

Chapter 23

Transforming Education Through Green Schools: Trials, Tribulations and Tensions



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Abstract This chapter discusses the impact of the various green school programs on education for sustainable development in the countries included in this volume and how this impact needs to be problematised in terms of measurable and unmeasurable outcomes. It also discusses the challenges and opportunities experienced by the various green school programs and the possibilities of a green future for schools.

23.1 Introduction

The stories told in Part II provide some insights into what is happening with the development, implementation and impact of green school movements in a number of countries. In many ways these are just the tip of an iceberg. The Foundation for Environmental Education's Eco-Schools program is in 68 countries (see Table 3.1), and several countries (for example, Aotearoa New Zealand, Australia, Austria, Israel) have developed their own similar green school programs. The Green Buildings Councils in some countries (for example, Australia, Canada, Hong Kong, United States of America) have developed green school programs and accreditation which are focused on classroom design, air quality and ventilation, acoustics, thermal quality and lighting to improve student health and well-being, staff morale, and school operational costs as well as have environmental benefits (Emirates Green Building Council 2019; Green Building Council of Australia 2010). In addition, in several countries there is more than one green school program in operation. For example, in England and Australia there are Eco-Schools and Sustainable Schools, in the USA there are National Wildlife Federation Eco Schools USA, Project Learning Tree Green Schools and the Green Schools Alliance as well as Green Building Council certified Green Schools. Mexico and India have also had several green school related programs over the years.

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The brief for the authors of the stories was that they discussed the history of the green school movement in their country, its current status, achievements, obstacles and broader impact on education for sustainable development in their country. The stories that are included in this volume demonstrate a wide range of experiences, ranging from the strong influence that the Eco-Schools program has had on education for sustainable development policy in Kenya (Otieno et al. 2020), to the frustrations experienced in Mexico (as discussed by González-Gaudiano et al. 2020). Then there is the promise of the Eco-Schools Indian Ocean program that has helped to demonstrate how a shift within mainstream education towards bottom-up processes which involve discourse, critical reflection and action are a viable means to addressing community level sustainability challenges (Copsey 2020), and the uncertain future for green schools in Hong Kong with the imminent demise of the twenty year old Green School Award (Tsang et al. 2020).

The country stories have highlighted the challenges and opportunities for green school programs, and these are discussed in Section 23.3, but first I will review the program impacts.

23.2 Program Impacts

Determining the impact of a program is a problematic task. While some impacts would seem to be measurable, there also needs to be a nuanced understanding of what is an impact, as impacts cannot always be precisely measured, and some impacts cannot be measured at all.

At a simplistic level, one way of measuring broader impact is by the number of schools involved in a green school program. This varies between countries, but seems to plateau at around one third of all schools, with a domination by early childhood and primary schools. Indeed, impact is easier to measure at an individual school level, and there are many stories of impact here at a quadruple bottom line level – economic, educational, environmental and social. Gough (2005, 2006) investigated these impacts in Australian Sustainable Schools and Rickinson et al. (2014) investigated ResourceSmart Schools in Victoria, Australia. All of these studies found a wide range of impacts in each of these dimensions. Many schools, even those that do participate in green school programs, have often achieved measurable economic benefits from adopting green school practices to save resources (water, energy) and reduce waste, and in so doing have also achieved environmental impacts, which cannot be precisely measured. The social impacts of such experiences on teachers, students and their families cannot be measured at all, or are very difficult to measure, but parents and teachers report significant impact on children's self-esteem, confidence and well-being, as well as their reduced absenteeism and increased engagement with schooling (Gough 2005; Green Schools Alliance n.d.; Henderson and Tilbury 2004; Rickinson et al. 2014).

Educational impacts can include changes in the curriculum, enhanced student engagement with schooling and improvements in student literacy and numeracy,

some of which can be measured, but not necessarily directly correlated with the green school program. For example, Elsa Lee et al. (2020) note that school leaders in the United Kingdom feel that sustainability guidelines have influenced students' caring for others, their environment and the whole community. The broader impacts reported in the country stories indicate similar findings. For example, Huang Yu and John Chi-Kin Lee (2020) report that the green school project in China has become an outstanding platform for promoting students' participation in environmental protection and becoming a potential guide for building a resource-saving and environmentally friendly society. The program also can have an educational impact on teachers. Eureka Rosenberg (2020) writes that, because the Eco-Schools program is situated inside schools, learning opportunities have to be created by their teachers. Participating teachers find that they learn a lot, about the environmental content of the curriculum and about innovative teaching practices.

