TE|SF Transforming Education for Sustainable Futures

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Developing a Model of Holistic Environmental Education including Teacher Training for Eco-Schools in Tamil Nadu

- Via -

PITCHANDIKULAM FOREST
(A Unit under Auroville Foundation)

Eco-Schools Program

Environment Education in schools

Manual Design

Tamil Nadu 2022-23

The Question

What is the format in which the information will be disseminated to the stakeholders?

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Manual Design

PITCHANDIKULAM FOREST

(A Unit under Auroville Foundation)

Here's our garden : An Experience guide

Eco-Schools Program

Environment Education in schools

Tamil Nadu

2022-23

Eco-Schools Program
Environment Education through Practical Ecology
Guide for Teachers and Educators

Edition
Version 1 : Compilation Edition
This guide is a work in progress and therefore it is up to the choice of the user to be updated of the later releases which will be available on the website.
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Transforming Education for Sustainable Futures
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for commissioning the project

"Developing a Model of Holistic Environmental Education including Teacher Training for Eco-Schools in Tamil Nadu"

- through which this guide has been compiled.

Record of Contribution and Team

This guide is a compilation of the highlights of the education program conducted by Pitchandikulam Forest over a span of more than 30 years and derived from over 50 years of experiential work since the beginning of Auroville Township.

Many dedicated educators have worked on various versions of the teaching material and are collectively acknowledged and affirmed for their contribution.

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Gratitude to Pitchandikulam Forest Community

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Environment Education Program

- 19xx - current: Quaker Service Australia & Australian Government through the Australian NGO Cooperation Program (ANCP)
- 2019 - current: Tata Communication Limited, CSR program
- 2022-23: Australian Consulate-General, Chennai through their Direct Aid Program.

Forward

Hello there! A very good time of the day to you, wherever on the globe you are!

A hearty welcome from Pitchandikulam Forest!

A 70 acre restored forest that was begun in 1973 in Auroville, Pitchandikulam Forest has for almost 50 years worked with the land, to help restore forests and water bodies with indigenous flora, work with communities and provide livelihood opportunities. Emerging from years of experience is the need for educational reform that focuses on reconnecting our connection with nature, not only intellectually, but also physically - to be truly conscious of our place in time of humanity's ecological awareness.

The activities compiled in this guide are selected for their ease and have been tested in various schools over the years, or are new derivatives that are currently being tested in schools. Further versions of this guide will be available on our website. This guide, along with providing training for our newly recruited educators, will also support teachers we work with in schools.

We hence encourage the use of this guide to open our eyes wider, let our hearts feel deeper and our hands to act in service of nature.

Pitchandikulam Forest Team
October 2022

**Auroville is an international intentional township in South India (Villupuram district, Tamil Nadu) that is home to many ecological restoration and sustainability endeavors.*

Special thanks to Nyla Coelho,
whose book "Tending a School Garden" was a great resource,
and helped acknowledge the need for easy to use guides for setting up school gardens.

As this exploration guide was created with the focus on reconnecting with nature
and engaging with concepts in the short durations available during school hours,
We highly recommend Nyla Coelho's books for those called to delve deeper.

Thank you, Nyla,
for your commitment to creating wholesome schools across the country.

Using this guide

This guide is compiled with the intention of supporting gardening initiatives in schools while providing environment education. It can also be useful for supporting community and home gardens.

The guide subtly covers many aspects of restoration ecology, at the scale of a garden. This can enrich classroom engagement and broaden perspectives. Most of the activities can be used to enhance school curriculums.

The activities work best with small student to teacher ratios, with a maximum of 15 students for every teacher.

The guide can be used by both full-time teachers and nature educators, for students and for self-explorations.

This guide is meant to light up a way forward and
bring up deeper questions that could prompt further exploration.

It is not an instruction manual.

This guide is contextualized for use in Tamil Nadu, but can be modified for any region.

While the guide refers to Auroville forests in general in some places, it does not speak for the whole. The experiences are predominantly derived from that of the stewards of Pitchandikulam Forest.

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The beginning of the forests in Auroville, including Pitchandikulam Forest in 1973, was a picture of degradation.

