Chapter 5

Quality and Rigour

5.1 Content and concepts related to ESD

5.1.1 Good practice: Developing authentic and locally-relevant conceptualisations of sustainability and ESD

Literature on ESD stresses the importance of local relevance, and a number of countries have undertaken promising and successful processes to develop an authentic vision of what ESD should mean in the context of local daily life. One of the criticisms of some donor and multilateral initiatives is that they have tended to reflect the agendas of donor countries related to 'flavour of the day' issues, thus fragmenting development efforts in recipient countries and hijacking local capacity. In recent years, some of the organisations involved have astutely recognised the need to move away from preconceived notions of ESD and associated jargon, and work with local groups to pursue related ideas on their own terms. Practically speaking, organisations such as the Pacific's Secretariat of the Regional Environmental Programme (SPREP) and the Jamaica Environmental Trust (JET) have sought to develop or adapt resource materials to the specific contexts of the countries and people they are working with, trying where possible to connect sustainability and environmental values with local cultural values and practices.

There are examples of this approach being taken much further than the development of resource materials. One subproject implemented under the NZAid-funded Pacific Regional Initiatives for the Delivery of basic Education (PRIDE) project focused on incorporating sustainable livelihood skills into the basic education curricula of Nauru. At the time of implementation, the country was facing serious economic hardship, and there was a need for a return to traditional skills to supplement the income of families who had previously accumulated wealth through the phosphate industry. There was genuine concern that such traditional life skills had been lost. Working from locally-identified needs, a team of project personnel and classroom teachers developed culturally-appropriate methodologies and research skills in order to seek out local elders and access traditional knowledge. Their process involved consideration of Nauruan ethics, and of traditional knowledge systems and deeply held beliefs about human relationships to the local environment, in order to begin documenting skills related to earning a livelihood from the land and ocean. Additional data was also collected around more contemporary skills such as handicraft making and bicycle repair. The project then worked with the teachers to translate this network of knowledge, skills and beliefs into grade nine teaching units, largely within the context of what is referred to as a 'rich task' – a multidisciplinary cross-curricular project. These units were subsequently incorporated into the national curriculum proper. This example illustrates a successful application of donor funds to support the

development of authentic and meaningful local initiatives under the banner of ESD. While this work was undertaken on a very small scale within the context of a larger project, it provides inspiration as an approach to implementing ESD that benefits from the expertise of local end-users.

> '[…] for many Pacific Island people, ESD has become problematic because for over a century our education systems have been dominated by foreign cultures, knowledge systems and communication networks most of which often viewed the earth as something to be exploited for profit, resulting in the destruction of much of our biodiversity, the foundation of our livelihoods for millennia. Fortunately today most of us still have our living cultures from which to learn to re-centre and reorient our education towards sustainability.' (Thaman 2009: 61)

Extending the good work: The example from Nauru illustrates an effective approach to developing curriculum with deep cultural roots and local meaning. In recent years, culture has received increasing attention in ESD discussions not only because of the entry points which many indigenous cultures can provide for sustainability (having persisted for millennia already), but also because of a growing awareness that sustainable development requires cultural shifts in attitudes and behaviours which cannot be brought about through conventional didactic methods. This perspective draws 'ESD' as a concept closer to the process of 'enculturation' than 'instruction'. This acknowledgement underscores the importance of situating ESD initiatives within cultural thinking and working to root ESD concepts within local knowledge systems. This may require new approaches to programme design and project management for stakeholders in the donor community.

Appropriately, each of the focus countries appears to be developing its own unique ESD concepts and approaches, informed by regional trends and issues. There is room in this context for cross-pollination between countries in order to enhance the work done in each. For example, Jamaica has a very strong history of environmental education, and much of the work on ESD is being built on this foundation – thus retaining a strong environmental element. However, the need for inclusion of more cultural aspects of ESD in Jamaica has been noted (Down 2011). In other countries which have been pursuing a more culture and livelihoods-oriented focus, ESD concepts would benefit from a stronger element of environmental advocacy. There would be immense value in a more systematic approach of sharing ideas between SIDS, not only with each region (as this is already happening), but also around the world.

5.1.2 Gap: There is a need for a stronger and more coherent formulation of what students should be learning

The notion of 'ESD content' is a topic of considerable debate. There an understanding among those consulted for this study that ESD should not be framed as a body of content (knowledge and skills) to be taught and learned. Rather, there is a recognition that ESD is much more process-oriented, without predefined or prescriptive measures. This fits with current literature on the subject. However, for education system leaders, there remains a concern around the goals or outcomes of ESD and the implications for the process of school-based education. This naturally swings back around to discussion of

curriculum reform, and hence, contents. Common themes in literature on the subject advocate a shift towards skills such as critical thinking, problem solving, planning and inquiry, with an additional emphasis on values education. What distinguishes ESD from other more generic articulations of 'good education' is an emphasis on systems thinking and a critical engagement with social and environmental issues.