In many countries, there is evidence of the impacts of green school programs on organisational change in schools and in development of more sustainable practices (waste, energy and water use), more sustainability content in the curriculum, and improvements to the physical surroundings of the school. For example, Kevin Coyle (2020) reports that, in the United States of America, the greening of schools is reducing environmental impact and costs; providing effective environmental and sustainability education; and improving the health and wellness of schools, students, and staff. He also notes that many schools are, in some way, going green whether by simply working to lower their energy bills or going so far as to build new green school buildings. Also, by involving students in decision making about school buildings and involving them in the local community has broader impacts on their understanding of ESE and participation.

Franz Rauch and Günther Pfaffenwimmer (2020) report that the Austrian ECOLOG program has changed teaching methods, increased the integration of topics, changed the design and organization of school building, raised the images of schools. It has also helped schools develop their individual identities, and inspired an inservice teacher education course and collaborations. Edgar González-Gaudiano et al. (2020) discuss how, over the years, the green schools movement has not only reactivated many environmental education programs that had suffered cuts in funding, but also that it has strengthened their approaches by focusing on building ecocitizenship in Spain.

Various country stories do report broader impacts of their green school programs, ranging from increased individual actions by students to influences on government policy. For example, the high level of participation by students in protests for action on climate change in Australia have been related to the work of sustainable schools (Larri and Colliver 2020). Similarly, in Sweden Niklas Gericke et al. (2020) report that students are taking private eco-action such as becoming vegan. In South Africa, Eureka Rosenberg (2020) reports that Eco-Schools engage learners in relevant livelihood activities such as rainwater harvesting and food gardening, as well as motivating them to do better at scholastic tasks like reading, and suggests that the program contributes to a variety of learning outcomes relevant to livelihoods outside *and* inside the formal economy.

Some country stories highlight the impact that their green school program has had on government policy. For example, Rauch and Pfaffenwimmer (2020) note that, because of its strong links with the Education Ministry, the Austrian ECOLOG program has influenced other developments. Dorcas Otieno et al. (2020) in Kenya, report that the Eco-Schools program manager, the Kenya Organisation for Environmental Education (KOEE), played a notable role in developing the official Kenyan ESD Strategy, advocating for mainstreaming ESD in the school curriculum and for Eco-Schools as best practice in the Strategy, and for the integration of environmental concerns into national development education action plans. In addition, the East African Community used some of the experiences of the Eco-Schools program in Kenya in drafting their ESD policy. There have been other inter-country collaborations too. The Eco-Schools Indian Ocean program highlights inter-country collaboration that is now spreading even wider with the creation of the Eco-Schools African Network (Copsey 2020).

Overall, the green school program in each country is contributing to children's understanding of and participation in sustainability related issues – to greater and lesser extents. The program is also seen by many as encouraging inter-generational learning transfer, re-evaluation of lifestyles and resource usage, and changes home behaviours. School gardens and green schoolyard movements are also becoming more common. Where the whole school community has embraced the green school program there is evidence of wider community impact. However, implementing ESD in schools involves approaches to teaching and learning that integrate goals for conservation, social justice, appropriate development and democracy into a vision and a mission of personal and social change. It also involves developing the kinds of civic virtues and skills that can empower all citizens and, through them, our social institutions, to play leading roles in the transition to a sustainable future. As such, ESD encompasses a vision for global society that is not only ecologically sustainable but also one that is socially and economically sustainable. Thus, the key areas identified with the concept of ESD, and interlinked through the dimension of culture, are society, environment and economy. Achieving such a vision through schools is problematic, especially as many green school programs seem to mainly focus environmental aspects, with only superficial attention to the economic and social dimensions of ESD.

