

Education for Sustainable Development in the Caribbean: Demystifying the Concept to Enhance and Broaden Practice

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Although promoted on a global scale through the recently-concluded Decade of Education for Sustainable Development (DESD) (2005-2014), education for sustainable development can be a fuzzy and complex concept to understand. This may be due, somewhat, to the conceptual confusion which surrounds the concept of sustainable development itself and, in part, by an inability to differentiate clearly between environmental education and education for sustainable development. Given the importance of education for sustainable development for the countries of the Caribbean, this paper attempts to demystify the concept of education for sustainable development, present its main tenets, and explore the implications of this educational paradigm for practice and application within the region. This discussion is particularly important in light of the new global Sustainable Development Goals and the Global Action Programme for Education for Sustainable Development meant to follow-on from the DESD, both of which contribute to the post-2015 development and education agendas.

Keywords: *Caribbean, education for sustainable development, environmental education, sustainable development, Global Action Programme*

Introduction

Whilst previous development models have been characterised by unsustainable growth and consumption patterns and resultant environmental degradation, sustainable development is viewed as an alternative development paradigm for the global community that does not necessitate a trade-off between the economy and the environment. Rather, sustainable development emphasises three main pillars: sustainable social development, which embodies aspects such as human rights and gender equality; sustainable economic development, which focuses on issues such as poverty reduction and corporate responsibility; and sustainable environmental development, which attends to issues such as climate change and deforestation, and focuses on the enhancement of natural resources and ecosystems in order that carrying capacity is not exceeded (Wals, 2009). Sachs (2015, p. 6) neatly describes the concept as a “three-way” normative framework, embracing economic development, social inclusion, and environmental sustainability.”

As the sustainable development discourse began to dominate the global agenda, environmental education (EE) was twinned with the concept (Barraza, Bal, & Rebolledo, 2003; Bonnett, 2003; Paden, 2000; Scott, 2002; Selby, 2006), subsequently leading to the promotion of

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ISSN 1727-5512

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<http://www.cavehill.uwi.edu/fhe/hum/publications/EducationCERJ.htm>

education for sustainable development¹ (ESD) on global, regional, and national agendas by its lead agency, the United Nations Educational, Scientific, and Cultural Organization (UNESCO).

For the countries of the Caribbean, this emphasis on sustainable development and, by extension, ESD, is significant. The region is comprised of three main island groupings - the Greater Antilles, the Lesser Antilles, and the islands of the Bahamas and Turks and Caicos archipelagos - as well as coastal Belize and the Guianas (French Guiana, Guyana, and Suriname) (Potter, Barker, Conway, & Klak, 2004). Whilst variations exist in their physical and population sizes, landforms, culture, political status, and other factors (ECLAC, 2010), the nations of the region are characterised by specific geographical and socio-economic vulnerabilities which constrain their development options. These include a dependency on limited natural resources, vulnerability to natural disasters, high transportation and communication costs, small domestic markets, and limited economic diversification (ECLAC, 2010; UN, 1994). Intensifying these vulnerabilities is the global environmental problem of climate change and associated sea-level rise. Climate change is predicted to increase both the frequency and intensity of natural disasters in the region, whilst sea-level rise will exacerbate flood events, storm surges, coastal erosion, and other coastal hazards, affect water resources and marine-based resources, and impact economic activities such as tourism and agriculture (Barker, Dodman, & McGregor, 2009).

Additionally, these nations are dependent on their natural resource base for their main economic activities, including tourism, agriculture, mining, and quarrying. Unsustainable exploitation of these resources leads to a range of negative impacts on the physical environment, including, improper waste management and sewage disposal practices, land and water pollution, and destruction of ecosystems. These nations also are faced with challenges to societal development such as rising rates of crime and violence (UNDP, 2012), high rates of HIV infection (Jones, Modeste, Hopp Marshak, & Fox, 2013), and education-related issues such as increases in the rates of secondary school dropouts (ECLAC, 2010).

Consequently, sustainable development, and education as a mechanism to pursue a sustainable development path, becomes critical. As UNESCO states, “political agreements, financial incentives or technological solutions alone do not suffice to grapple with the challenges of sustainable development. It will require a wholesale change in the way we think and the way we act ... To create a world that is more just, peaceful and sustainable, all individuals and societies must be equipped and empowered by knowledge, skills and values as well as be instilled with a heightened awareness to drive such change” (UNESCO, 2014, p. 8).