These core issues have been broadly grasped but the crux comes in translating this understanding into ESD-related reforms. There comes a point when curriculum developers in countries like Guyana, Jamaica, Mauritius, Nauru and Tonga – which have taken up this task actively – need to confront the issue of how to reform curricula and what to include. Standards-based approaches, framed around KSAs (knowledge, skills and attitudes, with the latter tending to be poorly framed) are the dominant trend, which tends to narrow the idea of curriculum to the realm of content. While most curriculum developers have approached this task with the idea of mainstreaming ESD content, this approach receives criticism for 'over-stuffing' already full curricula, meaning that contents can only be treated superficially in classrooms, with shallow learning and no linking of learning and action. This issue is particularly problematic in science and social science syllabuses – where most ESD content gets folded in – and in the secondary grades. Cognisant of this problem, a number of reports have called for more integrated approaches, although the only example of this encountered in this study is from Jamaica's thematically integrated grade 1–3 curriculum. In Mauritius, however, new curriculum documents have called for the 'deloading' of primary curricula, in order to allow for more participatory and integrated teaching approaches.

Reports indicate that when ESD-related content does find its way into classrooms, it is typically in the form of content knowledge, rather than opportunities for learners to critically engage with the topics to develop relevant skills such as critical thinking, collaborative problem solving, or even translating learning into action. When sustainability-related content is presented in this manner, it is unlikely to result in meaningful or transformative learning. There is concern that when environmentally-focused content is taught in an uncritical manner that fails to engage students, it can serve to further alienate them from environmental issues. This same concern also applies to other thematic areas of ESD that are being incorporated into curricula, including culture, health, citizenship and more recently, disaster preparedness, biodiversity and climate change. When important issues are presented in rote, the result in terms of students' developing values and behaviours is unpredictable.

Bridging the gap: Many samples of curricula and ESD-related learning materials were reviewed in the course of this study and most have a sampling of appropriate ESD content, typically with an environmental or cultural emphasis. What tends to be lacking are complementary contents which help to round out well-developed concepts related to sustainability, relevant skills to empower students and reference to pedagogical approaches which bring these issues to life. There is, however, a broad recognition that ESD needs to be framed around a view of human development related to quality of life and grounded in local cultures. SIDS are distinguished by the fact that most have long histories of living sustainably within material resource constraints, and several initiatives have undertaken to develop an authentic formulation of ESD contents grounded in this heritage.

Tonga's draft curriculum framework (2009–2012), entitled *Quality Schooling for a Sustainable Future*, holds some promise in terms of its content orientation. The curriculum has five overarching themes which resonate well with ESD: Tongan culture and values; life skills; education for sustainable livelihoods; enterprise; and education for sustainable development. While the framework is divided into conventional subject areas, the themes are portrayed as cross-cutting, with emphasis that they should be readily apparent in the syllabus for each subject, and that they should be actively implemented through specific activities in teachers' guides and classroom activities. Furthermore, MoEWAC indicates that emphasis should be placed on the importance of inquiry (research) skills at all age levels, underscoring the importance of active, engaged learning.

One tool which could help to establish coherent and well-rounded ESD concepts, and one which has not been broadly utilised in the focus countries (with the possible exception of Papua New Guinea) is the Earth Charter. The Earth Charter is an international declaration of ethical principles for sustainability, launched in 2000, and recognised by UNESCO as an appropriate ethical framework for ESD (Jaminez 2011). The charter outlines principles that provide a robust foundation for sustainable development in terms of four areas: respect and care for the community of life; ecological integrity; social and economic justice; and democracy, non-violence and peace. While the Earth Charter itself does not describe learning outcomes, it provides a solid foundation on which individual countries can establish strong ESD programmes. The Earth Charter Initiative website provides links to a wealth of related educational resources and country-level initiatives related to it.[1]

5.1.3 Gap: Prevailing lack of clarity around how to 'do' ESD and slow proliferation of whole school approaches

There appears to be a general recognition that ESD is not, at least not *only*, about any particular body of content. This is reflected in the emphasis on culture and values in many curriculum statements, as well as overarching policies statements of philosophy. However, apart from reference to student-centred and active learning approaches there appears to be relatively less clarity about how to accomplish the goals of ESD if not through content. A number of reports from the focus countries recommend more emphasis on 'whole school approaches'. However, there is little elaboration of what these entail. Part of the problem is that the very concepts of curriculum and teaching imply an emphasis on content – but ESD demands something more.

