

## Chapter 7

# The Significance of Education for Sustainable Development (ESD) and Practical Examples: A Case Study of Kesenuma City, Miyagi Prefecture

## 1 What Is Education for Sustainable Development (ESD)?

What is Education for Sustainable Development (ESD)? Japan's National Plan for ESD defines ESD as

“learning and education activities that aim to realize a sustainable society by helping people to proactively identify various problems in modern society caused by development activities by human beings, such as climate change, loss of biodiversity, resource depletion, and the spread of poverty, and to recognize them as their own challenges and to tackle them, starting with those close to them, thereby bringing about new values and behavioral changes that will generate solutions, allowing future generations to enjoy prosperous and rewarding lives.”

To achieve such a society, it is important to develop a perspective “in which all people strive to understand the connections between people and people, people and society, and people and nature, and to consider for themselves what initiatives are needed to solve these various problems and take action accordingly.”

The importance of ESD was first shared with the world at the Earth Summit held in Rio de Janeiro, Brazil, in 1992. Chapter 36 of Agenda 21 adopted at that Summit specifically called for a reorientation of education toward sustainable development and recognized the important role of education in sustainable development and its future attainment. The Government of Japan then proposed the UNDESD (UN Decade of Education for Sustainable Development), in collaboration with NGOs, at the World Summit on Sustainable Development in Johannesburg, South Africa, in 2002. Japan took the lead on this idea at the 57th UN General Assembly in 2002, and a resolution was unanimously adopted which designated the period from 2005 to 2014 as the UNDESD, beginning from January 2005 (Table 7-1).

Table 7-1: History of international initiatives in Education for Sustainable Development (ESD)

Year held	Name of summit, etc.	Agenda and ESD-related measures	Held in
1992	UN Conference on Environment and Development	Importance of ESD identified in Chapter 36 of Agenda 21	Rio de Janeiro
2002	World Summit on Sustainable Development	At Japan's suggestion, the United Nations Decade of Education for Sustainable Development (UNDESD) is included in the implementation plan	Johannesburg
2002	UN 57th General Assembly	UNDESD adopted UNESCO named as lead agency	New York
2005	UN 60th General Assembly	UNDESD International Implementation Plan developed by UNESCO approved	New York
2009	UNESCO World Conference on ESD	Held at the mid-point of the UNDESD; Bonn Declaration adopted	Bonn
2012	UN Conference on Sustainable Development (Rio+20)	Declaration to promote ESD beyond 2014 in <i>The Future We Want</i>	Rio de Janeiro
2014	UNESCO World Conference on ESD	Held in the last year of the UNDESD; Aichi-Nagoya Declaration adopted	Nagoya Okayama
2014	UN 69th General Assembly	<i>Global Action Programme on Education for Sustainable Development (GAP)</i> adopted	New York

Source: Author

In 2009, the mid-point of the UNDESD, the UNESCO World Conference on Education for Sustainable Development was held in Bonn, Germany, and the Bonn Declaration was issued, calling for action to further expand the UNDESD. Japan, as the proposing country, also submitted the *UNDESD Japan Report: Establishing Enriched Learning through Participation and Partnership among Diverse Actors*, which summarized ESD achievements and challenges during the first half of the UNDESD across various sectors, including the national government, local governments, universities, and international organizations, and shared the country's best practices of ESD with the world.

Furthermore, in collaboration with UNESCO, Japan hosted the UNESCO World Conference on ESD in Nagoya and Okayama in 2014, the final year of the UNDESD. The World Conference on ESD summarized the UNDESD (2005–2014) and presented a new ESD framework. As a result, the Aichi-Nagoya Declaration on Education for Sustainable Development was adopted, promising to sustain and expand ESD into the future, beyond the UNDESD. To build on these achievements and generate a renewed impetus for after the UNDESD ended in 2014, UNESCO published the *Global Action Programme on Education for Sustainable Development* (GAP). It was submitted just as the international community was proposing the new framework of the Sustainable Development Goals (SDGs), which were to be action-oriented, global, and universally applicable. The GAP, developed in 2013 as a follow-up (2015–2019) to the UNDESD, was intended to create and scale up ESD actions and to make a substantive contribution to the SDGs.

