

# GREEN SCHOOLS

## *Guide*



FUNDED BY THE BRITISH HIGH COMMISSION

The Green Schools Initiative is a joint project between Live & Learn Environmental Education and the Ministry of Education.

**This manual was prepared by:**

Archana Narayan Sunila Prasad Christian Nielsen With contributions

from:

Madhukar Mudaliar (Water Audit)

**Graphic Design and Desk Top Publishing**

Susanna Xie - Xivine Studio Ltd., PO Box 12717, Suva, Fiji

**Produced by:**

Live & Learn Environmental Education

25 McGregor Rd.

Private Mail Bag

Suva - Fiji

Tel: 679 3315868

Fax: 679 3305868

e-mail: [livelearntajis.com.fi](mailto:livelearntajis.com.fi)

**Funded by:**

The British High Commission, Suva

**Copyright 2000 Live & Learn Environmental Education**

Permission is granted to duplicate materials for non-commercial, not-profit educational purposes only provided acknowledgement is given.  
All other rights are reserved.

## CONTENTS

<b>WHY BECOME A GREEN SCHOOL</b>	<b>1</b>
<b>ABOUT THIS GUIDE</b>	<b>2</b>
<b>AIM</b>	<b>2</b>
<b>CREATING A SUSTAINABLE SCHOOL ENVIRONMENT</b>	<b>3</b>
<b>STEPS TO FOLLOW</b>	<b>5</b>
<b>PLANNING AND PREPARATION</b>	<b>7</b>
<b>ACTIVITIES FOR AN ENVIRONMENT AUDIT</b>	<b>10</b>
<b>THE BIG PICTURE</b>	<b>15</b>

## WHY BECOME A GREEN SCHOOL

Schools throughout the country face huge problems and considerable costs in energy consumption, water usage and solid waste disposal. Litter is not only a common problem in school, but in the country as a whole.

Effective waste and litter education and conservation programs in schools offer a range of important benefits. It raises awareness among the students and teachers and gives a chance for students to be actually involved in projects that could bring about effective, hands-on learning experiences that could enhance attitude transformation and value formation towards the environment.

A best practice approach to Environmental Education involves the integration of curriculum and environmental activities in the school operation. It offers not only educational benefits, but also cost-savings to the schools, and in some communities, a promotion of the school.

This guide has been developed to help schools to:

- identify existing and potential sources of environmental problems, and
- introduce cost-effective practices to minimise the impacts of these problems on the environment.

All schools are invited and encouraged to join the Green Schools Programme. You can find out about joining the group from your local Green Schools Action Group, or can make direct contact with the Live & Learn Environmental Education on the address given in this Guide.

## ABOUT THIS GUIDE

The need to conserve natural resources and the environmental issues has received increasing attention in the last decade. Many schools have tried to implement environmental education strategies to promote environmental knowledge, skills and values among their students and community members.

This guide will build on some of these strategies and will help schools to use resources more wisely.

It describes a range of activities to help students, teachers, other staff and parents to:

- Conduct environmental audits to assess their schools current environmental performance,
- Develop, implement and evaluate an environmental management plan to continually improve their schools environmental performance.

This guide will make an effort to ensure that we have an educated and well-informed society on local, regional and international environmental issues that have an impact on our environmental and on our lives.

## AIMS

The guide as a tool for environmental change aims to help schools attain:

1. Wise energy use/conservation.
2. Wise material use.
3. Waste reduction and recycling.

4. Water conservation.
5. Knowledge on the consumption of biodiversity.

As a teaching resource, it aims to:

- Describe a range of school environmental activities suitable for various year levels.
- Base environmental activities on an action research model, encouraging students to research, plan and act on environmental issues.

### **Why should School communities take action on environmental issues?**

The reasons why school communities should take action on environmental issues are:

- To reduce environmental impacts caused by school activities.
- To create an environmental ethic among members of the school community.
- To save money for the school, by reducing costs and generating revenue.

# CREATING A SUSTAINABLE SCHOOL ENVIRONMENT

## *Step 1. Establishing an Environmental School Committee*

In our collected endeavors to create a sustainable environment the first step could be to establish an Environmental School Council. This will encourage students to participate and claim "ownership" of environmental problems that may be facing the school.