Strong formulations of 'teaching' ESD take the form of immersion, in which students' daily experiences at school are consistent with what they learn explicitly about sustainability and sustainable behaviours. This translates into a variety of school policies and initiatives in which sustainability is shown (not just said) to be important, and through which students have opportunities and experiences that help them internalise the importance of the issues and their own roles in addressing them. These 'whole school approaches' consider the various domains and dimensions of students' experiences, including explicit content, but also ranging from management and infrastructure to teaching approaches and role modelling, to daily routines and

reporting mechanisms. This creates an alignment between formal curricula (what is taught) and hidden curricula (what is learned tacitly). Together, these many factors reflect the institutionalised values and priorities of the school, and send a powerful message to students about what is important, what is expected and what is valued.

Jamaica's NEEC (*National Environmental Education Action Plan for Sustainable Development 1998–2010*) outlines this type of approach, stating that 'all staff and learners work to create a sustainable school culture – including classroom and schoolyard – and community' (NEEC 1997). Fourteen years after the drafting of this plan, the vision has yet to be fully embraced. However, a number of schools have incorporated ESD in a relatively comprehensive manner, including those involved with JET's School Environment Programme and the ASPnet Sandwatch programme. One Jamaican primary school reportedly achieved great results by implementing EESD (environmental ESD) into the core of school development planning, with positive impacts on student learning and improved literacy, numeracy, attendance and parent/community participation, in addition to improvements in staff development and the school's physical environment.

While most of the focus countries can provide a number of examples of schools or post-secondary institutions working concertedly to incorporate ESD principles school-wide, these are far from commonplace. What is more common, according to reports, are schools being run hierarchically and adult-centred classrooms dominated by rote individual learning, with some inclusion of concepts (knowledge) related to sustainability.

Bridging the gap: Different school systems are guided by different factors. In some, national curricula or standards provide a strong mandate that is closely followed. In others, textbooks or exams prescribe a de facto curriculum, often to the detriment of good pedagogy. In order for whole school ESD approaches to become widespread, there needs to be a perception that ESD is a system-wide priority. This means that rather than being simply injected into existing structures, it needs to be treated as a pillar or foundation. A number of countries are making good progress towards this goal. Similar to the Tongan example mentioned above, the Maldives MoE is taking steps towards such an approach, with the idea of 'using sustainable practices' presented as a key competency in the national curriculum, along with critical and creative thinking. This approach is backed up by a well-articulated curriculum document which details a progression of learning outcomes for sustainable development across all grade levels, under the headings of knowledge and understanding, skills and application and values and attitudes. This level of development suggests that the MoE is indeed serious about sustainability as a key competency. A selected range of values related to protecting the environment and heritage is also integrated into the curriculum. Reportedly, several schools have chosen to use the key competency 'using sustainable practices' as a whole school focus, around which school life is organised.

The Mauritius Ministry of Education and Human Resources (MoEHR) is incorporating relevant emphases through a different approach, where the language of sustainability and the environment is prominent throughout the national curriculum, including in overarching goal statements. Rather than standing as a key competency, sustainability

is incorporated throughout the curriculum document in all subject areas. The idea of *deloading* the primary curriculum mentioned above is also relevant here, as it creates space to support a transition to more participatory and engaging approaches to instruction, and to allow for more integration between subject areas during the most formative years of childhood, all of which is conducive to the practice of good ESD. Mauritius also has an established 'green school' concept, which involves co- and extra-curricular activities related to ESD, and there are plans for a new 'eco school' concept to be introduced shortly under the Maurice Ile Durable process.

5.1.4 Good practice: Teaching sustainability by practising sustainability

The idea of 'learning by doing' is an important aspect of good pedagogy, and is particularly relevant to ESD because of the necessary emphasis on the development of dispositions, values and applications that go well beyond knowledge acquisition. While much of the work being done in ESD takes place in conventional school classrooms where there are structural barriers to practising sustainability, Dominica's Sustainable Living Initiative Centre (SLIC) is working hard to give learners direct experiences with sustainable living, *in addition to* teaching relevant skills and knowledge. SLIC is a registered NGO, operating alongside the Three Rivers Eco-Lodge in rural Dominica, and implements a broad range of ESD initiatives ranging from extended programmes for university students, to day-long sessions for school-aged children, to community education programmes on a number of topics related to renewable energy and sustainable living. In addition, SLIC also has a number of community-oriented programmes, including one which has provided over 400 computers to local schools, and works with communities to supply electricity through renewable sources. SLIC emphasises skill development through first-hand experience, and the centre itself is entirely off-grid with the exception of its telephone line. Using relatively simple technologies, electricity is provided by solar and wind power and meals are prepared from food grown in an organic garden. The site is equipped with composting sanitary facilities, and water comes from a nearby creek with the help of a solar pump.

A second organisation, which applies 'learning by doing' in quite a different manner, is the Sandwatch Foundation mentioned above. The Sandwatch programme aims to help students learn about relevant local environmental issues, to seek out real information and to act on that information. The methodology is summarised by the acronym MAST – monitoring the environment, analysing the results, sharing the results and findings, and taking action (Sandwatch 2011). In this manner, students involved in the programmes are enacting sustainable practices and learning throughout the process of experience.

