

Invited Essay

Towards Environmental Education for Sustainable Development: The Contributions of NGOs in the Asia-Pacific Region

Daniella Tilbury,^a Wendy Goldstein,^b and Lisa Ryan^c

IUCN Commission on Education and Communication and Macquarie University

While the existence, status, and roles of non-government organisations (NGOs) in the Asia-Pacific region vary considerably, there is a global trend in which they are influencing the agenda, accountability, and governance towards sustainable development. NGOs are increasingly influential and have greater responsibilities in ensuring that international and national commitments are implemented. These changing roles were highlighted during the 1992 Earth Summit in Rio de Janeiro and reinforced at the 2002 World Summit for Sustainable Development in Johannesburg, where the work of this sector was increasingly profiled and identified as key to laying the foundations for change. This paper focuses on the changes occurring in NGO practices within the field of environmental education, and profiles three examples of successful activities in the Asia-Pacific region. It examines the roles and contributions of these NGOs in helping communities and countries with reorienting environmental and conservation education activities towards sustainability, and it helps identify key characteristics of these programs that exemplify the momentum building behind education for sustainable development in the region.

Keywords: NGOs, Asia-Pacific region, Environmental education, Education for sustainability, Good practice.

1. The contribution of NGOs to education for sustainability

The role played by non-government organisations (NGOs) in advancing education for sustainable development cannot be underestimated. They are involved not only in initiating and/or supporting grassroots processes towards sustainable development but also in agenda-setting, influencing policy, and global governance. Over the past ten years they have become more influential and have gained greater responsibilities in ensuring that international and national commitments in areas such as education are implemented (Tilbury and IUCN CEC 2001).

The 1992 United Nations Conference on Environment and Development in Rio (Earth Summit) was particularly significant in confirming the importance of engaging NGOs in the highest levels of decision-making and in marking a new era of NGO involvement in agenda-setting and influencing

a Senior Lecturer, Environmental Education and Sustainable Development, the Graduate School of the Environment, Macquarie University, and Chair, Education for Sustainable Development for the IUCN Commission on Education and Communication Programme.

b Head, the Environmental Education and Communication Programme, IUCN.

c Coordinator, Centre for Innovation and Research in Environmental Education, Griffith University.

practices, as illustrated by the following text from Agenda 21, the action plan that arose from the summit:

The United Nations system, including international finance and development agencies, and all intergovernmental organisations and forums should, in consultation with non-government organisations, take measures to...draw on the expertise and views of non-government organisations in policy and programme design, implementation and evaluation (United Nations 1992, Agenda 21, Chapter 27, 3).

As a result of this Rio document, the Commission on Sustainable Development (CSD), the body responsible for Agenda 21, classified NGOs as a major group responsible for this task (Gemmill and Bamidele-Izu 2002; Tilbury 2001; UNCED 1992).

The 1992 Earth Summit was also the first to acknowledge the need to broaden the field and engage all sectors of society in educating for change towards sustainable development. The need to strengthen and share the responsibility of educating for sustainable development amongst a range of social agencies, including NGOs, was further reiterated at the 1997 international UNESCO conference in Thessaloniki, and, more significantly, in a UNESCO (2001) report to the CSD on key trends and developments in education and awareness for sustainable development.

More recently, NGOs attending the World Summit for Sustainable Development demonstrated their role as a change agency not only through profiling their successful experiences in education for sustainability but also in influencing agendas (UNESCO 2002; Earth Charter Education Committee 2002; IUCN 2002). Their lobbying efforts in the lead-up to the summit resulted in education featuring prominently in the Johannesburg Implementation Plan (UN 2002) as well in the summit's endorsement of the United Nation's Decade of Education for Sustainable Development (described later).

2. NGO activities in environmental education—from conservation to sustainability

NGOs engaged in environmental education are highly diverse in their influence, activities, and scope of interest. They range from small, localised, community-based organisations focused on a single issue, such as the management of a specific natural resource in a particular area, to large international NGOs, active in a number of countries and working on a broad range of issues, using a variety of approaches such as awareness raising and capacity building. This diversity ensures that a variety of perspectives and contexts are incorporated into their increasing spheres of influence, including cultural and religious perspectives, local and global concerns, and Northern and Southern issues (Bhandari et al. 2002).

