

Environmental Education as a Tool for Biodiversity Conservation

Foro: Mejores Prácticas en el Monitoreo de la Biodiversidad

*Sonya Greegor, Voluntaria de Peace Corps
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Biodiversity Conservation and improving human welfare is the ultimate goal of all environmental projects. Environmental Education is **one** tool for reaching this goal.

“A greening of the human mind must precede the greening of our Earth. A green mind is one that cares, saves, and shares. These are qualities essential for conserving biological diversity now and forever.”

M.S. Swaminathan, Former President
The World Conservation Union (IUCN)

Environmental Education: A Definition

- “a permanent process in which individuals gain **awareness** of their environment and acquire the **knowledge, values, skills**, experiences, and also the determination which will enable them to **act** individually and collectively to solve present and future environmental problems... as well as to meet their needs without compromising those of future generations.”

- *1992 by UNEP/UNESCO/OECD Paris*

Five objectives of environmental education programs

- **Awareness**—to acquire an awareness and sensitivity to the total environment and its allied problems.
- **Knowledge**—to gain a variety of experiences in, and acquire a basic understanding of, the environment and its associated problems.
- **Attitudes**—to acquire a set of values and feelings of concern for the environment and motivation for actively participating in environmental improvement and protection.
- **Skills**—to acquire the skills for identifying and solving environmental problems.
- **Participation**—to encourage citizens to be actively involved at all levels in working toward resolution of environmental problems

Environmental Education in Different Settings

- ***Formal***
 - School system
 - curricula and instructional materials
 - environmental courses or integrated with other courses
 - summer camps
 - extracurricular activities (Eco-clubs, competitions, special events)
 - well-designed teacher pre-service and in-service training



Environmental Education in Different Settings

- ***Informal***

- news media
(newspapers, TV, radio)
- websites
- traditional and
entertainment media
(movies, theater, music)
- visual arts
- community mobilization
efforts



Environmental Education in Different Settings

- ***Nonformal***

- NGOs, youth groups, women's associations, church groups
- zoo and park programs
- special events (earth day, dia mundial del medio ambiente)
- ecological fairs
- government projects





We Can All Be Environmental Educators!

- We must go beyond “raising awareness” to help individuals and groups acquire knowledge and skills to change their behaviors around specific environmental issues.
- We must teach them about the earth!
 - What is Biodiversity?
 - Why is it important?
 - What are the issues impacting conservation of biodiversity?
 - What can we do?
- We must teach sustainability.

Environmental Education in the Community—A Tool

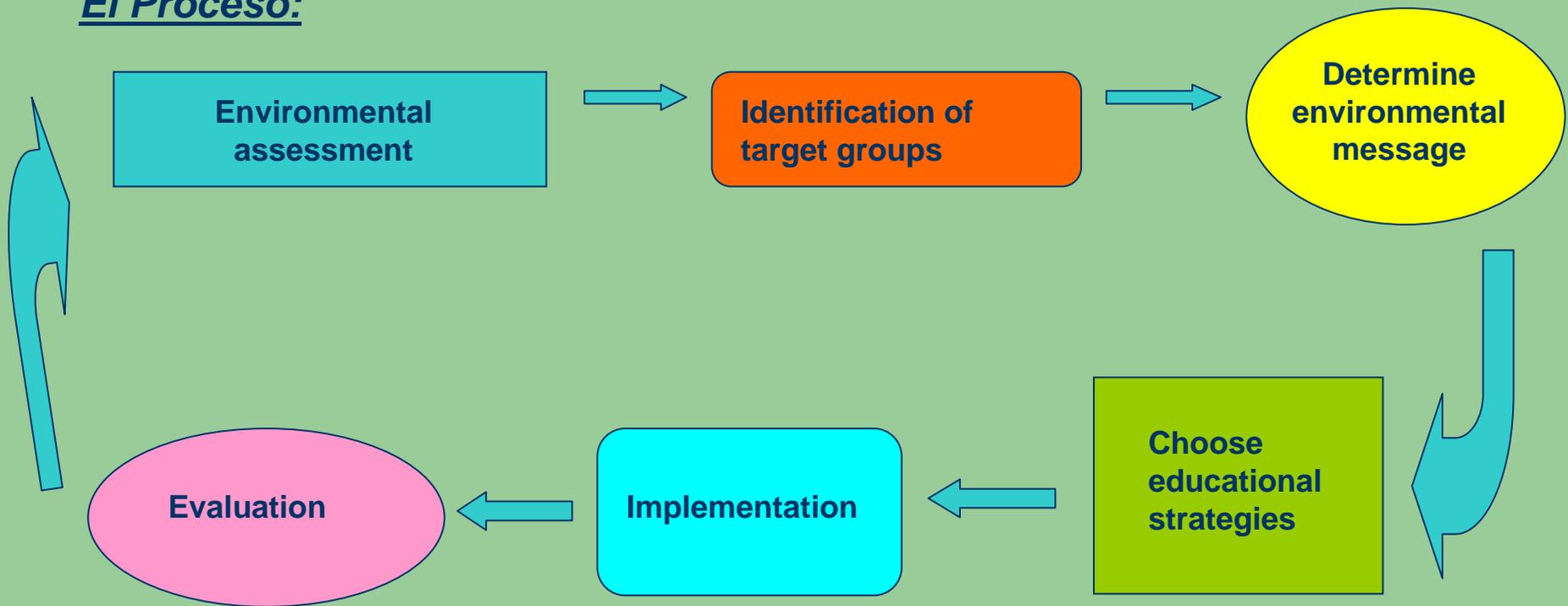
- **PC has worked in communities since 1960.**
- **Holistic, participatory model of environmental education used**
 - **combines social, political and environmental concerns**



Community-Based Environmental Education

Goal: To develop a program that is specific to the needs of the people, directly connected with the various components of the project and in which the people of the community are contributors to its development.