The impact of green school programs also needs to be considered within the context of the overall uptake of environmental education/education for sustainability in various countries, which is still a work in progress as ESD is still not being mainstreamed by most governments. This can be tracked through UNESCO documents. In their final report on the United Nations Decade on Education for Sustainable Development (2005–2014) Carolee Buckler and Heather Creech (2014, p. 10) concluded,

Despite the successes that have been achieved during the DESD, Member States and other stakeholders have indicated considerable challenges remain in realizing the full potential of ESD: the need for further alignment of education and sustainable development sectors; the need for more work towards institutionalizing ESD to ensure strong political support for implementing ESD on a systemic level; and finally, the need for more research, innovation,

monitoring and evaluation to develop and prove the effectiveness of ESD good practices. While much has been done to advance the ethos and values of ESD, a full integration of ESD into education systems has yet to take place in most countries.

The next international effort to grow ESD was the UNESCO (2014) *Roadmap for implementing the Global Action Programme on Education for Sustainable Development* (GAP) for the period 2015–2019. Building on experiences during the Decade, the priority action areas were (p. 15):

1. *Advancing policy*: Mainstream ESD into both education and sustainable development policies, to create an enabling environment for ESD and to bring about systemic change
2. *Transforming learning and training environments*: Integrate sustainability principles into education and training settings
3. *Building capacities of educators and trainers*: Increase the capacities of educators and trainers to more effectively deliver ESD
4. *Empowering and mobilizing youth*: Multiply ESD actions among youth
5. *Accelerating sustainable solutions at local level*: At community level, scale up ESD programmes and multi-stakeholder ESD networks.

However, the 2017 mid-term review of GAP implementation revealed that “there had been insufficient visibility of the engagement made by governments” (UNESCO 2019, Annex 1, p. 1). Around the same time, the Mahatma Gandhi Institute of Education for Peace and Sustainable Development, (MGIEP) (2017) reviewed curriculum documents from 22 Asian countries across 4 regions in an attempt to benchmark the current status of education as reflected in SDG Target 4.7 so that progress towards 2030 could then be measured. They concluded that (p. xviii):

- The countries reviewed generally emphasise the instrumental role of education in fostering national identity and developing human resources for economic development.
- Concepts associated with gender equality, peace, and global citizenship were found to be widely absent from national education policy and curricular documents analysed, with some exceptions.
- Concepts related to economic sustainability, such as ‘limits to growth’ and ‘green economy,’ were either absent or rarely featured.
- Environmental aspects of sustainable development were widely cited, with an emphasis on conservation. However, ‘climate change’ and ‘renewable energy’ rated little coverage in the documents analysed.

These Asian countries are not alone. In some places like Australia, the uptake of the local green school program, the Australian Sustainable Schools Initiative (as discussed by Larri and Colliver 2020), can be seen as having more of an impact in schools and on students than the trivialising of sustainability in the Australian Curriculum as a non-examinable cross curriculum priority (Gough 2016, 2017, *in press*).

Given that a requirement for joining the Eco-Schools program is government endorsement of the host organisation, the lack of government engagement with ESD can be a limiting factor, so in many ways it is surprising that green schools movements have grown to the extent they have, but even without government engagement with ESD, endorsement of a green school program can be seen as an easy way for governments to tick the box on implementing ESD for external reporting. This is apparent in the sidestepping around a government commitment to ESD that is included in the Australian *Report on the Implementation of the Sustainable Development Goals* (Department of Foreign Affairs and Trade 2018, p. 39):

Many Australian schools and universities have implemented sustainability programs to teach children and young people about resource sustainability and to improve resource management within their institutions. Sustainability is one of three national cross-curriculum priorities and has been incorporated in programs like ResourceSmart Schools in Victoria. Many Australian universities are actively incorporating the SDGs into their curricula and student activities.