Extending the good work: Operating outside of the formal education system affords SLIC considerable freedom in its programming and operations. However, it also demonstrates the viability of an approach to ESD that is not reliant on external or public funding. While SLIC is not a school, it exemplifies the potential of 'whole school approaches' to ESD. There is considerable space for a middle road in which mainstream schools begin to adopt more sustainable practices and give students real experiences with sustainable living. While a number of schools across the focus

countries have begun to embrace sustainable practices with environment programmes, clubs and school-wide programmes for composting and recycling, much more could be achieved if a concerted focus were placed on learning by doing.

5.2 Material/physical/places

5.2.1 Good practice: Increasing emphasis on the role of physical environments in learning

While whole school approaches to ESD are discussed in the preceding section, physical learning environments warrant a special mention. Conventional educational approaches view the physical environment – school, classroom, schoolyard etc. – in functional terms. That is to say, they exist merely to support the learning of content. In ESD, however, the physical learning environment is taken to be a part of the learning experience and provides important lessons of its own to students about their relationship with the physical world. This physical environment includes not only school buildings, but also the furniture, classroom spaces and organisation, equipment, books and other objects, as well as the visual element, which together comprise a kind of silent curriculum that is not learned through language, but rather through observation and acclimatisation. Students interacting with this physical environment are learning about their role in caring for their environment, as well as expected behaviours in relation to the physical world. The boundaries of the physical environment also establish understanding about what learning is and where it should take place.

While whole school approaches often have a more institutional focus and may not attend with such care to physical contexts of learning, most of the examples reviewed of green school-type initiatives have sought to reorient at least some aspects of the physical environment to serve sustainability-related learning. While commonplace examples like awareness-raising posters may have limited impact, a number of reported initiatives more directly engage students in activity in relation to their environment, including rainwater collection, composting and waste separation sites, as well schoolyard initiatives in which students are involved in caring for plants and facilities on the school site. This side of learning is foregrounded at the SLIC in Dominica, where the entire site provides a working demonstration of sustainable equipment and practices, which learners interact with. Everything from building design and orientation to equipment and material reflect sustainable values. In an innovative example from Samoa, a private sector company has co-operated with schools in waste separation initiatives, salvaging plastic bottles and processing them into robust outdoor furniture, which is delivered back to the schools.

A number of strong examples come from Jamaica, where JET's School Environment Programme has been working with schools to implement greening initiatives for more than a decade. While their work was environmentally motivated, it also resulted in more attractive campuses. Anecdotally, there is indication that the children involved in caring for their environments developed a sense of ownership and pride in their schools and a sense of responsibility. Through complementary

programmes such as Sandwatch and environment-oriented special events, students extend this civic orientation beyond school walls, and begin to generalise a sense of responsibility and care for the natural environment in the surrounding community. Similar programmes have also been conducted in teachers' colleges. Under the Sustainable Teacher Environmental Education Project (STEEP) in Jamaica, two teachers' colleges implemented whole college ESD approaches with significant physical elements, including environmental audits on buildings, monitoring of resource use, and the construction of naturalised teaching areas including a pond, a butterfly garden and bird watching sites. These activities all help to cultivate a sense of awareness, appreciation and intentionality in the student-environment relationship.

Extending the good work: Ideas around green school architecture and schoolyard naturalisation have not yet gained broad traction in the focus countries. While many schools may have introduced some activities which build on learning opportunities provided by the physical environment, there are few example of schools which have sought to establish truly sustainable campuses. It should also be noted that often these good practices are initiated by adults rather than through students' initiatives, resulting in lack of real ownership or engagement. Furthermore, many of the initiatives undertaken to improve school grounds are reportedly initiated for aesthetic rather than educational reasons. There is no evidence of sustainable principles (energy efficiency etc.) being incorporated into standards for school buildings, and in a number of countries, there is no evidence of such standards at all. For physical safety as well as sustainability learning, this is an area in which policies should be reviewed and reinforced. Existing programmes that already have broad traction, such as UNICEF's child-friendly schools and other rights-based approaches, could potentially be broadened to include green principles – especially with the understanding that children's rights extend into the future, thus providing a rational basis for sustainability within a rights context. There is also some basis to the argument that caring for one another and caring for the environment are interrelated – there is a growing body of academic literature which links social justice and environmental sustainability as two expressions of the same fundamental value (Bookchin 1996; Kellner et al. 2009; Kahn 2010).