## 2 Kesennuma's Pioneering ESD

Amid this major international movement for a sustainable planet and society spanning the late 20th and early 21st centuries, it was the small city of Kesennuma in Miyagi Prefecture that led ESD in Japan and around the world. Tracing the course of this project, the messages and proposals that it has delivered, both in Japan and abroad, will be described and analyzed here.

### (1) The Beginning of ESD in Kesennuma

ESD in Kesennuma began as a bottom-up initiative at a

public school, Omose Elementary School, in 2002. This was the year that Japan proposed the “United Nations Decade of Education for Sustainable Development (UNDESD)” at the Johannesburg Summit, a proposal that was subsequently adopted by the UN General Assembly. This year also saw a major revision of Japan's national curriculum guidelines, including the establishment of a “period for integrated studies,” and the proposal of the concept of “zest and skills for life” (*ikiru chikara*). In the midst of this great swell of activity both in Japan and abroad, Omose Elementary School began implementing a study program that fostered “a global perspective while remaining rooted in the local community,” using hands-on, inquiry-based learning that took advantage of the region's rich natural environment and exchanges with schools overseas. To implement this program, the school collaborated with the local community and specialized institutions, including the Miyagi University of Education, drawing on their expertise and resources to enhance the quality of learning (Figure 7-1).

Figure 7-1: 6th grade Future City project at Omose Elementary School

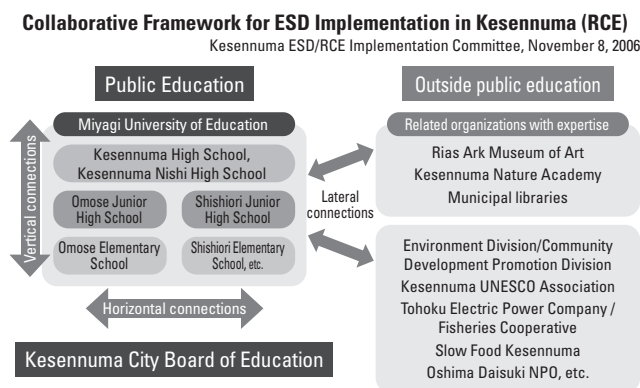


Based on the experience of Omose Elementary School, ESD education spread to other schools in Kesennuma, with each school pursuing its own ESD activities. Furthermore, around 2008, all elementary and junior high schools in the city, as well as some of its kindergartens and prefectural high schools, became UNESCO Schools, which are also designated by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) as “ESD Promotion Centers.” It was here that the first system in which local kindergartens and elementary, junior high, and high schools collaborated to implement ESD throughout the educational system was established. This subsequently developed into a model for ESD, not only for Japan but also for the world.

## (2) Development of ESD in Kesennuma

These ESD efforts have also enjoyed international recognition. In 2005, UN University recognized “RCE Greater Sendai” as one of seven RCEs (Regional Centres of Expertise on ESD), which were to be model regions for ESD. As a model RCE, Kesennuma City has attempted to build three types of connections: “vertical connections” corresponding to the developmental stages of kindergarten, elementary school, junior high school, and high school; “horizontal connections” that spread across the city; and “lateral connections” with social education facilities, businesses, and government (Figure 7-2).

Figure 7-2: Kesennuma ESD/RCE implementation framework



Source: *Mobius for Sustainability*, written/edited by Yukihiko Oikawa

To realize this goal, the Kesennuma ESD/RCE Implementation Committee was established at the initiative of the Kesennuma Board of Education. The Kesennuma ESD/RCE Roundtable was then set up as a platform for sharing information and reciprocal learning. The event has been held at Omoze Elementary School, the birthplace of ESD, every year for the past two decades since 2002, even overcoming the Great East Japan Earthquake in 2011.