In addition to their diversity, NGOs have a number of other strengths that enable them to have a critical influence on the development and delivery of environmental education for sustainability in both formal, informal, and non-formal education sectors (outlined in Box 1).

Box 1. The unique characteristics of NGOs that increase their impact in the development and delivery of education for sustainability.

- NGOs can generally mobilise relatively quickly to respond immediately to new issues.
- They are not as hampered as government with bureaucracy and tend to be freer to innovate and explore new methods and mechanisms.
- They provide an alternative voice for civil society and generally play a catalytic role by placing concerns on the global agenda.
- They are not restricted by national borders and can work in an international capacity to address cross-border issues such as acid rain and globalisation.
- Unlike many governments focused on a short election term, many NGOs can afford to think about long-term solutions to environmental problems.
- They can concentrate on targeting fewer activities more effectively.
- Many NGOs are located close to their target populations and can plan locally tailored educational responses. They are also typically more trusted and respected than their government counterparts.
- They are not restricted to the formal sector and can provide many worthwhile non-formal opportunities for lifelong learning.
- The broad views and spectrums represented by NGOs can generate more creative approaches to issues of sustainability.

Source: Adapted from Gemmill and Bamidele-Izu (2002); Paul (2000); Bloem (2001); Clark (1991); NGO Network (1997); National Forum for Partnerships Supporting Education about the Environment (1994).

It has only been recently, however, that NGOs have become involved in pushing the boundaries through education programs. Previously, involvement in environmental education remained limited to adding value to existing formal education activities. These tended to be school-based programs focused on single conservation issues, which merely added to the existing, already overcrowded curriculum (Martin 1996). Many NGOs focused their energies and funding on the development of teaching guidebooks and resource materials to support educator's work in this area. Over the past decade, as NGOs grew in influence and capacity, they began to encompass a new role—that of social rather than curriculum change. Tilbury (2001) argues that this new role has brought with it a focus on lifelong learning, capacity building, and inclusivity, where all sectors of society inside and outside the school walls can actively participate in partnerships that promote change towards a more sustainable society. This, it is argued, has assisted the process of reconceptualising environmental education towards sustainability. NGOs have pushed the boundaries beyond the walls of the formal education systems through providing opportunities for engaging stakeholders in a dialectical process that deepens their understanding of environmental education and furthers their contributions (Tilbury 2001).

3. Environmental education for sustainable development in the Asia-Pacific region

The Asia-Pacific region is an area of rich diversity. Economically, it is the world's fastest growing region and home to nearly two-thirds of the world's population, yet wide socio-economic disparities are evident. It has a large and diverse range of ecosystems, many that are threatened, and a wide range of cultural, religious, historical, linguistic, and political differences (UNEP 2001). It is a region of unique diversity, yet despite the differences, persistent problems of sustainability, including environmental degradation, poverty, and inequality, are common throughout the region.

Changes in government policy and a widespread recognition of the urgency to address sustainability have generally increased the degree of education activities across the region. Many countries have developed strategies, guidelines, and/or policies that have led to the increased status of environmental education—although there is substantial variance between countries (UNESCO/ACEID/GU 1995, 7–8).

The challenge of implementing environmental education for sustainable development in the Asia-Pacific region is significant. Generally, there is a lack of consensus and understanding of the implications of this shift for education (Bhandari et al. 2002, 11), which is often translated into unclear goals and weak leadership. There is often a lack of modeling or financial support from government agencies (Bhandari et al. 2002, 15, 20). Whilst there have been several strategies produced on a regional level (ESCAP 1996; SPREP 1999; ASEAN 2001; IGES 2002), these still tend to focus more on formal environmental education, and have yet to realistically engage with the changing nature of environmental education provision to incorporate multi-sectorial partnerships and the broader goals of sustainability. The lack of an active regional network for environmental education is also a major issue. Such a network could enable learning to be shared, along with the consolidation and coordination of any cross-sectorial efforts and the development of a more realistic regional strategy.

