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## **ECOLITERACY** – Compiled by **MICHAEL K. STONE**

### **FAR AND WIDE**

#### **The ecoliteracy network is growing around the world.**

ECOLITERACY IS a concept that can be practised in as many ways as there are physical environments and cultures. The Center for Ecoliteracy (CEL) has focused its work in northern California, but meets and hears from people on every continent wanting to start ecoliteracy programmes in their regions. Here are a few members of its informal network:

**Fundação Gaia (Gaia Foundation), in Porto Alegre, Brazil**, was founded in 1987 by leading Brazilian environmentalist José Lutzenberger, an agronomist, activist and profound thinker who helped to lead Brazilian efforts to establish aboriginal land rights and disavow nuclear weapons development, and to organise the 1992 Earth Summit in Rio de Janeiro. Since Lutzenberger's death in 2002, the connection with CEL has continued through his daughter Lara, who now directs the Foundation.

Fundação Gaia promotes a new way of seeing the world, characterised by systemic thinking, understanding people's real needs, and recognising humans as a part, but only a part, of the natural world. It offers lectures and courses, develops environmental education activities, and consults with municipalities, corporations and NGOs on such topics as biodiversity assessment and organic agriculture. It also co-ordinates projects in which schools and communities conduct environmental analyses and create action plans for their local situations.

Recently the foundation helped bring the SEED (School Environmental Education and Development) programme to Brazilian schools. In this programme, created by New Zealander Robina McCurdy, the whole school – director, teachers, children and parents – imagines and implements a new school environment, for example using the school grounds as a classroom where the school community designs sustainable permaculture systems to grow its own organic food.

Rincão Gaia, the foundation's thirty-hectare headquarters on a restored basalt quarry, serves as a laboratory and classroom for children and adults. Physical restoration and agriculture work, games, art, personal reflections and classes help participants to experience the transformation of a devastated area to a place rich in beauty, biodiversity and productivity, and, in Lara Lutzenberger's words, "to perceive the majesty of Nature, comprehending Gaia as a huge living system formed by an intricate web of life."

*Fundação Gaia, Street Jacinth Gomes No. 39 Santana, Porto Alegre 90040-270, Rio Grande do Sul, Brazil. <[www.fgaia.org.br](http://www.fgaia.org.br)>*

*For information about SEED: [www.context.org/PEOPLE/robina/seed.htm](http://www.context.org/PEOPLE/robina/seed.htm).*

**Manitham Foundation, in Tamil Nadu, India.** At the age of sixty, Barnabus Tiburtius left a position as president of a UK-based multinational to start a second career in social entrepreneurship. He founded the MANITHAM (Tamil for 'Humaneness') Foundation to promote the education of future Indian citizens through participative, value-based and holistic development of students' social, political, cultural, economic, spiritual and ecological intelligence.

The foundation's first initiative, the CREA Children's Academy, serves 225 children around the town of Tiruchirappalli. Tiburtius, its director, says that systems thinking is the school's "bedrock". He used CEL's work as his model for a comprehensive Eco-literacy Programme for students aged six to ten.

Along with teaching the principles of ecology and eco-awareness, the programme's hands-on activities – led by children themselves – help students discover the beauty of nature and develop a sense of gratitude and responsibility. Children vermicompost, plant trees and harvest rainwater. CEL's work combining school gardens and kitchens inspired a special project, 'Nitrogen-fixing Species Propagation Activity'. The children established and manage a nursery, seed bank and demonstration garden where they grow and maintain nitrogen-fixing species. Then they distribute the seeds to parents and other students to use in their own farms and gardens. In the process, students learn about soil chemistry, the nitrogen cycle, the roles different plants play in the ecosystem, and their region's native nitrogen-fixing plants.