There is an additional opportunity related to physical school environments that comes disguised as a challenge. While the relative scarcity of resources in many SIDS schools, particularly in rural contexts, means a special set of pedagogical challenges not faced by better-resourced schools, this situation also dramatically reduces the ecological or carbon footprint[2] of these schools. Wealthy urban schools tend to be relatively wasteful of resources, conditioning their students to wasteful patterns of behaviour. Challenges notwithstanding, in terms of ESD, there is scope to build on the less consumptive nature of rural schools as a point of pride. While this study did not find evidence of this type of analysis being undertaken in the focus countries, there are a number of tools available to do so. The State Government of Victoria (Australia), for example, has developed quite a rigorous online calculator tool for schools to measure their ecological footprints (EPA Victoria undated). If such

calculations were measured and compared at the country level, it would provide an incentive for schools to take their consumption and waste production seriously. In this context, the use of renewable power sources and other school-based conservation activities could begin to take on new importance, creating additional opportunities for students to develop a strong sense of environmental responsibility.

5.2.2 Gap: Many of the available ESD resource materials are not being used in classrooms

The available information indicates that while a great deal has been invested in the development of resource materials for ESD, too often these materials either fail to make it into classrooms or simply do not get used. The development of resource materials on ESD is an attractive activity for donors and CSOs for a variety of reasons, including theoretically broad distribution and value, but in practice this has proven inefficient. Regional approaches related to resource materials are being rethought because while there remains a serious need for quality ESD materials at the school level, most of those developed in the past are underutilised. A variety of reasons were reported:

- Regionally-developed resources are shipped to central offices, but not distributed to schools;
- Regionally-developed resources lack specifics related to local contexts which would make them more relevant;
- The materials, including teachers' guides, are too difficult for the background level of the teachers – they are not teacher-friendly;
- Teachers understand the content but lack the confidence to implement activities in the manner described;
- Teachers are unwilling to commit the time required to understand the materials, particularly if they are produced in English in countries where this is not the mother tongue;
- Content is not sufficiently linked to curriculum objectives, or is perceived to be of limited academic value in relation to exam-oriented priorities;
- The resources are produced in insufficient quantities, and are not reprinted for new teachers;
- Lack of associated assessments, meaning there is little incentive for teachers to work with them.

Bridging the gap: Over time, it has become clear that without complementary training for teachers on how to use them, the development of ESD materials is usually fruitless. Corresponding to the challenges above, it has also become clear that there is a need to link resources to local curricula, incorporate local content, provide sufficient background for teachers (beginning with fundamental concepts), and have them available in teachers' mother tongues. In addition, UNESCO (Apia) has indicated

that there tends to be better usage of ESD materials when they are developed as part of a larger curriculum development process, suggesting the importance of aligning the work with MoE planning cycles.

JET is but one example of an organisation applying many of these principles. In addition to working towards 'Jamaicanising' regional ESD, the organisation also conducts school visits in order to distribute directly and follow up on materials, as well as providing training to teachers on how the materials can be used. National governments are also getting involved in such activities. The Maldives MoE has produced and distributed a number of curriculum-linked and teacher-friendly resource materials on environmental education and related science content. These materials include flipcharts depicting good environmental practices in terms of biodiversity, energy, waste and water, as well as teacher resource packs and resources on school-level best practices.

5.3 Institutional/foundational

Table 5.1 Line ministries – what's in a name?

Country	Environment	Education
Dominica	Ministry of Environment, Natural Resources, Physical Planning and Fisheries	Ministry of Education and Human Resource Development
Guyana	Ministry of Natural Resources and the Environment*	Ministry of Education
Jamaica	Ministry of Water, Land, Environment and Climate Change	Ministry of Education, Youth and Culture
Maldives	Ministry of Housing and Environment	Ministry of Education
Mauritius	Ministry of Environment and Sustainable Development	Ministry of Education and Human Resources
Nauru	Department of Commerce, Industry and Environment	Department of Education
Papua New Guinea	Department of Environment and Conservation	Department of Education
Samoa	Ministry of Natural Resources and Environment	Ministry of Education, Sports and Culture
Solomon Islands	Ministry of Environment, Conservation and Meteorology	Ministry of Education and Human Resources Development
Tonga	Ministry of Environment and Climate Change	Ministry of Education, Women's Affairs and Culture Ministry of Training , Employment, Youth and Sport**

* Established 2011.
** Established 2006.

5.3.1 Gap: Lack of standards and general policy coherence around ESD

The best policies are ones that have a realistic chance of being implemented. For this to happen, barriers to implementation need to be considered, such as: lack of clarity due to ineffective communication; mixed messages due to lack of corresponding changes elsewhere in the system; and lack of resources or capacity to carry out the policy. While high level policies – such as a national plan – can go a long way towards creating clarity and consistency, even countries with such policies focused on sustainable development have noted that fragmented implementation has led to inefficiency, non-achievement of targets and duplication of efforts. In reality, most countries have some policies that either advocate or provide entry points for ESD, and others that make no reference to it. This creates an incoherent policy environment in which mixed messages stifle or frustrate efforts to implement ESD. While a number of focus countries make strong reference to ESD in their policies, there is no evidence that any has developed relevant educational standards. Without clear standards to organise policy and programming, there is little to scaffold coherent planning, resource mobilisation, curriculum work, or implementation.

