

THE BALATON BULLETIN

Newsletter of
The Balaton Group



Spring 1994

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NOTICE TO ALL BALATON MEMBERS
BETTY MILLER HAS A NEW FAX NUMBER -- (1)-603-675-5792
Her telephone number remains the same -- (1)-603-675-5791

BALATON '94 -- SUSTAINABLE HUMAN SETTLEMENTS

The 1994 Balaton meeting will take place September 1-6 in Hungary. The topic will be Sustainable Human Settlements, which many of us read as Sustainable Cities. The question of how to make settlements --especially large settlements -- sustainable cuts through at a new angle the many other topics that interest Balaton Group members -- from energy to agriculture to water to economic justice to ecological economics. It gives all those topics a new urgency, because the cities now house half of humanity and are still growing rapidly, the cities are already and undeniably unjust and unsustainable, the cities attract political attention, the cities suck in resources from every rural area -- and the cities can't wait. If we are to support and enhance a transformation to a sustainable world, the cities pose our first and hardest challenge.

To ground us in the reality of an actual city's metabolism, we will begin on the morning of September 1 with a bus tour of Budapest, with the help of Balaton members **Tamas Fleischer** and **Zoltan Lontay**.

That afternoon we shall proceed to Csopak on Lake Balaton for our normal conference schedule. The list of morning plenary speakers (still tentative at this time) is:

Friday, September 2: The History, Metabolism, and Dynamics of Cities.
Chairman: **Carlos Quesada**

David Satterthwaite (International Institute of Environment and Development, London) -- Global Trends in Human Settlements

Herbert Girardet (Footprint Films, London) -- The Metabolism of Cities

Dana Meadows (Dartmouth College) -- Urban Dynamics: The Primary Feedback Loops

Saturday, September 3: Food, Water, and Waste Management
Chairman: **John Todd**

Michael Ableman (farmer, Goleta, CA) -- Sustainable Agriculture and the City

Rosendo Pujol (University of Costa Rica) -- Solid Waste in San Jose

Joan Davis (EAWAG, Zurich), **Drew Jones** (Rocky Mountain Institute) and **Bob Wilkinson** (San Diego CA)-- Case Studies in Good Water Management

Sunday, September 4: Energy and Transport

Chairman: **Bob Wilkinson**

Ashok Gadgil (Lawrence Berkeley Laboratory, San Francisco, CA) -- Sustainable Energy for Third World Cities

Kaj Jorgensen (Technical University of Denmark) -- Sustainable Energy for European Cities

Herman Knoflacher (Director, Institute for Traffic Planning and Technology, University of Vienna) -- Getting People Out of Their Cars

Monday, September 5: Urban Governance and Social Change

Chairman: **Aromar Revi**

Alan AtKisson (Sustainable Seattle) -- A Citizen-Based Definition of Urban Sustainability

Enrique Ortiz (Habitat International Coalition, Mexico City) -- From Architect to Politician to Organizer.

Anthony Thigpen (Coalition for Racial Justice, Los Angeles) -- Getting the People Together

Tuesday, September 6: Wrap-Up and Balaton Business

Chairman: **Dennis Meadows**

Afternoons will be free, as usual, for self-organization of discussions or workshops on any topic of interest to the participants (and for swimming, hiking, biking, tennis). Evenings will include slide shows from several participants on their home cities, plus **Herbie Girardet's** new film, "The Metabolism of London," and Herbie's other great film "Voices from Balaton," recorded at last year's meeting and STARRING THE BALATON GROUP!!.

THE ECO-CITY: CRITERIA FOR AN ECOLOGICALLY SOUND CITY

By Bernd Loetsch (translation by Bettina Kloetzl)

(The following report is a long checklist, a way to begin a discussion of the many aspects of cities -- and the many policies and actions it takes to move a city toward sustainability. The list comes from a systematic attempt to think about a sustainable Vienna.)

More than 70% of people in North America and Europe live in cities. Even in the developing countries urban populations have quadrupled over the past 35 years, and by the year 2000 more than half of the global population will be concentrated in cities. Cities are where most of the world's resources are consumed and most of the atmospheric pollution produced. Although crisis-ridden and fraught with unsolved problems, the cities of the world will continue to be centres of economic progress, purchasing power, the mass media, political decision-making, education, science, and innovation. Without them, there will be no ecological re-design.

The Idea of an Eco-City

At the request of the deputy mayor of one of Austria's provincial capital cities, the Commission for Human Ecology of the Austrian Academy of Sciences developed a compendium of requirements for a sustainable city of exemplary character. An interdisciplinary team drew up a checklist for ecological planning. The list defines what it takes for a community to earn the label of "eco-city." The process is similar to the set of standards applied by expert bodies of IUCN to national parks or by the Council of Europe and UNESCO to leading cities in the conservation of their architectural heritage.