The Australian Education Council, comprised of the Commonwealth and all State and Territory Ministers of Education, recently moved to distance itself even further from sustainability. The *Alice Springs (Mparntwe) Education Declaration* (Education Council 2019), which sets out the national education goals for young Australians, omitted the resolution that “a focus on environmental sustainability will be integrated across the curriculum” that had been in the previous national goals statement (MCEETYA 2008, p. 14). It also removed any reference to climate change that had been in the previous statement (Gough 2020). In addition, while the Commonwealth Department of Environment (under several names) was once quite active in supporting environmental and sustainability education:

- publishing *Today Shapes Tomorrow: Environmental Education for a Sustainable Future – A discussion paper* (Environment Australia 1999), *Environmental Education for a Sustainable Future: National Action Plan* (Environment Australia 2000) and *Living Sustainably: the Australian Government’s National Action Plan for Education for Sustainability* (DEWHA 2009),
- hosting the National Environmental Education Council (2000–2010)
- sponsoring *Educating for a sustainable future: A National Environmental Education Statement for Schools* (Gough and Sharpley 2005) and the Australian Research Institute in Education for Sustainability (ARIES) (2002–2010)
- leading Australia’s response to the United Nations Decade of Education for Sustainable Development.

There is no longer any support for education forthcoming from the Department, and the Department of Education has never really owned environmental education outside of the Curriculum Development Centre (1974–1981) projects and token mentions as a cross curriculum priority in the Australian Curriculum (ACARA 2019).

Attaining government commitment to ESD is an ongoing challenge, but there are many others, as discussed in the next section.

23.3 Challenges for Green Schools

One major challenge for the green school movement is the engagement of all schools, and the sustaining of their involvement in the green school programs. The stories in this volume indicate that generally a third or less of the number of schools in a country are participating in green school programs, and these participants tend to be more primary than secondary schools.

Even within the schools that are participating in the programs there can be a lack of ability and willingness of teachers to embrace new pedagogical practices, in particular a socially-critical pedagogy, and so achieve socially-transformative education (Edwards 2016). Jane Edwards (2016) and Paul Vare (2020) also found contradictions (rhetoric-reality gaps) that the teachers in sustainable schools do not recognise. And not all schools adopt a whole school approach. This is often related to the commitment of school leadership to supporting and sustaining the program, and the availability and cost of professional development sessions to support the teachers. Programs can often not succeed or be sustained when there is a lack of ownership of the program by the whole school community, or when the program leaders in the school burn out or leave. Another complicating factor is competition from other similar programs that are available and may cost less to join and operate.

As noted in the previous section, a related challenge is the environmental education or education for sustainable development is not seen as an educational priority by most governments. Indeed, responsibility for environmental education or education for sustainable development related matters in many countries is the responsibility of the environment rather than the education ministry. In addition, in many countries, environmental education or education for sustainable development is not recognised as a subject or discipline in the school curriculum so there is no mandated associated curriculum that schools need to follow. As Tal (2020) notes about the situation in Israel, lack of recognition of EE as a discipline has many consequences in terms of the lack of a recognized curriculum, insufficient professional development for teachers, and ambiguity regarding the continuous development of the field, which, unlike other school disciplines, depends strongly on the financial and professional support of the Ministry of Environmental Protection rather than the Ministry of Education. Thus, it can be difficult to argue for a school to join a green school program, and engage with education for sustainable development.

Another related challenge is obtaining and sustaining government support for the program. The Eco-Schools model operated by the Foundation for Environmental Education (FEE) allows only one member organisation per country and all members need an endorsement from their national Ministry of Education or Environment. The member organisation can be a keep X tidy group (as in Australia, New Zealand, England, Scotland, Wales, Northern Ireland and Sweden), a wildlife association (as in the United States of America, South Africa, Morocco, Cyprus and Iceland), a green buildings council (in Qatar and Saudi Arabia) a specific FEE group (in France, Germany, Portugal, Mexico) or something else. Government support can also be fickle. For example, the UK Department for Education and Skills (2006) wanted all

