Chapter 10
Geography Education as Education for Sustainable Development (ESD) in Japan

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Abstract Education for Sustainable Development (ESD) in Japan has been taught in classrooms from elementary to senior high school since the Ministry of Education, Culture, Sports, Science and Technology (MEXT) introduced it as a compulsory study area in the revised National Curriculum Standards of 2008 and 2009. This chapter examines three driving forces of ESD and highlights exemplary practices that might be useful to teachers at every grade level. The first discussion presents characteristics and evolution of ESD in Japan and around the world. Second, international efforts to promote ESD are summarized from the Lucerne Declaration on Geographical Education for Sustainable Development (2007) by the International Geographical Union Commission on Geographical Education (IGU-CGE). Third, the theme and practice of the Associated Schools Project, initiated by UNESCO in 1956, are extracted to highlight the evolution of ESD. This reexamination of ESD formation to current instruction presents a roadmap for advancing geography education within ESD in Japan.

Keywords Education for Sustainable Development (ESD) • Lucerne Declaration • Sustainable society • UNESCO Associated Schools Project • United Nations Decade of Education for Sustainable Development

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10.1 Introduction

Current issues among Japanese geography educators are threefold: (1) implementation of the revised National Curriculum Standards in 2008 and 2009 by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), (2) a declaration that promotes Education for Sustainable Development (ESD) made by the International Geographical Union Commission on Geographical Education (IGU-CGE), and (3) UNESCO's development of a roadmap for geography education that promotes ESD in Japan.

Geography education is facing a new era, not only in Japan but internationally. The challenge that the new geography education faces is one of fostering student talents that can contribute to the building of a sustainable society within the new framework of ESD, under the United Nations Decade of ESD from 2005 to 2014.

The purpose of this paper is to first examine the direction of reform that sustainable development instruction demands from geography education, as well as the movement of IGU-CGE in response to the needs for education based on that development. Third we discuss the influence that UNESCO education, which has proposed the basic principles of education for sustainable development, has had on geography education. The discussion is aimed at clarifying optimal ways to reform ESD within geography education in Japan.

10.2 ESD: Driving Reform of Geography Education

10.2.1 Origins and Goals of ESD

The conceptual origins of ESD can be traced to the UN Conference on the Humanity and the Environment, held in Stockholm during 1972. However, the official beginning of ESD was at the UN World Summit for Sustainable Development (WSSD) in Johannesburg in 2002. That is where the Japanese government, together with NGOs, proposed that the period 2005 to 2014 be recognized as the United Nations Decade of Education for Sustainable Development (UNDESD). That same year, the proposal was approved unanimously by the UN General Assembly. This led to creation of the concept "building a sustainable society," which was introduced into the revised Japanese National Curriculum Standards. This was the beginning of a worldwide education reform movement proposed by Japan. When the UNDESD was approved by the UN General Assembly, UNESCO was designated as the lead agency. UNESCO drew up the International Implementation Scheme for the UN Decade of ESD, called "UNESCO IIS for UNDESD 2005," and obtained approval from the United Nations. This implementation scheme requested that each UN member state introduce ESD into their national curricula.

In Japan, the Liaison Council of Ministries and Agencies (hereafter referred to as the liaison council), which was concerned with the UN Decade of ESD, was established

in the Cabinet Office in 2005. In 2006, the liaison council composed the "UN Decade of ESD Implementation Plan for Japan" (referred to hereafter as the Japan ESD implementation plan). In accepting this plan, the government referred to ESD as "education for sustainable development." The government designated it as one of the important priority measures for the next 5 years in the Basic Plan for Promotion of Education, published by MEXT (2008), based on provisions of Article 17 of the Basic Law on Education. Following this, the Education Ministry's Curriculum Council defined ESD as "learning that fosters the abilities to contribute to the building of a sustainable society," and added its implementation to the goals and content of related subjects in the revised National Curriculum Standards.

According to the liaison council in 2006, the goals of ESD were "to provide high quality education to all the world's people with a vision that the principles, values, and behavior needed for sustainable development are incorporated in all education and places of learning, and to bring about a change in behavior so that a sustainable future can be realized in the areas of the environment, the economy, and society" (Liaison Council of Ministries and Agencies 2006, p. 3).

