Youthlinc

Ecological Committee Manual

Context:

What is Ecology?

- Ecology is the study of the relationships between organisms, including humans and their physical environment; it seeks to understand the vital connections between plants and animals and the world around them.

Why do we need Ecological Committee?

- **Ecology** also provides information about the benefits of ecosystems and how we can use Earth's resources in ways that leave the environment healthy for future generations.
- Youthlinc's mission is "to create lifetime humanitarians". Humanitarian is a person promoting human welfare. Since the environment includes land, water, air and all living things (including people), then care of the environment is an integral part of human welfare.
- The focus of the Ecological Committee is on educating the team about the importance of caring for the environment and about the various threats and potential solutions locally and globally.
- Prior to the trip, members of the committee promote greater awareness through presentations and discussions during monthly team meetings, short "ecological" messages for the team, and inter-committee cooperation to include "ecological" flavor into all aspects of Youthlinc activities. In cooperation with in-country hosts we develop awareness activities and short projects dealing with various local ecological issues, as well as longer term sustainable solutions. Emphasis is on hands-on learning experiences.

Committee Projects:

1. Education:
    a. Extend participants' awareness of the bigger World- new country, people, culture, respect for others, customs and cultural difference and ecological issues
    b. Raise awareness of the environment around us and possible ways for improvements
        i. Home/personal
        ii. Local
        iii. Global
    c. Help communities to become more self-sufficient and be more environmentally conscious.
2. Plant:

   a. Youthlinc team will work with our international partners to plan a planting project that will be most beneficial for the community and support natural resources.
   b. Trees and vegetation improve our air quality by filtering harmful pollutants, store carbon, reduces erosion, filters water and can be a direct resource for food and/or fuel.
3. Clean-up
   a. Your team will travel without a trace. Before you even leave the ecological committee will help oversee the packing meeting to ensure that all donations are being unwrapped and stored in reusable containers. We want to avoid taking single-use plastic as much as possible. Many of our partners are already making an effort to limit the use of plastic bags.
   b. We want to ensure that at the end of each day there is no evidence of our team being present.
   c. Cleaning up an area around the community can:
      i. Improve health and wellness
      ii. Increases a sense of community and safety
      iii. Protect wildlife and natural resources

Committee Strategies and Timeline:

Develop an interface with other Committees:

List and suggest connections. Incorporate an "ecological plus element" into the committee workshops. What educational and project items need to be shared among committees

- Education – English camp, recommend a list of ecological issues and topics for lessons to be thought in the host country. List topics on a sign-up for all team members. See section 2.
- Vocational – develop joint projects – re-purposing recycled materials, etc
- Business-- how do our business choices affect the ecological— "positive and negative externalities" leading *towards sustainability*
- Community health (i.e. focus on our team here in Utah—ecological impact and/or sustainability of what we are doing and taking over; example - reusable feminine hygiene kits
- Cultural – use list of suggested questions for Home visits, and list of Reflection questions, See section 2

Presentations by member(s) of Ecological Committee:

Short and interesting topic on ecological issue – local or global, for each meeting. Presentation should include visuals, or hands-on idea. Be well prepared, rehearsed, and last about ten minutes, questions and short discussion welcome. Presenter should announce a topic for next month.

- Home inventory – what is my footprint? Energy use, Transportation, Food & waste, Paper use (count), Packaging, what do I (my family) recycle, reuse?
- Overview of the host country site. What are environmental challenges there?
- My city or county – Environmental awareness, threats to environment. Who is setting regulations? Water, Air, Health issues, who is polluting, who is recycling
- National perspectives – How are we doing as a country? What agencies provide directions, regulate, and solve problems?

  International – Overview of World problems. Amazon, Oceans, Desertification, etc. Discuss host country specific problems and solutions that will help the team develop awareness.

