Southern African Journal of Environmental Education, Vol. 23, 2006

Development of National Assessment Criteria for Green Schools in China

Chen Nan, Wu Xiaoqiang and Wang Jin
Guangzhou University, China

Abstract

In the Peoples' Republic of China, a green schools programme was initiated in 1996. It has promoted both education reform and socially sustainable development. Recently, the assessment criteria for green schools have become an obstacle to the rapid development of the green school initiative, mainly due to the cultural and social system in Mainland China. Because there are many district criteria which mainly focus on green schools construction and evaluation, it is necessary to have new criteria to replace them. However, the requirements of the existing national criteria aren't detailed, and the requirements don't satisfy evaluation needs after the provincial criteria are replaced. Hence, the new national criteria should include a more comprehensive set of indices and requirements. This paper firstly examines the experiences from other countries and areas, and then analyses weaknesses of the existing green schools assessment process in China. Finally, some understanding about green schools, and principles to establish new national criteria in China, are discussed in the paper. Since new national criteria are being established, they will be applied to the evaluation of the national green schools project in Mainland China in 2006.

Background

The development of green schools in China began in 1996. At that time, three administrations, including the Propaganda Department of the Central Committee of the Communist Party of China, the Ministry of Education and the State Environmental Protection Administration, promulgated a document, *The National Action Programme for Environmental Publicity and Education (1996–2010)*. The concept of green schools was included in the document as well as four indicators of green schools as shown in this statement:

> The main indicators of such schools must show that their students shall conscientiously learn the contents of environmental protection included in teaching materials of various courses, the teachers and students shall have intense environmental awareness, they shall take an active part in environmental supervision, publicity and education geared to the needs of society, and their campuses shall be clean and beautiful.

Since 1996, and especially after 2000, the numbers of green schools have increased rapidly. There are currently about 16 000 green schools in China (www.cgsp.cn/main/cgsop/chinags). The development of green schools promotes environmental awareness of students and

sustainable development in society. There are, however, still many problems in the present green school programme, one of them is its evaluation. Initially there was a set of national assessment criteria, but these only contained 10 core indices for assessment based on the four indicators in the document. These are:

1. Establish a committee for green schools and appoint an environmental manager. Develop a plan to guide green schools construction
2. Provide special financial support for environmental education from the schools
3. Ensure effective approaches for preventing pollution, reducing and recycling garbage, saving energy, etc.
4. Collect and keep all materials related to green school construction
5. Put the context of environment into the main school subjects
6. Encourage teachers to take part in environmental education training programmemes, and to undertake environmental education research
7. Form a school culture of environmental protection. Encourage high levels of environmental awareness amongst students and teachers and ensure active participation in various activities
8. Encourage students and teachers to show life style choices that reflect environmental protection
9. Green the campus
10. Establish a students' environmental group to foster students' participation in environmental management of schools

Although these 10 core indices help to promote green schools, some improvements are required to keep pace with current developments associated with green schools. In 2002, the State Environmental Protection Administration of China supported the *Management Models and Development Strategy of Green Schools in China* programme (Grants 2003-Z-01). The establishment of new national assessment criteria for green schools is one of the tasks of this programme.

The first group of green schools were awarded accreditation by the Guangzhou Municipal Environmental Protection Bureau and Education Commission in 1997. To promote the development of green schools, the State Environmental Protection Administration and Ministry of Education awarded a national commendation to some provincial green schools in 2000. This shows that the district criteria of green schools were established earlier than the 10 core indices at national level were established. Up to now, there are two levels of criteria operating in Mainland China: various district criteria and the 10 national core indices. The district criteria contain the provincial and civic criteria. The original district criteria were developed in Guangzhou. Their indices include four dimensions:

- school management (the green school committee, the plan for green schools, training for the teachers and green schools materials);
- the processes of environmental education (inclusion of environmental education in the main subjects, separate environmental courses, various activities, garbage reducing and recycling, and so on);
- environmental education achievements (the environmental awareness of students,

suggestions for community and awards in environmental education); and
- campus construction and management (greening and cleaning the campus, controlling the pollution).