10.2.2 ESD Introduced into Revised National Curriculum Standards

After some debate by the MEXT Curriculum Council, ESD was introduced into many related courses and subjects as learning to build a sustainable society. A number of subjects had parallel goals and content, including Social Studies and natural science in junior high school, and in senior high school, the courses Geography A and World History A and B. Science, Home Economics, Physical Education, Engineering, Science, Math, and others shared common learning outcomes as ESD goals.

Overlap between ESD and "geographic fields" as defined in the National Curriculum Standards at the junior high school level was found under the heading "Consideration that is centered on environmental problems and environmental protection." This standard focuses on "thinking about how it is important to deal with environmental problems and protection in the local area in order to build a sustainable society." The importance of learning ESD is described in Civics standards, and we argue that understanding about the building of a sustainable society has a place in Social Studies, in general. This includes related subjects such as Geography and History, which should be considered alongside junior high school Civics subjects.

In the revised National Curriculum Standards for senior high school, courses that include the idea of a sustainable society include the Geography and History subject area (World History A, World History B, Geography A), Civics (Contemporary Society, Politics and Economy), Science (all subjects), Health and Physical Education, Home Economics (Introduction to Home Economics, General Home Economics, Living Design, Consumer Life), and vocational training fields in Engineering (Introduction to Environmental Engineering), Science and Math, and others.

10.2.3 Abilities That ESD Attempts to Foster

The liaison council sought to impart the following abilities to students: (1) understanding of the background of problems and phenomena, and a system of thinking that emphasizes a comprehensive and multifaceted way of looking at the world; (2) development of critical thinking and an ability to consider alternatives; (3) analysis of data and information; (4) communication skills; and (5) values related to sustainable development that include respect for people, diversity, the environment, and equality of opportunity (Liaison Council of Ministries and Agencies 2006, pp. 7–8). Among these skills, the first four were clearly indicated in the former National Curriculum Standards as necessary "life skills," and they are practiced in classes. However, the fifth one is an important perspective that is necessary in ESD.

To implement ESD in the classroom, the most important objective is to cultivate students' thinking and behavior that will foster a sustainable environment, the economy, and society for the future. This teaches all that the norms of thinking and behavior are connected in the ability to build a sustainable society.

10.3 IGU-CGE and ESD

10.3.1 The Lucerne Declaration on Geography Education for Sustainable Development[1]

The leading organization for international promotion of geography education is the IGU-CGE. We refer here to the Lucerne Declaration on Geography Education for Sustainable Development (referred to hereafter as the Lucerne Declaration), published by the IGU-CGE in 2007 (Haubrich et al. 2007). The learned community uses the international trend in geography education as leverage to promote ESD, arguing that its principles and those of geography education are similar.

The essential policies of ESD were established in the UNESCO IIS for UNDESD, the leading committee of the UN Decade of ESD (UNESCO 2005). This document explains the aims for the UN Decade of ESD to succeed, whereas the Lucerne Declaration states in its preamble that the UN Decade of ESD is an opportunity to confirm CGE involvement in ESD. The declaration identifies the principles of geography education as being ESD, and explains sustainable development in the following ways: (1) It points toward the future; (2) it is a concept of harmony between humans and nature; (3) it is a concept of fairness and equity between generations, nations, cultures, and regions; (4) in addition to social, environmental, and economic problems, ESD extends to global responsibility and political participation.

[1] Translation of the declaration into Japanese was by Ohnishi (2008).

The Lucerne Declaration insists that this paradigm of sustainable development should be introduced into geography education at every level in every region of the world and, in the final "declaration," the CGE strongly recommends these principles be the foundation for geography education. The Lucerne Declaration is composed of three sections, which discuss: (1) the contribution of geography to ESD; (2) standards for developing geography education curricula toward the goal of sustainable development; and (3) the importance of information and communications technology (ICT) in ESD within geography curricula. Additionally, it is important to understand that the IGU-CGE in 1992 promulgated the International Charter on Geography Education,[2] and within this it was made clear that sustainable development is an important concept in geography education. This was a pioneering foresight.