February

- Overview of the host country site. What are environmental challenges there?
- **Youthlinc- committee workshop-** Youthlinc hosts committee specific workshops this month. Here, you'll learn about what has and hasn't worked with your committee in previous years.
- Review projects and identify question or needed info to plan the projects
- Read last year committee report, the end of year summary from your team and advice from previous Youthlinc teams
- Using information from your Team Leader, the ISD in charge of your site and the In-Country Coordinator, talk about the Environmental needs and types projects the village has requested
- Make sure everyone has each other's contact information. Decide as a committee the way that will work best for you to all keep in touch. Whatever you agree on as a committee you need to follow through with consistently throughout the Service Year.

March

- Home inventory – what is my footprint? Energy use, Transportation, Food & waste, Paper use (count), Packaging, what do I (my family) recycle, reuse?

- Foot print calculator link- shows team members how many worlds we would need if everyone lived like them.
    - https://www.footprintcalculator.org/
- My city or county – Environmental awareness, threats to environment. Who is setting regulations? Water, Air, Health issues, who is polluting, who is recycling?
- How does the environment affect our Health?
- Travel Health Clinic at the University of Utah
- Meet with your team and report back about research or information you have gathered about environmental issues or projects you are planning.

Team Retreat

- Work with your team leader for more details about a team retreat or activity
- Help your team to plan ways to be environmentally conscious during the retreat:
    - Bring a reusable water bottle
    - Recycle- use recyclable dinner ware
    - Suggest doing an environmental local service project (weather permitting)
- Review items from previous team meeting
- Think about how to be deliver your project: what lessons, how many will need to be taught? What activities could you do? What projects fit the needs of your international site?

April

- National perspectives – How are we doing as a country? What agencies provide directions, regulate, and solve problems?
- BBBS clothing drive-
    - These clothing donations fund your Committee Projects, work with your team leader to figure out your committees' budget.
- Review and follow up on items from February
- Begin planning Projects: see section 2 for examples

May

- International – Overview of World problems. Amazon, Oceans, Desertification, etc. Discuss host country specific problems and solutions that will help the team develop awareness.
- Review and follow up on items from March
- Plan and carry out supply drives and start gathering supplies

- Work with your team leader and ISD to purchase necessary supplies that can be bought in country.
- Present any committee needs to the rest of the team.
- Practice your project/lesson!

June/July

- Review and follow up on items from March
- Finalize all projects and lesson plans
- Work with your team leader to schedule necessary time for your committee

Packing meetings

- Help ensure that we are packing minimum plastic and anything that cannot be properly disposed should be brought back with you.

Section Two:

Local Service opportunities: Develop a list of sites and activities that deal with environmental issues. Suggestions: Red Butte Garden, Salt Lake ZOO, Sierra Club – Utah chapter, Tree Utah …

Project ideas:

Education:

Projects from ICC- Let the ICC speak with community. What are their main priorities? Once you have a request prepare initial plan and coordinate with ICC. Preparation and Education is very important to ensure team and community buy in and eventually executions.

- Lessons for Ecological Seminar
  - Gather community leadership and hold ecological discussions: are their any topics they would like to hear about?
    - Health and wellness
    - Benefits
    - Food security
    - Conservation or fire prevention
  - Are there any topics that the community could teach us?
    - What government programs are in place?
    - What they do to care for the land and resources?
- Lessons for English/stem Camp