In practice, environmental education is being developed by many agencies within the Asia-Pacific, including governments, NGOs, multi-national companies, educational institutions, and the media (IGES 2002, 11). There is a strong recognition amongst academics in the region that a shift is needed—away from purely ecological and nature-based studies—towards more inclusive concepts of sustainability that recognise the interdependence of natural, economic, social, cultural, and political systems (Fien and Tilbury 1996, 27; UNESCO/ACEID/GU 1995, 7–8; Bhandari et al. 2002, 12). This shift, away from awareness raising and knowledge management, towards education for change and sustainability reflects a greater trend in environmental education that has gained increasing support since the Rio Summit. Environmental education was initially interpreted as a body of knowledge about the environment that needs to be imparted. Increasingly, it is recognised that knowledge alone does not lead to action and that educational processes need to be reconsidered. In turn, this had led to engaging people in actions such as waste and recycling activities, tree planting, and supporting the introduction of alternative technology. But these activities were not integrated into the core business of the individuals or organisations involved in these initiatives, and thus they failed to attain significant changes towards sustainability.

More recently, the notion of participation of society as a means to engagement and change has become more significant, but change and participation are not yet universally accepted in all cultures

and political systems in the region. In 2002 an ASEAN¹ regional conference held in Bangkok made a first step to forming guidelines on access to environmental information and participation to support change.

In government it is the ministries of environment in the region (rather than education ministries) that often take the principal role in promoting environmental education for sustainable development. At present, many environmental education projects initiated by environment departments focus on awareness-raising campaigns rather than environmental education processes aimed at achieving sustainable change (Bhandari et al. 2002, para. 46). As is to be expected, efforts that originate from ministries of education focus principally on the formal sector, with much enterprise directed towards primary schools, along with some emphasis on secondary and pre-service teacher education. It should be noted, however, that despite this emphasis, environmental education is often not a priority curriculum area and is inclined to be marginalised from mainstream education policy within countries in the region (Bhandari et al. 2002, 15).

The lack of systematic provision of environmental education in the non-formal education sector is seen as a major weakness throughout the region. Suffering from even less policy and strategic direction than the formal sector, it has traditionally been addressed in an ad hoc and uncoordinated fashion. With the majority of work in this area being undertaken by NGOs, it suffers from their typical constraints and weaknesses. One significant constraint is the lack of long-term funding, which in turn affects the continuity and long-term impact of programs as well as institutional development. Competition for funding and identity can lead to a lack of coordination of effort and knowledge sharing.

Despite these institutional issues, the strength and importance of NGOs has recently come to the fore through their role in advocating and facilitating the establishment of cross-sectorial partnerships. A significant new trend is the construction of meaningful partnerships between NGOs and governments, other NGOs, media, and academia to advocate for more sustainable reforms and lifestyles (Bhandari et al. 2002, 14). These partnerships are adding momentum towards education for sustainable development, and helping to reorient environmental education towards sustainability.

4. Case studies of NGO programs in the Asia-Pacific region

The following three case studies demonstrate a sample of best practices across the broad scope of conditions that NGOs in the Asia-Pacific operate under, such as geographical regions, educational sectors, and organisational structures. In selecting these cases, the aim has been to recognise the wide variety of environmental education programs being implemented and their impacts in the Asia-Pacific region.

- WWF China's Environmental Educator's Initiative (EEI)
- Wan Smolbag Community (WSB) Theatre Group's Pacific Program
- Haribon's PAMANA ka sa Pilipinas' Community-based Resource Management Project

1 Association of Southeast Asian Nations (ASEAN).

Combined, these three case studies provide a representative picture of how environmental education for sustainability is implemented across the variables, as depicted in Table 1. The next section presents a brief outline of the key features, background information, and the main outcomes of each program.

Table 1. Comparison of environmental education programs offered by three NGOs

		Environmental Educators Initiative, China	Wan Smolbag, (WSB), Pacific Islands	Haribo Foundation PAMANA kasa Pilipinas, Philippines
Education sector	Formal education	X		
	Non-formal education		X	X
NGO scale	National NGO			X
	Indigenous community-based NGO		X	
	International NGO	X		
Main focus of environmental education	Environmental system (marine)			X
	Health/social issues		X	
	Education curricula	X		

4.1. WWF China—Environmental Educator’s Initiative

The World Wide Fund for Nature (WWF) China launched its successful Environmental Educator’s Initiative (EEI) in 1997 with the fundamental goal of embedding environmental education for sustainability within China’s education system. The initiative has been developed in partnership with the Basic Education Department, Ministry of Education and British Petroleum China.