10.3.2 Key Points of the Lucerne Declaration

10.3.2.1 Contribution of Geography to ESD

The Lucerne Declaration and UNESCO IIS for UNDESD shares the same vision for the future, which is "a world where everyone has the opportunity to benefit from education and learn the values, behaviour and lifestyles required for a sustainable future and for positive societal transformation" (UNESCO 2005, p. 6). It is clear that most of the "behavioral themes" from the UNESCO IIS are geographical. These are closely tied to the context of the environment, water resources, agricultural development, sustainable consumption, sustainable tourism, understanding of other cultures, cultural diversity, climate change, disaster prevention, biological diversity, and the market economy.

The close tie between ESD and geography is illustrated by geography's examination of the "Human-Earth" ecosystem (Haubrich et al. 2007) as a concept for sustainable development. The meaning is "from the viewpoint of humanity's survival, the earth is a household, and we should consume no more than we can obtain from it" (Haubrich et al. 2007, p. 2). Geography ties together the natural sciences and social sciences while studying the entirety of the Human-Earth ecosystem; it analyzes the amount of resources and living space that the Earth provides for humanity and how much impact society has on the Earth's ecosystem.

As a strategy to support sustainable development, the Lucerne Declaration proposed a new set of values. Sustainable development is a combination of ecological, economic, and social balance through novel living styles, new industries, and improvements in patterns of consumption. The report also states that to create a new value system for individuals, life-long learning that includes geography education is necessary.

[2] Translation of the charter into Japanese was by Nakayama (1993).

The research potential of geography in sustainable development is its offer of geographic knowledge (i.e., an understanding of the shared existence of nature and humanity), geographic skills, and cumulative values and attitudes aimed at solving various regional issues. For the sake of sustainable development, the cooperative engagement of geography with other academic disciplines is certainly required.

10.3.2.2 Standards for the Development of Geography Education Curriculum for ESD

The Lucerne Declaration advised that the development of the ESD curriculum should be led by each nation. Thus, each country will create their own national curriculum, related to regional themes, regions, and study methods, rather than the organization of a global standard curriculum.

During curriculum development, it is important to pay attention to the major issues of the contemporary world. This includes problems of humans and nature that exhibit spatial and sustainable behaviors. Also, topics such as global warming, energy depletion, misappropriation of non-renewable resources, population trends, and problems of worldwide inequality should be the focus. In particular, the Lucerne Declaration states that students should be encouraged to take up and consider conflicting and contradictory themes related to environmental, economic, and social sustainability.

As curriculum developers, attention should be given to four considerations, in which students: (1) follow an approach to functions, systems, predictions, behavior, structure, and processes that use a geographic way of looking at spatial organization; (2) choose learning content that can be models of structure and process, in relation to topics that can convey the essence of problems; (3) understand that importance of the problems depends on whether they are personal, public, political, specialized, or economic; (4) are aware that their interests and viewpoints vary from those of their peers, and select societal issues that are diverse, contrasting, and multidimensional.

The following three criteria outline regions useful to study as these: (1) are models of structures and processes; (2) are useful for fostering insight and penetration; and (3) provide a balance of variety and contrast in regard to location, type, and scale. In making the choice of study region, the following should be considered: knowledge, experience, interests, and concerns will vary with student age; the political, economic, and spatial position of the region and importance of its ecology and environment; a diversity of scale from the local, regional and national to the multinational and global.

Study and instruction methods for ESD are captured by the following four criteria: (1) Study should begin with simple example cases and gradually become more complex in content and method; (2) related facts should be arranged so that they build on each other; (3) a structural approach should be used to frame the concepts, processes, theories, and social structure that cause spatial changes; (4) exemplary case studies should be used to link common themes across regions. Students' varying interests, concerns, and learning at different grade levels should be considered.