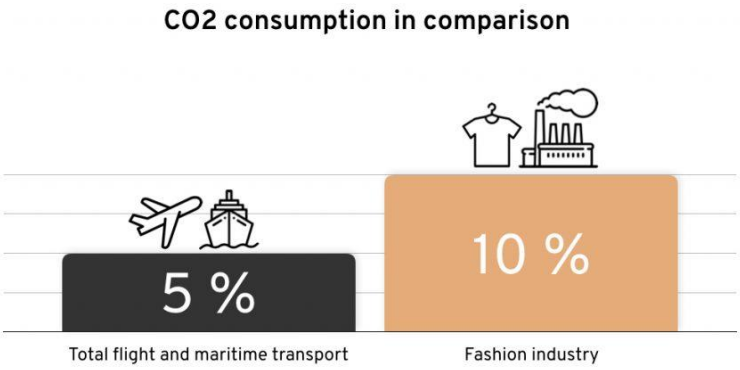
    - Teach an ecological lesson at english or STEM camp
- Provide an awareness message, activities, lessons or organize a community discussion about local environmental issues on site. The following are a few examples:
    - Together you can recognize collective strengths and weakness. This is a great way to learn from each other.
    - PSA about: littering and proper disposal of waste
    - Eco bricks
    - Building and running square foot gardens
    - Composting
    - Deforestation and conservation
    - Erosion prevention
    - Water sanitation
    - Food security
    - Nursery for: trees, vegetation, fruit trees, Trees for fuel or product resources
    - Fish Hatchery or livestock resources, Animal exchange program
    - Recycle, reuse, repurpose
    - Beekeeping

Lesson and topics to discuss during Team Meetings:

An important part about education is that we also need to continue to learn about our own impact (good/bad) on the environment and how to find ways to improve day to day.

- March Team meeting: BBBS clothing drive meeting and education presentation
    - This meeting your team will spend the first half loading all Big Brother Big Sister clothing donations into the Semi.
    - Once the loading is complete you will have a short meeting with the time you have left together.
    - During your team meeting you can do a 3-5 minute Ecological presentation:
        - Since this meeting is focused on the Clothing drive lets address this may be a great time to discuss the impact the fashion industry has on the environment world wide.
        - https://www.sustainyourstyle.org/en/whats-wrong-with-the-fashion-industry
        - https://www.youtube.com/watch?v=ECkLgq2W9RU&ab_channel=VICE News
        - https://www.youtube.com/watch?v=BiSYoeqb_VY&ab_channel=TED-Ed
        - **What can we do about it?**

- Choose clothes made in countries with stricter environmental regulations for factories (EU, Canada, US...)
- Choose organic fibers and natural fibers that do not require chemicals to be produced
- Start small and issue a challenge to avoid new clothing purchases for a month/3months/6months etc. Upcycle and thrift for a year to prolong the life of clothing.
- Youthlinc partners with BBBS but you can also donate to BBBS at one of their drop of stations year round



- April Team Meeting: Footprint Calculator
  - Introduce and have your team complete the foot print calculator: https://www.footprintcalculator.org/home/en
  - Discussion with Team?
    - How do You feel? (shocked, inspired, helpless, intrigued, worried, embarrassed, confused)
    - Why is it important to evaluate where we are now?
    - What questions stood out to you or caught you off guard?
    - What do you think your biggest impact is? Positive or negative?
    - What are some steps I can take to improve my footprint?
    - What are some Ecological volunteer opportunities or community projects I could participate in?
- May Team Meeting:
- June Team Meeting:
- Packing Meeting:

Planting:

- Cambodia: Square foot gardens
- Fiji: Trees to replenish forest after deforestation for fuel and after wild fires
- Kenya: Trees and school garden
- Nepal: Fruit trees at the school, and trees in community forest to help with erosion
- Peru: Trees and greenery to help with erosion
- Rwanda:
- Thailand: Square foot gardens and acacia
- Vietnam: Acacia and Fruit Trees

Clean-up:

- Waste that goes unmanaged can be a health and safetly hazzard.
- Work with your community to find an area that could use a clean-up
    - Near a water source
    - Near natural landmarks or sacred place
    - Tourist destination
    - School yard
    - Farms and fields
- Make sure that your team takes 15 minutes at the end of everyday before departing for the hotel to clean up after themselves and leave no trace
    - Water bottles
    - Snack wrappers
    - Lesson supplies
- Once you have taken the time to clean up talk to your community about creating a proper waste station, or recycling system
- You can talk to your coordinator or community about creating Eco-Bricks
    - Here is a great resource for more information on Eco Bricks https://www.ecobricks.org/build/

Section Three

Project and Activity plans:

EDUCATE-

Ecological Workshop or Seminar – in the Host Country

Purpose

What environmental problems affect the host country and/or the local community? Is global climate change affecting us and the host country; in what way and how can we reduce our impact? This short workshop will explore few ideas.