As equality and democratic decision-making are two fundamentals in a sustainable environment the committee should aim for equality in numbers in the following areas:

- Teachers and students
- Women, men, boys and girls
- Representation of all ethnic groups

This will contribute to a broad debate and will consider the needs and concerns of everyone.

Students can elect their representative through a class ballot and a representative from each class could be selected. At the first committee meeting a Chairperson should be elected by the committee to oversee and call the meetings.

**It is important for the meetings to be focussed and have an agenda in order to avoid wasting time.**

On the first meeting the agenda could be the following:

### **AGENDA**

1. Develop an environmental mission statement.

2. Identify desired goals with the Environmental School Audit (e.g. Decrease wastes, start recycling, establish nursery).
3. Identify ways through which the school's activities can link with the community, the church and the elders.
4. Identify ways through which the school can link with other groups and activities ( e.g. Keep Fiji Beautiful Association, World Environment Day, Department of Environment, Anti-dengue mosquito campaigns)

**In order to make the committee effective it is important to:**

- Have regular meetings
- Have good communication between the committee and the rest of the school and make the committee as inclusive as possible.
- Involve parents in environmental initiatives
- Ensure all committee members take specific tasks

### ***Step 2: Environmental School Audit***

#### **What is an environmental audit?**

An environment audit is the process of assessing our attitudes towards the environment. It is a process of monitoring and measuring the use of resources.

The environment audit is done through self-reflection and critical thinking on our actions and our use of resources. During this process we have the opportunity to identify and investigate problems that need to be challenged.

An environmental audit provides a baseline against which improvements in environmental management can be measured.

### ***What outcomes can be expected?***

An environmental school audit is valuable for the student, teacher and the school. It will assist the teacher and the students to identify problems in the school environment and more specifically help identify resources used in the school environment.

It provides the first step for the student to investigate solutions to environmental problems such as waste, water and energy conservation.

More importantly, an Environmental School Audit will encourage the students and the teachers to have a good look at their own attitudes towards the school environment and their participation.

In order for an Environmental School Audit to be effective, honesty and openness are two critical factors.



### **Student Outcomes**

Students who successfully complete the activities described in the guide will:

- Identify resources used in their daily routine.
- Record and interpret data about the use of these resources.
- Become more responsible in their use of these resources.
- Use teamwork to conserve these resources.
- Write, implement and evaluate a plan to use resources wisely.



## **School Outcomes**

Schools that successfully complete the activities described in the guide will:

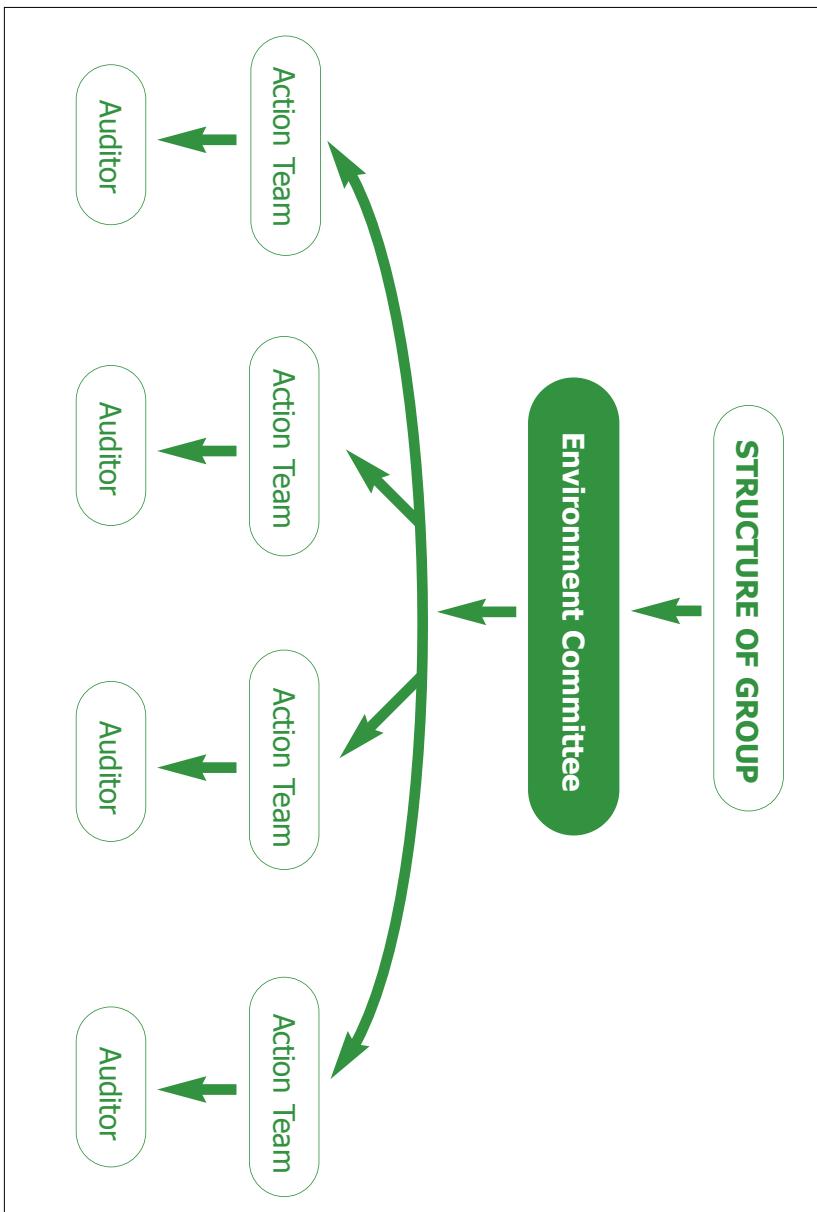
- Manage resources more wisely.
- Minimize waste.
- Improve their natural environment.
- Save money which can be used in other areas of the school.
- Improve co-operation throughout the school community.
- Compile valuable information on an environmental database.

Before You Start

It is important to do some preparatory work before starting the school environmental activities.

## **Establish Groups**

Schools will need to establish groups to carry out environmental activities.



## STAPS TO FOLLOW:

1. Elect an **environmental committee** to initiate and oversee environmental activities, if one does not already exist. The committee should ideally include representatives of students, teachers, other ancillary staff and if possible parents.
2. Form **action teams** to carry out environmental activities. Action teams might include a range of representatives, could be drawn from students in different classes/forms or could comprise all members of a particular class (e.g. A food technology class could investigate energy, water and waste in the school canteen). Each action team should be given a copy of this guide.
3. Elect an **auditor** from each action team. Auditors will be responsible for collating data collected by their teams.
4. Hold regular **elections** for the environment committee (e.g. at the start of each term).

Whatever groups you decide to use, remember that they should include representatives from all areas of the school community. The more people who contribute to environmental management, the more effective it will be, not only in collecting data, but bringing about real change and improvement.

## PLANNING AND PREPARATION

Once groups have been established to carry out environmental activities, some planning and preparation must be done. If you adopt the structure suggested above the following steps would be carried out by action teams, with the support of this environmental committee.

1. Identify desired goals and outcomes for the audit and management plan (e.g. to increase awareness, to change attitudes, to link activities with the curriculum, to eliminate waste, to reduce electricity bills).
2. Identify tasks and responsibilities and assign them to various action teams. It is common to assign action teams to particular issues (e.g. energy, water, materials, waste etc.) but you are free to assign responsibilities in the way that best suits your needs.
3. Consider linking school environmental activities to existing environmental events and competitions such as Arbor Week, Environment Week, World Food Day and so on.
4. Assess resources available for environmental activities.
5. Make contact with members of the school community who likely to have 'expert' knowledge about school use of resource (e.g. cleaners, canteen workers).
6. Publicize plans for school environmental activities through school notice boards, school assembly or class discussions.

## **ACTIVITIES FOR AN ENVIRONMENTAL AUDIT**

Teachers and students can do an Environmental School Audit suitable for their school environment. Below are some examples on how to conduct activities as part of an Environmental School Audit:

### ***ACTION 1: PLANT SURVEY***

1. Divide a map of your school into areas and assign each area to an action team. Visit each area and identify all species of plants growing there. Use elders in your villages to help you identify plants and add this information to your map.