10.3.2.3 Importance of Information and Communications Technology to ESD in Geography

The Lucerne Declaration recognizes the contribution of ICT to teaching and learning goals of geography education in ESD. Active use of ICT in ESD gives learners direct insight to people who are most affected by sustainability issues (e.g., environmental problems), as well as fostering students' conceptualization and deeper understanding of the attitudes of people in different cultures who are facing similar problems. ICT also supports a multifaceted perspective that is necessary for fostering sustainable attitudes and that promotes a high level of thinking, comprehensive and critical. Moreover, the declaration concludes that use of ICT expands research in geography education when incorporated within ESD. There is also potential for online cooperation that promotes students' learning about problems across a global scale and different cultures.

10.3.3 Significance of Lucerne Declaration

The Lucerne Declaration is significant in the geography education community because it clearly articulates the contribution of geography to ESD. The fact that the behavioral themes of the UNESCO IIS are mostly geographical indicates the importance that geography holds in ESD. To further buttress the value of geography, the latest geographic information and research results should be incorporated into the educational program and curriculum.

The concept of the Human-Earth ecosystem (Haubrich et al. 2007), advocated as a research method, is a framework based on geographic principles to examine global issues core to ESD. Such similarities and overlap make a case for introducing this concept into geography education as well. ESD is praised for its interdisciplinarity; however, even before the views of Jones et al. (2010), geography was essentially a comprehensive discipline characterized by cross-disciplinary research. This further supports geography education as a most suitable core subject to include in and promote ESD curriculum development.

The Lucerne Declaration envisions that each country will tailor a national curriculum, reflective of regional issues. This approach differs from the International Charter on Geographical Education, which aimed for international guidelines that would serve as a global standard, although it is in line with the UNESCO IIS for UNDESD (2005) policy. The Lucerne Declaration sets the ultimate goals for geography education to be included in ESD for educating citizens. As such, these citizens who develop sustainability values, are aware of the need to work toward a sustainable society, and have the skills to make this a reality. These goals are precisely what are necessary to inform people's decision-making and the codification of laws in each country (UNESCO 2005).

Geography education in ESD can be viewed as connected to social change. Education and learning can include actions that show students the need to always respect individuality.

The Lucerne Declaration clearly lays out the principles of geography education as ESD, and we agree that it is very important to direct these efforts in Japan.

10.4 Development of UNESCO Education in Japan and ESD

10.4.1 UNESCO Education and ESD

The Basic Plan for Promotion of Education (MEXT 2008) recommends that ESD courses be modeled through the UNESCO Associated Schools Project (ASP). The UNESCO schools began with ASP in 1956, 5 years after Japan joined UNESCO. It is possible to characterize the ASP, which was aimed at international understanding and international cooperation under UNESCO leadership, as the first phase of UNESCO education. While ESD was the second phase, aimed at building a sustainable society.

Similarities between the basic idea of ASP and ESD are found in their highly specialized coursework and methods involving a participatory approach. These modules are both very comprehensive and interdisciplinary in its learning contents. In addition to lectures, learning methods emphasized group activities, investigation, and information sharing through reports and presentations (Nakayama 2007). The parallels have prompted a comparison that identifies ASP of the postwar period as a milestone that served as a forerunner of ESD.

When UNESCO education was introduced into Japanese schools, domestic education experienced a decline in student scholastic abilities, which became a major social problem. Internationally, the first phase of UNESCO education was related largely to Japan's return to the international community of nations, whereas the second phase was realted to obligations and contributions to the international community. Table 10.1 (Takata 2011) summarizes education activities and efforts within Japan and UNESCO education.

10.4.2 First Phase of UNESCO Education and Content of Research Subjects

The authors reconsider the significance of achievements in UNESCO education through educational experiments of the Associated Schools in Japan. In contrast to previous evaluations held from the mid 1970s onwards, practice in the Associated Schools "rapidly declined" and placed the evaluations for UNESCO education in