The obligation undertaken by the prospective eco-city is of the nature of a promise made before the world public. For the promise to be valid, a political decision and a public consensus are required. An endeavour of this kind that embraces all society and all educational institutions (from kindergarten to university) would impart to the city a high profile on a worldwide scale. The city would become a proving ground for new products, new ways of organising production, trade and consumption. It would be a permanent forum for the testing of environmentally friendly prototypes of products and technologies -- a place world-famous for the collective practice of ecology, convincing and exemplary for observers from all countries.

Definition

The eco-city is a large community that assumes leadership in taking all requisite steps to secure the survival in beauty and dignity of humans and the biosphere.

The steps to becoming an eco-city are designed to:

1. improve the quality of life of urban dwellers,

2. take the strain off the biosphere,
3. conserve resources,
4. reduce the inequitably high use of energy, non-renewable materials and environment in the industrialised countries to a level that can be justified vis-à-vis the developing countries and that secures for everyone on this planet a fair share of the world's resources,
5. respect natural and cultural heritage,
6. ensure stewardship of the natural environment and human nature, which means taking account, in all decision-making, innate human behaviours and cultural needs as regards humane habitats and social context,
7. make the needs of the weaker members of human society the yardstick for urban welfare policies (the young, the elderly, the disabled, the disadvantaged),
8. inspire the inhabitants of the eco-city with a cosmopolitan outlook that sets an example to the world of self-limitation, sharing and caring
9. preserve cultural and biological diversity, by endowing them with intrinsic value.

The most crucial question at the turn of the century, in the most exciting decade of human civilisation, should be: How can we scientists and artists, teachers and journalists, lawyers and politicians persuade our fellow citizens all over the world to concur in their own survival? The eco-city as a new form of ecological urban culture might be the leading light taking us there.

The eco-city can become a reality if we succeed in translating it into hands-on ecology, by introducing a maximum of natural phenomena, cycles and energy flows in such a way that they may be perceived, understood, and influenced by the urban dweller. All the humanitarian, social and cultural breakthroughs ever made by humankind drew their momentum from emotional awareness and confident visions.

Energy

The Arctic National Wildlife Refuge is threatened with exploitation for oil. If all households in the US were to install a low-flow shower-head in their bathrooms, that would eliminate the need for all the oil that will be extracted from that National Wildlife Refuge in Alaska. That investment will pay for itself in less than six months."

-- Norman Myers, IUCN Conference Caracas 1992

There is no lack of energy, only a lack of imagination.

Energy cannot be recycled -- only saved or cascaded.

An eco-city should demonstrate exemplary lowering, within 10 years, of energy consumption by at least 20% down from 1988 levels. This means a 2% decrease per

year. With the call of the Toronto World Climate Conference for a 50 % lowering of global CO₂ emissions by 2050 and the expected doubling of the world population, Central Europeans will be entitled to generate less than a quarter of their present per-capita CO₂ emissions. Minus 20% over a period of 10 years is not an overzealous demand, the initial 20% being the easiest to save. Most of the saving can be done via consumer-targeted energy policies (counselling and investment aids to reduce demand).

- Average energy use per sq m of housing space should be a policy touchstone. Targeted efficiencies: 55 kWh/sq m/yr for new construction, 90 kWh/sq m/yr for retrofitting.
- Consumption limits for public buildings are recommended, and so is support for renewable sources of energy, with due attention to the conservation of the built and natural heritage as well as the cost/benefit of ecological impact.
- Advance financing and leasing models to encourage conservation techniques and efficient power generation by individual users (total energy modules, wind energy, combined heat and power), with cost-covering rates for feeding electricity into the grid.
- Least cost planning is as imperative for electricity supply as pricing that reflects true costs. (Higher prices for winter and peak-load generation.)
- No new installation of electric resistance heating and electric air-conditioning systems where more intelligent solutions are available.
- Encouragement must be given to local diverse energy systems featuring maximum harnessing of waste heat (especially decentralised district heating).

Traffic and Transport

92% of the global population do not own cars. On the territory of Germany alone, four times as many cars are operating than in all of Africa.