The EEI has built capacity in the formal education system by challenging existing curriculum structures, encouraging cross-curricular planning, and promoting participatory and interactive approaches to teaching and learning. It has supported these changes with teacher education, resource development, and establishment of a number of regional environmental education centres. In addition, the EEI supports a number of pilot schools that act as leaders and developers of environmental education innovation and change (see WWF China 2002, 2003; WWF China Education Programme 2002).

The project has provided a vehicle for educational innovation with the reorientation of environmental and nature studies to environmental education for sustainability within the curriculum (Tilbury 1999; Fien et al. 2001, 2002). It has been successful in embedding this innovation as well as in promoting structural educational change—from an academic, exam-oriented system to one that is more relevant to student’s needs and experiences, and one that develops their capacity to actively participate in society (Shi et al. 2000).

The project has also been successful in influencing government policy. The successes of this project have placed the EEI team in a good position to take advantage of China’s current period of educational reform to collaboratively develop national environmental education guidelines with the Ministry of

Education, integrating education for sustainability into the curriculum, and adopting enquiry-based, student-centred learning.

4.2. Wan Smolbag Community (WSB) Theatre—Pacific Islands program

Wan Smolbag was founded in 1989 as a small amateur drama group in Vanuatu specialising in working with communities to produce drama about a range of social, environmental, and health issues within the Pacific Islands. It takes its name from the portability with which actors can carry their one small bag of props around the region.

Throughout the Pacific, literacy and education levels are low, and many villagers cannot access information through general media channels such as newspapers and radios. To counter this issue it uses traditional media to target a wider audience. The use of traditional storytelling and drama techniques, as well as participatory drama workshops, allows the sharing of messages about a range of sustainability issues with villagers in an entertaining but also engaging manner.

Wan Smolbag (WSB) works closely with communities to collectively plan and write their dramas. It also connects communities with appropriate government departments, NGOs, and other organisations that can provide the important facilities and structures necessary to facilitate and support positive actions arising from the drama. Training and capacity building of other groups is also a key role of the WSB (see Thompson 2000; Passingham 2002; Wan Smolbag n.d., 2001–2003).

Wan Smolbag has played a fundamental role in initiating public discussion of important and often controversial issues, such as the exploitation of forest resources by commercial logging industries. Its workshops were instrumental in initiating public debate about fair logging agreements in both Vanuatu and Papua New Guinea, and seeking strategies to address the issues. Community theatre has also facilitated the discussion of taboo subjects, such as reproductive health and indigenous fishing practices, by opening dialogue between the community, cast, and government extension officers.

Wan Smolbag currently employs over 60 staff, and in addition to producing plays, drama workshops, and radio programs, also manages a community drop-in centre and family planning clinic, and has established a turtle-monitoring network.

4.3. The Haribon Foundation—PAMANA ka sa Pilipinas community-based resource management project

The Haribon Foundation (named after the Filipino word for the Philippine Eagle) was founded in 1972 as an ornithological society in the Philippines, but it has grown and developed to become one of the most successful non-government nature conservation organisations in the country. Haribon's aim is to protect and conserve the Philippines' biodiversity, mainly through protected area management. It hopes to achieve this through building the capacity of communities to sustainably manage their own natural resources (Haribon Foundation 2002).

One of the projects Haribon administers is the PAMANA ka sa Pilipinas, a growing alliance of managers of small community-based marine protected areas along the coast (currently numbering about 125). Haribon aims to strengthen PAMANA as a national network in a tri-pronged approach through building the capacity of the alliance's leadership and membership, engaging members in participatory

research, and working at the policy level to advocate for appropriate legislation and agreements (Lavides et al. 2003).

Education and communication are fundamental aspects of this approach, and are effectively used by the organisation in working towards change to accomplish the following:

- Raise general public awareness through campaigns (with the help of the media)
- Provide training for leadership in responding to legal and management issues and membership in participatory research and monitoring
- Build personal and institutional capacity
- Develop and maintain productive networks and partnerships with other organisations
- Share information and research results
- Build a strong membership base

Other change mechanisms are also used to support these initiatives, such as advocacy, campaigning, pressure, and development (Lavides et al. 2003; PAMANA and Haribon, 2003).

Despite being in operation only three years, PAMANA has made significant progress towards a system of sustained and effectively managed marine sanctuaries in the Philippines, including successfully negotiating a number of agreements. PAMANA and Haribon have provided in-depth training to members of the community from sixteen marine sanctuary sites. Community members are now able to undertake scientifically rigorous data collection, which is used by the communities and organisations not only as baseline for research but also as bases for management action at the local level (Lavides et al. 2003).

