Rachel's Environment & Health News
#468 - Cut Waste, Not Trees
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The attack on the environment by so-called "conservatives" in Congress has caused a radical re-thinking throughout the environmental community. People are recognizing that they must stop working alone and must start building alliances.

Among other developments, a new coalition has formed between forest activists, energy-conservation advocates, and toxic pollution fighters. Perhaps most importantly, this coalition includes people aiming to create (and retain) good jobs in their communities. Their goal is to cut use of wood in the U.S. by 75% in 10 years. An excellent new report provides the rationale, and describes the plan.[1]

Here's the thinking behind the new coalition. Lois Gibbs, of Citizens Clearinghouse for Hazardous Waste (CCHW) [Falls Church, Virginia; phone: (703) 237-2249] is spearheading an anti-dioxin campaign. Dioxin is among the 2 or 3 most toxic chemicals ever discovered, and it is produced by incinerators, by paper mills, by metals smelters, and by the production of many pesticides. (See REHW #290, #390, #391, #414, and #438.) Now CCHW has joined with the Rainforest Action Network of San Francisco [phone: (415) 398-4404] in a Wood Use Reduction Campaign. The goal is to reduce wood consumption in the U.S. by 75% within 10 years --an ambitious goal, but one that can serve as the "glue" to bring many environmental groups and economic development groups together. Rainforest Action is in it to save the world's forests. CCHW is in it to save forests, too, but their main aim is to reduce toxic dioxin and stupid waste disposal.

For example, as Gibbs points out, paper (which, in the U.S., is made almost entirely from wood) is a major fuel for municipal solid waste incinerators, which are also a major source of toxic dioxin emissions. If solid waste incinerators were shut down this act alone would:

** Significantly reduce the nation's serious dioxin problem;

** Stop virgin wood products such as shipping pallets and paper products from being used mindlessly as fuel in incinerators (half of all hardwood harvested in the U.S. is for pallets, much of it discarded after one use);

** Force municipalities to manage wood and paper waste differently (in other words, reprocess rather than landfill or incinerate them).

Gibbs said recently, "At Citizens Clearinghouse for Hazardous Waste, we envision a wood reduction campaign that uses a collaborative model similar to our McToxics Campaign of 1987 [which successfully forced McDonalds to stop using foam clamshells for packaging fast food]. ...Thanks to that campaign, people now look at foam packaging differently. We need to do the same with the image of paper and wood waste, by informing Americans about the connections between the destruction of forests and dioxin." The campaign to reduce wood consumption by 75% also offers significant opportunities to create new jobs both in cities and in rural areas.

The destruction of virgin forests is occurring on a massive scale around the world, in Indonesia, in Siberia, in British Columbia, and in Latin America. Worldwide, some 14 million acres of rainforests disappear each year. In the U.S., 95% of virgin forests are gone, with only 5% remaining. Forests are home to most of the world's species and most of the world's indigenous peoples. Forests provide important free ecological services -- holding water on a grand scale, producing huge quantities of oxygen, and providing major cooling. (When the forests of southern Honduras were cut, the average (median) outdoor temperature rose 13.5 degrees Fahrenheit (7.5 degrees Celsius).[2] In addition, forests serve human needs directly, producing game, medicines, fruits, gums, nuts, resins, fiber, and firewood.

Industrial logging in forests is a major cause of ecological destruction and the loss of biodiversity. For example, in the U.S., some 350,000 miles of logging roads have been cut through forests -- more than 7 times the total length of the U.S. interstate highway system. Only 10 percent of the inhabited Earth remains in roadless condition. The other 90 percent is chopped up by roads into segments of less than 8000 acres. This is startling considering we haven't approached the 100-year anniversary of the automobile. Logging is a major cause of this disturbance.

Now environmentalists have determined to save the world's forests by confronting the major source of forest destruction: the rising demand for wood, particularly in the industrial world where wood is wasted on a grand scale. Among industrialized nations, the most wasteful is the U.S. (France, for example, has per-capita paper consumption that is 50% of ours.) The U.S. logging industry expects a 46% increase in logging operations by the year 2040. If this comes true, U.S. logging in 2040 will equal today's combined logging by the U.S.,Canada and Sweden.

There are two major paths that wood products follow when they leave the forest. One passes through sawmills, plywood mills, veneer, or other wood panel mills, and then into the network of building construction, shipping, manufacturing, and furniture industries. The other path passes through pulp mills into the larger system of paper, paperboard, and fiberboard production.

Together, the two paths --generally building materials and paper -- account for more than 80 percent of industrial wood use in the U.S. (the other 20 percent includes fuel wood, wood chips, and raw logs for export).