El Proceso:



Participatory Model Environmental Education

- 1. Assessment:** Involve the people of the community (Participatory Process!)
 - Visions, goals, issues, solutions, community assets, and constraints.
- 2. Identification of target groups**
 - Who is having the biggest impact?
 - Who will be most effective to alleviate environmental problems?
- 3. Educational message**
 - What is the most critical information that will lead to environmental solutions?
- 4. Educational strategy**
 - How will you most effectively deliver this information?
- 5. Implementation**
 - When, where, and to whom?
- 6. Evaluation**
 - How will you determine the success and make changes?



Programa de la Cocina Solar

1. Assessment of Issues



The Survey



La encuesta consiste de 20 preguntas se centraron en el uso doméstico de la energía y el agua. La encuesta tiene un formato simple, como se muestra en el ejemplo siguiente, y es fácil de usar. Esto es importante porque muchas de las personas no saben leer ni escribir.

Nombre _____	Comunidad _____
1. Género	<input type="checkbox"/> Hombre <input type="checkbox"/> Mujer
2. Edad	<input type="checkbox"/> 18-25 <input type="checkbox"/> 26-35 <input type="checkbox"/> 36-45 <input type="checkbox"/> 46 o más
3. ¿Cuántas personas habitan en su casa?	<input type="checkbox"/> 1-4 <input type="checkbox"/> 5-8 <input type="checkbox"/> 9-12
4. ¿Qué tipo de energía utiliza para cocinar y calentar agua?	<input type="checkbox"/> Solamente gas <input type="checkbox"/> Solamente leña <input type="checkbox"/> Una combinación de gas y leña
5. ¿Cuántas cargas de leña usa cada semana?	<input type="checkbox"/> 0 <input type="checkbox"/> ½ <input type="checkbox"/> 1 <input type="checkbox"/> 1½ <input type="checkbox"/> 1/2 <input type="checkbox"/> 2 <input type="checkbox"/> 2½ o más

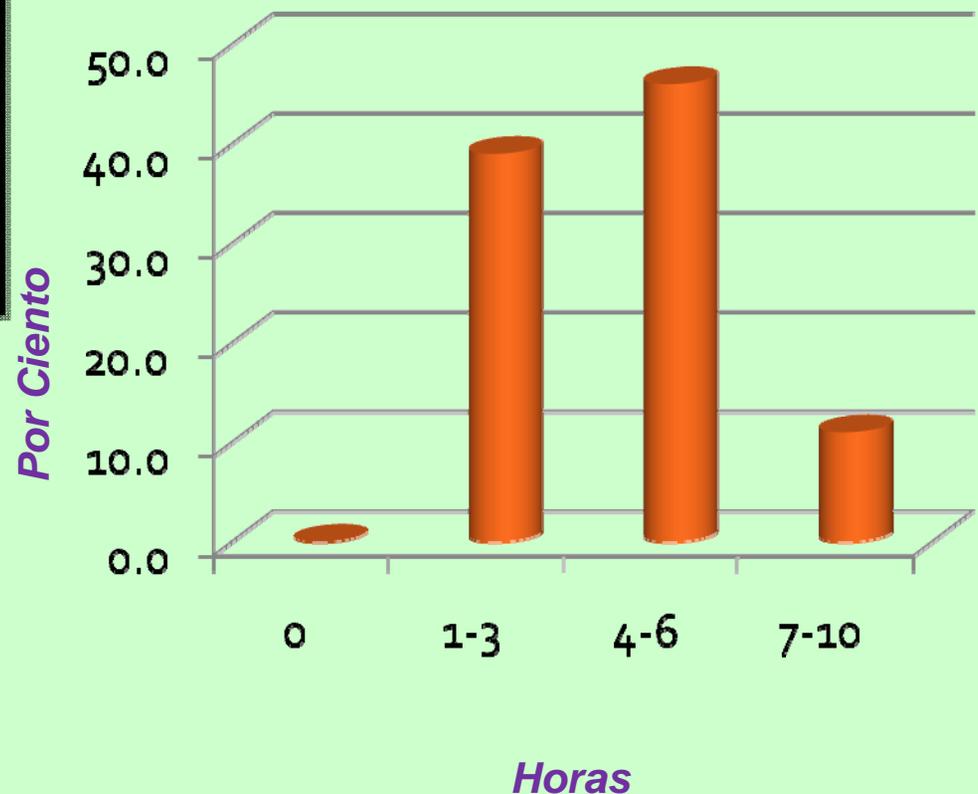
Conversation





Basado en las respuestas de la encuesta, los participantes, en promedio, usan 1.9 cargas de leña por semana.