4.4. Features of the shift towards education for sustainability

The above program descriptions and outcomes reflect changes that have occurred towards environmental education for sustainability. Each of these programs has developed frameworks and tools to ensure that the principles of learning for change are incorporated not only into the delivery of the program but also into their own operational frameworks.

Given the level of operational differences that each of these programs has to contend with, one would expect a divergence in approaches. It is significant then that, when compared to each other, the key features that have contributed to their success appear to be similar, with the only difference being the scale to which the key features are applied. This is best exemplified in Table 2 (below) where key features indicating the shift towards education for sustainability are listed, along with a description of the approach taken by each of the programs.

5. Reflections

In summary, a number of key features can be attributed to the success of these innovative environmental education for sustainability programs and distinguish them from previous efforts in environmental education, as follows:

- Education and communication is interpreted as a *participatory process* that involves local people or specific stakeholders in reflecting and acting upon context-specific issues.

- Education and communication is considered to be *more than just awareness raising*. It involves capacity building and empowerment of groups and stakeholders through development of knowledge, skills, and values. This involves providing carefully planned opportunities for development of skills at professional, organisational, and community levels.
- Education and communication programs build rewarding *partnerships for change*, where NGOs work collaboratively with and within other organisations (particularly with government, business, and media) to maximise their resource base and create synergy between organisations.
- Engage in *multi-level approaches to change*. Some NGOs are finding that in order for change to occur, all levels of the system need to be targeted simultaneously, as there is an interrelationship between the levels that affects the uptake of new innovations, e.g., policies on land tenure affect the preparedness of communities to manage resources.
- Become *learning organisations*. NGOs are engaged in building their own institutional capacity to manage and develop further in response to their changing roles. In becoming a learning organisation, NGOs are undertaking internal evaluation and assessment of their practices and achievements. They are becoming risk takers and innovators, investing in their own staff development, and managing to manage.
- Content or issues go beyond the environment, featuring *critical education approaches that reflect social practice and what is sustainable and equitable*. More and more NGOs are building their programs around an understanding of the interdependence between environment and development.
- Focus on *key multipliers*. Many groups have limited resources, so they choose to focus on key multipliers such as teachers, health professionals, and media to maximise their efforts. They also recognise the importance of providing professional development for their own staff (this is particularly apparent in WWF China's EEI and the WSB), which helps to sustain the effort once resources have been expended.
- Increasing leverage and resources through *networking*. Establishing networks of other groups and NGOs provides a conduit for sharing of knowledge, support, and resources across regions and organisations. It also spreads the word and ideas to others. Even within grassroots organisations involved in community-based natural resource management (CBNRM), successful groups are sharing their experience with other groups.

Table 2. Key features indicating the shift towards environmental education for sustainable development.

Key Features	Environmental Education Initiative, WWF China	Wan Smolbag Community Theatre, Vanuatu	Haribon's PAMANA ka sa Pilipinas, The Philippines
Critical reflection on ways of living	Prompting reflection on effective ways to learn and build capacity in the education system, as well as on concepts, values, and practices.	Encouraging people to reflect on what they do to undermine their health, society, and environment.	Encouraging people to reflect about effective management.
Community capacity building	Community in this sense is the education community, teachers, trainers, and the Ministry of Education. The program aims to develop leaders, and supports the work of pilot schools to act as demonstration sites and developers of teacher education models and resource development.	The WSB works at the grassroots level to facilitate capacity building of communities on locally relevant issues.	Community members are given access to training in leadership, management, and the methods of participatory research and monitoring.
Key multipliers	A focus on key multipliers as effective agents of change has been critical to this program's success. Professional development and training has been targeted towards teacher educators and key "master" teachers chosen from the participating teacher education institutions, who subsequently develop resources and provide training for teachers, education authorities, and school administrators. Textbook developers, such as Peoples Education Press (PEP), are also involved in the initiative and are currently working to infuse education for sustainability into a variety of subject textbooks.	The program increases the access of remote villages to education and including local leaders in the development and delivery of cultural and context-specific materials.	Communities are strengthened through capacity building of key leaders for responding to issues such as legislation and management.
Multi-faceted	The EEI project has a multi-faceted approach to educational change. It recognises the interdependence between all aspects of the educational system, including national education policies, teacher education, and resource development, and simultaneously targets interventions at all levels.	The WSB develops the capacity of the communities in which it works on a number of levels, from initiating public discussion on important issues, increasing the skills of groups through drama workshops, to supporting the establishment of community facilities.	PAMANA aims to strengthen the national network in a multi-pronged approach through strengthening leaders, engaging members in participatory research, and working at the policy level.