2. Find out which plants growing in your schools are locally native and which are introduced species. Research the problems associated with introduced species of plants.
3. Identify areas around the school ground that have been cleared or that are lacking in trees and plants. Highlight these areas on your map.
4. Find a creek or waterway near your school. Look to see whether the riverbanks are well vegetated. If you find areas with little or no plant cover, note the effects on the banks and the water.
5. Identify local native plants suitable for your school ground. Consult elders, community groups or nearby nursery for help.

#### ***ACTION 2: LITTER BIN SURVEY***

How many bins are there on your school ground? Number \_\_\_\_\_

Are the bins full?	Yes	No
Can the rubbish blow out of the bins?	Yes	No
Are the bins clean?	Yes	No
Is the rubbish around the bin?	Yes	No
Are more bins needed?	Yes	No
Are there any recycling bins available?	Yes	No



#### ***ACTION 3 : HIT THE LITTER SPOTS***

1. Brainstorm for a list of litter-types found in your school.
2. Divide a map of your school into areas and assign each area to an action team. After lunch one day, survey all areas and use your list to tally how much litter of each type is present. (Try this activity on different days of the week and' see if results are different, if so, work out why.)

3. Prepare a map showing the types and quantities of litter found in different areas of the school (e.g. through color-coding and symbols).
4. Using your map, identify 'hotspots' where litter is most likely to cause environmental impacts (consider quantities of litter, the effects of different litter-types and the effect of litter on more and less sensitive areas).
5. Identify which members of the school community use litter hotspots.
6. Develop a survey form to find out attitudes to litter.
7. Questions to ask include:
  - Why do people litter?
  - What harm does litter cause?
  - What could be done to reduce litter?
  - What type of litter do people most dislike? Why?

Use the form to interview a sample of students and staff. Be sure to include users of litter hotspots.

8. Compare the results from your litter survey with those from your interviews. Analyze the similarities and differences (e.g. does the most harmful litter causes the most concern?).

#### ***ACTION 5: WASTE REDUCTION AND RECYCLING***

- Reduce paper use (reuse returnable handouts).
- Reuse paper.
- Collect and recycle paper in every classroom and office.
- Reuse or recycle cardboard boxes.
- Collect and return beverage containers.
- Collect and reuse cans and glass.

- Compost organic waste.
- Reduce plastic consumption.
- Identify recycling possibilities for plastics.
- Salvage reusable materials and supplies.
- Avoid or minimize the use of disposable dishes, cups, paper towels etc.
- Purchase recycled copy paper, computer paper and envelopes
- Buy only environmentally friendly products.

#### ***ACTION 6: LITTER AT SCHOOL***

This is a sampling activity which involves students counting the litter in a number of sample areas to give an indication of the overall school ground picture.

It would be very time-consuming to count and classify all the items of litter present in an area the size of your school. It is far quicker to use a sampling technique to give an indication of the total picture.

For this survey students will need:

- A plastic or wooden hoop (about 1 meter in diameter)
- A record sheet
- A plan of the school buildings and ground

1. Assess the amount of litter in the school ground and choose five areas that appear to have the most litter.
2. Each of the five groups studies one of the five selected areas. One person in the group stands in the centre of the study area and flings the hoop a few metres in any direction. All the litter contained within the hoop, including all objects that lie under the hoop itself, is classified,

counted and recorded. This sampling process is repeated twice, (alternative methods can be used too)

3. For the three sample areas, calculate the total number of objects, as well as the percentage of each litter type for each study area. Count the number of rubbish bins in the group area and mark their positions on the plan.
  - What was the most common litter type and what were the most common litter objects?
  - Were there sufficient rubbish bins and were they in positions that made it easy for students to use?
4. All the groups compare the results of the five study areas. Based on this litter survey, prepare an action plan that will help to reduce the amount of litter in the school. This is shared with the rest of the school.
5. Conduct a litter count at several places outside the school. Try the main road, shops and so on...
  - How do the composition and amount of litter at the site compare with that at the school?
  - Where do you think most of the litter objects at the site have come from originally?
  - Will more litter bins and recycling bins help to stop people from littering?
  - What else is needed?
6. Show the results to the local council and discuss possible solutions to the litter problem with the council officers.