This workshop should be developed, if possible, with the in-country coordinator. Some common environmental ideas can apply in each country. However specific topics should address the needs of the host country; therefore, it will be different for each country.

Participants

Host country – school teachers, village residents, students, in-country coordinator

Youthlinc environmental committee and other interested students and mentors

Recommended Time

The workshop should explore and develop ideas that can be implemented during the time in the host country. Therefore, it is best to have the workshop as early as possible.

Recommended duration: 2 to 4 hours

Activities – Parts

Workshop coordinators need to select activity or a set of related activities appropriate to the host location – school, village, etc. Here is a list of some activities.

Environmental Assessment - Overview of local environment

What is growing and living in the vicinity of the school, village, town

Explore around the school, village with your hosts

Can you do an "environmental assessment" for the area? Present the findings at the evening reflection. Use the questions from "Environmental Assessment" form located at the end of this Activities section.

Overview of US environmental issues

What problems and concerns do we share with the host country?

Discussion of issues and what can we do as a young generation?

Present findings at the evening reflection.

Food and Trees – agroforestry concepts.

Are there areas around the school or in the village that can be used to grow trees and vegetables? World-wide, over 30% of agricultural land is degraded.

Is there need for a community orchard and/or garden? Ask your hosts for ideas and potential projects for your team or the team next year.

What can be done during this visit?

Photos from Nakuru, Kenya – example of agroforestry – check the Planting Trees and Shrubs activity page

Eco-bricks – (use materials developed by Jordan)

Cleaning up the area, demonstration of eco-bricks

Invite larger group to participate in the cleanup

Discuss use of plastics and other non-recyclable materials

Discuss "reduce-recycle-reuse" concepts

Using eco-bricks in a simple landscaping project

Explore ideas with your hosts on follow-up activities

Tree planting

Are trees or shrubs needed around the school, and/or somewhere in the village?

What are the logistics of planting and care.

Develop an initial plan prior to travel to host country.

Follow up on the initial plan, determine if planting is feasible.

If feasible, develop plan for planting in next few days.

Purchase seedlings and plant as a joint activity.

Protection and care for the new trees – plan developed by hosts.

Beekeeping

Consult with local beekeeper, ask him/her to demonstrate beekeeping basics. Bring materials from US and demonstrate, including honey sampling.

Is beekeeping a potential income generating idea?

How to start beekeeping in the village?

Invite others in the host community for honey tasting

Evaluate and develop follow-up plan

Tree labelling

Which trees to label?

What kind of labels to use?

Research names of trees.

Prepare materials.

Prepare individual labels

Place labels on trees – use this as a community event.

Activity Plan: Tree Cookies

Goal: Learn about tree growth from annual rings. Tree rings show patterns of change in the tree's life and changes in the area where it grows. Determine the age of the tree by counting the rings. Trace environmental changes using a cross section of a tree, known as "tree cookie".

Preparation:

Cut cross sections from a branch of a tree. Cross section can vary in thickness from half inch to an inch or more, depending on intended use. Dry the wood before or after cutting to minimize splitting. Sand the sections so that the rings are clearly visible. Prepare enough tree cookies for the entire group.

How to use Tree Cookies:

Explain the parts of a tree – bark, phloem or inner bark, cambium, xylem or sapwood, and heartwood. Explain the function of each part.

Explain how to "read Tree Cookies", how to count the rings and what the different markings on the tree cookie means. Hand lens helps to see the different part better (optional).

Check this website to learn more: http://firstieland.com/learning-about-trees/.