Thus a campaign to reduce wood consumption will focus on getting wood out of buildings, and getting wood out of paper. Getting wood out of buildings requires 2 basic steps:

(1) Reduce wood in building construction, substituting modern materials (NOT steel or concrete, which create problems of their own) and efficient construction techniques. Nearly 90 percent of all housing in the U.S. is constructed of wood and the average new home in the U.S. uses 1600 cubic feet of wood products. Modern materials and construction techniques can reduce the needed wood substantially.[3]

(2) Building codes must be changed to allow construction using recycled wood (from old barns, for example) and earth materials (rocks, sand, silt, clay, and even straw bales [discussed below]). The Uniform Building Code was adopted at a time when wood supply was considered limitless. The code must be changed.

Two very promising --and time-tested --building materials are adobe (in dry climates), and rammed earth (in any climate); 15% of the population of France today lives in adobe or rammed earth buildings. A relatively new construction material is baled straw, which can be used in any climate. Initially developed at the University of Arizona (Tucson), straw-bale buildings have now been built in many states and in Canada. Again, a major obstacle is the building code. Straw-bale homes are structurally strong, very energy-efficient, and fire-resistant. Manuel A. Fernandez, the State Architect of New Mexico recently wrote, "ASTM [American Society of Testing Materials, in Philadelphia] tests for fire resistance have proven that a straw bale infill wall assembly is a far greater fire resistive assembly than a wood frame wall assembly using the same finishes." It turns out that straw bales contain enough air to provide excellent thermal insulation, but not enough air to support a fast fire. (I have been in a straw-bale house at Genesis Farm in Blairstown, N.J.; inside, it has the snug feel of a well-made adobe house. From the outside, it has sharp, modern lines and an eye-pleasing tan stucco finish. If you didn't know the walls were baled straw, you wouldn't guess it.--P.M.)[4]

Getting the wood out of paper is, if anything, easier than getting the wood out of building construction. Today, quality paper is made

from rice and barley straw in China, from sugar cane waste ("bagasse") in Mexico and India, and from the kenaf plant in Australia. There are 300 mills around the world making paper without wood.

The most promising wood substitutes for making paper are the kenaf plant, and straw --the leftover stalks from cereal grain production. Paper recycling can only carry us so far because the paper fibers break and become shorter when paper is recycled. To give recycled paper good qualities, new fibers need to be mixed in. Those new fibers need not come from wood --leftover stalks from farmer's fields will work nicely, and so will kenaf. Thus the city, as supplier of recycled fiber, can coordinate with rural producers of non-wood fibers, creating jobs and income for both. (The hemp plant will produce high-quality paper as well. Kimberly-Clark, a U.S. Fortune 500 company, operates a paper mill in France producing hemp paper for Bibles and cigarettes. But in the U.S. growing hemp is a serious federal crime--even hemp with its narcotic characteristics bred out. This stymies development of a hemp industry. Walt Disney sells clothing made from hemp, but not from fiber grown in the U.S.)

Marvelously efficient is the use of agricultural residues to make paper; it requires no new land brought into production. A small-scale mill in British Columbia is making paper profitably from agricultural waste today, and 3 more mills are planned. The small scale is an advantage because it keeps capital needs low, making such mills suitable for community-scale economic development.

In sum, reducing wood use by 75% in 10 years seems doable, and it puts the environmental community into a new posture: cooperating across issues, and combining economic development with environmental protection.

And there is one other big benefit: Reducing the use of wood to maximize social and environmental benefits will require us to measure our efforts in new ways. In many different areas (forest advocacy, pollution prevention, recycling/waste management, energy conservation, and community development), we will need to measure our efforts against a long-term vision of where the paper and wood industries should generally be headed. We will need to set targets for them, not leaving economic and social decisions exclusively in the hands of corporations any longer. Finally we must judge ourselves by our willingness to demand a future that more than a minor variation of the status quo. Parts of the old environmental movement may regard their work in a new light, when judged by this criterion.

--Peter Montague

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[1] Atossa Soltani and Penelope Whitney, editors, CUT WASTE, NOT TREES; HOW TO SAVE FORESTS, CUT POLLUTION AND CREATE JOBS (San Francisco: Rainforest Action Network [450 Sansome Street, Suite 700, San Francisco, CA 94111; telephone: (415) 398-4404; E-mail: rainforest@igc.apc.org], 1995).

[2] J. Almadenares and others, "Critical regions, a profile of Honduras," THE LANCET Vol. 342 (1993), pgs. 1400-1402.

[3] For further information, contact the Center for Resourceful Building Technologies in Missoula, Montana, a clearinghouse for resource-efficient building materials and techniques. Phone (406) 549- 7678. Additional U.S. groups promoting alternatives are listed on pgs. 53-61 of the report cited in footnote 1, above.

[4] Books on adobe, rammed-earth and straw-bale construction are available from Real Goods, 555 Leslie Street, Ukiah, Calif., 95482-5507. Phone 1-800-762-7325. Fax: (707) 468-9486; foreign orders: (707) 468-9214. Additional U.S. groups promoting alternatives are listed on pgs. 53-61 of the report cited in footnote 1, above.

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