One of the earliest countries to adopt an institutional infrastructure for ESD was Jamaica. Beginning in the early 1990s, an environmental dimension was integrated into many subject curricula at all levels of the system, with complementary development of resource materials, and inclusion of the environment and environmental issues in student examinations. In 1993 a National Environmental Education Committee (NEEC) was established, which then spearheaded the development of a National Environmental Education Action Plan for Sustainable Development in 1998 – when ESD globally was still in its infancy. This action plan addressed both formal and non-formal education, and identified key partners such as the Ministry of Education, Youth and Culture (MoEYC) and the Joint Board of Teacher Education (JBTE). As could be anticipated, a thriving civil society community developed offering complementary environmental education and ESD activities in parallel and in collaboration with the MoEYC system. However, sources indicate that the action plan was tied to external funding and was never fully implemented. The administrative home of the NEEC is under the Environmental Protection Agency, rather than the MoEYC. Furthermore, the NEEC website identifies more than 40 offices and individuals represented in the committee. While interministerial and interdepartmental collaboration is important, the evidence suggests that a new layer of bureaucracy was established. Not surprisingly, despite some successes like the development of the action plan, reports indicate that policy alignment remained problematic, even between those who should theoretically have a shared vision, such as the JBTE and the MoEYC.

Bridging the gap: ESD has the potential to serve as a strong unifying theme in education, as the concept builds on good educational practices and integrates ideas related to social and economic development, culture, health, equity and social justice, citizenship and environmental sustainability. However, consistency between substantive and procedural policies is important to the implementation of any educational reform, including ESD. Certification requirements cannot be effectively changed without adjustments to training programmes. School greening necessitates an infrastructure to support it. Changes to curriculum will not take root unless books and examinations also change. Consideration should be given to all institutionalised aspects of the education

system, including: teacher certification; promotional systems; curriculum revision; textbooks and resource materials; examinations and student reporting; monitoring and reporting within the system; standards related to school buildings and their physical environment; leadership and supervision guidelines etc. Reorienting the many aspects of the system towards ESD requires well-formulated and coherent high level policies, as well as resources and strategic planning in order to put those policies into practice.

5.3.2 Gap: Lack of time and other resources to focus on ESD despite prioritisation in principle

Issues related to ESD implementation are not limited to lack of training or coherent policy environments. The broader enabling environment in most SIDS, and developing countries in general, is characterised by a variety of constraints at the individual, organisational and system levels (see UNESCO 2009; IALEI 2009; Deo 2007). As it was put in one country; 'The major challenge for [ESD] in the formal education system is to build capacity of all sectors of education communities to clarify values, critically reflect, negotiate and implement action plans ...' (Collins-Figueroa et al. 2005). This challenge is ongoing. Thus, even in cases of committed individuals, schools, or governments, the challenges to implementing ESD are immense due to constraints in the broader systems within which those players must act.

Bridging the gap: The most constructive way of facing the challenge of resource constraints is in an integrative manner. As discussed elsewhere, quality ESD has a great deal in common with quality education in a more general sense, and in the current global context there is a growing imperative to prioritise sustainability in education systems. This imperative is acute in the case of SIDS – the countries most vulnerable to the impacts of climate change. This recognition is growing in the SIDS community, and is well represented by the case of Mauritius. The Maurice Ile Durable (MID) concept aims to position Mauritius as a global leader in sustainable development, and despite constraints facing its education, has incorporated ESD into the core values of new curricula and educational policies – not as an additional burden to the system, but as a central tenet of what education is expected to deliver. The evidence from the activities of the multi-stakeholder MID education working group, and achievements to date, suggest that steps are being taken to roll out this high level policy in a systematic manner.

5.3.3 Gap: Emphasis on issues related to social justice, gender equality, or the rights of marginalised groups

In terms of general reforms, most of the focus countries have been working towards modernisation of their education systems through the introduction of standards-based curricula and other quality related measures, as well as working to improve efficiencies within the systems themselves. With respect to ESD, emphases vary more from country to country, with a general trend towards a more culturally-oriented approach in the Pacific and a more biodiversity and environment-dominated concept in the Caribbean. An area that seems to be rather neglected in most country-level policies, and particularly those discussing ESD, is the cluster of equity, social justice and the rights of marginalised groups. Few countries have up-to-date gender equality strategies,

or specialised policies on inclusion for children excluded from mainstream educational opportunities whether by disability, extreme poverty, or other rights-related issues. In the broader context of sustainability, these issues matter as part of a rights-based social sector approach, as well as a balanced approach to sustainability that recognises the interrelationship between social, environmental and economic issues.