The contents of the 10 national core indices are similar to the district criteria and are generally used as the guide for green schools construction, but not for the evaluation of green schools, because the national prize of green schools are mainly recommended by the district administration (Chen & Li, 2003).

The purpose of this paper is to establish a basis for the new national assessment criteria for green schools of China, which will replace both the old national criteria and provincial criteria. We believe that the proposed national criteria should be more detailed, and that indices should be added that can be used to evaluate green schools. At the same time, according to the present development of green schools, the contents of the proposed new criteria should be designed so that they combine both the current district criteria and the national criteria.

Methods

In developing new national assessment criteria, the authors of this paper have undertaken a series of measures. First, we collected the materials about green schools abroad and in our country by using websites, magazines and various visits. The materials that we drew on include a range of international examples of criteria from the UK (www.eco-schools.org.uk), the USA (www.dnr.state.wi.us/org/caer/ce/greenschools; www.greenschools.schoolsgogreen.org), Sweden (Zeng, 2003a; 2003b; National Agency for Education of Sweden, 2001:14-24), Japan (Liu, 2003), South Africa (Ward, 2004), the Foundation of Environmental Education (www.eco-schools.org; Zeng, 1999), as well as different districts of China. Many approaches and methods for evaluating green schools were analysed. The positive experiences from those countries and areas in the construction and assessment of green schools were carefully studied. At the same time, the weaknesses of China's green schools assessment were also analysed.

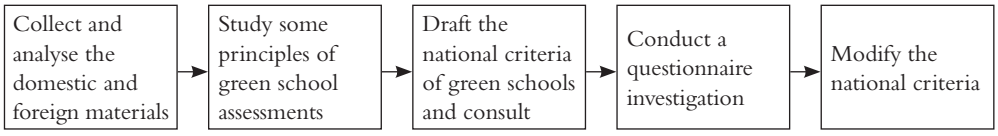
Secondly, the principles of developing and evaluating green schools in China were constructed based on the experiences and weaknesses. Thirdly, the content of new national criteria was proposed by combining the 10 national core indices with district criteria. A draft set of national criteria was developed, which include first- and second-level indices, requirements and information. The new criteria are similar to district criteria in form because the district criteria are most familiar to the schools. The content of the draft was discussed in a special meeting, involving experts from all over China who provided feedback and comments on the proposed indices and requirements. We modified the draft according to their suggestions.

Fourthly, a questionnaire-based investigation focusing on the indices was conducted. The purpose of this was to collect the opinions of managers and experts of green schools during the Green Schools Management Conference in 2003. There were two parts in the survey questionnaires. The first part provided demographic information on those who completed the questionnaires, and included information on gender, age, occupation, serving institute, location of their work, the time they began green schools construction and the prize levels they have achieved. The second part of the questionnaire contained an overview of the green schools

development and evaluation method in China, as well as the opinions about the first- and second-level indices of the proposed national assessment criteria. We disseminated 49 questionnaires. There were 46 effective questionnaires. They were calculated statistically. Some basic data were obtained from this process. The main results showed that the respondents were from 17 provinces in China. Ninety percent of the respondents were between 30–50 years old. Seventy percent of the respondents were optimistic about the development of green schools in China. The data on indices will be discussed in the section on 'findings and discussions' in this paper.

Finally, this draft was modified again, based on the questionnaire survey, and further insights were gained from this process. The research process is summarised in Figure 1 below.