Tree branches used for making tree cookies

Tree cookies from different tree branches

Make up stories about the life of the tree based on the number of rings, pattern of rings and different markings. Each participant can tell their unique story. Compare the age and life of the tree to your own or to some historical landmarks.

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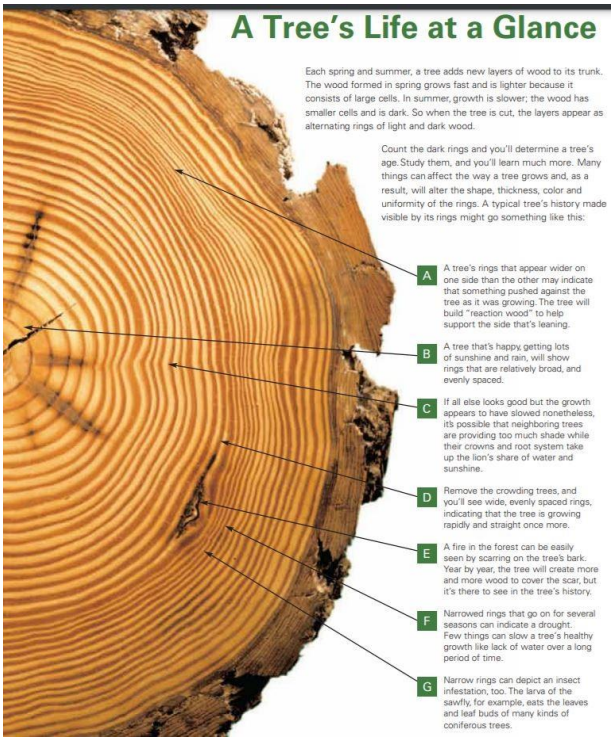

PDF

YL tree rings.pdf open this pdf for better quality picture

Tree cookies may also be used for various craft projects and for making name labels.

Tree cookie used for name label.

Activity Plan: <u>Labelling Trees</u>

Labelling trees is a simple and educational activity that can be conducted by our hosts and our students. Participants need to research the name of the tree and learn about the characteristics of the tree and its purpose.

Tree labels should include the common (local) name and scientific name, and other information such as planting date. Special commemorative signs can be designed and placed for trees planted to mark special occasions.

Wooden labels can be made from scrap wood. Recommended size is about 12 inches by 5 inches or larger, thickness can vary, depending on available materials. The name can printed in permanent ink or exterior paint. The wooden label should be varnished to protect from moisture and weathering. Aluminum markers can be easily embossed with a ball-point pen.

Aluminum tags used as tree labels. Examples of 3 tree labels made of wood.

Tree label with common name and scientific name hung on a tree branch.

Tree labels should be hung on the tree with galvanized wire (if available). Nailing of labels to the tree is not recommended. Place the label above the reach of children, but

at a height that it is visible and easy to read. Do not attach to main branch, as it could girdle (suffocate) the tree if left unattended for years.

Activity Plan: Beekeeping Basics

Goal: Bees and other pollinators are important because they pollinate many of the plants we eat – without pollinators many plants do not produce seeds and/or fruit. Over 40% of what we eat depends on pollination by bees. Because of that, bees are a part of everyone's life, and the honey they make is delicious.

This activity demonstrates the connection honey bees have to their environment and teaches the basics of beekeeping. It also demonstrates the potential of beekeeping for generating income for local residents.

Preparation:

This activity needs to be planned and done in cooperation with a local person somewhat familiar with beekeeping. If this is not possible, then one of the Youthlinc team members can present the basics after some preparation.

Materials needed: chart showing the life and function of the bees

Chart showing a typical beehive and beekeeper suit and tools

Comb from a hive, or entire frame with comb and/or honey

Jar of honey for sampling

What's inside the hive or in a tree cavity with bees?

What is a bee – the queen, workers, drones.

Describe life of a colony of bees, their communal division of labor such as building the comb, guarding the colony, feeding the next generation, collecting pollen and nectar and making honey.