Despite the significance of ESD and the heightened attention accorded to it during the recently concluded Decade of Education for Sustainable Development (DESD) from 2005-2014, there has been relative unfamiliarity with the concept in the Caribbean (Down, 2010) and lack of clear consensus with respect to its meaning (Down & Nurse, 2007), mirroring the global situation (Wals, 2009). Globally and regionally, the lack of agreement on ESD’s meaning and confusion about the concept may be attributed in part to the fact that the sustainable development paradigm itself within which it is embedded has various dimensions and meanings for different

¹ A caveat should be made that globally ESD is promulgated under various nomenclature including EE itself (Wals, 2009). For instance, in South Africa, labels such as ‘environment and sustainability education’ also are used interchangeably with education for sustainable development (Lotz-Sisitka, 2011). In Jamaica, the term environmental education for sustainable development (EESD) has been utilised nationally, for example, in the country’s National EESD Action Plan.

persons (Bonnett, 2003; Dryzek, 1997; Haque, 2000; Harrison, 2000; Huckle, 1996; Pigozzi, 2003; Redclift, 2002; Robinson, 2004). This undoubtedly leads to ambiguity with respect to its corollary concept – ESD (Down & Nurse, 2007; Wals, 2009). This mystification is also caused by the inability of some to clearly differentiate between EE and ESD.

The purpose of this paper then is to elucidate the concept of ESD and draw attention to some of the implications of the concept for practice. I begin by offering an overview of the history of EE and ESD in the Caribbean. I then move on to explore the concept of ESD, differentiating between it and EE, tracing its development, and delving into its essence. I end by raising some of the implications of ESD for educational practice in the region, making reference to ESD action in Guyana and Jamaica to focus the discussion. It is hoped that this examination will contribute to the intensified dialogue about ESD in the region as called for by Down and Nurse (2007), enhance the effectiveness of ESD practice and advance its promotion in the Caribbean. This is particularly important in light of the new global Sustainable Development Goals (SDGs) and the Global Action Programme (GAP) on ESD which is intended to follow-on from the DESD and contribute to the post-2015 development and environment agendas.

EE and ESD in the Caribbean

Whilst ESD is relatively new to the region, there has been a long-time engagement with EE after its importance was highlighted by various agencies of the United Nations (UN), such as UNESCO, and after participation in several international conferences on the environment and on EE specifically. Recommendations emanating from these conferences resulted in a series of sub-regional workshops on EE organised in various Caribbean countries during the 1980s and national workshops in Guyana and Jamaica in 1981 (Glasgow, 1989; Howell, 1994; Miller & Howell, 1989). The regional meetings had various emphases, including, sensitisation of policy- and decision-makers, curriculum development, non-formal EE, and EE in industrial education. The national workshops in Guyana and Jamaica in 1981 were aimed at curricula analysis and the development of teaching materials. Additionally, in 1991, a regional meeting of environmental educators was convened by the Caribbean Conservation Association and CARICOM in Trinidad, and the 1994 UN Conference on Small Island Developing States (SIDS) held in Barbados also recognised the importance of EE at all educational levels (UN, 1994).

Accompanying all of this, efforts have been made to include EE in national frameworks, with Caribbean countries including elements such as environmental awareness, the involvement of school children / formal teaching, the involvement of adults / non-formal teaching, and the use of the mass media in their National Environmental Action Plans (NEAPs) (Bynoe & Hale, 1997).

Since its prioritisation on the world agenda, ESD too has become a principal focal point around which many regional EE programmes (Bedasse, 2002) and initiatives converge (e.g., Down & Nurse, 2007). In the Caribbean, at a meeting in 2000, Caribbean EE practitioners held a consultation to develop and spearhead ESD in the region. Since then, other forums have been convened, such as the DESD Monitoring and Evaluation: Processes and Learning for ESD workshop in Jamaica in 2010 and the regional workshop on ESD in Trinidad in 2013.

Education for Sustainable Development: Exploring the Concept

EE and ESD on the Global Scene

One of the reasons for the conceptual confusion around ESD is the inability of some individuals to differentiate between ESD and EE, so it will be useful to explore these two educational imperatives.