Figure 1. The process of developing national assessment criteria for green schools in China



Findings Informing the Development of National Criteria

Analysis of positive experiences from other countries

We analysed materials on the green schools from various countries, and identified four positive experiences associated with criteria and assessment methods. They are as follows:

1. *Qualitative assessment is the main method of green schools and eco-schools assessment*: There are no absolute quantitative criteria for green schools in other countries. Qualitative assessments focus mainly on the *processes* of green schools construction. For example, criteria focusing on 'environmental review' in the international eco-schools programme are that '*work commences with a review or assessment of the environmental impact of the school. Pupils are involved in this work, ranging from assessing the level of litter on school grounds to checking infrastructure for inefficiencies'* (www.eco-schools.org). The requirements of the eco-schools programme are not totally different from the district criteria in China, which are also the main criteria for Chinese green schools construction. However, the district criteria also include quantitative dimensions, for example, a quantitative index is provided for the 'environmental activities' criteria in the Guangzhou district, where green schools are required to complete 14 activities each year. Quantitative criteria can, however, mask questions of quality in environmental activities in the schools, for the schools generally pay more attention to the quantity than the quality, and quantitative criteria do not therefore necessarily contribute to quality activities.
2. *Environmental issues are the important content in the construction of green schools*: There are many requirements for the construction of green schools in different countries. It was noted that some requirements focus on schools' environmental issues. The schools must adopt several approaches for attaining the objectives of environmental improvement. One of the approaches is to teach courses of study which include environmental content. In fact, in some countries, environmental issues are a main focus of green

schools. For example, there are 10 environmental issue topics that are incorporated into the requirements of green schools construction in Wisconsin State, USA.

3. *Giving courses is a major approach of green schools construction*: In some countries, the green schools criteria focus on the teaching programmeme and the courses taught in schools. In New England in the USA, there is even a requirement that such courses should be integrated. The first indicator of the criteria in South Africa is *inclusion of focus areas in curriculum*. Courses that include environment or separate environmental courses also comprise the main indices in the existing criteria for green schools in China.
4. *Environmental review is a foundational process in green schools construction*: Environmental review is the foundation of green schools construction in many countries. It is the second step in eco-schools programmeme of Europe and is also a central process in the South African eco-schools programmeme. Green schools construction in China lacks this focus on environmental review, although there is such a requirement in the Guide for China's Green Schools which was issued by the Centre of Environmental Education and Communication of State Environmental Protection Administration. The district criteria, however, don't contain the requirement. This gap will be addressed in the new national criteria.

Actually, the process of developing green schools differs from country to country, even in the same programme, such as the eco-schools programme. The process in the UK is quite different from South Africa. Unlike three-level rewards in UK, South Africa uses a process of portfolio assessment. To sum up the criteria in those countries and areas, we have observed that there are two aims of green schools: one is to raise the environmental awareness of both students and teachers. The other is to improve the school environmental situation. These two issues are also included in the concept of green schools in China.

The weakness of green schools assessment in China

There are two main weaknesses in the green schools assessment in China. On the one hand, there are too many district criteria which lack justice when evaluating the green schools, as the number of national green schools prizes are limited for different provinces. Some green schools couldn't be awarded even though they have met all the criteria and have shown evidence of great achievements. One of the reasons is that there are certain differences in the requirements in various provinces, even though the indices are almost the same. Therefore, it is necessary for the new national criteria to replace the old national and provincial criteria. On the other hand, the 10 existing national core indices aren't detailed enough, and the requirements don't satisfy evaluation needs after the provincial criteria are replaced. Hence, the new national criteria should add further indices and requirements. In addition, the evaluation process in other countries highlights a number of areas that could enhance the China green schools evaluation process, including the focus on schools' environmental management systems and continuous improvement; sustainable environment practice; and environmental review. These three aspects should be enhanced in the national criteria through assessment indices and the evaluation process. The continuous improvement of environment and environmental education is one of the main problems for green schools in China. The basic reason is that the content about continued improvement is missing in most of the district criteria.