Table 10.1 UNESCO education and trends of education in Japan and internationally

Period	Position of UNESCO Education in Japan	Developments in domestic education in Japan	Developments related to UNESCO education
1950s to 1970s	First phase of UNESCO Education	• Decline of scholastic abilities	Return to International Society
	• Associated Schools Program (ASP) aimed at international understanding and cooperation	• Systematization of Learning content (from unified Social Studies to differentiated Social Studies areas)	• As part of the citizen's UNESCO movement, Sendai UNESCO Support Association becomes first established in the world
			• ASP schools served experimental and research purposes
1970s to 1990s	• Stagnation of UNESCO Education	• Education for returnee children led by MOE	• International Education Recommendation by UNESCO, 1974
		• Development education, global education, multicultural education (education rationales and theories of practice introduced domestically)	• Politicization of UNESCO : U.S. withdrawal in 1984 (return in 2003); UK withdrawal in 1985 (return in 1997)
		• Peace education and anti-discrimination education (given by the teachers' union, etc.)	
From the 1990s onward	Second phase of UNESCO education	• Decline of scholastic abilities	Responsibility to International Society (contribution)
	• ESD aimed at building a sustainable society	• Increase of classroom hours (reduction of the Period for Integrated Studies and strengthening of education in various subjects)	• Development making UNESCO ASP schools, etc. into model schools

the context of development education or global education.[3] Here, the authors rethink the meaning of the Associated Schools' activities in relation to coursework regulated by the National Curriculum Standards, especially in relation to geography education.

[3] Sato (2007, p. 216) stated that "At the same time that implementation in the Associated Schools was ideological, because its scope was restricted, it did not sufficiently spread. Moreover, because it was preceded by a lofty rationale, there was a great deal of disparity between the implementations in different schools." Evaluations of the Associated Schools Program have not all been positive.

The Ninth UNESCO Plenary Session in Paris during 1956 clearly set out an experimental plan for the ASP. Based on this decision, education for international understanding and international cooperation was carried out in the worldwide expanding network of the Associated Schools participating in UNESCO's educational experiment. This occurred under the study of human rights, other countries (e.g., understanding other countries, ethnic groups, and regions), and the UN (e.g., study of world problems and the role of the United Nations in solving them). Additional modules were added to Understanding between Countries with Different Levels of Economic Development in 1962, and to Development and Environment in 1973. In 1984, these were distilled into four subjects: World Problems and the Role of the United Nations in Solving Them, Human Rights, Other Countries and Other Cultures, and Humans and the Environment (Nagai 1985). Development and Environment, which formed a common denominator with ESD, were already study subjects in the 1970s.

The educational experiment of the Associated Schools in Japan, under the leadership of the Japanese National Commission for UNESCO and Ministry of Education (MOE) at the time, was only put into effect in six designated schools. This effort had a major role as forerunner to the implementation of education for international understanding. The Hiroshima University Attached Senior High School was one of the designated schools. In particular, the implementation of education in subjects like "Study of Other Countries" overlapped with the content of geography education. At senior high schools that were Associated Schools, this was developed as "Geography Education for International Understanding" in Geography B classes. Also, in the UNESCO East–west Cultural Exchange Project developed in the 10-year plan beginning in 1957, the aim was to foster mutual cultural understanding between East and West, and interest in the Southeast Asian region was heightened.

However, in the 1970s, with international movements seeking development and independence for developing countries and UNESCO beset by issues facing all of humanity (e.g., population and food supply, resources, energy, and the global environment), there was a major change in direction from emphasis on international understanding to international cooperation focused on problem solving.

It is notable that with Japan's adoption of the "Recommendation Concerning Education for International Understanding, Cooperation and International Peace and Education Relating to Human Rights and Fundamental Freedoms" (abbreviated as the "International Education Recommendation"), there was a specification of major problems common at the global scale and an appeal to foster student interest in solving those problems.

10.4.3 Relationship Between Associated Schools Practice and Coursework

Between 1954 and 1969, the Hiroshima University Attached Senior High took part in 17th educational experiments (thereafter, this was carried out as educational implementation from 1970 through 1982) (Nagai 1985).

The subject "Study of the World's Nation Groups," which was implemented in the 1963–1964 school year as the Study of Other Countries, had content that corresponded to "Nations and Nation Groups" of Geography B. Under the condition that Study of the World's Nation Groups would "be an experiment positioned as much as possible within the regular curriculum centered around Social Studies Geography B," (Hiroshima University Attached Senior High School Research Section 1966, p. 3), classes for Geography B were developed. Senior high school Geography B is based on regional geography offered in junior high school, a "systematic learning" course. As Nations and Nation Groups appeared as a new important topic in the revised National Curriculum Standards (Hiroshima University Attached Senior High School Research Section 1966), the topic of nations was introduced in the Geography B curriculum at this school (Takata 2005).

