionnaire and interview. 12 June 2008.

Expert from the Regional Educational Inspectorate. Email communication. 29 May 2008.

Expert from the Regional Environmental Center for Central and Eastern Europe – Bulgaria. Questionnaire. 16 June 2008.

Expert from TIME Ecoprojects Foundation. Questionnaire and interview. 13 June 2008

Ivanova. Teacher in Georgi Benkovski School in Plovdiv. Interview. 20 May 2008.

Petrova. Teacher in Petko Slaveikov School in Plovdiv. Interview. 21 May 2008.

Dimitrova. Teacher in Petko Slaveikov School in Plovdiv. Interview. 21 May 2008

Valova, V. expert in Open Education Centre. Telephone communication . 3 June 2008.