Eco-measures include:

- Persuading people to opt for environmentally sound modal split transport systems combining public conveyances, cycling, and walking;
- Active strategies to curb motorised individual traffic; slowing vehicle speed especially on residential streets;
- Avoiding traffic-generating city planning;
- Moving information not people;
- Making public transport as convenient as private car use (for instance, distances to parking lot and public transport stop should be roughly the same);
- Road pricing wherever it makes sense;
- Special bus and tram lanes;

- Bus- and tram-controlled traffic lights;
- Off main thoroughfares, ramps, humps, bottlenecks or street-narrowing to slow down traffic (and reduce noise);
- Fuel pricing including operating cost (insurance, taxes, e.g.) to ensure equitable use-based vehicle cost;
- Incentives for non-use of private cars;
- Parking space management to tie in with environmentally friendly modal split transport;
- Mandatory purchase by motorists of public transport travel cards;
- Local park and ride facilities distributed over the larger "catchment area" and not at end-points only;
- Encouraging experiments with new, eco-friendly urban conveyances;
- Stricter enforcement of speed limits.

The global survival strategy of UNEP, IUCN and WWF calls for at least a 50% reduction of air pollution in urban agglomerations by 2000.

Waste

In the 1980s, Vienna produced enough waste to fill six giant containers, each the size of St. Stephen's Cathedral. Within 30 years Vienna, like other major cities, has increased its waste load tenfold.

- Halving the volume of waste every ten years (not an exaggerated demand since the waste stream has been doubling every ten years over the past decades);
- Introducing environmentally sound procurement and shortening recycling loops between consumers and retailers to stem the waste tide;
- Decentralised composting of organic wastes (one-third of the total domestic load), which improves the rate of recovery from remaining dry garbage.
- Limiting the percentage of incinerated wastes -- in accordance with the objectives of prevention and re-use -- to 40% of 1990 domestic waste levels;
- Incineration of non-hazardous non-recyclable materials only, after prior recovery of at least 90% of hazardous wastes and at least 60% of domestic waste-like garbage.

Identification of plastics, reducing packaging material and limiting component materials to a few substances that can be used and re-used sensibly -- paper and cardboard, glass, polyethylene, untreated and uncontaminated wood, tin plate, materials that can serve as fodder and for composting;

- Incentives via taxation of undesirable and composite materials;
- Substantial charge on throwaway products;

- Reclaiming at least 90% of all hazardous wastes present in domestic refuse, equipment and vehicles, e.g. through deposits or, even better, through fixed re-purchasing rates funded by price mark-ups at purchase.
- Taxation of or bans on replaceable or dispensable hazardous products to reduce the hazardous waste stream.

Procurement

The rich must live more simply so that the poor may simply live.

- Eco-impact studies of products covering manufacture, use and disposal;
- Phasing out organochlorines;
- Experimental and pilot lots of environmentally friendly products for the eco-city;
- Avoiding imports from Third World countries that might cause ecological (and socio-economic) harm in the countries of origin.

Water

Of the urban dweller's daily drinking water consumption of 200 litres, only 1-2% at most is in fact used as drinking water -- the bulk is used in washing and cleaning, showers and toilets.

The common use of water is to dirty it.

Pure drinking water is one of civilisation's non-recyclables. Only the hydrological cycle of the biosphere can regenerate it.

- More efficient use of water (increasingly wasteful ways require development of poorer and poorer resources);
- Reducing drinking water consumption by at least 20% down from 1990 levels by the year 2000 (practice of consistent conservation programmes suggests 50% reduction without loss of convenience);
- Water cascading (e.g. gray water treatment for flush toilets);
- Using rain water, e.g., for irrigation and cleaning (also reduces need for surfactants);
- Protecting groundwater reserves and allowing aquifers to recharge;
- Improving sewage systems, cesspools, landfills;
- Restoring open space;
- Pre-treatment of rainwater runoff from polluted built-up areas (streets, parking and industrial areas);
- Ban on de-icing agents and herbicides with a potential for water eco-toxicity;
- Stringent precautions to prevent oil discharges.
- Pre-treatment of wastewater at the source (industrial users);
- Separating domestic and industrial sewage systems;

- Reducing contamination of sewage sludge through monitoring of catchment areas;
 - Use of sludge in landscape architecture and recultivation;
 - Dual systems for moderately polluted flows, or gray water (cleaning, bathing, washing machine, and kitchen waste water), and feces-containing flows from toilets.
- Experimental programmes featuring humus toilets, reedbed systems and decentralised small treatment systems in areas of scattered settlement to save on expensive sewage systems and for local treatment of gray water for industrial uses;
- Reducing demand through water-saving fixtures, flow restrictors, 4-litre vacuum flush systems in toilets
 - Conspicuously mounted individual water meters instead of flat rates;
 - Transparent pricing;
 - PR;
 - Closed water cycles in the industrial sector -- industrial water pipes; trickle systems, canals (e.g., using river water) and treated gray water for efficient green space irrigation and plant production (e.g. roof gardening).