Understanding green schools and investigating first level-indices of national criteria

As mentioned above, criteria of green schools need to be constantly updated, as green schools today are likely to be different from those of yesterday (Zhang, 2000). Therefore, a key to the establishment of the national criteria is how to understand the dynamic nature of green schools. We think modern green schools should contain three aspects: environmental management, environmental education and environmental facilities. *Environmental management* means that an environmental management system is provided based on the concept of the ISO 14000 standard, which is compiled by the International Standard Organization for protecting environment and raising the level of environmental management of any organisation. The ISO 14000 is a management system standard that is aimed at constant improvement. There are six steps to provide a school environmental management system. Providing and running the system will be helpful for environmental improvement in the schools (Chen, 2002). *Environmental education* means that the courses should contain the contexts and content needed to develop knowledge of environmental protection, and environmental activities should be developed to develop skills and values to respond to environmental issues. The schools gain achievements in environmental education through these courses and activities. *Environmental facilities* means that there are various approaches and material needs for preventing environmental pollution and saving resources.

Another important dimension is to ensure that the characteristics of green schools construction are encouraged in different schools. The characteristics show that there are different topics, approaches and achievements of green schools construction. For example, an art course containing environmental education is one of the characteristics of Guangzhou Zhixin Middle School. The goal of green schools construction is to promote both environmentally organised and managed schools, as well as social and sustainable development. Understanding green schools in this way is foundational to establishing national assessment criteria that will be broad-based, responsive and dynamic. This finding was identified in the 46 questionnaire surveys conducted amongst experts and managers of green schools in China, and through the discussion in the special meeting. The contents therefore make up the first-level indices of the proposed national assessment criteria. The goal and understanding of green schools in China are showed in Figure 2. Questionnaire survey results are shown in Table 1.

Figure 2. The goal and understanding of green schools construction in China

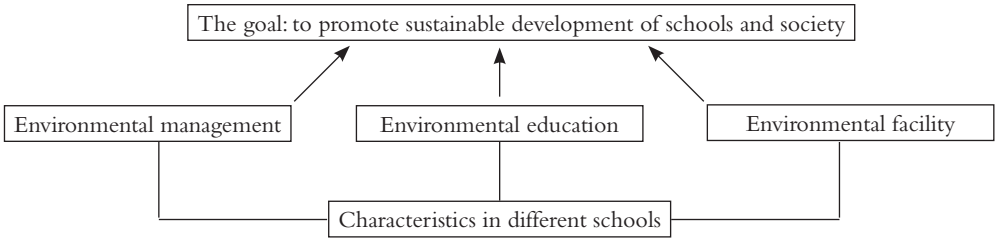


Table 1. The result of questionnaire survey focusing on first-level indices

First-Level Indices	'Green thought' about School Construction	Environmental Facility of Campus	Environmental Management	Environmental Education and Effect	Characteristics
Persons	42	32	36	44	35
Percentage	91.3	69.6	78.3	95.7	76.1

The 'characteristics' in Table 1 refer to special curriculum plans, teaching plans and methods, activities, campus culture of green school construction, etc. Table 1 shows that the majority of experts and managers agreed to the first-level indices which were designed by us. The percentages are different: 91.3% indicated that 'green thought' was important; 69.6% indicated that 'environmental facility' was important; 78.3% indicated that 'environmental management' was important; 95.7% indicated that 'environmental education and effect' was important, and 76.1% indicated that 'characteristics' were important. When the national assessment criteria were modified, the first-level indices in Table 1 were divided into six indices for the sake of enabling more effective evaluation processes.

Establishing National Assessment Criteria

Focusing on environmental improvement

The process of establishing national assessment criteria, should (as argued above) be materialised in the steps of green schools construction, such as establishing the environment committee, environmental review, compiling the plans, implementation and evaluation, etc. The steps used in green school construction are similar to the process requirements of ISO 14001. Actually, the eco-schools programme in Europe requires that the schools provide an integrated system for environmental management based on an ISO 14001/EMAS (Environmental Management Audit System) approach. The ISO 14001 management standard is useful to inform the development of national criteria of China. ISO 14001 is the main standard of the ISO 14000 series of environmental standards. It requires organizations to develop a system for environmental management, and to make it work through ongoing evaluation, review and improvement. The better the system works, the better environmental protection and management, will be carried out. In the construction of green schools, if the schools can develop an environmental management system (EMS) based on continuous evaluation, review and improvement, this could ensure continuous improvement of environment and environmental education. Using the ISO 14001 standard as outlined by the ISO, will, however, be a very complex system for schools to use. The thought or key concepts of the ISO 14001 system standard, however, can be (and has been) adapted to guide national criteria, especially the main concept of continuous improvement.