#### ***ACTION 7: ENERGY CONSERVATION***

Energy is used to move people and goods, and to provide power for lighting, heating, cooling and cooking. Computers and telephones, and a range of other appliances, also require energy.

To conserve energy, alternative methods can be used. Use of skylight can be one option. The sun or the solar energy is another alternative source of energy. Solar energy is a renewable resource and does not have the side effects of fossil fuel burning. Water and wind can also be harnessed to generate energy and are also readily renewable. These alternative sources could meet some of our energy needs.

By using energy wisely at school, you can:

- Conserve non-renewable resources for future generations
- Reduce greenhouse gases
- Save money on electricity costs

### ***ACTIONS: WATER CONSERVATION***

Water quality is as important as water supply. Water quality is affected by rainwater drain. Chemicals, oils, fats, paints, litter and fertilizers, all have the potential to pollute our waterways. By taking a

#### ***School Water Audit***

**Aim:** to identify water conservation issues around the school environment.

**Materials:** pen and paper. Method:

1. Draw a map of the school environment.

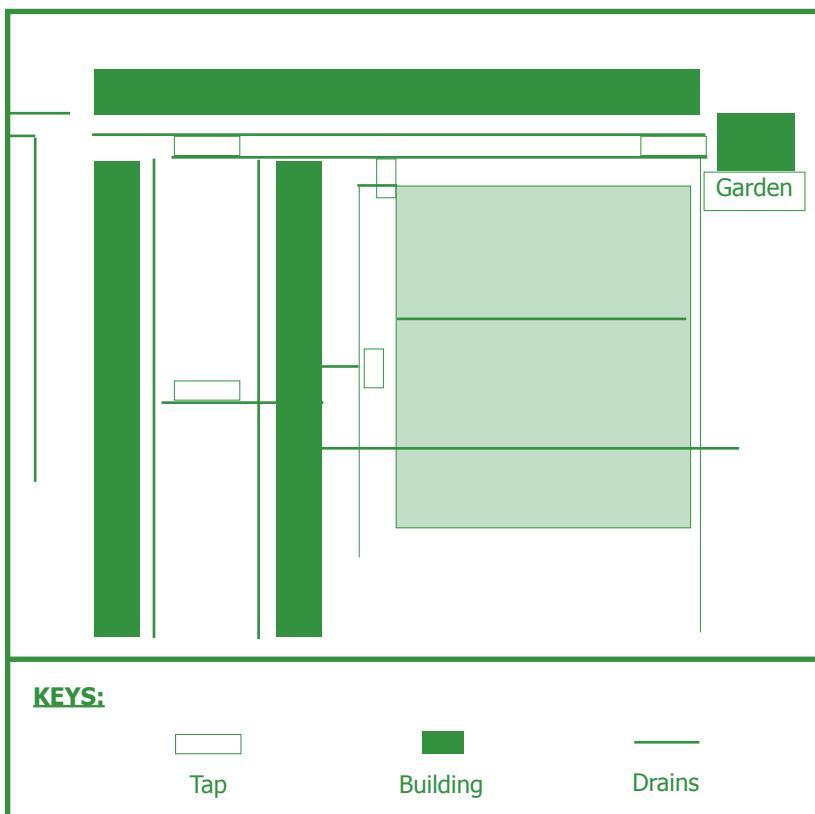
moment to dispose of these substances safely, we can protect our waterways and the plants, animals and humans that depend on them.