schools to be sustainable schools by 2020, but in 2010, the government announced that they would no longer directly support the Sustainable Schools initiative in England “based on the belief that schools perform better when they take responsibility for their own improvement” (Hill 2010, p. 1). A similar situation has happened in Australia where national funding for the Australian Sustainable Schools initiative was discontinued by the Australian Government in 2013, although some states are continuing to fund the state level programs (Gough 2016; Larri and Colliver 2020). However, the Australian Government, through the Department of Environment and Energy, has been supporting the much smaller Eco-Schools Australia program, run by the Keep Australia Beautiful Council, since 2014. In the United Kingdom, Lee et al. (2020) report that outdoor learning is a growth area with Forest Schools and Nature Schools being established to better (re)connect children with nature, and this has government funding. There is a different but related challenge in Israel (Tal 2020) where, in addition to the Green School certification, the two ministries have launched an Integrated Program for Education for Sustainability (EfS). The program consists of school-based professional development of 30 hours delivered by two NGOs, in which 80% of the schools’ teachers must enrol, including the principal. However, this is seen as an imposition by some principals and teachers, and EfS programs are not being implemented after this professional development.

A further challenge is to get many of the green schools to move beyond an environmental focus and engage an education for sustainable development agenda. There are many examples of programs engaging with environmental related issues (such as energy, water, waste and biodiversity) but fewer examples of engaging sustainable lifestyles, human rights, gender equality, or culture of peace or cultural diversity issues. For example, Patrick Howard (2019) reports that the focus of Green Schools Nova Scotia is on environmental issues and energy conservation, and, significantly, it does not explicitly reference education for sustainable development. Instead, education programs that link environmental education that to the health, well-being, and economic prosperity of communities in Nova Scotia are provided by NGOs, such as the Ecology Action Centre and the Atlantic Coastal Action Program. Henderson and Tilbury (2004, p. 29) argue that as programs develop they grow in scope and “tend to broaden from a narrow environmental management or practical greening focus to a more holistic focus of sustainability”, but there the stories in this volume do not seem to support this contention. Numerous research studies, and the experiences of the green school programs discussed in this volume, show that students are interested in the environment and learning about and in it, and are willing to take actions to reduce their impact on the environment and protect it. This will continue to be an important component of green school programs.

A contributing factor to this narrow perspective could well be that teachers do not understand “education for sustainable development”. As González-Gaudiano et al. (2020) illustrate in Fig. 15.6, not even on a global level has the concept of “Education for Sustainable Development” become as relevant as the concepts of “Environmental Education” or “Educación Ambiental” in the framework of a comparative analysis of the evolution of searches for these three terms. They then argue

that there is a low degree of relevance and limited penetration of the discourse of Education for Sustainable Development in Latin American countries.

A number of other research studies (for example, Borg et al. 2014; Cebrián and Junyent 2015; Gough 2016, 2018; Öztürk 2018; Reed 2014; Summers et al. 2003) indicate that teachers do not understand education for sustainable development and that, as a result, education for sustainable development programs are developed and implemented as environmental programs. This is a major challenge. However, as noted above and in other country stories, by participating in the professional development activities associated with green school programs, participating teachers find that they learn a lot, about the environmental content of the curriculum and about innovative teaching practices.

Other research studies have investigated the impact of the eco-school certification systems on environmental education in many countries. As discussed by Gericke et al. (2020), some studies – in the Czech Republic (Cincera and Krajhanzl 2013), the region of Flanders in Belgium (Boeve-de Pauw and van Petegem 2011, 2013), Israel (Goldman et al. 2017) and the U.S. (Warner and Elser 2015) – have shown that the effects of what comes out at the student level are limited. However, other studies have found positive effects on students. For example, Jelle Boeve-de Pauw and Peter Van Petegem’s (2018) study in the Flanders region found that, as the schools progress in becoming a certified eco-school, there is a positive educational impact on their students’ theoretical knowledge, and to a lesser extent, applied knowledge improve, and their amotivation declines. Jan Cincera et al.’s (2019) study in the Czech Republic found that students’ perceived participation in decision-making in the Eco-School program leads them to be more satisfied with the program and more empowered by their work.

These challenges are reflected in the critical success factors for whole school sustainability programs identified by Henderson and Tilbury (2004, p. 6):

alignment with national government priorities; access to expertise in EE and/or EFS during program design and implementation; significant and continuous funding; alignment with EFS approaches; investment in professional development of program team as well as school partners; creating links with EE initiatives already in operation; establishment of multi-stakeholder partnerships.

