Environmental Education and Management: Exclusive, Inclusive, and Indigenous Doctrines

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Abstract. Environmental education of the population is an important part of environmental management. Environmental education is necessary not only for entities directly involved in the processes of nature protection (environmental performance) and in processes harmful to nature (use and processing of resources and waste management of industrial technical and agricultural production and domestic consumption of production products). It is necessary for all people, including as subjects included in different types of relationships and in various systems as direct participants in environmental protection measures and / or victims of natural disasters, as stakeholders and as representatives of indigenous cultures, etc. In Russia an exclusive doctrine has been established nature conservation: the leading role was played by states that determine the forms of protection and exploitation of natural resources, the development and compliance with environmental standards, and the requirements for environmental education of the population. Other model is in addition to the system of national parks and other protected areas, indigenous community protected areas are formed and developed. Thus, not only the doctrine of an isolating type (care of nature is the concern of the state, not of man) is popular here, but also the indigenous, participatory doctrine ("live on your land - study it and take care of it"). This model assumes a systemic, multi-level and multi-component interaction of subjects of various types, relatively clearer than in the first case, ideas about personal, group and organizational responsibility in the field of nature protection. In the intermediate phase of the transition from one doctrine to another, there is an inclusive model. The basic principle is everyone cares about everything. In this case, the search for productive
and effective management systems and the development of the ecological culture of individuals, groups and organizations is usually observed.

1. Introduction
Environmental education is necessary not only for entities directly involved in environmental protection processes (environmental protection activities) and in processes harmful to nature (use and processing of resources and disposal of industrial technical and agricultural production wastes and domestic consumption of production products). It is necessary for all people, including as entities included in different types of relationships and in various systems as direct participants in environmental protection measures and / or victims of natural disasters, as stakeholders and as representatives of indigenous cultures, etc. In Russia and the countries of the former USSR, as well as the countries of the socialist camp, the exclusive doctrine of nature protection has been established: the leading role was played and played by states that determine the forms of protection and exploitation of natural resources (including the formation and development of nature reserves and other protected areas), the development and compliance with environmental standards, requirements for environmental education of the population. The state requires the population, individuals, groups and organizations to comply with a number of standards, many of which, however, remain not only impracticable, but also unknown to subjects: the state is not able to keep track not only of all the "users" of natural resources, but also of all aspects, important in order to be able to talk about environmental culture. Abroad, in contrast to the countries of the former USSR, a different doctrine has developed. So, in addition to the system of national parks and other protected areas, indigenous community protected areas are formed and developed. Thus, not only the doctrine of an isolating type (care of nature is the concern of the state, not of man) is popular here, but also the indigenous, participatory doctrine ("live on your land - study it and take care of it"). This model assumes systemic, multi-level and multi-component interaction of subjects of various types, relatively clearer than in the first case, ideas about personal, group and organizational responsibility in the field of nature protection. In the intermediate phase of the transition from one doctrine to another, there is an inclusive model. The basic principle of this pseudo-democratic model is as follows: everyone cares about everything. In this case, the search for productive and effective management systems and the development of the ecological culture of individuals, groups and organizations is usually observed. Violations within the framework of this doctrine illustrate well the problems existing in the relationship of the "green movement" and other environmental and environmental organizations ("green parties", etc.) with another population.

2. Formatting the title, authors and affiliations
Modern environmental doctrines and organizations are moving in the direction of systematizing:

1) the basic principles and values of environmental activity, which include, in particular, the "pillars" of peace and non-violence, justice and social responsibility, democracy highlighted by European and American politicians as the focus on reaching consensus and participation of the population in caring for nature in all respects and at all levels, as well as the requirements of environmental sustainability itself and caring for nature as such (anti-centralism, pacifism, ecologism). Achieving the prosperity of the environment as a whole and of individual "ecoregions" is impossible without the general harmony of the relations of people with each other and the Universe;

2) they are also moving towards the systematization of different models and areas of environmental protection, de-escalation of the conflicts and reducing the harmful effects of various types and forms of human activity. Of particular importance in the development of ecological doctrines and movements of modernity are also the models and values of “native peoples” (or indigenous, “first nations”), as well as the principles of ethics outlined in the works of M. Gandhi, Spinoza and others. The general task of protecting nature in all areas - the growth of environmental awareness and environmental culture. Care for them is seen in the framework of long-term (for example, “seven-
generation”) planning of human activity, development of foresights and models of foresight, forecasting changes in the development of civilization, as well as the formation of a multi-level and multi-aspect, including personal responsibility of each individual for their choices and actions having more or less direct relation to nature. At the global level, the Global Greens Charter offers six key principles: environmental wisdom, social justice, participatory democracy, non-violence and pacifism, concern for human rights and obligations, sustainability and harmony, respect for diversity.

