

The ReSource Institute for Low Entropy Systems (RILES)
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The ReSource Institute for Low Entropy Systems (RILES), founded in 1990, is an independent, Boston-based nonprofit organization. RILES' work is to build a set of connected programs and institutions that nourish policies and technologies protecting public health and the environment. A cornerstone of this effort is RILES' work on sustainable sanitation and the policies that influence it.

Here are some of the highlights of our effort to meet our program goals:

The design and implementation of a large, effective, and well-received composting toilet program in Quintana Roo, Mexico.

The design and implementation of an urban planning and pollution prevention project in an indigenous community in Maruata, Mexico.

The establishment of the Program for the Ecology of Human Systems at the Boston University School of Public Health.

Organizing and policy work to stop the land application of sewage sludge.

Education and technical advice through publication, public speaking, and consultation to nongovernmental organizations, academics, grassroots organizers and policymakers.

Projects:

[The Program for the Ecology of Human Systems at the Boston University School of Public Health](#)

The Program for the Ecology of Human Systems (PEHS) **seeks to increase popular understanding of the implications to human and environmental health of technological choices and to influence public policy respecting those choices.**

PEHS links students, public health professionals, and community members concerned about the local environment. Activities include research, classroom instruction, field-based projects, educating public officials, and sponsoring conferences and seminars. Our work is characterized by a multidisciplinary approach to technology, development, and public health. We believe social and environmental justice must inform and guide research and public policy.

Chemax, Yucatan, Mexico

The Green Infrastructure Project in Chemax aims to **demonstrate how ecological public works programs can be implemented on a scale that has a measurable impact on public health and the environment.**

The project includes public health research; policy initiatives, for instance, establishing financing mechanisms (bonds, grants, private partnerships, taxes, user fees, etc.) for on-site ecological sanitation systems; small business development; job training; and education. It links students, public health and medical professionals, government representatives, and community members concerned about local environmental pollution, public health, and long-term solutions to environmental and health degradation. A core component will be to develop local and regional capacity to build or manufacture technologies related to public infrastructure, such as composting toilets, that do not degrade the environment while at the same time meet community economic and aesthetic criteria.

Institutional project partners: Centro de Salud, Chemax; Zayab Ha, A.C.; Universidad Autónoma de Yucatán (UADY); Investigación, Educación Popular Autogestiva, A.C. (IEPAAC)

Maruata, Michoacán, Mexico

RILES has worked in Maruata, a village of 1,000 in the Pomaro indigenous community, in the state of Michoacán, Mexico, since 2002. There are 4,000 Pomaro Indians living on 400 km² of communal land. The community is at a transformational stage in its physical development, which profoundly affects not only human health and environmental integrity but also cultural identity, social relations, equity of power relationships, gender relationships, and the nature and scope of economic opportunity. It is at a crossroads in the sense that different development choices lead the village down different paths: some good, some very bad. Choices made now will dictate the paths the community can – and will – take in the future. Influencing those choices is part of our work in Maruata.

RILES has worked with the community to protect and equitably distribute its drinking water. We have built hygienic water wells. We have helped put into operation a locally owned and operated ice making and water bottling facility. We have brought Mayan masons from the Yucatan across the country to teach Pomaro masons how to build composting toilets. We have worked with the tribal government on policies that protect water resources. A team of greywater gardeners (all women) were organized by RILES in 2003. Since then, they have transformed a quarter of the backyards in Maruata into safe and hygienic water-recycling systems, growing fruit trees and medicinal plants with household wash water for irrigation. These women work collectively to manage a nursery, make compost, and they are important advisors to RILES and its work in Maruata.

Maruata Project Goals:

- Protect and improve Pomaro Indian public health and their natural resource base.
- Implement a sustainable and ecological public works program in the Pomaro Indigenous territory.
- Leverage the project to influence other Mexican indigenous communities at a development crossroad.

Institutional project partner: Coordinadora Nacional Plan de Ayala
Regional Michoacán - Autogestión Económica y Social A.C. (CNPA-AESAC)

Sewage Sludge: Education and Policy

Contribute to policymaking and activism to stop the land-application of sewage sludge in the United States.

Since 1994, RILES has been involved in sludge policy issues, with activities spanning from publishing and public speaking, to conferences and grassroots organizing. In October 2003, RILES helped organized 72 farm, labor, and environmental organizations to petition the EPA to ban the land application of sewage sludge. This action is part of a long-term commitment to changing sludge policy in the United States.

Sustainable Sanitation

Our sustainable sanitation work is focused on the intersection of technology, environment, and civil society. Specifically, **how local, ecological infrastructure development could be designed, paid for, implemented, and maintained – particularly in low-income communities outside the US and Europe.**

Why don't we see on-site, ecological waste management systems on a scale that impact public health and the environment? Proclamations exhorting us to reduce the number of people without hygienic sanitation facilities – exclusively these are the world's poor – are commonplace. The Second World Water Forum at The Hague in 2000, the United Nations Millennium Declaration, and the 2002 World Summit on Sustainable Development all formally called for decreasing the number of people without safe water and adequate excreta disposal systems, cutting the problem in half by 2015 and eliminating it by 2025.

What must be done? Bring together people who approach sanitation from both a health and ecological perspective. Proselytize for “source separation” as a first principle. Explain how capital support efforts can work for on-site ecological waste management systems. Find capital support for ecological public works. Build functional institutions to support green local infrastructure development. Connect those who want sustainable sanitation technologies to those who can deliver, install, and maintain them. Work to enact policies that punish polluters, reward ecological innovators, and promote universal sustainable sanitation coverage.