Bridging the gap: While the ten focus countries vary quite dramatically in the issues they face with respect to social justice, all are confronted with educational inequalities, and all face access-related issues for certain marginalised groups. Nonetheless, a number of countries have taken steps to address these issues – if not in ESD agendas then through broader educational reforms. For example, while Solomon Islands does not have a focused strategy related to ESD, and environmental education receives relatively little consideration in its Education Strategic Framework (2007–2015), issues of access and equity are extremely prominent. It is also worth noting that while the Pacific ESD Framework and Pacific ESD Action Plan make almost no mention of equity, the broader Pacific Education Development Framework refers to equity throughout. However, it is the inclusion of social dimensions within concepts of ESD to which this finding relates. One country building a more integrated concept is Tonga, which, through its draft curriculum framework, has paid special attention to issues of inclusion, gender equality and children with disabilities. These themes are far less prominent in its overarching policy framework, causing some concern that essential resources may not be secured to support the intentions outlined in the curriculum. As concepts of ESD, as well as policy examples, continue to evolve, it will be important to reflect periodically on how these policies align with the ideals which educational systems are striving to uphold.

> '… when the knowledge system in the curriculum and the pedagogical frameworks are in concurrence with the educational need of the country then issues of equity, access, and relevancy are addressed.' (Fua 2009: 2)

5.4 Social/cultural

5.4.1 Good practice: Recognising the importance of language in ESD

While we intuitively recognise the importance of language, the role of language in the deep structure of our thinking is often taken for granted. From an environmental perspective, learning accurate terminology links to the understanding of sophisticated concepts; for example, words like 'away', as in 'throw that away', are problematic because they distance us from the consequences of our actions, thereby reducing our sense of responsibility and obscuring issues related to waste management. From an anthropological and sociological perspective, language functions as a kind of cultural DNA that encodes the underpinning architecture of our worldviews, and embeds both epistemological and axiological assumptions and perspectives in our thinking without us ever realising it. In more practical terms, teachers are often most confident and capable when working in their mother tongues.

It is significant, then, that there is a growing recognition of the role of language in sustainability thinking in the focus countries. As one representative from the MoE of Mauritius indicated, there is a 'need for widespread use of the language of the

environment to transmit values and bring change in mind set.' In the Pacific, the recognition of the relationship between language and local knowledge systems has been well established, and strong entry points for locally-relevant ESD conceptualisations have been recognised. In Tongan, for instance, the concept rendered in English as 'poverty' is transformed from an economic idea to a behavioural idea with an emphasis on social capital, and the inherent dualism implied by the terms in English of *self* and *land* (or *person* and *environment)* begin to erode – suggesting that what is good for the land is good for the person. The Tonga MoEWAC has taken the role of language seriously, developing the Tonga Education Lakalaka Policy Framework, which lays out policy directions and guidelines in relation to key elements identified through the *lakalaka* metaphor – based on rich cultural meanings embedded in a traditional form of dance.

Extending the good work: As recognition of the significance of language to ESD continues to grow, so will related research and applications. There is already a sound body of literature emerging from USP and scholars in the Pacific community linking language, local knowledge systems and implications for sustainable development. The Kakala Research Framework described elsewhere is but one example. In addition, environmental aspects of sustainability should be further complemented with cultural and literary aspects. At the UWI, graduate coursework has been offered on literature and sustainability. Rigorous approaches to literary analysis will continue to develop this aspect of ESD, leading to new practical applications in classrooms and communities.

5.4.2 Good practice: Building ESD out from the core of local culture

Strong sustainability acknowledges resource constraints and the limits of technological innovations to solve social and environmental problems, as well as the interconnectedness of human issues with those of the environment and economic relations. These themes tend to be present in most longstanding cultures, and island nations are inherently aware of such constraints and connections. In many SIDS there is also a sense of cultural pride and interest in the preservation of tangible and intangible cultural heritage. Recognising this, effective ESD is being undertaken which builds on local cultural foundations to establish leading edge concepts of sustainability. Such work begins with a foundation in traditional values and practices, but with a healthy recognition that not all traditional practices are necessarily sustainable. Contemporary research and scientific knowledge gain new traction and relevance when they are presented in relation to deeply-held understandings and ways of life. Working from traditional norms, concepts and taboos – many of which can be reinforced through contemporary scientific understandings – can be an effective means of gaining support for sustainability-related issues. A well-known example of this from the Pacific is Ra'ui, a traditional conservation system that prohibits access to allow the rejuvenation of natural resources (Hoffman 2002). This approach designates certain areas as protected, either prohibiting or restricting the harvest of marine life.