*MANITHAM Foundation, Barnabas Tiburtius, Managing Trustee, 6/18, II Cross Street, Dr. Radhakrishnan Nagar, Thiruvannamiyur, Chennai 600 041, India. [www.manitham.org](http://www.manitham.org)*

**Instituto Ecoar para a Cidadania (Ecoar Institute for Citizenship), in São Paulo, Brazil.** Following the 1992 Rio Earth Summit and Global Forum, a group of professionals, academics and environmentalists convened to continue discussions around constructing a sustainable society in harmony with nature. They named their organisation Ecoar ('Echo'), to signify their vision of environmental education, ethical values and citizenship echoing through people's lives. Ecoar serves as an environmental think tank, and offers courses, lectures, workshops, books and videos for environmental education.

"Most people in Brazil, and elsewhere, understand environmental education as a subject taught to school children," says Ecoar's director, Miriam Duailibi. "At Ecoar, we understand environmental education as the means to a new way of living, thinking in a systemic way, understanding the web of life but also the social context, political scene, and reasons for disease, poverty, and violence. We work with schools as well as associations in neighborhoods, microbasins, and urban environments to articulate and implement community visions for economic and environmental sustainability, human emancipation, and the survival of the Earth's species."

Most Brazilians, including teachers, have not been educated to think this way. "Teachers are obligated by law to introduce environmental education into their courses," says Duailibi, "but they don't know what environmental education means. They are always asking us for help."

Besides working with teachers, Ecoar adapts and distributes materials written for a wide range of educational levels. In co-operation with the World Wildlife Fund, it produced a colloquially written lesson and activities guide to help deepen environmental knowledge. It prepared material on the environmental and social impacts of all forms of energy, from fire to fuel cells. The Ministry of the Environment commissioned Ecoar to catalogue and evaluate all the printed and media-based environmental education material available in Brazil.

Between 2001 and 2003, Ecoar created dialogues between Petrobras (the national petroleum company) and communities through which it proposed to build a fifty-

kilometre pipeline. These dialogues empowered the communities, which were used to powerful companies imposing their plans without consulting local inhabitants, and influenced Petrobras to rethink its relationship with the communities it affects.

Ecoar connected with CEL through Fritjof Capra. In 2003, the Brazilian Environmental Ministry, Capra, and Ecoar co-ordinated Dialogues for a Sustainable Brazil, gathering a dozen visionaries from around the world and forty Brazilian government officials, academics and civil affiliates. Ecoar translated three CEL publications into Portuguese and posted them on its website, where they are used by scholars, environmental educators, environmental NGOs and Ecoar staff members.

Ecoar is weaving a sustainability network of Brazilian individuals and organisations that share a commitment to systems thinking and ecoliteracy pedagogy. It is creating a Centro Ecoar de Educação para Sustentabilidade (Centre for Education for Sustainability), where activists, thinkers, scientists and educators can build a “learning community” in the spirit of Paulo Freire, one of Ecoar’s heroes, to devise new ways to apply systems thinking to Brazil’s problems and opportunities.

*Instituto Ecoar para a Cidadania, R. Tomás Carvalhal, No. 551, Paraíso CEP: 04006-002, Brazil.*  
[www.ecoar.org.br](http://www.ecoar.org.br)

**Arambh (‘Beginning’), in New Mumbai, India,** serves 1,200 slum children through informal learning centres. Initially envisaged for school dropouts, Arambh now also attracts children who have never entered the formal education system.

Arambh employs eclectic pedagogies to attract children to enrol and remain in school. Many children whose families migrated from rural areas in search of work arrive in the city with a knowledge of native plants, but they are losing it fast. An Arambh volunteer, Vijaya Chakravarty, a landscape designer and doctoral student at Mumbai University, where she is researching children and environment, introduces gardening, edible landscaping, medicinal plants and garden-based science projects into the curriculum. She has used CEL materials and consulted with CEL, adapting CEL’s ideas for combining gardening and cooking classes to Arambh. “My interest in teaching children gardening is to bring back the joy of nature into their lives,” says Chakravarty. “It is difficult for children to live in a concrete jungle with no access to greenery. For them to be with plants is a catharsis.”

*Arambh c/o Ms Shobha Murthy, Gitanjali Bldg., Sector 17, Vashi, New Mumbai, India 400703. •*