Principles guiding national assessment criteria

Based on the experiences of other countries and areas, and on the weaknesses identified in China's green schools criteria, as well as the survey and discussions, four principles to establish the national criteria are put forward. These are:

- control or guide the whole processes of green schools construction through ensuring that there are environmental policies and regulations in each department of the schools;
- encourage schools to design and develop the topics, approaches and achievements of green schools themselves;
- continuously improve the school environment and environmental education; and
- encourage the participation of all students and teachers.

The proposed national assessment criteria of green schools

These proposed national assessment criteria are set up according to our understanding about green schools, as well as the thought and principles guiding establishment of the national assessment criteria reported in this paper. There are six first-level indices:

- 'Green thought' about school construction
- Environmental management on campus
- The curriculum and environmental education
- Activities in environmental education
- The running of environmental facilities
- The characteristics of different green schools

There are 18 second-level indices in the criteria. Each of the second-level indices are related to the first-level indices, and as such they 'give effect' to the first-level indices. Each of the second-level indices contain certain requirements and information. The first- and second-level indices, requirements and information are shown in the Table 2.

Table 2. The national assessment criteria of green schools in China

First-level Indices (Criteria)	Second-Level Indices	Requirements	Information
'Green thought' about School Construction	Approaches and objectives of schools' construction	• Obvious 'Green element' contained in the construction objectives of the school. • Ideas of the green school construction are well thought through and clear • Green school construction combined with capability construction of the school	• Review all documents, the plan of school development, headmaster's speech for students and teachers, etc. • *Review the headmaster's training certificate which is certificated by State Environmental Protection Administration*

First-level Indices (Criteria)	Second-Level Indices	Requirements	Information
	Plans and policies	• Special plans guiding green school construction are in place • School has environmental policies • Regulations for recognising people active in green school construction are in place	• *Review the plans of green school construction and environmental policies* • Review prize certificates or correlative material
Environmental Management on Campus	*Organization and financial support*	• Environmental committee is formed and has regular meetings. Members of committee contain the leaders, teachers, students, community members and NGO members, etc. • Funding support is provided from different sources, including government, non-government organisations, other social organisations and persons, etc.	• *Review the list and record of committee meetings* • *Review the material pertaining to financial planning and use* • Review material pertaining to donations from organisations and persons, resource saving, etc.
	Continued improvement and actions	• An environmental review is conducted at the start of green school construction and at the end of each year • Improvement plans for environment and environmental education exist in each department of the school, and there are the approaches and methods for the plans	• *Review the assessment report and the improvement plans in environment and EE* • Review the general plans and action plans, activities plans, as well as achievements from each department
	Construction of teachers' team	• A general plan for teacher training in EE exists in the school, and the plan is implemented and gains achievements	• Review plans for the teacher training in EE • *Review certificates for green schools and EE training, as well as EE conference events. Review school-based EE training plans and correlative material* • Review EE articles and prizes for or by the teachers