Las Horas Necesarias Para Recoger la Leña Cada Semana



Resultados

- 1. En cada comunidad, más que una mitad de los gastos por servicios son para leña y/o gas.**
- 2. En las comunidades la gente usa entre 1-2 cargas de leña cada semana para cocinar y calentar el agua.**
- 3. La leña se recolecta de los bosques circundantes y las familias necesitan entre tres horas y un día para recogerla cada semana.**
- 4. La salud respiratoria y del ojo es afectada por cocinando con leña.**

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2. Identification of Target Groups

- Community leaders
 - assist with the identification of willing people in need
 - in logistics of process
- Those most affected (women)



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3. Educational Message?

- “Trees are important to our environment”
- “Energy from the sun is usable and renewable”

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4. Educational Strategy

5. Implementation

- Demonstrations of solar cooking, black/white object in sun
- Taller about trees (Why important? What happens if they are removed?)
- PowerPoint Presentation and Discussion
 - Uses of sun energy
 - Local and global problems related to cooking with wood (deforestation, erosion, health, cost, climate change)
 - Advantages of cooking with sun
- Distribution and training
- Follow up workshops/Solar Cooking Celebration



Activity 1. -- In groups discuss the importance of trees for the environment, make chart, give presentation, discuss



¿Cuál es la Importancia de los Árboles para el Medio Ambiente?

El Suelo	El Aire	Los Animales	los Humanos



Distribution of HotPots



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6. Evaluation

- Follow up workshops
 - Questions, problems, share ideas
 - Check homework (indicates use)
- Follow up survey
 - How often do they use the stoves each week?
 - Changes in quantity and cost of wood used?
 - Changes in health incidences?



Follow-Up Workshop
 Discuss questions,
 doubts, problems;
 Share recipes and
 Homework



INVITACIÓN

SE LES INVITA A TODO EL PUEBLO EN GENERAL A PARTICIPAR A COCINAR EN OLLAS SOLARES. ESTE PROXIMO JUEVES 27 DE AGOSTO A LAS 10:00 DE LA MAÑANA EN LA CANOA.

ATENTAMENTE
 ENCARGADA

Summary

- Increasing impacts to physical environment is linked to social and political problems; environmental education is becoming more critical.
- Experts should assume the responsibility and opportunities for educating communities about the earth.
- Effective community environmental education programs follow a participatory process.



GRACIAS POR SU ATENCIÓN

¡Cuidado! ¡Pobrecito!



Actividad del Grupos: Escenarios

Usted está trabajando en una región semi-desértica del centro de México donde hay problemas de escasez de agua y de contaminación. La agencia del gobierno con la que trabaja ha decidido asignar recursos para capacitar a la gente de algunas comunidades, tales como construir baños secos y cisternas para capturar agua de lluvia. Desarrollar un programa de educación ambiental como parte de este programa de gobierno.

You are working in a semi-desert region of central Mexico where there are problems with water scarcity and contamination. The government agency with whom you work has decided to allocate resources to train residents of some communities to build dry latrines and cisterns for capturing rainwater. Develop a program of environmental education as part of this government program.

Llenar la tabla

Actividad	Grupo objetivo	Mensaje Ambiental	Estrategias	Implementación	Evaluación
<i><u>EJEMPLO:</u> Clase al aire libre.</i>	<ul style="list-style-type: none"> <i>Las familias que cocinan con leña traída de los bosques circundantes.</i> <i>Los líderes de la comunidad.</i> 	<i>"Los árboles son importantes para el medio ambiente"</i>	<i>Grupos interactivos compilan / discuten las razones de por qué los árboles son importantes para el suelo, el aire, los animales, los seres humanos.</i>	<ul style="list-style-type: none"> <i>Colaborar con líderes de la comunidad para facilitar la programación de la clase.</i> <i>Hojas blancas, marcadores, masking tape</i> 	<i>Los participantes serán capaces de decir lo que sucede al medio ambiente cuando los árboles se eliminan.</i>

Effective Environmental Education Programs have the following characteristics:

The participants:

- see how modifying environmental practices can benefit the community.
- are actively involved in all aspects of the program (e.g., program planning, implementation, monitoring, etc.).
- help to determine the curriculum.
- discover ecological principles, patterns, and processes through experimentation and action that have practical applications to daily activities.
- can work toward making a positive change and see the results of their actions.

The activities:

- link new information to the experience and knowledge of the participants.
- are active, engaging, and participatory.
- take place in the field, outdoors, and on-site.
- lead to environmentally responsible behavior.
- present knowledge that is relevant to the economic needs of participants.
- are relevant to participants and facilitate decision-making.
- present new knowledge that can be easily incorporated into existing daily routines.
- allow teams to learn cooperatively.

The environmental educators:

- know the audience.
- understand themselves to be learners as well as teachers.
- approach the community with humility, respect, and enthusiasm.