Grounding national ESD agendas in cultural foundations can be challenging in the context of cultural pluralism. While there is a tendency to group countries together within a shared regional context and commonalities, it is also important to recognise the rich diversity of groups even within a single country, and the value which that diversity brings to the social fabric. As one of the most culturally diverse countries

on the planet – consisting of more than 800 language groups – Papua New Guinea provides a useful example in this regard. With a recognition of the linkage between culture and sustainability, Papua New Guinea was among the early parties to the Earth Charter, with the country's 870 tribes affirming their support of the Mama Graun Tribal Charter – a distinct declaration on sustainability, based on the Earth Charter. PNG remains one of the few SIDS with an active Earth Charter Youth Committee, which is involved in community work, as well as training and awareness-raising for youth on sustainability issues. More recently, PNG ratified the 2008 UNESCO-led Intangible Cultural Heritage Convention, and has undertaken a number of activities to safeguard this unique national asset.

Extending the good work: Outside of the Pacific, much of the work being done in reorienting education systems towards ESD, and particularly curriculum reform, is emphasising environmental aspects of ESD. The tendency has been towards inclusion of related content within science curricula, with relatively little connection to cultural aspects of sustainability. The numerous examples from the Pacific suggest that cultural approaches emphasising sustainable livelihoods and building on traditional knowledge systems can be viable.

A UNESCO-supported initiative in 2009 reviewed ESD-related policies from a number of countries, including Jamaica, in relation to cultural diversity and intercultural understanding criteria (see Tilbury and Mula 2009). A review of the findings of this study in relation to evidence from the SIDS focus countries, presented in Table 5.2 below, suggests that many of these focus countries are doing relatively well in strengthening ESD through cultural perspectives. Of particular note, one of the key findings of the UNESCO study was 'culture seen as a challenge rather than an opportunity to move closer to sustainability' (Tilbury and Mula 2009: 22). The evidence from the SIDS countries, particularly those in the Pacific but also in Guyana, runs quite contrary to this finding.

Table 5.2 Key findings of UNESCO review of ESD policies from a cultural perspective, and related evidence from SIDS focus countries

No.	Key findings of UNESCO report	Policy and practice evidence from the SIDS focus countries
1	Culture is interpreted essentially as cultural heritage.	Culture in relation to ESD is framed as a recognition of the inherent sustainability of many traditional approaches, but with a balanced outlook also informed by outside epistemologies.
2	Cultural diversity is valued mostly within a context of indigenous knowledge.	The emphasis appears to be on commonalities, shared context and mutual responsibility.
3	ESD policies see culture as static.	Culture and knowledge are not viewed as static, but cultural heritage is portrayed somewhat more concretely.

Table 5.2 (Continued)

No.	Key findings of UNESCO report	Policy and practice evidence from the SIDS focus countries
4	Intercultural dialogue is acknowledged, but rarely promoted explicitly in ESD policies.	(Not particularly relevant to the policies reviewed.)
5	Culture seen as a challenge rather than an opportunity to move closer to sustainability.	Quite the opposite: numerous cultural entry points have been identified for ESD, and this is often cited as a success factor – particularly in the Pacific.
6	Links between language (as a means of cultural expression and communication) and sustainable development are yet to be acknowledged.	As above, particularly in the Pacific, the special nuances of local terms and concepts are used to articulate locally relevant concepts related to sustainability.
7	The complementarities between indigenous knowledge and scientific learning systems are not explored.	These tend to be viewed as complementary, as illustrated by the Kakala Research Framework in the Pacific, as well as the environmental management philosophy articulated by Iwokrama Centre in Guyana.
8	Creativity is underplayed in sustainable development.	Creativity is advocated in many of the policy documents reviewed, and in both the Pacific and the Caribbean, there is strong evidence of the use of theatre and visual arts in ESD activities.
9	There are missed opportunities through not embedding culture components within ESD learning objectives.	This is probably the case, as more could always be done; however, curriculum documents make frequent mention of cultural components as objectives and themes to guide teaching – particularly in the Pacific.
10	Few policies see the relevance of culture to pedagogy or how it can add value to ESD approaches.	This area is relatively new, and rote learning reportedly still dominates. Policies tend to advocate a shift towards student-centred methods with no reference to culture. Cultural approaches to knowledge generation, research and learning are beginning to be explored. Examples include approaches such as *talanoa*, which are being revitalised in Pacific countries.
11	Culture stakeholders and interest groups have fewer participation spaces during the development, implementation and evaluation of ESD policies than dominant stakeholder groups.	(No data.)
12	Culture has been partially embedded in discrete parts of the ESD policies and strategic documents reviewed.	Culture is very prominent in policies and strategic documents from the Pacific, and to a somewhat lesser extent in those from the Caribbean and AIMS regions.

Notes

1 See: www.earthcharterinaction.org/content
2 An ecological footprint is a calculation of the area of productive land required to supply the required resources and assimilate the associated wastes.

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