First-level Indices (Criteria)	Second-Level Indices	Requirements	Information
	Communication of information and archive construction	• Staff are timely informed of relevant green school information, and staff know this information • Suggestions and comments about the green school construction made by teachers and students are adopted • All materials related to green school construction are collected and kept	• *Review the documents on establishing communicating channels and achievements* • Review suggestions and comments from the students and teachers • R*eview the archives*
Curriculum and Environmental Education	*Curriculum construction plans, teaching materials, articles, etc.*	• Environmental issues are part of the curriculum according to the requirements of Ministry of Education in China • School has a plan of curriculum integration for EE, as well as approaches and methods for the plan. It is better if there is an independent environmental course • More than 30% of the contents is about environmental issues in the research course • The teachers pay attention to EE research and publish articles • There is at least one elective course in EE (in the high schools)	• *Review curriculum plans, subject plans, special EE plans, etc.* • *Review teaching plans of the teachers, teaching materials, test papers, teaching evaluation materials, etc.* • Review the achievements of the research course
	Special topic course in environmental education	• School has a special topic course in EE based on the *General Outline of Environmental Education Special Topic Course in Primary and Middle of China*, which is issued by Ministry of Education	• *Review teaching plans, teaching materials, the materials of teaching evaluation for the special topic course in EE,* as well as the achievements
	Education resources in environmental education	• Various teaching resources are used for EE, such as school garden, the zoo and city arboretums, Internet, TV, and so on • A teaching place for EE exists outside the school. Regular activities take place	• Review the school garden and materials used for EE from the internet, TV and other sources • Review materials on the place for EE outside the school

First-level Indices (Criteria)	Second-Level Indices	Requirements	Information
	Achievements and effects in environmental education	• School and people are rewarded for EE contributions and achievements • Environmental awareness of the teachers and students is promoted	• *Review prizes and certificates* • Assess environmental awareness of the teachers and students
Activities in Environmental Education	Participation and environmental organisation of students	• More than 90% of the students participate in the construction of green school • A student's environmental organisation exists in the school. Their activities link to the community and society	• *Review materials documenting students' participation* • *Review student list and environmental organisation records, year plans and summaries, activities, etc.* • Review news about activities of the school in local newspapers, TV, magazines, etc.
	Actions of environmental propagation	• Various activities take place to commemorate environmental days • A communications publication is issued on green schools construction	• *Review the plans and evidence of EE communication* • *Review the publications*
	Supervision in environmental protection	• Students supervise the environment of the schools and society.	• Review materials pertaining to environmental supervision
	Community involvement	• Relationships between the schools and other schools, families, communities, NGOs, etc. exist • Regular activities are planned and followed	• *Review materials pertaining to activities which are with other organisations* • Review evaluation materials from the community and society
Running of Environmental Facilities	*Saving and recycling of resources*	• Facilities for saving resources exist and are effective • A system for reducing and recycling waste exists	• *Review the facilities for saving energy, water, paper and other resources* •*Review the system for reducing and recycling waste*
	Safety in food and drinking water	• Food in the school store and refectory is safe • Drinking water is safe	• Review the school store and refectory • *Review the drinking water facility*

First-level Indices (Criteria)	Second-Level Indices	Requirements	Information
	Controlling pollution	• The requirements of national and local pollution control are met • Noxious chemicals are managed according to national and local requirements	• *Review the restaurants, classrooms, laboratories, garbage station, infirmary in the schools, etc.* • *Review the management of hazardous materials*
	Building and eco-construction on campus	• Environmental protection and students' and teachers' health in are considered in the building of the school • The campus is clean • The campus is greened based on ecological principles	• *Review the classrooms, offices, libraries and laboratories* • *Review the campus*
Characteristics of Green Schools Construction	Requirements: (1) The characteristics may be in the approaches, curriculum plans, teaching plans and methods, activities, campus culture of green school construction, etc. (2) There are three conditions that underpin the characteristics: the activities last more than five years; improvements in achievement are visible; and good quality evaluations exist which involve the community, society and experts.		

Notes to the table:
1) The italic indices in second-level indices are the core indices.
2) Information on the items in italics must be supplied when the school applies for the national prize.
3) The italic indices and information are based on the existing national criteria.

It is also necessary to make the meaning of 'curriculum' clear in the context of China's education system. There are basically four course programmes that are linked to environment in China: general courses such as Chemistry, Biology and Geography in middle schools, as well as Science and Chinese in primary schools; a research course which requires students to choose research issues themselves; school courses which are developed by the school itself; and elective courses in high schools.