Environmental education's roots can be found in movements such as nature study, outdoor education, and conservation education (McKeown & Hopkins, 2003; Stevenson, 1987), however, its emergence on the global agenda is traced back to the latter part of the 20th century as a result of the 1972 UN Conference on the Human Environment, and concern over global issues such as acid rain (Gough 2002; Grün, 1996; Lucas, 1991; McKeown & Hopkins, 2003; Sterling, 1992). Environmental education's role in bringing about the attitudinal and behavioural changes necessary to engender respect for nature and slow down environmental degradation (IUCN/UNEP/WWF, 1991; Martin, 1990; UNCED, 1992; UNESCO, 1997; 2002; WCED, 1987) has been acknowledged on a widespread basis.

The 1992 UN Conference on Environment and Development (UNCED) resulted in a landmark global plan of action for sustainable development, known as Agenda 21, a 40-chapter report which focuses on the social and economic dimensions of development; the conservation and management of resources for development purposes; the role of major stakeholder groups; and mechanisms of implementation of sustainable development. The goals, priorities for action and follow-up programme outlined in Agenda 21 have since formed the basis of sustainable development strategies at the national level.

Chapter 36 of Agenda 21 highlights the particular role of education in promoting sustainable development, through the inculcation of awareness, values, attitudes, skills and behaviour for sustainable development. As UNESCO has highlighted, "Seen as social learning for sustainability, education can increase concern over unsustainable practices and increase our capacity to confront and master change. Education not only informs people, it can change them" (UNESCO, 2002, p. 8).

Since then, there have been various international forums and agreements which have promoted ESD, including the 2002 World Summit on Sustainable Development (WSSD), from which emanated the proposal for the DESD, the 2012 UN Conference on Sustainable Development, the Muscat Agreement (Target 5) and the SDGs (Target 4.7). The GAP on ESD, a follow-up to the DESD, seeks to advance ESD further on the global agenda. Additionally, Article 6 of the UN Framework Convention on Climate Change, Article 13 of the Convention on Biological Diversity and Priority Action Area Three of the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters all highlight the importance of public education and awareness.

The DESD aimed "to integrate values inherent in sustainable development into all aspects of learning to encourage changes in behaviour that allow for a more sustainable and just society for all" (UNESCO, 2005, p. 6). The Decade envisioned "a world in which everyone has the opportunity to benefit from education and learn the values, behaviours and lifestyles required for a sustainable future and for positive societal transformation" (UNESCO, 2005, p. 5) and sought to involve all stakeholder groups in its development and implementation globally, regionally, nationally and locally. In 2009, the DESD reached its critical midway mark and the objectives outlined in Agenda 21 were reemphasised during the DESD conference held in Bonn, Germany. As an outcome, the Bonn Declaration recommended concrete steps to be taken at the policy and practice levels and outlined an enhanced role for UNESCO as the lead agency for the Decade (UNESCO, 2009). UNESCO also prioritised issues such as climate change, disaster risk reduction and biodiversity as key themes for the second half of the Decade.

Does EE = ESD?

Environmental education and ESD are conceptualised in the following international documents as such:

Environmental education should be included in and should run throughout the other disciplines of the formal education curriculum at all levels – to foster a sense of responsibility for the state of the environment and to teach students how to monitor, protect, and improve it - Our Common Future (WCED, 1987, p. 113).

Children and adults should be schooled in the knowledge and values that will allow them to live sustainably. This requires environmental education, linked to social education. The former helps people to understand the natural world, and to live in harmony with it. The latter imparts an understanding of human behaviour and an appreciation of cultural diversity - Caring for the Earth (IUCN/UNEP/WWF, 1991, p. 53).

Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues ... Both formal and non-formal education are indispensable to changing people's attitudes so that they have the capacity to assess and address their sustainable development concerns. 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. To be effective, environment and development education should deal with the dynamics of both the physical/biological and socio-economic environment and human (which may include spiritual) development, should be integrated in all disciplines, and should employ formal and non-formal methods and effective means of communication - Agenda 21, Chapter 36 (UNCED, 1992).

With the above conceptualisations in mind, the question remains as to whether EE and ESD are in fact one and the same or whether they differ in their orientation. Sauvé (1996) finds that elements of sustainable development were already included in the notion of EE. She points out that the principles of EE outlined in one of the seminal EE documents - the Tbilisi Declaration - include concerns of sustainable development. Robottom (2007) too states that the “*language of environmental education reveals that it is in fact clearly concerned with social, economic and political dimensions of environmental issues*” (Robottom, 2007, p. 93). UNESCO finds that EE has pursued goals and outcomes similar to ESD, stating, “*...environmental education has steadily striven towards goals and outcomes similar and comparable to those inherent in the concept of sustainability*” (UNESCO, 1997, p. 27).