By using water wisely at school, you can:

- Delay the need for building new dams and water treatment plants,

- Save money in taxes and on water bills, and
- Reduce water pollution

2. On this map mark areas where water is being used, for example you can mark areas such as taps, drains, gardens, water tanks etc. This map follows the movement of water around the school. For example the map should show that if a student opens a tap at site A where does water go from there i.e. drains, or absorbed into the soil etc. An example of such a map is shown below:



3. Now answer the following simple questions to identify water conservation issues in your school.

- Does your school have access to tap water? If not, where do you get the water from in school?
- How many taps do you have in your school?
- How long do you spend at the tap with the water running?
- Do you turn the tap off when you're talking to your friends?
- After you use the tap, does the water go into a drain?
- Where does the water in the drain end up?
- Do you use a bucket to water your gardens?
- Is there an environment committee in your school?
- Does the school have some form of awareness campaign or activities on water conservation?
- Does your school focus on water conservation during environment week?
- Does the wastewater from your school go to a sewage treatment plant?
- Does your school collect rainwater?
- Is the water that you get from the tap treated before it is supplied?
- While washing school buildings, corridors or toilets, do you use buckets?
- Does your school have any alternative for tap water especially in times when tap water supply is cut or during extreme droughts?
- Does your school observe World Water Day, which is held on 22<sup>nd</sup> March every year?
- Does your school have guest speakers to talk to you about the importance of water and water conservation?

4. The following are some activities that you can do in school.

- Find out what the school's water bill is for a month.
- Find out how much water is used in a day (by placing buckets under each tap to collect used water).
- On your school map estimate and write the number of people who use taps in a particular site. For example write on the map 23 at site 1 if you estimate 23 people are using taps in site 1?

#### ***ACTION 9: WILDLIFE HABITAT***

- Plant (or maintain) locally indigenous trees and shrubs
- Put out birdfeeders and nesting boxes

#### ***ACTION 10: CHARITABLE FUNDRAISING AND CONTRIBUTIONS***

- Contribute a portion of student-raised funds to worthwhile environmental project or organizations.
- Hold special fundraising events or programs for specific projects.

#### ***ACTION 11 :GREENING THE SCHOOL GROUNDS***

- Establish a nursery
- Planting of native trees.

#### ***ACTION 12: PURCHASING***

- Avoid purchasing of goods with excess packaging.
- Reuse containers and packaging material.
- Management of toxic materials.
- Ensure proper labeling and storage.

## ***ACTION 12: COMMUNICATION***

- Establish a school council where students participate in decision-making.
- Ensure school involvement with the community and action-based environmental education initiatives
- Develop a mission statement

## ***ACTION 13: HOW TO PLAN AN ENVIRONMENTAL AREA***

A successful school environmental area takes careful planning, patience and plenty of sweat! Here are some tips to help you along.

- Start with a small area. Small, manageable projects keep students, teachers and parents interested.
- Allow students to decide what they would like to do with an area (e.g. bush tucker garden, rainforest garden, butterfly garden etc) and then select a suitable site.
- Start small but don't think small. An environmental area can start in one corner but continue over a long period and spread to cover the entire school ground.
- Get the whole school involved by dividing the school ground into class/form areas. This will boost your chances of success and reduce vandalism of the area.

### **Getting things done:**

1. Gain support for the plan from the school environment committee.
2. Seek approval of the plan from the school principal.
3. Use the environment committee and action teams to involve all members of the school community in your plan.

## THE BIG PICTURE

The action and practices in this guide should not be limited to the school ground. Students can initiate Environmental Community Audit which could aim to challenge environmental problem facing the entire community using the guideline described in this guide.

For environmental education to be truly effective it must involve everyone in the community. This involvement must see youth, men, women, chiefs and the church work together to build partnerships in taking action against waste, pollution, loss of vegetation and so on.

Young people have an important role to play. They are often creative and enthusiastic and willing to explore and learn. Involving our youth in decision-making and action creates good leadership skills and critical minds.

These components are both very important in creating a sustainable future.



## RETURN SLIP

If you want our staff to come and help your school/staff to do an environmental education workshop, or school audit, then please fill in the attached sheet and return to us:

School: \_\_\_\_\_

Add ress: \_\_\_\_\_

Contact (Phone/Fax): \_\_\_\_\_

Type of assistance: \_\_\_\_\_

Please give an indication of the time (date) when you need us to come.

*Send in the request form to:*

**Live & Learn Environmental Education  
25 McGregor Road Private Mail Bag Suva, Fiji  
Phone: 331 5868  
Fax: 330 5868**