The objectives of the Kesennuma ESD/RCE Roundtable are threefold:

- (1) To acquire and share information on the latest trends in education and ESD/SDGs, with the participation of invited experts, MEXT, the Ministry of the Environment, UNESCO, other UN bodies, and so on.
- (2) Reciprocal learning about local ESD/SDGs practices at kindergartens, elementary schools, junior high schools, high schools, community centers, companies, NPOs, and so on.
- (3) To discuss various local issues related to the environment, disaster prevention/reconstruction, and

urban development from an ESD perspective, and to share directions and initiatives for the sustainable development of local communities (SDGs) with a diverse range of stakeholders, including participants from education, local communities, government, business, and UNESCO associations.

This is precisely what it means to create a “classroom” for sustainable community development through the participation and collaboration of a diverse range of actors. This forms the foundation of Kesennuma City’s current ESD-based SDGs initiatives.

## (3) Global Expansion of Kesennuma’s ESD

ESD is rooted in the local community, but it is important to pursue learning from a global perspective. Led by Omoze Elementary School, Kesennuma City has also developed ESD involving an in-depth study of the Earth. From 2002 to 2006, it collaborated with schools in the U.S. to develop “paired projects” on the topic of “Water-side Environment and Human Life,” with the same grade in each country having the same theme. Through this international ESD project, children in Japan and the U.S., separated by 11,000 kilometers across the Pacific Ocean, used ICT to engage in shared learning across the barriers of time, space, and language. Through this exchange, the children not only developed a deeper understanding of differences (continents and coasts, lakes and oceans, etc.) and similarities (water cycle, benefits of nature, impact of human life on the environment, etc.) in their respective environments, but also shared their commitment to making their communities and the Earth sustainable, thereby cultivating a global perspective and expanding their circles of learning and friendship (Figure 7-3).

Sharing and experiencing the ESD educational philosophy between Japan and the U.S. also had a significant impact on many of the teachers involved, transforming their teaching methods and educational philosophies to incorporate ESD principles and learning methods into their own classroom instruction, as well as influencing their later lives. This Japan-U.S. initiative won high acclaim in the U.S., including a resolution of commendation from the Texas State Legislature.



Figure 7-3: Japan-U.S. environmental education project (Master Teachers Program)



Source: *Mobius for Sustainability*, written and edited by Yukihiro Oikawa

Kesennuma’s international outreach based on ESD has continued to the present day (although the structure and themes continue to change), such as the participation of students in UNESCO, OECD, and other international projects on disaster prevention/reconstruction, oceans, and climate change, as well as the participation of teachers in overseas training programs.

#### (4) Applicability of Kesennuma’s ESD

As described previously, ESD in Kesennuma, which originated at Omoso Elementary School, has been a pioneer for ESD in Japan and around the world, serving as a model in terms of practice, implementation framework, and outreach to both domestic and international audiences. Its progressive and widely applicable features can be summarized as follows:

- i) Development and implementation of systematic and exploratory ESD programs rooted in the community
- ii) Establishment of partnerships with local communities, universities, and specialized institutions that serve as a knowledge base for ESD promotion
- iii) Systematic practice of ESD through collaboration between kindergartens, elementary schools, junior high schools, and high schools
- iv) Cultivation of a global perspective through joint learning with schools in other regions and overseas
- v) Implementation of “shared learning” that uses ICT to transcend time and space

Using the strategies and framework discussed here, Kesennuma developed a unique ESD program that makes the most of the characteristics of individual communities and addresses local issues.

## 3 Overcoming the Great East Japan Earthquake and Creating a Sustainable Future

Tragedy struck suddenly on Friday, March 11, 2011, just a day before the junior high school graduation ceremony. Kesennuma was hit by a huge earthquake and tsunami of unimaginable scale, described as a “once-in-a-thousand-years” event. Indeed, in the aftermath of this unprecedented disaster, the city fell into an “unsustainable situation.”

This section describes actual examples to demonstrate how, even in these circumstances, the ESD capabilities that Kesennuma had cultivated over the years contributed to evacuation processes and recovery from this immense disaster.