These critical success factors also throw up their own challenges. National government priorities are not necessarily aligned with the Sustainable Development Goals, as attested by the report from the United Nations (2019, np): “despite progress in a number of areas over the past four years, on some of the Goals, progress has been slow or even reversed. The most vulnerable people and countries continue to suffer the most and the global response has not been ambitious enough.” There is also not necessarily sufficient funding made available nor professional development for teachers. Other issues include lack of support for community partnerships and competition between various initiatives within the school.

In addition to the abovementioned factors, reflecting on the country stories in this volume, some of the limiting factors that the authors report include the following. A major one is that the school leadership needs to be committed to sustaining the

program, and it needs to be owned by the whole school community. In addition, the programs often rely on dedicated individuals who may burn out or leave the school. Teachers and students also often report eco-fatigue (as well as eco-anxiety). The teachers and students also need access to external experts to support the programs.

Curriculum documents often do not support green school programs and they end up being offered as extracurricular activities rather than as a core program with a whole school approach. In many countries the absence of a genuine ESD curriculum hinders the effectiveness of the green school program.

23.4 Opportunities Afforded by Green School Programs

The green schools programs also provide opportunities. Because of the whole school approach which underpins the programs there is an opportunity to connect teaching and learning processes, school organization and collaboration with external partners. For example, in Israel (Tal 2020) the certification process is carried out in collaboration with the local municipalities and focuses on five components: a curriculum, an action plan for a sustainable lifestyle, green visibility, community involvement, and green leadership – and Schools certified as Green Schools receive small government grants to support the “greening process”. The networking opportunities between schools also enable other developments to be fostered.

The financial opportunities offered to schools through savings on energy, water and waste management expenses, and through selling produce from school gardens provide opportunities for students to learn small business and entrepreneurial skills.

González-Gaudiano et al. (2020) discuss how in some countries, introducing green school programs has provided opportunities to not only reactivate many environmental education programs that had suffered cuts in funding, but also to strengthen their approaches by focusing on building eco-citizenship. They also provide opportunities to introduce new structures into schools, such as environmental committees, that open participation to all levels of the educational community, but they can clash with the models of school organization still prevailing. A related comment comes from Rosenberg (2020), regarding South Africa where incorporating the program into the formal education system may increase resources and motivate expansion. However, such a move may ironically reduce the programme benefits, if it becomes yet another compliance criterion, and loses its novelty value for teachers and learners alike.

Green school programs also provide opportunities to engage potentially disengaged students with their schooling and the wider community. For example, Lee et al. (2020) report that school leaders in the United Kingdom feel that sustainability guidelines have influenced students’ caring for others, their environment and the whole community. Similarly Coyle (2020) reports that, in the United States’ context, green school programs, whether developed by state agencies and local school districts directly or with the help and support of third party public interest organizations, are finding that the process of greening older schools can engage students,

faculty and facilities staff in many creative and educational efforts such as students auditing energy, water and waste efficiencies or planting trees and educational gardens.

23.5 From Environmental Education to Global Citizenship

That green school programs are embracing the SDGs either in their philosophy (as with Eco-Schools) or through naming the program Sustainable Schools, can create some tensions with the actual content of the programs and their focus on environmental issues. Education is important in achieving environmental protection and sustainable development, but the nature of that education has changed over the years.

The importance of education at all levels in achieving a sustainable future has long been recognised in United Nations documents (United Nations 1993, 2002, 2012; World Commission on Environment and Development 1987). Documents and conferences in the period after the 1972 United Nations Conference on the Human Environment referred to environmental education, such as the Intergovernmental Conference on Environmental Education held in Tbilisi (USSR) in 1977 (UNESCO 1978). Even the education chapter of *Agenda 21*, states that “[t]he Declaration and Recommendations of the Tbilisi Intergovernmental Conference on Environmental Education organized by UNESCO and UNEP and held in 1977, have provided the fundamental principles for the proposals in this document” (United Nations 1993, para. 36.1). The goals from the Tbilisi conference (UNESCO 1978, p.26) to which these documents refer are:

1. The goals of environmental education are:
 - (a) to foster clear awareness of, and concern about, economic, social, political and ecological interdependence in urban and rural areas;
 - (b) to provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment;
 - (c) to create new patterns of behaviour of individuals, groups and society as a whole towards the environment.

