Identifying environmental issues on the prehistoric societies in history learning

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Abstract. Internalizing environmental values requires a multidisciplinary approach. Therefore, almost all aspects have an interest in environmental problems, including history education. This paper aims to identify environmental issues that can be incorporated into history learning. One of the topics that are nearly related to ecological matters is the prehistoric topic. Here, people still have a high dependence on nature. As part of historical material, prehistoric times are very relevant to introduce environmental issues to students in the classroom. This paper uses an analysis of the historical education curriculum and textbooks used. This paper intends to find the relevance of history learning in the cultivation of environmental care among students. This paper will discuss strategies for internalizing the environmental values in historical learning, especially in prehistory discussion. This paper is expected to be able to contribute to how historical education plays a role in strengthening the character of caring for the environment.

1. Introduction

The inculcation of conservation values and caring for the environment are inseparable parts of the education process. Even all subjects can be positioned as part of environmental conservation efforts. It is because environmental education is multidisciplinary [1]. Tilbury explained that environmental education is related to physical-biological problems and aesthetic, economic, political, social, historical, and cultural aspects [2]. Therefore, many disciplines have an intersection with environmental education.

Historical factors are part of environmental education, and there is a link between historical learning and the environment. This linkage is further strengthened by the development of a new study in history called environmental history. Environmental history is a study of the relationship between humans and the environment in a diachronic. [3] Thus, environmental history examines the development of interrelationships between humans and nature. [4]

One of the efforts to integrate environmental issues in learning is through historical education. In essence, learning the history of the environment can be part of solving environmental problems. You do this by tracing the roots and development of environmental issues. Thus, it is hoped that the community will be able to make meaning from the various problems that occur while at the same time trying not to make the same mistakes. [5]

One of the periods that has relevance to the learning of environmental history is prehistoric material. The prehistoric era is a chapter in history given to a period when humans did not yet use writing to communicate. The term prehistory is used to describe the period from the beginning of human emergence to writing as a means of communication. The prehistoric boundaries are when written sources have been found describing an era. In Indonesia, prehistoric times began to end around the fifth century AD when writing was used in society, as evidenced by written sources’ findings. Prehistory means studying humans and their civilizations from the time of human existence to the time of history. [6,7]

Prehistoric material is taught in high school in the 2013 curriculum in class X. The basic competence is 3.3, “analyzing early human life and the origins of the ancestors of the Indonesian nation (Melanesia, proto, and deuto-Malay).” There is also competence 3.4. which reads “understanding the prehistoric
Indonesian community’s results and cultural values and their influence on the life of the immediate environment.” [8]

Theoretically, the material is loaded with environmental education content. Therefore, this paper aims to analyze the relevance of the integration of environmental history in learning the history of prehistoric material.

2. Methods

This study uses content analysis to analyzes Indonesian history textbooks and 2013 curriculum documents. The content analysis represents “a systematic and objective means of describing and quantifying phenomena and is reduced to concepts that describe the research phenomenon by creating categories, pictures, a model, a conceptual system, or a conceptual map” [9]. The books used are official publications from the Ministry of Education and Culture for the 2013 curriculum. The texts analyzed are history books for class X students’ revised edition. Furthermore, it explores the curricular suitability of historical education and environmental issues from the document. The documents used as a basis for analysis are the Regulation of the Minister of Education and Culture Number 59 of 2014 concerning the 2013 Curriculum for Senior High Schools / Islamic High School and the Regulation of the Minister of Education and Culture Number 37 of 2018 concerning Core Competencies and Basic Competencies of Subjects in the 2013 Curriculum in Basic Education and Education Intermediate. Indicators in the textbook analysis include aspects (1) the environmental ethics of community, (2) patterns of community and environmental interactions, (3) continuity of current environmental problems with the past.

3. Results and Discussion

3.1. The content of environmental education in the prehistoric period learning materials

The prehistoric era is a chapter in history given to a period when humans did not yet use writing to communicate. Prehistoric boundaries are when written sources have been found describing an era. In Indonesia, prehistoric times began to end around the fifth century AD when writing was used in society, as evidenced by written sources’ findings. Prehistory means the study of humans and their civilizations from the time of human existence to the time of history [6]

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In the 2013 Curriculum textbook, the prehistory material is in chapter I with the title “Tracing Early Civilizations in the Indonesian Archipelago.” The scope of material includes (1) before knowing writing, (2) the formation of the Indonesian archipelago, (3) knowing ancient humans, (4) the origin of the distribution of ancestors, (5) the lifestyle of the prehistory community, (6) technological developments.