Bee products

Honey – high nutritional and medicinal value

Wax – used for making candles and many cosmetic products

Propolis – used for medicinal purposes, especially in South America and Asia

What makes a garden or a farm bee-friendly?

Explore ideas with participants

Beehive with supplemental water feeder.

Bees feeding on honey inside the hive.

Honey flowing into a container for future use or sale. Wax layers to be used for making chopsticks, candles or other products.

PLANTING

Activity Plan: <u>Planting Trees and Shrubs</u>

Goal: Plant trees and shrubs to provide fruits, shade, wood for fuel, and help with soil erosion. Learn about value of trees and shrubs, specific local needs for planting and care for seedlings.

Preparation:

Determine the need for trees or shrubs with country coordinator. This needs to be done several months in advance. Who will take care of the trees (protection from animals and watering). What are the site characteristics – location (school, by the road, village unused or degraded land, farm). What type of trees or shrubs – consult local needs, local nursery. What is the availability and price for trees and tools (shovels, gloves). Prepare plan for planting, some before the trip and then on site.

Planting:

Finalize the planting plan with local coordinator and planting team. Get the tree seedlings from the nursery. Get instructions on planting from a local expert. Source of water and support, fencing if needed.

Mark locations for trees. Remove weeds or other competing vegetation. Dig holes and add soil if needed. Plant seedlings and cover well with soil. Build protection around the seedling if necessary.




Take some photos from your planting activity to share with others back home and on social media.

Label the trees with local and scientific names and the date when the trees were planted. Why label? So, land owners know what's growing on the property and visitors can enjoy learning about the tree. Tree labels can be made out of wood or other weatherproof materials. They can be fastened to wooden or metal posts or hung on the tree.

Example of growing trees and vegetables, concept known as “agroforestry”. Fruit trees were planted next to this primary school in Muriundu, in Nakuru, Kenya. Fence provided protection from animals. Vegetables were planted among the trees.

Activity Plan: <u>Starting Trees from Seeds</u>

Goal: Grow your own tree. Learn about tree seeds and growth of a seedling. Use recycled plastic or various containers to start seeds.

Preparation:

Decide what trees to grow based on local needs and seed availability. Seeds may be collected from mature trees in the area or obtained from a nursery, an arborist in the area, or local organization involved in agroforestry.

Gather plastic containers or other material for starting seeds. Plastic containers from water or other drinks work well; cut to an approximate height of five inches.

Get fine soil, free of weeds for starting seeds.

Find a safe location for a “tree nursery”. This area should be protected by fence from animals or other intruders (school kids).

How to start seeds:

Prepare containers for seeds; cut plastic bottles to the right size. Cut small holes on the bottom of the container for drainage.

Fill containers with soil and put seeds in and cover them with fine soil.

Water the seeds and put containers with seeds in a safe location, preferably in partial shade.

An alternate way to start seedlings is to sow tree seeds in a “flower bed” and once germinated transplant them individually to plastic containers.

Tree seedlings in recycled plastic bottles. Tree nursery started by students in Tanzania.

Tree seeds – germinated with long roots after about 3 days in soil; ready for placement (transplanting) into plastic containers.

CLEAN-UP

Activity Plan: Eco-bricks

An **eco-brick** is a plastic bottle packed tightly with used plastic. They serve as reusable building blocks. Ecobricks can be used to produce various items, including furniture, garden walls and other structures. Eco-bricks are produced primarily as a means of cleaning up used and discarded plastic.

Check out this site for details: https://www.ecobricks.org/

Why? The ecobricking has started from a growing awareness of the scale of plastic pollution, the problems it causes and the inability of industrial means to adequately manage plastic waste. The processing of this plastic, in particular the dumping and incineration of materials that cannot be recycled, caused significant pollution. Number of countries banned the use of plastic bags for packaging.

Plastic bottles filled with non-recyclable plastic bags.

Structure made from eco-bricks.