The land was barren from severe deforestation and the task to restore it had to be done from scratch - literally. Without large machinery, transportation or electricity, much of the manpower went into digging the unforgiving ground to plant trees.

As people from all over the world joined the Auroville experiment, many of them began planting to create shade from the hot sun. And like any good experiment, they faced many challenges - some of which were the

formidable heat that killed the saplings, the torrents of monsoon rains that washed away the topsoil into the sea and grazing animals making a quick meal of growing trees.

Now, how did the forests grow despite all these challenges?

And perhaps an even bigger question - Why did people choose to do it this way?

"It was an opportunity to be low-tech and sustainable, as we went about generating energy from solar panels and pumping water from windmills - that too only for our basic needs. Innovations from across the world were experimented on. It was truly a revolutionary time" remembers Joss Brooks, the steward of Pitchandikulam Forest.
"We were told to sit quietly, and listen to the land, and see what it wanted. And play! With the innocence of children, to truly bring a new way of living in harmony with nature" he continues.

While everyone has their own unique reasons, there was/is a general desire to understand nature, to form a deeper, more meaningful connection with it and to be of service to its spirit.

And for many, it meant returning to the fundamentals of nurturing land.

This led to the obvious seeking of knowledge that could only be found with people who have lived on the land for generations past - the indigenous people of the land : the Tamilians.

This knowledge, while commonplace for the Tamils and something they were fast losing in the light of the effects of colonization and modernisation, served as the guiding wisdom for the early restoration work. Outnumbering the early Aurovillians, they also provided much of the labor required.

With the intense collaboration, it was possible to overcome some of the challenges:

Preventing water from washing the topsoil away, and turning the sea red by building bunds and water retention landscapes.

Some non-native trees which love the sun and could provide shade for native trees to thrive were planted.

Learnings were tremendous, as everything that did not work - for instance: some of the pioneering tree species become invasive due to their high rate of propagation and now are not used the same way anymore.

Now, the forests are flourishing, and one of Auroville's vision is to be able to propagate solutions innovated by people from all over the world in Auroville, to the rest of the world.

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1. We're in this together

A call for solidarity

The creation of gardens can be a fun activity filled with many learnings. It can also require easing into, so that students would be more likely to pay attention and keep themselves safe during the outdoor activities.

No school is an isolated entity. It also helps when other students in the school who are not involved directly in the gardening activities to be aware and considerate of the garden set-up. Following are some activities that help develop a garden friendly mindset amongst all stakeholders. Apart from these activities, connecting with parents, school staff and community members would add benefits. The School Management Committee can be a great avenue to ensure multiple levels of participation.

1.1.Grounding ourselves

Description	An activity that can be shared with the entirety of the school, is an exercise of settling into their bodies and becoming more aware of their surroundings.
Duration	2 - 10 mins (pick what is apt for your session).
Venue	Anywhere.
Objective	An ice-breaker to get students to get ready for the session, connect with nature, themselves and their friends.
Materials	Everything available around.
Precaution	Understanding the energy of the group is essential.
Resources	Find audio of nature sounds if needed.
Activity Flow	
Process	Prompts
Breathing	Take a deep breath.

	Feel the air entering your lungs, expanding its walls. Feel the rush of energy the breath of air provides. Feel the breath starting at the top of your head, then traveling down your spine, to your feet and into the ground, into the earth - to its very center. *Then,* feel it rush back up, along the spine and out as a breath.
Different senses	Close your eyes and listen deeply to the sounds around you. What is the sound closest to you? Even closer than that? Can you hear the sounds in your ear? *Now, go outward -* What sounds are prominent now? What is the farthest sound you can hear?
Focus on something	Focus on the far away sound. Pay deep attention to it. Then slowly bring it closer, and into your body. Send the sound along your spine and into the ground.