The term ecology appeared in the XIX century - the outstanding biologist E. Haeckel called “the science of the domestic life of animals.” The textbooks contain more precise definitions of the twentieth century: ecology is the science of the relationship between living organisms and environmental conditions. A significant role in shaping the theoretical foundations of modern ecology was made by B. Kommoner, who formulated the basic laws of ecology: everything is connected with everything and nothing disappears into nowhere (the basis of ecological philosophy, which forms the concept of “deep ecologist” by F. Capra.; “nature knows better” (a call to get closer to nature and a call to handle natural systems with extreme caution); nothing is given for nothing. Ecology studies living conditions of living organisms and the relationship between organisms and the environment where they live [1; 2; 3]. However, they should be clarified, since at the turn of the 21st century, ecology has changed again. First, the focus of attention of modern ecologists is now more often not on specific living organisms, but on integral living systems. Secondly, not only natural systems (individual forest, lake, etc.) are studied, but also artificial ones (city, house, cage with animals), not only the habitat, but also the internal environment of organisms, in which there are numerous symbions. Thirdly, studying the cycle of substances, the ecologist considers not only their path in living organisms, but also further abiotic transformations. Therefore, the definition of this field of knowledge may sound like this: ecology is the science of living systems, their structure and the interaction of components. It is more correct also because in recent years the term “ecology” has been applied to a very wide range of phenomena: this is the political struggle for the conservation of wildlife, for animal rights, or the reduction of damage to people's health, this is both educational and propaganda activity, and assessment land values and much more. However, no matter how heterogeneous these areas of activity are, they are connected by attention to the living system [4; 5; 6].

In 1910, at the Third International Botanical Congress in Brussels, three subdivisions of ecology were identified as a complex of sciences, which studies the functional relationships between organisms (including humans and human society as a whole) and their environment, the circulation of substances and energy flows that make life possible: 1) autecology is a branch of science that studies the interaction of an individual organism or species with its environment (life cycles and behaviour as a way of adapting to the environment); 2) demeology is a branch of science that studies the interaction of populations of individuals of one species within a population and with the environment; 3) synecology is a branch of science that studies the functioning of communities and their interactions with biotic and abiotic factors. In this context there is a problem of definition of ecological education. The definition of environmental education is usually associated with the first conference on this topic, held in 1970 in Carson City (USA, Nevada). The following wording was adopted there: “Environmental education is a process of a person’s awareness of the value of the environment and clarification of the basic provisions necessary to obtain the knowledge and skills necessary to understand and recognize the mutual dependence between a person, his culture and his biophysical environment. Environmental education also includes instilling practical skills in solving problems related to interaction with the environment, developing behaviours that contribute to improving the quality of the environment. This definition includes not only the principles of environmental education, enlightenment, but also the principles of training. Environmental education is the appropriation of knowledge about environmental laws that can reduce damage to wildlife during the economic activities of people. Any person who has received a basic environmental education is able to organize their actions in such a way as to reduce or even eliminate this damage. Environmental laws are ideas that 1) all living beings are interconnected, 2) the biosphere is one for all, a person is part of the biosphere; 3) any changes in it affect the person [7; 8; 9; 10; '11].
As in many other countries, in Russia environmental protection activity began to emerge at the beginning of the 20th century. However, the fastest development of environmental education - both internationally and in Russia - occurs after the Second World War. It was at this time for the first time that the international community began to pay attention to the problems of protecting the environment due to the growing anthropogenic impact of industrialization. Purposeful environmental education originated in our country precisely in connection with the emergence of the movement of student nature protection teams. Our country, by 1972, when the First United Nations International Conference on Environmental Protection was held in Stockholm, already had extensive experience in environmental activities, including in the field of education and enlightenment.

The scientific orientation of traditional environmental education has become a definite drawback, because it moves students away from practice, from real life. At the same time, modern discussions about garbage culture directly draw attention to the importance of taking into account the actual practical aspects of environmental principles and rules, and the formation of environmental awareness.

Environmental education has also replaced and integrated environmental training. However, this is a special direction. Environmental training is an important component of environmental education. Oddly enough, its level in Soviet society was much higher than in modern Russia, where thousands of environmental organizations were created. The State Council supported the activity of citizens: the whole system of environmental education and enlightenment existed in society, all these gatherings of young people and tourists, briefings, excursions, green patrols, nature protection squads, school greenhouses [12; 13; 14; 15; 16]. Recently, a new model has been developing - education for sustainable development. She was promoted at the World Summit on Sustainable Development in Johannesburg (in 2002). The model combines environmental education and education for development and peace (environmental education, development education and peace studies). It is based on the concept of sustainability, based on three principles [17; 18; 19; 20; 21]: economic, social and environmental sustainability. “Education for Sustainable Development” develops the ability of people to adapt, survive and act successfully in our ever-changing world and, in addition, changes the life scenario, encouraging people to learn continuously (and not just to study at a young age).