### (1) ESD and Crisis Response in the Great East Japan Earthquake

In preparation for future earthquakes and tsunamis, all schools in Kesennuma City had previously developed a disaster prevention manual and conducted regular evacuation drills for various hypothetical scenarios. However, the scale of the Great East Japan Earthquake was truly unprecedented, far exceeding those manuals and scenarios. In addition, the disruption of communication networks meant that instructions from the Board of Education and contact with other schools were cut off, forcing each school to make its own judgments and choices in the absence of any information. At each school, teachers worked together as one, applying their wits and courage for last-minute evacuation and escape operations. Meanwhile, children on their way home from school also evacuated together, making their own decisions, and receiving advice from local residents. Thanks to the good judgment of teachers and children and communication with the community, no children under school supervision in Kesennuma City lost their lives.

In addition, immediately after the earthquake, junior high and high school students were active at evacuation centers and schools, supporting the evacuation and recovery process. Student councils took the lead in planning what they could do for the evacuees and the community, and also took the initiative to make proactive contributions to the restoration of the community. At each school,

students did what they could in terms of planning how to help with food distribution, clearing up debris, securing water for toilets at evacuation centers, caring for elderly evacuees, holding concerts at evacuation centers, and much more. These activities by the students brought comfort to the residents whose lives had been shattered by the disaster and served as a beacon of hope for reconstruction (Figure 7-4).

❖ **Figure 7-4: Junior high school students cooking at an evacuation center (Oshima Junior High School)**



Source: Kesennuma City Board of Education

The measures taken by students in response to the crisis were not something that could be accomplished overnight. Communication skills and capacity for independent thought, judgment, and action, even in the face of unforeseen circumstances, are abilities that Kesennuma has cultivated over many years through disaster prevention education and ESD education. The response serves as proof that these skills can be used even in dire situations, and that the partnerships between schools, the community, and related organizations that had been developed through this learning were able to function effectively.

## (2) Disaster Recovery/Reconstruction and ESD

ESD fosters critical thinking and systems thinking, as well as skills in communication, information gathering and analysis, and the ability to make decisions and take action. These capabilities are essential when dealing with crises, and need to be employed at a moment's notice in the face of a disaster. In fact, during the Great East Japan Earthquake, teachers at every school made the best use

of these skills to deal with the difficulties they faced. The children also used the skills they had developed through their studies to evacuate appropriately and do what they could to help rebuild the community after the disaster.

If recovery from disasters is viewed as the process of building a sustainable society, the following four abilities and attitudes should be cultivated in ESD-oriented learning for disaster prevention and mitigation:

- (1) Scientific knowledge and understanding of the mechanisms through which disasters occur
- (2) The ability to recognize disasters and their impact on human society and the students' own lives
- (3) The ability to prepare and respond to minimize damage resulting from disasters
- (4) The ability and attitude to participate in post-disaster recovery and to "Build Back Better"

In order to achieve a better recovery ("Build Back Better"), it is important to develop resilience among children, who will shoulder the burden of recovery, as well as nurture their ability to design a future for themselves and their communities. This cannot be achieved overnight but is possible through human resource development based on long-term, sustained, and systematic education. All elementary and junior high schools in Kesennuma are UNESCO Schools, and the city aims to nurture individuals to lead reconstruction and the creation of a sustainable society, through appropriate and sustainable education at the kindergarten, elementary, junior high, and high school levels.

Each region of Japan, not just disaster-stricken areas like Kesennuma, is facing a variety of challenges, including falling numbers of children, demographic aging, depopulation, and the decline of key industries. The participation and contribution of young people, who will lead the next generation, is essential to overcome these challenges. Moreover, these young people must be able to perceive issues from a global perspective while remaining attuned to their communities; to think and make decisions; and to take action both inside and outside their local areas. "Developing the creators of a sustainable society," as outlined in the national curriculum guidelines, is something that cannot be achieved without ESD.