The focus here is on the total environment and its improvement and protection as well as not having “harmful repercussions on people” (UNESCO 1975).

There was a transition in terminology between the Belgrade Charter (UNESCO 1975), the Tbilisi Declaration (UNESCO 1978) and later reports in that *environmental education* increasingly was replaced by *education for sustainable development* in both *Agenda 21*, the report of the 1992 Earth Summit held in Rio de Janeiro (United Nations 1993), and the report of the 2002 United Nations World Summit on Sustainable Development held in Johannesburg (United Nations 2002).

For example, *Agenda 21*, the strategy plan from the United Nations Conference on Environment and Development, (United Nations 1993) states:

Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues... It is also critical for achieving environmental and ethical awareness, values and attitudes, skills and behaviour consistent with sustainable development, and for effective public participation in decision-making. (paragraph 36.3)

In this instrumentalist view, education for sustainable development (ESD) is seen as the means by which schools and communities can (and should) work towards creating a sustainable future. This is consistent with the SDG's approach to ESD, but a long way from how environmental education was initially conceptualised.

The Johannesburg World Summit declared education as critical for promoting sustainable development. However, the vision from *Agenda 21* was broadened from a focus on "the role of education in pursuing the kind of development that would respect and nurture the natural environment" to encompass "social justice and the fight against poverty as key principles of development that is sustainable" (UNESCO 2004, p. 7), as is evident in this statement from the World Summit report:

We recognize that poverty eradication, changing consumption and production patterns and protecting and managing the natural resource base for economic and social development are overarching objectives of and essential requirements for sustainable development (United Nations 2002, p. 2).

This statement is significant because the environment is now represented as a 'natural resource base for economic and social development', and notions of improving the quality of the environment, contained in earlier statements, have disappeared. Silences around the intrinsic value of the environment continued into the outcomes report of the Rio+20 United Nations Conference on Sustainable Development (United Nations 2012) where the thematic areas and cross-sectoral issues are summarised as: poverty eradication, food security and nutrition and sustainable agriculture, energy, sustainable transport, sustainable cities, health and populations, and promoting full and productive employment, decent work for all, and social protections.

As a result of proposals from Japan and Sweden, and following the Johannesburg Plan of Implementation, the United Nations General Assembly, at its 57th Session in December 2002, adopted a resolution to start the Decade of Education for Sustainable Development (DESD) from January 2005. UNESCO was designated to be the lead agency for the Decade and it developed an International Implementation Scheme for the DESD (UNESCO 2004, 2005). As discussed previously, since the Decade there has been the *Roadmap for implementing the Global Action Programme on Education for Sustainable Development* (GAP) for the period 2015–2019 (UNESCO 2014), and now the *Framework for the Implementation of Education for Sustainable Development Beyond 2019* (UNESCO 2019). The GAP had two objectives: "to reorient education and learning so that everyone has the opportunity to acquire the knowledge, skills, values and attitudes that empower them to contribute to sustainable development" and "to strengthen education and learning in all agendas, programmes and activities that promote sustainable development" (UNESCO 2014, p. 14).

The UNESCO Decade Scheme brought together a range of international initiatives that were already in place – in particular the Millennium Development Goals (MDG) process, the Education for All (EFA) movement, and the United Nations Literacy Decade (UNLD) – with education for sustainable development (ESD). However, somewhere between the environmental education statements from Tbilisi (UNESCO 1978) the education for sustainable development statements from Johannesburg (United Nations 2002), the Decade (UNESCO 2004, 2005), and the more recent documents, a concern for the environment disappeared and the whole focus became the human condition.