Healthy Building Healthy People

Silos for the living do not deserve the word 'houses.' They are batteries with human livestock for industrial use.

-- Konrad Lorenz 1977

Ecologically sound building means nature and resource conservation (including conservation of the soil), climatic and cultural adaptation, awareness of distinctive cityscapes and landscapes, attention to infrastructural impact (supply, disposal, traffic routes, etc.). "Eco-tecture" optimises the way builders treat nature around us and human nature within us. This calls for prioritisation of the re-use of buildings, i.e. the retrofitting of the building stock and built heritage, rather than radical clearing. Careful planning would call for higher densities in areas dedicated for construction instead of spreading out and requiring mounting dependence on the automobile.

- Choice of materials to be determined by eco-impact studies.
- Evolution-improved materials and time-tested building methods which allow us to know how structures will behave over the long term, how to repair, re-use or safely dispose of them.
- High-quality ecologically sound housing with private open space near the home;
- Encouragement of rooftop gardens (using rain and non-potable water for watering);
- Terracing and the incorporation of vegetation in architecture;

- Permits for flat roofs only on condition that they will at least allow extensive use of vegetation;
- Attention to the findings of human ecology. (Universal behavioural characteristics determining fundamental emotional needs to be met by housing and neighbourhood design, such as territorial behaviour and the need for privacy, identity, stimulation, distinctive landmarks and unmistakable character, proximity to nature and water, possibility for social interaction of small groups, scales that encourage a sense of neighbourhood and are not disruptive to families, possibility to design one's immediate living environment, protection against pollution and noise.)
- Biological optimisation of office and industrial buildings;
- Passive solar uses;
- Climate-adapted construction;
- Row house developments and interior courtyards instead of open plans;
- Moderate densities with optimum supply of green space;
- Floor area ratios in housing construction between 0.5 and 1;
- No more than five stories for housing and mixed use projects.

Green Cityscapes

Where there is no place for trees there is no place for children either.

Over the past 30 years more land has been used for construction than in the three thousand years before.

Compare the tree outside your window with a man-made air-conditioning system. The tree provides shade when you need it, in the summer, while it allows the sunlight to get through in the winter. It filters out dust, moistens the air, needs no electricity and grows more and more beautiful and productive every year. The expensive air-conditioning system requires a lot of power and ever-increasing maintenance as time goes by.

-- Roland Rainer 1974.

- Preservation and encouragement of the organically grown (natural and cultural);
- Respect for the distinctive character of a place; regional adaptation;-
- Premium on uniqueness. Breaking up the urban desert and re-introducing greenery: the eco-city is a city of tree-lined boulevards with irrigation canals along the streets;
- Putting in place, restoring to a natural state and designing bodies of water to create exciting urban environments;
- Access to water being a basic human need, waterfront housing appears ideal;
- Restoring bodies of water to a more natural state to provide greater recreational potential and aesthetic values in inner-city areas.

The Young and the Old: A Social Challenge

The rich live where they want, the poor live where they must.

A. Hoyt

- Public and semi-public open space to serve as places of encounter for peer groups;
- Cityscapes and street areas that do not require ghettoised tag-on playgrounds;
- Planning and social organisation allowing the elderly to remain in their accustomed environments or near their families;
- Addressing the problem of built-in urban solitariness: "mass hermits in the urban crowd".

Farmland and Open Space

- Avoiding supermarkets and urban sprawl;
- Occasional prioritisation of more extensive farming, restoring "eco-cells" like hedgerows, woods and wetlands;
- Encouraging city farms for children, pensioners, and others;
- Providing incentives for organic farming and gardening to take some of the strain off the environment (soil, water);
- Encouraging environments rich in diversity and stimulation to ensure recreational potential, crisis prevention, high-quality food supply, and economic safeguards for horticultural and non-industrial forms of production.

CURITIBA: AN ECO-CITY IN ACTION

(Assembled by Dana Meadows from many articles about Curitiba.)

The dream of a better city is always in the heads of its residents.

-- Jaime Lerner

Curitibanos -- the citizens of the city of Curitiba, the capital of Brazil's southern state of Paraná -- think that they live in the best city in the world, and most visitors tend to agree with them. Curitiba is winning awards. It is studied in urban planning courses around the world. Mayors of other cities come there to learn.