What does differ in the two notions is their emphases. The concept of ESD emerged because,

“no doubt it was necessary to counter a certain conception that EE was focusing too narrowly on the protection of natural environments (for their ecological, economic or aesthetic values), without taking into account the needs and rights of human populations associated with these same environments, as an integral part of the ecosystem. Likewise, it was also necessary to update the EE discourse by

emphasizing aspects related to contemporary economic realities and by placing greater emphasis on concerns for planetary solidarity” (Sauvé, 1996).

Those finding a difference between the two find that unlike EE, ESD focuses equally on environmental, social and economic issues because of their interconnectivity and the necessity to pursue all three to achieve sustainable development (Paden, 2000). Environmental education on the other hand places more of an emphasis on environmental issues according to Paden: “Although environmental educators are often concerned with poverty, equity, and economic issues, some practitioners focus on the environment at the expense of social and economic objectives” (Paden, 2000, p. 1). McKeown and Hopkins (2003), through readings of the Belgrade Charter and the Tbilisi Declaration, find that EE focuses more on the impact of humans on nature and contains less of an emphasis on society and economics. In other words, the focus is on nature and the environment, and not as much on people. They explain that:

The overall intent of environmental education at the time was to preserve the natural environment and reduce human impacts. In order to protect the environment, participants had to acknowledge social, economic, and political concerns, but the overall goal remained environmental protection and improved resource management (McKeown & Hopkins, 2003, p. 118).

Education for sustainable development, however, encompasses and addresses the environment, society, and the economy (McKeown & Hopkins, 2003). McKeown and Hopkins (2003) acknowledge that EE was “*never devoid of social and economic concerns*” but state that there is a noticeable shift in emphasis in sustainable development (2003, p. 119). Robottom (2007) explains that whilst the language of EE spoke to the social, economic and political dimensions of environmental issues, critics challenge inadequacies in the practice of EE and whether it sufficiently engages the social and economic dimensions which it purports.

To summarise, some theorists see a complete difference between the two notions, while others find that elements of ESD were already implicitly included within EE. Education for sustainable development, though, is viewed as more holistic, emphasising more than the natural environment, and moving on to the explicit inclusion of human needs and rights.

Importantly as well, ESD focuses not only on education as an agent of change, but also as the subject of change itself, with respect to its role in human development. In Our Common Future, there is an emphasis on aspects such as, improved access to education, a close in the gap between enrolment figures for males and females, improved literacy rates, and increased quality and locally relevant education (WCED, 1987). In Caring for the Earth: A Strategy for Sustainable Living, there is a call for universal primary schooling for all children, an emphasis on attendance in schools as the next step after enrolment, attempts to cut the levels of adult illiteracy, and attempts to bring female and male literacy to the same levels (IUCN/UNEP/WWF, 1991). As Hopkins and McKeown (2001) point out, the qualitative aspects of education, such as its appropriateness and relevance to the social, environmental and economic spheres of society, are integral to ESD as issues such as access, length, and quality of basic education can negatively impede national plans for a sustainable future.

Characteristics of ESD

With these conceptualisations and the differentiation between EE and ESD in mind, it is now time to turn attention to the substantive defining goals and characteristics of ESD. Agenda 21 identifies four goals of ESD: to promote and improve the quality of education, reorient the

curricula, raise public awareness of the concept of sustainable development, and train the workforce (see Box 1).

Box 1

Four Main Goals of ESD

Improving access and retention in quality basic education: Improving access to, enrolment and retention amongst both boys and girls in quality basic education, and ensuring exposure to the knowledge, skills, attitudes and values of sustainability.

Reorienting existing educational programmes to address sustainability: Rethought, revised and reformed curricula at all levels, from early childhood to university levels to ensure knowledge, skills, attitudes and values consistent with sustainable development.

Increasing public awareness and understanding of sustainability: Through lifelong public and community education, enhanced public awareness and understanding of sustainable development principles to ensure an informed citizenry empowered to contribute to sustainable development.

Providing training: Vocational and professional training for public and private sector employees, which is infused with sustainability principles.