Table 2—Continued

Key Features	Environmental Education Initiative, WWF China	Wan Smolbag Community Theatre, Vanuatu	Haribon's PAMANA ka sa Pilipinas, The Philippines
Networking and sharing	Success of the EEI has led to the participation in a collaborative effort to develop national environmental education guidelines with the Ministry of Education. It has also led to the establishment of a network of centres that learn from each other.	The WSB group has been actively involved in the development of a network between theatre and other community groups to share experiences and begin a process of dialogue for change.	Haribon uses a variety of strategies for social change. Communication and education strategies are fundamental but are also supported and enriched by other strategies, such as advocacy, public awareness raising, and networking using a coordinated and integrated approach. Haribon facilitates the sharing of these experiences throughout the alliance, particularly the models of protected area management.
Organisational development	WWF China's partnership with all organisations involved has facilitated the process of institutionalising the importance and processes of sustainability within partner organisations.	While much of the original work of the WSB has been in the area of health (reproductive health), as the organisation has developed their skills, they have been able to expand to encompass broader issues of sustainability, such as alcoholism, sanitation and urban crowding, logging, turtles, voting, domestic violence, corruption, and indigenous land rights. In addition, the WSB is reflexive and risk taking, with a formalised evaluation process that provides feedback on its own practices. WSB has recruited administrative and project management staff to ensure continued sources of secure funding. As much of WSB's continued success is due to the quality of its staff, investment in professional development is recognised as important.	Building the institutional capacity of PAMANA is important for the sustainability of the project. Haribon has facilitated this through the transfer of key resources such as staff, equipment, and funds to direct PAMANA control.

Table 2—Continued

Key Features	Environmental Education Initiative, WWF China	Wan Smolbag Community Theatre, Vanuatu	Haribon's PAMANA ka sa Pilipinas, The Philippines
Participatory and interactive	Established a basis of participation in two dimensions, both by challenging the existing curriculum structures as well as in applying more interactive and participatory approaches to teaching and learning.	The WSB's approach is designed to be highly participatory throughout all stages, from drama development to supporting community initiated positive actions.	Haribon adopts an integrated, multi-disciplinary approach to community-based resource management that is highly participatory and based upon scientifically sound principles. PAMANA encourages participatory construction of protected area management models and frameworks in a locally-specific context.
Partnerships for change	The EEI is China's first-ever collaborative venture between the government, an international NGO, and a multi-national company. Through working in partnership, all parties are learning from the process and are appreciating the value of environmental education's contribution to their respective organisations.	The WSB works in partnership to promote and support action towards a better environment and quality of life. It works with government departments (e.g., to provide access to other resources, such as the construction of a community health and outreach centre in Port Vila) and other NGOs (e.g., to identify priority issues and contribute to content).	Haribon recognises its own limitations and effectively draws upon resources available from its partner organisations, which includes other NGOs, local government units, religious organisations, academia, and businesses. PAMANA also recognises the need to develop worthwhile and long-term relationships with these groups for mutual benefit and development.
Professional development for staff	An integral part of this program is the involvement of international education for sustainability experts who shared their experiences and practical strategies for curriculum change. They have also been key to the professional development of program staff to build capacity within the organisation to undertake this project. Project staff have also travelled internationally to attend courses and visit innovative programs.	The program recognises the importance of sharing their expertise and often works with other community theatre groups, teachers, and nurses to help develop their skills in utilising participatory drama techniques. Internally, investment in professional development is recognised as important. As the group has grown, it has trained staff as well as recruited administrative and project management staff to ensure they can deal with the demands of funding agencies.	A key component of this program is to deliver opportunities for targeted professional development to those in the network; specifically, this includes areas such as increasing their leadership skills as well as the development of an understanding for and application of participatory research methods.

Note: Selection of key features was based on works by Tilbury (1995) and Fien et al. (2002).