Deep rest	Shake your shoulders, loosen your jaw, jump up and down, then lay down if possible and take deep breaths. Feel the weight of your body sinking into the ground. *Relaxxx.*
Movement	Cup your hands together to resemble a seed. When asked to plant the seed, bend down and place hands over the ground. *What does a seed need to germinate?* Water the seed - use a hand to gesture watering, show sunlight, *and then*, the seed sprouts - the cupped hands open up, With more water and sunlight - repeat gestures, the tree grows - half squat, and grows - standing, then becomes big - spread out hands, Stretch big!
Laughter	The tree is standing tall. The leaves move with gentle wind - spread arms wide and shake the hands very slowly, The wind blows faster - wave arms above head,

	Even faster - increase speed of waving, There's a storm - wave wildly, Now, a cyclone - wave wilder, A huge cyclone, the tree groans and falls - students collapse to the ground in giggles. Look around at your friends, Make eye contact Relax.
Takeaways	It is important to be aware of the needs of the students around us. Accordingly, pick what works and change the duration or the prompts.
Impact	Helps students be comfortable as the session begins.
Measurable Impact	Observation of the changes in the students demeanor before and after the activity.
Level up!	Be creative, make your own grounding activities that help your students refresh and share it with us!

1.2.Garden Agreements

Description	Students are asked to prepare a list of agreements that would help them get the best out of their sessions, including safety precautions.
Duration	10 - 20 mins.
Venue	Anywhere; preferably in the view of the garden space if the set-up is ready.
Objective	To sensitize students for upcoming activities which would involve physical work. To foster their sense of agency and encourage their participation in all aspects.
Precaution	Avoid creating rules - the intention is to encourage self awareness not rigid compliance.
Resources	A list of possible agreements created by other stakeholders, Student Nature Journal - Worksheet.
Activity Flow	
Process	Prompts
Envision doing gardening activities	Take a deep breath. Walk along the garden space.

/ observe the garden	Imagine how you would behave during the session. Will there be yelling? Will there be running around? If it is a terrace garden, will there be leaning over the parapet wall? Would they be interested in hearing what the teacher/educator has to say? How will we handle the tools? How would we work together in teams? What agreements do others want? Educators/teachers? Gardeners?
Making notes	Write the list of agreements down individually (worksheet can be used), and in a chart that can be displayed.
Impact	Creates a good transition into garden activities, ensures safety of students.
Measurable Impact	Incidents of accountability for actions in the garden.
Assignment	Create drawings with motivating words which can be displayed in the classroom
Follow-up	Making sure that the agreement charts are pasted on the allotted wall space.
Level up!	Can this activity be conducted regularly to update the agreements? Can the change in agreements be documented and analyzed? Try it out.

1.3.Community building with art

Description	Informing the school of the environment education program.
Duration	15 - 20 mins.
Venue	School campus, preferably during the school assembly.
Objective	Create awareness of the program and creation of the school garden to the whole school.
Materials	Depending on the medium of expression.
Precaution	Keep the awareness short and to the point if it is done during the school assembly. Ensure the working condition of all equipment, especially mikes & speakers. Check them a day before if required.
Resources	Information of the program, scripts, poster materials.
Activity Flow	
Process	Prompts
Sharing information	What is the program?

	Why is it important? How does it help the environment? Why is it important to know more about our environment? Is there going to be a garden in our school? Why? How can I be careful around the garden? How does it benefit our school?
Interactive	While it can be chaotic to achieve student interaction during school assemblies, making the session interactive as much as possible helps to make a better impression on the students. A minimum of yes or no questions can be incorporated.
Impact	The school is aware of gardening activities
Measurable Impact	The next day, check with the teachers about how the students responded after the performance.
Assignment	Challenge the Students to write a poem on the need for creating a school garden
Follow-up	Interested students would follow-up with their teachers to know more. The teachers will also find out about the students who are interested in participating in creating the garden. Posters of the program can be created (even by students) and put up visibly.
Level up!	Use traditional artforms like *villupattu* and *therukoothu*, so as to create awareness of the dying art forms included. Find out what is the local art that needs support!

Introduction

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The biggest question before one decides to create a forest or a grassland or a garden is - context. As every location is unique, it requires concentrated effort in observing and analyzing the landscape to truly respond to it in ways that would increase its health. Before the invention of scientific methods and tools to study landscapes, humans have absorbed the natural world around us. Through the following activities, we take a step towards bridging the experiential gap in school learning environments.

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