Conclusions

As shown in this paper, the establishment of assessment criteria is based on a diverse range of influencing factors such as the cultures, policies, management systems, educational tradition and structure, and so on. The paper has also argued that the new national criteria of green schools in China must be reflective of its own ideas, while considering international trends. We think the ideas of the national criteria of China attend to two issues that are related to two management administration factors associated with the programme: the State Environmental Protection Administration pays attention to a better environment, whereas the Ministry of Education focuses on better education. Therefore, the proposed national criteria are designed in such a way that they meet the requirements of two administrations. At the same time, the criteria have

also had to take careful account of, and have had to consider, the current district criteria to ensure continuity of assessment.

The indices associated with the six criteria are based on our understanding of the emergence of green schools in China, and of trends in the international arena. Of course, these national criteria are not likely to be 'cast in stone', nor are they likely to be the best set of criteria developed for China. Some indices and requirements will be modified according to suggestions from local managers and through engagements with pilot schools in future. For example, the index on curriculum is likely to change as it links to the process of developing guidelines for environmental education more broadly. As there is only one year to issue *Guidelines for Environmental Education in Secondary and Primary Schools of China*, the time for implementing the Guidelines is short. The requirements of the education administration will be added into the national criteria as they are developed.

Notes on the Contributors

Chen Nan is currently Director of the Environmental Education Centre in Guangzhou University and also teaches environmental courses at Guangzhou University. Her research interests in environmental education focus on environmental management in schools, environmental education evaluation and environmental course development in universities and colleges. She is also an evaluating expert for green schools in China. Email: nancychen@126.com.

Wu Xiaoqiang is Director of the Education Evaluation Centre in Guangzhou University. His research in education focuses on the method and approach of education evaluation. Email: 5pxq@163.com.

Wang Jin is a graduate student in the Environmental Education Centre of Guangzhou University. Email: wsywj-20001@163.com.

References

Chen, N. & Li, X. (2003). Study on environmental management system and evaluation of 'Green School'. *China Environmental Management*, 1, 38–40.

Chen, N. (2002). Concept, methods and new thinking on school environmental management. *Environmental Education*, 5, 2002: 8–9.

Liu, J. (2003). Basic idea and promoting strategy of Japanese Ecological School. *Journal of Shenyang Normal University (Natural Science)*, 3, 227–231.

National Agency for Education of Sweden. (2001). The Booklet of the Green Schools Award. pp.14–24. Unpublished document.

Ward, K. (2004). Eco-Schools in South Africa. Abstract. In *The International Seminar on Green Schools in China & Teenagers Forum on Environment*. China: CEEC (Centre for Environmental Education and Communication)/SEPA (State Environmental Protection Administration). pp.10–12.

Zeng, H. (1999). A survey of development of 'Eco-school' project in Europe. *Environmental Education of China*, 4, 12–16.

Zeng, H. (2003a). Swedish environmental education & its green schools' development. *Environmental Education of China*, 3, 17–22.

Zeng, H. (2003b). Summary on the development of environmental education and green schools in Sweden. *Environmental Education of China*, 4, 19–22.

Zhang, Y. (2000). Reflection on some issues of assessing green schools. *Environmental Education of China*, 5, 12–14.

Acknowledgements

We would like to thank Dr Zhu Huaixin from Zhejiang University, Dr Huang Yu from Beijing Normal University, Dr Liu Jihe from Shenyang Normal University, Mr Zeng Hongying from the Centre of Environmental Education and Communication of the State Environmental Protection Administration of China, Professor Yu Guopei from East China Normal University and Dr Zhu Xiaoyan from Guangzhou University. Kim Ward and Mike Ward from the Southern African Development Community Regional Environmental Education Centre have provided us with materials on the Eco-Schools programme in South Africa, and some suggestions during the development of this paper.