S. Ramsaroop, H. van Rooyen, A.V. Mironov and many other researchers - identified three “models of environmental education” or general schemes of environmental education in educational institutions [14; 18; 19; 20; 22; 26]. A multidisciplinary model of environmental education involves the greening of the content of traditional subjects of both the natural sciences and the social and humanitarian cycles. The single-subject model of environmental education includes the study of ecology as an independent subject and the creation of special integrated subjects (courses) of an environmental orientation, which have an independent place in the compulsory section of the curriculum of each educational level. The mixed model introduces environmental knowledge, taking into account the characteristics of traditional academic subjects, as well as holistically in independent integrated subjects. It combines the virtues of the main provisions of the two previous models. All these models of environmental education are widely and diversely represented at school now.

3. Conclusion
In different countries, the role of environmental education, its forms and the environmental activity itself are considered in the framework of different models and have different meanings. Environmental education of the population - in some, most developed countries - countries of post-capitalism - an important part of environmental management. In Russia and some countries of the former Soviet Socialist Republic, environmental education is more a tribute to the past than the present: Russia has stepped up its efforts to destroy culture and nature.

In the countries of the capitalist community, environmental protection exists only insofar as it inhibits the exhaustion of the resources necessary for obtaining superprofits and maintaining the power of the ruling financial and political elite. If we rely on the logic of human existence in the world, which is largely indicated in the principles and charters of "green parties" and organizations, then environmental education is a necessity. It is necessary not only for entities directly involved in the
processes of nature protection (environmental protection activities). It is also necessary not only for people and organizations involved voluntarily or involuntarily (as victims or as culprits) in processes detrimental to nature (use and processing of resources and waste management of industrial technical and agricultural production and domestic consumption of production products). It is necessary for all people, including as subjects included in the most different types of relationships and in various systems as actors, observers or other types of participants in an-environmental and environmental activities and environmental activities. We are talking about people affected by environmental problems as victims or perpetrators of natural disasters, as stakeholders in tourism, environmental protection and other types of human activity, as representatives of indigenous cultures, etc. In Russia and the countries of the former USSR, as well as other socialist countries, an exclusive doctrine of nature conservation has been established. The subject of environmental activity and the protection of nature and culture is the state. It sets goals, values, forms, technologies for the protection and exploitation of natural resources (including the formation and development of nature reserves and other protected areas). The state is engaged in the development and observance of environmental standards, it offers and implements requirements for environmental education of the population. From the population, individuals, groups and organizations, the state requires compliance with a number of standards, many of which, however, remain not just impossible. It is obvious that the bureaucratic monolith of any state is not only incapable, but also does not seek to keep track not only of all the "users" of natural resources, but also of all aspects important in order to talk about the ecological culture of the population in everyday life and at leisure, in the framework of production in agriculture and industry, etc. In the capitalist countries of Europe, Australia and America, in contrast to the countries of the former USSR, a different doctrine has developed. Here, in addition to the system of national parks and other protected areas, the institute of indigenous community protected areas has developed. The doctrine of an isolating type (care of nature is the concern of the state, not of man), was supplemented and replaced by an indigenous, participatory doctrine ("live on your land - study it and take care of it"). This model orientates the population differently ready to take care of themselves and their own cultural and natural world, to environmental activities, to protect the natural and cultural wealth of the region. At the same time, some regions and their inhabitants are obviously not capable and do not seek protection. The indigenous model ideally assumes a systemic, multi-level and multi-component interaction of subjects of various types. It sets up relatively clearer than in the first case, ideas about personal, group and organizational responsibility in the field of nature protection, especially where the indigenous community territory acquires the status of "legalized". Ecological education, within the framework of the indigenous doctrine, is carried out by the community itself: in everyday neglect of its nature and culture. This approach is the most environmentally friendly.