Source: UNCED, 1992

Thus, as previously stated, both qualitative aspects pertaining to educational systems themselves as well as widespread changes to content, pedagogy, and audience are involved in ESD. Further to this, ESD has certain essential characteristics (see Box 2):

Box 2

Essential Characteristics of ESD

- Is based on the principles and values that underlie sustainable;
- Deals with the well-being of all three realms of sustainability – environment, society and economy;
- Promotes life-long learning;
- Is locally relevant and culturally appropriate;
- Is based on local needs, perceptions and conditions, but acknowledges that fulfilling local needs often has international effects and consequences;
- Engages formal, non-formal and informal education;
- Accommodates the evolving nature of the concept of sustainability;
- Addresses content, taking into account context, global issues and local priorities;
- Builds civil capacity for community-based decision-making, social tolerance, environmental stewardship, adaptable workforce and quality of life;
- Is interdisciplinary: no one discipline can claim ESD for its own, but all disciplines can contribute to ESD; and
- Uses a variety of pedagogical techniques that promote participatory learning and higher-order thinking skills.

Source: UNESCO, 2005

Based on the above, it is important to highlight certain aspects. Firstly, it must once again be emphasised that ESD deals with all three pillars of sustainable development, the economy, society, and the environment. Secondly, there are various critical dimensions of ESD, specifically, the content of education (climate change, biodiversity); the pedagogy and learning environments utilised (exploratory, action-oriented, transformative learning); the learning outcomes; and, ultimately, individual and societal transformation (UNESCO, 2014). Thirdly, as outlined in *Agenda 21*, ESD focuses on the education system itself, engaging with it not only as an agent of change but also as the subject of change. One of the two main goals of the GAP, the integration of education into sustainable development (UNESCO, 2014), will most likely focus on qualitative issues such as these in order to ensure that educational goals in advancement of sustainable development are achieved.

Implications of ESD for Practice

With this theoretical orientation in place, it is now time to consider the implications of ESD for practice, both with respect to the SDGs as well as the GAP on ESD. The seventeen SDGs, meant to build on the Millennium Development Goals, are seen as crucial to achieving sustainable development by the target year of 2030 (UN, 2015). Whilst ESD will, through its focus on knowledge, skills, values, and behaviours work towards the advancement of all seventeen SDGs, it is itself given particular attention in Target 4.7 under SDG 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all): “By 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture’s contribution to sustainable development”. The GAP on ESD, a follow-up to the DESD will further seek to advance ESD on the global agenda. Within the context of the SDGs and the GAP, enhancing and broadening the practice of ESD becomes an even more critical endeavour.

The GAP outlines five areas for priority action including:

1. the advancement of policy,
2. the transformation of learning and training environments,
3. capacity-building of educators and trainers,
4. the empowerment and mobilisation of youth, and
5. the acceleration of sustainable solutions at the local level (UNESCO, 2014).

These areas will be explored with respect to the implications of ESD practice in a Caribbean context, with examples drawn from two countries in the region in order to focus and deepen the discussion. The first country is Jamaica, one of the region’s island states with a population of approximately 2.7 million, 52% of whom live in urban areas. The second is Guyana, one of the region’s mainland countries with a population of approximately 770,000, 90% of whom are concentrated in the country’s low-lying coastal plain region. The economies of both countries are highly dependent on their rich natural resources with sectors such as agriculture, fisheries, and mining contributing to Guyana’s economy, and industries such as tourism, agriculture, and mining contributing to that of Jamaica.

Priority Area One of the GAP

Under this Priority Area, the integration of ESD into international and national education and sustainable development policies is advocated. In both Jamaica and Guyana, ESD and/or elements of ESD, are incorporated into such policies, both explicitly and implicitly. Firstly, EE, as a critical aspect of ESD, has been incorporated into many of the region's NEAPs (Bynoe & Hale, 1997), including those in Jamaica and Guyana. Further, in Guyana, climate change education (CCE) has been advanced a great deal given the vulnerabilities of the country's low-lying coastal plain to climate change and sea-level rise. The country's *Low Carbon Development Strategy* speaks to the development of a low carbon curriculum and its *Climate Change Action Plan* has a section on education, training, and public awareness. Additionally, a Low Carbon Development Strategy Awareness and Public Engagement plan has been developed and is currently being implemented (Bynoe & Simmons, 2014). With respect to its education sector, the *Guyana Education Sector Plan 2014-2018* makes reference to elements such as the integration of climate change and disaster risk reduction into the science curriculum, HIV/AIDS awareness, and the prioritisation of Health and Family Life Education (Ministry of Education, 2014). Significantly as well, the development of a national CCE policy has been recognised and advocated as a critical opportunity to avoid a fragmented approach to CCE in Guyana (Bynoe & Simmons, 2014).