6. Future opportunities

Heavily influenced by the lobbying efforts of NGOs in the lead-up to the Johannesburg Summit, the United Nations (UN) resolved that 2005 to 2014 will be the Decade of Education for Sustainable Development, and UNESCO, the lead agency, is currently engaged in developing a concrete plan for it. In the meantime, the UN General Assembly has invited governments to come up with concrete measures necessary for its implementation starting from 2005, and the plans for the UN Decade will be discussed at the fifty-eighth session of the UN General Assembly in 2003. The IUCN's (World Conservation Union) Commission on Education and Communication has called for actions to support the UN Decade of Education for Sustainable Development. This includes initiating a dialogue at the national level, including NGOs and major groups, to identify a plan of action to magnify current efforts in education for sustainable development (Tilbury and Goldstein 2003). The societies of the future will need to make sustainable development a part of all they do. To arrive at this level of integration, ours needs to become a learning society, valuing and drawing on the creativity of our people in business, local government, agriculture, transport, energy, and tourism. The societies of the future will be built on sharing knowledge and learning. NGOs have begun to lead the way in demonstrating how this can be achieved and to prompt the learning and reflection on what is sustainable development. It is hoped that the Decade of Education for Sustainable Development can provide a stimulus to make a big leap forward in this area.

Acknowledgement

The authors would like to acknowledge the valuable input and contributions of Kristina Cooke, Liu Yunhua, Zhao Yuntao and Helen Corrigan, Magarita Lavidés.

References

- Association of Southeast Asian Nations (ASEAN). 2001. *ASEAN environmental education plan (2000–2005)*. Jakarta: ASEAN Secretariat.
- Bhandari, Bishnu, B., Osamu Abe, Masahiro Takahashi and Akihiro Nakahara. 2002. *The path to success: Some pioneering examples of environmental education*. Kanagawa: IGES.
- Bloem, R. 2001. The role of NGOs in the age of a democratic civil society, <<http://www.globalpolicy.org/ngos/role/policymk/select/2001/0927congo.htm>> (May 2002). Coalition of NGOs.
- Clark, J. 1991. *Democratising development: The role of voluntary organisations*. London: Earthscan.
- Earth Charter Education Committee. 2002. *Education and the Earth Charter*. Johannesburg Side Event, World Summit on Sustainable Development, 26 August 2002.
- ESCAP (1995). *Declaration and Regional Action Programme*. Ministerial Conference on Environment and Development in Asia and the Pacific, 27 November 1995. Bangkok: United Nations ESCAP.
- Fien, J. and D. Tilbury. 1996. *Learning for a sustainable environment: An agenda for teacher education in Asia and the Pacific*. Bangkok: UNESCO BKA/96/M/52-500.