In 1956, in addition to the six existing ASP schools, 13 schools were designated as research schools. At these institutions, studies were focused on topics that "spotlighted as its goal education for the sake of international understanding and international cooperation, centered on Social Studies and based on the National Curriculum Standards, while giving due consideration to the character of the area where the school is located and, moreover, based on the local and age characteristics of the students" (Nagai 1985, p. 71).

From the beginning, the educational experiment of the Associated Schools was closely tied to the National Curriculum Standards, borrowing from it the framework and course outlines. In particular, the policy was to stress its role within Social Studies. Afterwards, the National Curriculum Standards were the framework for the learning content in which the Associated Schools were involved.

In 1961, there were 28 UNESCO Associated Schools in Japan: 17 junior high schools, 9 senior high schools, and 2 universities. Most newly participating Associated Schools emphasized education in practice, and carried out coursework based on either or both the National Curriculum Standards or extracurricular activities (Nagai 1985).

The Associated Schools were a pioneering attempt to put international education into practice. Module content reflected both the study topics designated by UNESCO and coursework designated under the National Curriculum Standards. In particular, Social Studies played a major role in the educational experiments, because its contents overlapped with the study topics proposed by UNESCO.

10.4.4 Development Towards Geography in the Second Phase of UNESCO Education

In the revised National Curriculum Standards, learning content related to ESD is designated as coursework. The education for international understanding and international cooperation that the Associated Schools undertook in the immediate postwar era was conducted within subject coursework in accord with the National Curriculum Standards. Since there are many parallels between National Curriculum Standards with the UNESCO education, the latter being an important education program, can be included in schools via the national standards.

In the Study of the World's Nation Groups, results suggest a tendency toward unifying the differentiated learning contents within Social Studies. In ESD's development towards geography knowledge, in response to the question of how to unify that differentiated content, once again a reconsideration of geography education is called for.

ESD is extremely comprehensive and interdisciplinary, and it serves as a practical education for the future since it is based on critical thinking and problem solving-oriented thinking. Urabe et al. (2007) stated that as a discipline that builds the society of the future, it is necessary to revisit the discussion of geography education in Japan.

10.5 Conclusion

The Basic Plan for Promotion of Education (MEXT 2008) established the advancement of sustainable development education as one of the important policy measures for the subsequent 5 years. The revised National Curriculum Standards also incorporated it as new learning related to the building of a sustainable society, demanding a serious response from the geography education community.

ESD is a worldwide educational reform movement that began with the Japanese government's proposal to the UN in 2002 at the World Summit for Sustainable Development in Johannesburg. Acceptance of the challenge to develop exemplary modules that include global phenomena is a major responsibility for those who first made the proposal. The field of geography education responded to sustainable development by becoming part of the International Charter on Geographical Education in 1992. Enactment of this charter was in the same year as the United Nations Conference on Environment and Development, where there was international agreement on the concept of sustainable development. In 2007, the IGU-CGE adopted the Lucerne Declaration of ESD and proposed the importance of worldwide implementation. Japanese educational policy in the postwar period has consistently accepted the rationale of the educational reform movement urged by UNESCO, and has woven it into national education policy. In essence, the ESD proposal to the UN was founded on the fruits of UNESCO education, particularly through the Associated Schools Project in Japan.

The promotion of sustainable development instruction within geography education in Japan is necessary. Japanese leaders sufficiently understand the proposals of the IGU-CGE and the thrust of UNESCO education in its entirety, together with the Japanese government's goals. Nevertheless, their involvement is necessary so that the results of the country's past efforts can become an approved and accepted model for the world. In the midst of international change brought about by political, economic, and social globalization, a golden opportunity to create and globally promote high-quality geography education through ESD promotion in Japan can contribute to building a sustainable society. This reality lies right before our eyes.

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