In Jamaica's *National Education Strategic Plan* (NESP), the inculcation of core values within learners, such as morals, ethics, tolerance, respect, national pride, and love and care, all of which are ESD values, is called for by the Ministry of Education (Ministry of Education, 2012). The NESP also speaks to aspects such as the infusion of citizenship education and values and attitudes, components of ESD, into the curriculum. Jamaica's sustainable development strategy, *Vision 2030 Jamaica*, highlights the link between education and the commitment to a sustainable lifestyle, and current and planned activities by the Ministry of Education such as the implementation of programmes to address violence in schools, the promotion of core and transformational values, the delivery of environmental education, the integration of hazard risk reduction into education syllabuses, use of the media to promote climate change awareness, and facilitating citizen participation in the sustainable management of local resources (PIOJ, 2009).

Significantly, it is important to mention that in Jamaica, a National Environmental Education Action Plan for Sustainable Development was developed and implemented over a 12-year period which ended in 2010. The Plan prioritised five programme areas: teacher professional development, curriculum development and implementation, national public awareness, community learning, and resources and practices. Although not mandatory, within the framework of the plan, much headway was made in Jamaica in terms of advancing EESD thus highlighting the importance of having a national framework in place.

To summarise, integration of elements of ESD, such as EE, values and attitudes, violence prevention and mitigation, HFLE and HIV/AIDS awareness, and integration of climate change and risk reduction into curricula, is evident in various education, environmental, and sustainable development policies and plans in Jamaica and Guyana. At the regional and national levels, it is recommended that an overarching ESD policy be drafted and implemented to provide a cohesive and coordinated framework within which to integrate ESD into all national sectors and to avoid the fragmented approach which can result from the absence of overall policy frameworks and strategies (Bynoe & Simmons, 2014; Down & Nurse, 2007).

Priority Area Two of the GAP

Priority Area Two of the GAP calls for the transformation of learning and teaching environments, specifically, the management of the physical facilities in a sustainable manner, as well as integrating ESD into the ethos and governance structure of the institutions. This encompasses various components. Firstly, sustainable development needs to be integrated into the curriculum of schools and teachers' colleges, universities, and other learning and teaching environments as well as into their operational and management processes. Whole institution approaches are critical in terms of the institutionalisation of sustainable development. In Jamaica, the Sustainable Teacher Environmental Education Project (STEEP) stands as an illustration. The STEEP was implemented by the Joint Board of Teacher Education (JBTE) and funded by the Environmental Action Programme (ENACT) (Collins-Figueroa, Sanguinetti Phillips, Foster-Allen, & Falloon, 2008). The programme began in October 2000 as a two-year pilot programme in two teachers' colleges and sought to "enhance the capacity of teachers' colleges to integrate ecological, economic and social considerations in their planning, staff development, curriculum development, teaching, research and overall campus operations" (ENACT & JBTE, 2001, p. 1). The STEEP had six main areas of focus, namely, environmental stewardship; capacity development; curriculum development and implementation; research and evaluation; monitoring and influencing policy; and networking and partnerships (Sustainable teacher, 2003). Amongst the positive results of the STEEP were the reduced consumption of resources within the colleges and capacity-building in the areas of grant-writing and action planning (Collins-Figueroa, Sanguinetti Phillips, Foster-Allen, & Falloon, 2008). Approaches such as the STEEP are models that the wider Caribbean can look to for adaptation and replication in the region.

Secondly, I believe that this Priority Area calls for more community- and service-based learning. As Down (2010) posits, service-learning allows students to become more civic-minded, more interested in community issues and solving social problems. As part of an ESD and Literature course, Down incorporates a community action project and indicates that "in these projects, students have become involved in waste management, recycling, planting vegetable gardens, creating green spaces, creating peace through literacy, among others. This has allowed students to re-connect with home, to realise how their education can bring direct benefit to the environment and most important to learn that their success is related to their society's progress" (Down, 2011, p.14). The development of social responsibility and the preparation of students to be active citizens on national and global levels are critical and can be engendered through environmental, peace, human rights, and HIV/AIDS projects for example.