During the Decade there were two reviews of progress that recognise that ESD is being interpreted in many different ways in different contexts and that ESD has replaced environmental education in some instances in formal education (Wals 2009; Wals and Nolan 2012). However, in the first review it is also noted that “many countries have a tradition in addressing the environmental dimension of sustainability and are quite comfortable in doing so, this is less the case when it comes to the social, economic and cultural dimensions” (Wals 2009, p. 71). In the next review Wals and Nolan (2012) found that “ESD appears well positioned to play a synergizing role among a wide variety of sub-fields of education. These include environmental education, global citizenship education and, more recently, consumer education, climate change education and disaster risk reduction” (p. 65). This latter statement links to the UN Secretary-General’s Global Education First Initiative (2012–2016), which investigated global citizenship education as an emerging perspective that encompasses sustainability (UNESCO 2016). Global citizenship was also closely linked to ESD in the Aichi-Nagoya Declaration on Education for Sustainable Development which emerged from the November 2014 conference marking the end of the Decade. This Declaration states that

ESD can empower learners to transform themselves and the society they live in by developing knowledge, skills, attitudes, competencies and values required for addressing global citizenship and local contextual challenges of the present and the future, such as critical and systemic thinking, analytical problem-solving, creativity, working collaboratively and making decisions in the face of uncertainty, and understanding the interconnectedness of global challenges and responsibilities emanating from such awareness. (UNESCO 2019, Annex II, p. 1)

UNESCO launched the Global Action Programme (GAP) on Education for Sustainable Development (UNESCO 2014) which aimed to actively integrate sustainable development into education at the Nagoya conference. The GAP acknowledges that “sustainable development challenges have acquired even more urgency since the beginning of the Decade and new concerns have come to the fore, such as the need to promote global citizenship” (UNESCO 2014, p. 33). It built on the outcomes document of the United Nations Conference on Sustainable Development (Rio + 20) (United Nations 2012, p. 45) where Member States resolved “to promote education for sustainable development and to integrate sustainable development more actively into education beyond the United Nations Decade of Education for Sustainable Development”.

While the GAP could be read in a positive light insofar as it acknowledged the need to achieve sustainable development, it also reflected the changes in orientation between environmental education and ESD when it is compared with one of the goals for environmental education stated in the Tbilisi Declaration (and noted earlier): “to provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment” (UNESCO 1978, p. 26). The Tbilisi goal at least acknowledges the need to protect and improve the environment and not just focus on human society.

The *Framework for the Implementation of Education for Sustainable Development Beyond 2019* (UNESCO 2019) shifts the focus even further from the environment, though there is also confusion in the statements. In the Framework ESD is seen in instrumental terms:

- ESD [is] an integral element of Sustainable Development Goal 4 (SDG 4) and a key enabler of all the other SDGs (UNESCO 2019, p. 1),
- ESD should promote development as a balancing act, which implies adapting to changes while respecting the values of conservation, sufficiency, moderation and solidarity (UNESCO 2019, Annex I, p. 2), and
- ESD for 2030 therefore proposed to strengthen ESD’s contribution to all SDGs, with particular focus on helping the SDG 4 – Education 2030 agenda place greater emphasis on the contribution of learning content to the survival and prosperity of humanity. (UNESCO 2019, Annex I, pp. 1–2).

However, it also states that “ESD has to outgrow its topical understanding and work more proactively at the systemic level as a part of SDG 4 on education, and Target 4.7 in particular” (UNESCO 2019, Annex II, p. 3) which seems to be conjuring a different ESD from one that promotes “development as a balancing act”. This change in thinking about ESD in a UNESCO context is evident in the recent renaming of the ESD Team at UNESCO Bangkok to the Future of Learning Team.

23.6 The Future for Green Schools?

As interpretations of ESD move further from concerns about the environment it is perhaps timely for green school programs to consider their relationships and foci. The traditional structure for green school programs has been on energy, waste, water and biodiversity and students have responded well to these. Focusing on the SDGs more broadly is more difficult for these programs, particularly when schools in many places are struggling to even implement the traditional structure due to the range of challenges discussed earlier.

Nevertheless, as the School Strike for Climate movement has demonstrated in the past couple of years, millions of school children around the world are concerned about the state of the environment and climate, and their futures. This augers well for the future growth of green school programs and challenges schools who are not already involved to confront their obstacles and join in. It is also time for

governments to listen and take ESD seriously, incorporating it into education policies and curriculum statements rather than leaving its implementation to ministries for environment. ESD is not just a political issue, it is an educational priority.

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