### (3) Establishment of ESD Networks for Disaster Prevention and Mitigation

It is said that there are three stages to disaster prevention and mitigation: self-help, mutual aid, and public assistance. However, although self-help and mutual aid worked to some extent after the Great East Japan Earthquake, they could not be sustained by themselves over a long period. Meanwhile, support from public assistance took time because of the extensive damage across a wide area, with some areas not receiving any. NPOs/NGOs took on new roles to fill these gaps, and new support was provided by a network of diverse actors, such as corporations and international organizations. I describe this as “Network Help.” Through longstanding ESD initiatives such as UNESCO Schools and RCEs, Kesenuma had established connections and networks not only in Japan but also around the world (see p.96). These functioned well during the disaster, allowing wide-ranging and effective support to be provided for the emergency assistance and recovery/reconstruction phases, and this was a major driving force for subsequent efforts to rebuild education. In this way, ESD lies at the very heart of “Network Help,” and I believe that it can operate as an important principle and method for reconstruction, both in terms of approach and in terms of networking.

## 4 ESD for 2030 — A Contribution to the Achievement of the SDGs

With the deadline for achieving the SDGs by 2030 approaching, a new international framework, “Education for Sustainable Development: Towards Achieving the SDGs (ESD for 2030)” was adopted at the 74th UN General Assembly in December 2019.

Education is addressed in Goal 4 of the SDGs, which aims to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.” Meanwhile, target 4.7 of this goal calls for ESD to ensure that “all learners acquire the knowledge and skills needed to promote sustainable development”). Moreover, based on the common understanding that ESD is “a key enabler of all the other Sustainable Development Goals,” ESD is emphasized not only as an integral component of SDG 4 on education, but also as an enabler of all other SDGs (UN General Assembly Resolution A/RES/72/222

on Education for development in the framework of the 2030 Agenda for Sustainable Development, 2017). The overall objective of ESD by 2030 is to realize a more just and sustainable world by achieving the 17 SDGs, and to strengthen ESD’s contribution to each (Figure 7-5).

Figure 7-5: The “ESD for 2030” concept



Source: Japanese National Commission for UNESCO

In other words, ESD is not limited to Goal 4 but also contributes to the achievement of all 17 SDGs by developing the creators of a sustainable society. Therefore, in terms of human resource development, further promotion of ESD will lead directly or indirectly to the achievement of the SDGs. Going forward, we can further clarify the objectives, issues, and contents of ESD by adding new value to existing ESD (and related educational activities) from the perspective of its contribution to each SDG. In addition, being aware of the global SDGs which are shared by all of humanity, while trying to find solutions to local issues, may link community-based activities to solutions to global challenges. In this way, by establishing that “ESD for 2030” framework meant “ESD is human resource development (education) for achieving the SDGs,” clarified the relationship between ESD and the SDGs. The SDGs have provided a clear direction for ESD by clarifying the issues which ESD should address as well as the approach to be taken.

Meanwhile, the Kesenuma ESD/RCE Roundtable 2021 was held to discuss the future city-wide promotion of the SDGs, with the participation of the Mayor of Kes-

ennuma and others (November 5, 2021). Based on discussions at this event, it was proposed that a “Kesenuma SDGs Consortium” (provisional name) be established to pursue sustainable community development throughout the city. It was also proposed that a framework be created to promote the SDGs in Kesenuma through collaboration between industry, government, and academia, focusing not only on ESD, but also the “Slow Food” movement, the “*Mori wa Umi no Koibito*” (“The Forest is the Lover of the Sea”) movement<sup>1</sup>, human security, and other initiatives. This marks a major step toward the realization of the SDGs.

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<sup>1</sup> This slogan was created following the discovery that the quality of oysters and fish caught in the sea was affected by the deterioration of the forests. To address this, fishermen began planting trees in the forests near the sea. An NPO called “Mori wa Umi no Koibito” based in Kesenuma currently works on reforestation, nature conservation, and hands-on educational programs for children to deepen their understanding about the links between human beings and nature. See <https://mori-umi.org/english/>.