Thirdly, I believe that curricula in support of ESD are a critical foundation for the development of knowledge, values, skills, and actions to support the transformation of these learning and teaching environments. In Jamaica, EE, as one aspect of ESD, has been integrated into the curriculum at all levels of the formal education sector. From Grades 1 to 3 of the primary curriculum as an example, a thematic approach is taken, with a completely integrated curriculum organised under the general theme 'Me and My Environment'. There is a significant amount of environmental content at this level, found in topics such as 'Caring for My Environment' and 'Plants and Animals in My Community'. From Grades 4 to 6, environmental issues are primarily found in subjects such as social studies and science, although interdisciplinary themes do facilitate the exploration of environmental issues across other areas. EE also has been integrated into the secondary level curriculum. At the tertiary level, integration of ESD has also taken place. In The University of the West Indies (UWI) Mona Campus in Jamaica, for instance, aspects of ESD such as sustainable development and climate change have been integrated into courses such

as the Literature and Education for Sustainable Development Master's level course in the School of Education. Courses on ESD-related areas such as EE and citizenship also exist, for instance, those in the School of Education.

In Guyana, EE is being infused at the nursery, primary and secondary school levels (Bynoe & Simmons, 2014). Climate change education is being infused into the primary school curricula and locally relevant educational materials have been developed on climate change and biodiversity awareness (Ministry of Education, 2014). Environmental education, climate change and disaster risk management have also been integrated into undergraduate and postgraduate programmes at the University of Guyana.

Under Priority Area Two of the GAP, several aspects are critical, including the infusion of ESD into all subject areas in the formal education sector as a foundation for knowledge, skills, and action consistent with sustainable development, the integration of community and service-based learning into school programmes, and whole institution approaches to ESD. At the tertiary level, the Mainstreaming Environment and Sustainability in Caribbean Universities (MESCA) Audit offers a useful foundation on which to build and further curricula development and institutionalisation of ESD within the region's higher education institutions (UWI & UNEP, 2011). These recommendations are made based on the fact that ESD within formal curricula will build knowledge, skills, and action amongst learners at all levels. Additionally, whole-institution approaches will ensure that ESD is not only taught but modelled and institutionalised as ESD becomes part of the management and operational practices of schools.

Priority Area Three of the GAP

With reference to Priority Area Three, actions include the integration of ESD into pre-service and in-service teacher education, and into TVET agencies, as well as capacity-building of Faculty in higher education institutions. The abilities of educators and trainers must be enhanced to ensure that those entering the classrooms of the formal education system and those involved in non-formal education can teach, develop, and model ESD knowledge, skills, attitudes, and behaviours. This encompasses several components. To begin, curricula in teachers' colleges and universities must have sustainable development topics infused. As an example, Down (2006; 2007) documents the infusion of ESD in a Caribbean Literature course at teachers' college in Jamaica, with a particular focus on violence – its social/historical, economic, and environmental aspects, given the high levels of violence in Jamaica. Students explored the concept of sustainable development through various means such as lectures, videos, discussions, and research. The result of this effort was positive as students reported an enhanced understanding of local and global issues with reference to sustainable development and violence, and the exploration of alternatives to violence. Skills such as problem-solving, action-planning, and conflict resolution were centralised in the approach (Down, 2006; 2007).

Collins-Figueroa (2012) focuses on four case studies from a project aimed at integrating biodiversity education into early childhood and primary teacher education programmes in Jamaica in order to build capacity amongst educators. Whole-college involvement was promoted through elements such as vegetable gardening and composting, and the sale and purchase of crops. Environmental, social, and economic sustainability were successfully demonstrated in the institutions. In Guyana, the Environmental Protection Agency has been collaborating with the Cyril Potter College of Education since 2010 to infuse EE in teacher curricula. Under this Priority Area, as has been the move in Jamaica and Guyana, it is recommended that

the capacities of pre-service and in-service teachers, as well as those involved in non-formal education, be supported and developed to ensure enhanced capacities amongst educators.

Priority Area Four of the GAP

Priority Area Four calls for the empowerment and mobilisation of youth. Actions under this area include enabling networking amongst youth and facilitating their use of Information and Communication Technologies for ESD action. This focus on youth is important given the global rhetoric surrounding children's rights and participation in sustainable development (Matthews & Limb, 1999; Matthews, Limb, & Taylor, 1999; UN, 1989; 1994; UNCED, 1992). In Jamaica, the Schools Environment Programme (SEP), an initiative started in 1997 by two non-governmental organisations – the Jamaica Environment Trust and the Jamaica Conservation and Development Trust – has served to mobilise school children. Delivered in over 350 schools, the SEP requires schools to undertake activities in four main areas: waste management, the greening of school grounds, starting or strengthening an environmental club, and environmental research. Whilst the programme is aimed at involving the entire school community, that is, students, teachers, staff, parents, and the community in environmental awareness and protection, the involvement of children is a crucial factor. Whilst an evaluation of the programme highlighted some weaknesses and constraints, such as loss of momentum when teacher coordinators leave particular schools, there is consensus that there have been improvements in the environments of schools, waste management, and support for the programme by teachers (McCaulay, Falloon, Longman, Spence, Curtis, Milbourn, & Singh, 2008).