- Fien, J., W. Scott and D. Tilbury. 2001. Education and conservation: Lessons from an evaluation. In *Environmental education research*. London, U.K.: Carfax Publishing Co.
- . 2002. Principles of good practice: Learning from a meta-analysis of case studies on education within conservation in the WWF network. *International Journal of Applied Environmental Education and Communication* (USAID/Taylor Francis [U.S.]).
- Gemmill, B. and A. Bamidele-Izu. 2002. The role of NGOs and civil society in global environmental governance. In *Global environmental governance: Options & opportunities*, ed. D. Esty and M. Ivanova. Chicago: Yale School of Forestry & Environmental Studies.
- Haribon Foundation. 2002. Haribon Foundation for the Conservation of Natural Resources, <<http://www.haribon.org.ph>> (May 2003).
- Haribon Foundation and PAMANA Ka Sa Pilipinas. 2003. Institutionalisation of ecosystem-based network for PAMANA Ka Sa Pilipinas Strategic Advocacy Campaign. Final report to Rockefeller Brothers Fund by Haribon Foundation, mimeo.
- IUCN - The World Conservation Union. 2002. Engaging People in Sustainability. Johannesburg Side Event, World Summit on Sustainable Development, 28–30 August 2002, at Johannesburg.
- Lavides, M., I. Ancog, F. Tiburcio and L. Bande. 2003. PAMANA Ka Sa Pilipinas: A national MPA network strategy towards sustainable marine protected areas in the Philippines. Paper presented at the IUCN-WCPA Regional Protected Area Conference, 1–5 April 2003, at the EDSA Shangri-la Hotel, Manila, Philippines.
- Martin, P. 1999. A WWF view of education and the role of NGOs. In *Education for Sustainability*, ed. J. Huckle and S. Sterling. London: Earthscan.
- National Forum for Partnerships Supporting Education about the Environment. 1994. *Education for sustainability: An agenda for action*. Washington, D.C.: U.S. Government Printing Office.
- NGO Network. 1997. Role and Contributions of Major Groups in Implementing Sustainable Development. Workshop by NGO Network, <<http://www.ecouncil.ac.cr/rio5/mar13/workeen.html>> (May 2003) Rio+5 Online Forum.
- Passingham, S. 2002. Turtles, trees, toilets and tourists: Community theatre and environmental education. In *Education and sustainability responding to the global challenge*, ed. D. Tilbury et al. Gland: Commission on Education and Communication, IUCN.
- Paul, J. 2000. NGOs and global policy-making, <<http://globalpolicy.igc.org/ngos/analysis/anal00.htm>> (May 2002) Global Policy Forum, New York.
- Shi, C., S. Hutchinson and L. Yu. 2000. Moving beyond environmental knowledge delivery: Environmental Educators' Initiative for China. *Environmental Education and Information* 19(3): 205–214.
- South Pacific Regional Environment Programme (SPREP). 1999. Action strategy for environmental education and training in the Pacific region: 1999–2003. Apia: SPREP.
- Thompson, L. 2000. Vanuatu's Wan Smol Bag... and the community became the actors. Unpublished document.
- Tilbury, D. 1995. Environmental education for sustainability: Defining the new focus of environmental education. 1(2): 5–7.
- . 1999. The Environmental Educators' Initiative for China—WWF China. In *Education & conservation: Case studies of good practice*, ed. J. Fien. Gland/Washington, D.C.: WWF International and WWF U.S.
- . 2001. Reconceptualising environmental education for a new century (in Spanish). *Temas en Educacion Ambiental* 2(7). Centre for Education and Capacity Building for Sustainable Development, Ministry for Environment, Natural Resources and Fisheries, Mexico.
- Tilbury, D. and W. Goldstein. 2003. *Supporting the United Nations Decade of Education for Sustainable Development 2005–2014*. Gland: Commission on Education and Communication, IUCN.
- Tilbury, D. and IUCN Commission on Education and Communication (CEC). 2001. Education for sustainable development. A paper commissioned by the UNESCO NGO Committee for the World Summit for Sustainable Development. Gland: IUCN CEC.
- United Nations. 1992. *Agenda 21: Programme of action for sustainable development*. New York: United Nations.

- . 2002. *World Summit on Sustainable Development: Plan of Implementation*. Johannesburg: UNESCO.
- UNEP (2001) *UNEP Regional Office for Asia and the Pacific- About the region*, <http://20d.67.58.208/uneproap/html/region.htm>, accessed 20/3/03.
- UNESCO/ACEID/GU. 1995. *Learning for a sustainable environment*. Bangkok: UNESCO Principal Regional Office for Asia and the Pacific.
- United Nations Educational, Scientific and Cultural Organization (UNESCO). 2001. *Education and public awareness for sustainable development Report to the Secretary General*. Washington: United Nations Advanced Unedited Copy.
- United Nations Educational, Scientific and Cultural Organization (UNESCO). 2002. *Dakar framework of Action. Education for all: Meeting our collective commitments*. Paris: UNESCO.
- . 2002. *Educating for a sustainable future: Action, commitments and partnerships*. Summer Place, Johannesburg Side Event, World Summit on Sustainable Development, 2–3 September, at Johannesburg.
- Wan Smolbag. n.d. Wan Smolbag Theatre: More than community theatre.
- . April 2001–February 2003. Wan Smolbag Theatre and the environment. Newsletter (four monthly).
- WWF China. 2002. Environmental Educators' Initiative, <http://www.wwfchina.org/english/sub_print.php?loca=14> (25 April 2003).
- . 2003. Program news: Teachers across China learn how to educate students for a more sustainable future, <http://www.wwfchina.org/english/sub_print.php?loca=135> (25 April 2003).
- WWF China Education Programme. 2002. *Engaging people in sustainability*. Mimeo. Beijing: WWF China.

Copyright of *International Review for Environmental Strategies* is the property of Institute for Global Environmental Strategies and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.