As an intermediate between the indigenous and exclusive models, an inclusive model is implemented. The basic principle of this model is that everyone cares about everything. Most often, within its framework, the search for productive and effective management systems and the development of the ecological culture of individuals, groups and organizations is observed. Deviations within the framework of this doctrine demonstrate the difficulties that are constantly arising in relations between the "green movement" and other environmental and environmental organizations (movements and "green parties") with another population. The green movement also exploits interest in protecting the environment in order to identify itself as parties to the electoral political process. In these contexts - idealistic and pragmatic - the "greens" take on too much authority to judge what they sometimes have nothing to do with. In this case, we are talking about replacing care for nature and primary goals with care for power and achieving the secondary goals of a green organization. In addition, environmental education itself is deformed: while protecting nature from some actions, it ignores others, and access to environmental education often causes new difficulties in human life, rather than a way to prevent and solve problems. For this, green movements are often and rather sharply criticized.
References

[1] Aikens K, McKenzie MVaughter P 2016 Environmental and sustainability education policy research Environ. Educ. Res. 22 pp 333–359
[2] Begon M, Townsend C R, Harper J L 2016 Ecology: From individuals to ecosystems (New York: Blackwell)
[3] Boca G D and Saračić S 2019 Environmental Education and Student’s Perception, for Sustainability. Sustainability 11(6) pp 15-53 https://doi.org/10.3390/su11061553
[4] Bochenek D (ed.) 2012 Ochrona środowiska (Warszawa: Główny Urząd Statystyczny) p 277
[5] Borrini-Feyerabend G, Kothari A, and Oviedo G 2004 Indigenous and Local Communities and Protected Areas. Best Practice Protected Area Guidelines. (IUCN/WCPA: Gland and Cambridge) 11
[6] Bresner K 2010 Othering, Power Relations, and Indigenous Tourism: Experiences in Australia’s Northern Territory PlatForum 11 pp 10 - 26
[7] Butler R, Hinch T and others 2007 Tourism and Indigenous Peoples: Issues and Implications (Oxford: Butterworth-Heinemann)
[8] Craze P (ed.) 2012 Trends in Ecology and Evolution (New York: Cell Press, Elsevier, Inc.)
[9] IUCN 2010 X/2 Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets «Living in Harmony with Nature» Informal Expert Workshop on the Updating of the Strategic Plan of the Convention for the Post-2010 Period (Canada, Quebec, Montreal: IUCN)
[10] Jull P 2003 The Politics of Sustainable Development Indigenous peoples. Resource Management and Global Rights Ed.by S. Jentoft, H. Minde & R.Nilsen. (Eburon Delft)
[11] Konstantinov V M, Chelidze Yu 2013 Ecological basics of nature management (Moscow: IC Academy)
[12] Kothari A 2006 Community Conserved Areas. Protected Areas Programme. Parks Magazine The international journal for protected area managers (Cambridge, IUCN) 16 1 pp 1-13
[13] Liu S, Guo L, 2018 Based on Environmental Education to Study the Correlation between Environmental Knowledge and Environmental Value Eurasia J. Math. Sci. Technol. Educ. 14 pp 3311–3319
[14] Mamedov N M 1995 The concept of sustainable development and environmental education In: Ecology and Geography: Problems of Teacher Training (Moscow: TEKO Center) pp 24-28
[15] Meadows D 1989 Harvesting one hundredfold: Key concepts and case studies in environmental education (Nairobi, Kenya: UNEP)
[16] Mirkin B M, Naumova L G 2005 Fundamentals of General Ecology: Textbook (Moscow: University Book)
[17] Mirkin B M, Naumova L G, 2010 Ecology and Sustainable Development in Republic of Bashkortostan (Ufa: Khabibov I.Z. Publ.)
[18] Mironov A V 2002 The technique of studying the world in primary school (Moscow: Pedagogy)
[19] Odum E P, Barrett G W 2005 Fundamentals of Ecology. (New York: Brooks Cole) p 598
[20] Pickett S T A, Kolasa, J, Jones C G 1994 Ecological understanding: the nature of theory and the theory of nature (Academic Press, San Diego)
[21] Protasov V F 2015 Ecological basics of nature management (Moscow: Alpha, INFRA –M)
[22] Ramsarop S & van Rooyen H 2013 Exploring educator competence in teaching environmental education in schools in Gauteng Africa Education Review 10 3 pp 595-613 DOI:10.1080/18146627.2013.853555
[23] Scott W, Vare P 2018 The World We’ll Leave Behind (Routledge: London, UK)
[24] Stolton S, Shade P and Dudley N 2013 Guidelines for Applying Protected Area Management Categories In: Best Practice Protected Area Guidelines (Gland, Switzerland: UCNRR) 21
[25] Tremblay P, Wegner A 2009 Indigenous/aboriginal Tourism Research in Australia (2000 - 2008): Industry Lessons and Future Research Needs (Gold Coast: CRC for Sustainable Tourism Pty)
[26] Zakhlebniy A N 1991 School and problems of nature conservation: The content of environmental education (Moscow: Pedagogy)