Children and youth are the active agents and decision-makers of both the present and future. As a result, mobilising youth through the formal school system as well as through community groups, networks and other mechanisms is important.

Priority Area Five of the Gap

The acceleration of sustainable solutions at the local level is the focus of Priority Area Five. This holds implications for localised action amongst community leaders, civil society, and the local business sector through corporate social responsibility for instance. One of many successful examples of this in Jamaica is the Bluefields Bay community in Westmoreland. The Bluefields Bay Fishermen's Friendly Society (BBFFS) manages a fish sanctuary, a protected area which includes mangroves coral reefs and other ecosystems. As a local community-based organisation (CBO), the BBFFS has spearheaded various environmental and socio-economic projects including community-based tourism, organic farming, the improvement of basic schools, and environmental education and awareness.

In Guyana, the Iwokrama International Centre for Forest Conservation and Development in partnership with Conservation International has trained local communities and developed a training manual to strengthen local communities' capacities to facilitate climate change planning, participation, and action amongst these communities. Another example is the Bina Hill Institute for Research, Training and Development, which works in rural areas delivering environmental education and offering skills training in environment-related fields (Hiebert, 2013).

Localised action in support of ESD is critical to ensure that ESD reaches local peoples and communities, and is relevant and responsive to local contexts and conditions. As exemplified through Jamaica and Guyana, NGOs and CBOs are well-placed to support localised action amongst communities.

Conclusion

Led by agencies such as UNESCO, ESD has gained heightened status as a result of international forums such as the 1992 UNCED, the 2002 WSSD, and, more recently, the 2014 UNESCO World Conference on Education for Sustainable Development. Education for sustainable development has been deemed so critical that the DESD was instituted, with the GAP on ESD emerging as a follow-up programme. Yet, despite this extensive promotion, within the Caribbean, as is the case globally, the concept is still very much a fuzzy one. The purpose of this paper then has been to demystify the concept of ESD, differentiating between ESD and EE, and outlining some of the defining concepts and characteristics of ESD. It is hoped that the discussion has helped to clarify and elucidate the concept, and, by extension, will enhance and broaden its scope with respect to implementation and institutionalisation.

Based on the examples of Jamaica and Guyana, one can surmise that much is being undertaken in both formal and non-formal education with respect to ESD and related aspects such as EE and CCE. In the formal sector, both students and teachers are targets of efforts, as are all levels of the education system. Additionally, pedagogical approaches involve not only infusion into curricula across various disciplines but aspects such as community-based learning and whole-institution approaches. In non-formal education, NGOs, CBOs, and other independent learning and resource facilities play a critical role in the delivery of ESD to groups including children, youth, indigenous communities, and the general public. Providing a framework for efforts are various educational, environmental, and development policies, plans, and strategies to direct efforts, highlighting the role of the government as an important stakeholder.

Of course, both countries have had several challenges to the delivery and institutionalisation of ESD nationally, including difficulties infusing ESD into already packed curricula, insufficient locally relevant teaching and learning resources, the need to build capacity of all sectors to deliver ESD, and the absence of overall ESD policy frameworks (Bynoe & Simmons, 2014; Collins-Figueroa, Sanguinetti Phillips, Foster-Allen, & Falloon, 2008). Notwithstanding these constraints, both countries have made significant strides in ESD. Based on their experiences and the successes achieved thus far, recommendations for the wider Caribbean include the development of a dedicated regional, as well as national, ESD policies to ensure a harmonised and coherent approach to the integration of ESD into formal and non-formal education; whole-institution approaches to ESD in schools, teachers' colleges, universities and other learning and teaching environments; the mobilisation of children and youth; and more locally-based sustainability initiatives. There also must be continued incorporation of ESD into pre-service and in-service teacher education and professional development. Finally, as a critical foundation, ESD must be infused into curricula at all levels, including the tertiary level. At the tertiary level, the findings of the MESCA audit can inform further efforts. These recommendations are based on the priority areas outlined in the GAP and must be effected with reference to the sustainable development realities of the region.

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