[10]

If analyzed from environmental, historical studies, several ecological issues have been included in the textbook. First, the ethical aspects of the environment have not been described. This study is only mentioned after the book, which reads, “The wealth of local wisdom sources in the pre-literal era provides inspiration and at the same time a warning to our generation how the harmonious relationship between humans and nature need not cause havoc for other humans.” While. Other aspects that have been described are aspects of environmental problems. An environmental issue that has been a continuation from prehistoric times to the present is forest burning. In the textbook, it is written, “Some people clear forests by cutting down trees to open land for cultivation. At that time, there was also land clearing by burning forests. “From this, it appears that environmental issues are being discussed in history learning. [10]

In class X books, environmental aspects are presented quite a lot. The material covered in class X describes the ecological conditions in prehistoric times. Narratives about environmental ethics and the
relationship between past and present contexts. On page 6, it is explained that ancient society’s ethics saw the harmonious relationship between humans and nature. The next section in the conclusion section on page 70 explains how the differences between prehistoric and modern societies’ environmental ethics. In that section, it says, “The Flannery team calls modern Homo sapiens humans different from their ancestors because they are nothing but” predators of the future.” This nickname is not wrong if we recount the environmental damage caused by human exploitation to date.” [11] This narrative indicates that environmental damage occurred in modern times, while prehistoric societies had a harmonious relationship with nature. In prehistoric times, the environmental problems narrated in this book were mostly caused by natural disasters such as volcanic eruptions, not human actions. [10]

Studying environmental history has several benefits. Hughes explained that four things could be taken from environmental history [3]. First, environmental history teaches the principle that humans cannot be separated from the environment. An environment is a place for humans to live and a variable that influences the emergence, life, and development of civilization. Environmental history grows an understanding of the patterns of interaction between humans and nature.

Second, environmental history teaches an understanding of the importance of assistive sciences in explaining historical phenomena. Environmental history examines ecological problems, such as climate change, ecosystems, and natural resources.

Third, environmental history teaches about current environmental issues and their roots in the past. It is related to the study of how human activities in the past impact various problems in the present. The chronology and development of environmental problems from the beginning to the present are known through environmental history. According to Hughes, this aspect examines how the past affects recent environmental issues and human communities, the impact of human activities on the environment, and natural phenomena development. Therefore, this aspect describes the continuity of relations between humans and the environment in time development.

Fourth, environmental history provides lessons on scale perspectives. It emphasizes the importance of environmental changes in the local realm. Thus, the meaning taken is that environmental damage on a small scale will result in the emergence of other damage that can have an enormous impact. It is because the earth is an ecological entity.

**Figure 1. The benefits of studying environmental history**

The environment’s history has a vital role in sustainable living and environmental preservation from the above benefits. This effort is carried out by applying environmental, historical learning. This learning is an integrated effort to introduce environmental history broadly and its importance for human life. Thus, planting environmental awareness is the responsibility of history education. From the above thinking, issues of concern in environmental history become studies integrated into history learning.
Learning of environmental history provides a diachronic understanding of several things. First, historical education helps reveal the relationship and reciprocity between humans and the environment. It includes how the ground becomes a variable that determines the development of human civilization. Second, historical education explains the development of the relationship between humans and the environment. This study includes changes in patterns of social and environmental interactions from time to time. Third, historical education explains the current developments in environmental issues. Through history learning, students understand the root causes of environmental problems that are currently being faced.

The study of the environment has always been a relevant discussion in history learning. Human development, which is the focus of history, occurs within a specific spatial scope. The spatial scope where humans have been active in the past must have something to do with the environment. Therefore, it is not an exaggeration to include environmental elements in the history curriculum.

3.2. **Incorporation of environmental issues in history learning**

The development of environmental issues in learning can be viewed from two aspects. The first step is the development of the content element. This development includes aspects of learning objectives, materials, and resources that support environmental history teaching. Second, the development of the context aspect. This aspect comprises aspects of teachers, learning strategies, and supporting facilities. The strengthening of these two aspects is an absolute prerequisite in the development of environmentally sound historical learning.

The first development emphasizes aspects of the content or essence of learning. In this aspect, it is first necessary to formulate an understanding of the historical relevance of the learning environment. The basic assumption developed is “that history cannot be separated from the development of the environment, and humans always interact with it.” These assumptions are then derived and conceptualized in the learning objectives. The goals to be achieved in general are knowledge, awareness, and cooperative behavior towards the environment.

Each period several materials have the same theme. These materials are themed: (1) community environmental ethics; (2) community and environmental interaction patterns; (3) environmental management policies; (4) current environmental problems; (5) the continuity of current environmental issues with the past. These five materials can be developed flexibly at each periodization and integrated into each competency.

![Figure 2. The scope of learning of environmental history](image)

Material development needs to be supported by adequate sources. On resource development, there are several books worth recommending. The recommended book covers the following aspects: the scope
of environmental history, policies in Indonesia, and developments in environmental issues in the world and Indonesia.

The study of the scope of environmental history can use the help of environmental science references. However, some fine works, such as *The Encyclopedia of World Environmental History*, consisting of three volumes, are still available in English. Then, references to society’s conception of seeing the environment can be obtained from the *Sejarah Nasional Indonesia* volume I edited by Poesponegoro and Notosusanto.

The pattern of interaction between society and the environment from Indonesian history still does not have many references. A relatively easy reference to digest is Indonesian Heritage volume II about “humans and the environment.” The second *Indonesian Heritage* volume, edited by Johnatan Rigg, provides insight into environmental ethics [12]. Regarding environmental management policies and environmental problems in the past, there are several essential and exciting references, such as the book *Sapiens* by Harari [13].

The second development is viewed from the context aspect. This aspect concerns the learning of environmental history implementation system. In this aspect, there are at least three supporting pillars, namely teachers, learning strategies, and supporting facilities. In learning environmental history, teachers have an important position. History teachers have a role as transmitters of historical knowledge and encourage students to build their knowledge [14]. Therefore, it is necessary to understand that studying history cannot be separated from other assistive sciences. In learning environmental history, the introduction of concepts and environmental science problems needs to be given to history teachers.

In the learning of environmental history, many ecological science concepts are used, especially regarding environmental problems. Therefore, teachers’ knowledge about environmental issues is a prerequisite for implementing environmentally-oriented history learning.

The development of historical teacher knowledge about the history and environmental issues is carried out using three approaches. First, provide facilities and access for teachers to study history and environmental issues. Second, stimulating teachers to actively seek references in various sources. Third, mentoring teachers in developing knowledge about the history and environmental issues. The three approaches are the teacher’s job and stakeholders’ participation as a companion to history teachers.

In the mentoring process, several parties have a role in increasing teachers’ knowledge and understanding of environmental history. First, the government plays a role in terms of policies and the provision of supporting facilities. Second, historians play a role in the development of the historiography of Indonesia’s environmental history. Currently, not many historians have developed research in the field of environmental history. Therefore, a movement is needed to encourage historians to build studies of Indonesia’s environmental history. Third, LPTKs play a role in preparing prospective history teachers who can create ecological issues in learning. The trick is to provide education, training, and mentoring for history teachers and future teachers. One of the efforts that can be developed by the LPTK is the development of an Environmental History course. Fourth, MGMP (Subject Teacher Deliberation). MGMP acts as a community that mutually reinforces and supports the development of environmental history learning. Fifth, mass media. The mass media serves as a means of publishing the results of studies on environmental history.

Teachers can choose various approaches, such as scientific approaches, projects, or problem-based learning. The methods applied can vary according to the characteristics of the material. However, efforts are made to emphasize active learning oriented towards various issues surrounding the student learning environment.

It is necessary to link the material with the context that occurs around students to realize meaning in learning about history with environmental insight. Context includes phenomena in society, actual events, social problems, current hot issues, the spirit of the times, and the latest scientific developments. Especially in learning history with an environmental perspective, the context can be in the form of environmental, historical events on a local scale around the student’s environment. Therefore, learning emphasizes contextual learning. Thus, education does not become out of context.
The third pillar in the context aspect is the availability of learning facilities. Learning facilities include the availability of resources and media that support learning. In learning environmental history, the learning resources that are most easily accessible are actual ecological problems that are happening and local ecological issues around students. Teachers can use the internet to get the latest resources related to environmental issues. Media that can be utilized in environmental history include pictures about environmental damage, posters, documentary videos, news clippings about ecological issues, and various media that can be accessed from the internet. Because history learning has to do with environmental issues, the existence of supporting textbooks and references in the library is an essential aspect of realizing the effectiveness of learning.

4. Conclusions
The learning of environmental history has a strategic meaning in handling ecological problems in Indonesia. Like the adage, “finding the root of the problem is, in essence, part of the problem solving,” strengthening environmental issues plays a role in finding the root of the problem, development patterns, as well as policies and strategies that have been taken in handling the environment. Therefore, learning about history with environmental insight acts as a roadmap for various environmental issues that are currently happening. Consequently, it also plays a role in providing role models and best practices so that the planning process and handling ecological problems do not come back to the same problem. Learning development is carried out with a content and context strategy through a chronological-integrative approach, capita selecta, and thematic-chronological approach. In prehistoric material, various relevant issues are found to be integrated into learning. At the same time, this issue strengthens the role of history education in instilling the values of caring for the environment for students.

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