Demographically Curitiba is a typical, burgeoning Latin American city. Its population of 150,000 in the 1950s has swelled to 1.6 million. It has rich people and poor people, squatter settlements, and 500,000 cars. It also has more green space per inhabitant (50 square meters) than any other Latin American city. It has 17 new parks, 5

of them huge, and 150 km of bike paths. It has a mass transit system and a recycling program that other cities envy. Its mayor, Jaime Lerner, has a 92% approval rating.

Curitiba's innovations started with a group of young architects in the 1960s. They were not impressed by the then-current fashion of borrowing huge amounts of money for vast urban projects -- big highways, massive buildings, showy shopping malls (with Brasilia as the proud example). They were thinking and talking about the environment and human needs. They approached Curitiba's then-mayor, pointed to the rapid growth of the city, and made a compelling case for better planning.

The mayor was convinced and sponsored a national contest for a master plan for Curitiba. He circulated the best plans, debated them with the citizens of each neighborhood, and then turned the plans and the citizen comments over to the group of upstart architects. By then they were established as the Curitiba Institute for Research and Urban Planning, which went to work on developing a final master plan and legislation to implement it.

Jaime Lerner was one of those architects. In 1971 he was appointed mayor (by the then-military government of Brazil). He has since served two more four-year terms as mayor, one more appointed, the third elected.

Brazil's economic reversals forced Lerner to implement his ideas with a very reduced budget. He had to think small, cheap, and participatory -- which was more or less the way he was thinking anyway.

He got 1.5 million trees planted by providing the saplings and asking neighborhoods to organize themselves, decide where they wanted trees, and do the planting and watering themselves. "There is little in the architecture of a city that is more beautifully designed than a tree," says Lerner. He solved the city's flood and drainage problems by diverting water from lowlands (where the poor lived in near-swamps) into lakes in his new parks, which are major elements in the water-control plan of the city. He gave city teenagers jobs raking and cleaning up the parks.

Lerner emphasizes rehabilitating built-up areas rather than spreading the city outward. He converted a former warehouse into a theater and an abandoned glue factory into a community center. He met resistance from shopkeepers when he proposed turning the downtown shopping district into a pedestrian zone. He suggested a 30-day trial. The result was so popular that shopkeepers on the next block asked to be included. Now one pedestrian street, the Rua das Flores, is lined with beds of vegetables, fruits, and flowers, tended by street children.

The street children, poor and homeless, orphaned or abandoned by their parents, are a problem in many Brazilian cities. Lerner got each industry, shop, and

institution to "adopt" a few street children, providing them with a meal a day and a small wage in exchange for running errands, doing simple maintenance, gardening, or office chores. Brazil forbids child labor, but Lerner ignores that rule. He says, "By law, a child mustn't work, but society looks the other way when he goes hungry or homeless, or works for a drug trafficker."

Recently Lerner arched over one whole street in the shopping district with a transparent ceiling and turned it into a lively "24-hour street." Restaurants put out tables on the sidewalks, and young people in particular can snack and shop and "hang-out," as they often do in Northern shopping malls. This shopping mall, however, is at the center of town, not on the edge, reachable only by car. And its success brings business to existing stores.

Another Curitiba innovation was to organize the "informal sector" -- the street vendors selling cheap foods and goods, into an open-air street fair. It circulates on a regular schedule from neighborhood to neighborhood, primarily in the squatter settlements. People don't have to go downtown to shop -- the vendors come to them.

Which brings us to the subject of transport, Curitiba's major claim to fame. Seventy percent of commuters and shoppers use public transport in Curitiba. They travel primarily on buses. Concentric circles of local bus lines connect with five radial lines that go outward from the center of the city -- the whole pattern looks like a spider's web. On the radial lines huge triple-capacity buses carry 300 passengers and run at 20-second intervals in their own traffic lane. They travel as fast as subway cars, but at one-eightieth the construction cost.

The buses stop at artistic, transparent plexiglass tube stations (designed by Lerner). Passengers enter through one end of the tube through turnstiles where they pay their fares and exit from the other end. This system eliminates paying on board, which allows faster loading and unloading, less bus idling and air pollution, more space for passengers in the buses (because there are no ticket-takers) and a sheltered place out of the rain for waiting -- though the system is so efficient there is not much waiting. There is not much littering either -- there isn't time.

The bus system pays for itself through its fares -- which are low (20 to 40 cents per ride, with unlimited transfers). Private companies own, operate, and maintain the buses and keep 10 percent of each fare. The city gets the rest to pay for roads and terminals. The city buys up old buses and refurbishes them (if they're still mobile) to travel to the slums as mobile classrooms in sewing and auto mechanics and literacy, or (if they're not mobile) for daycare centers and miniclinics.

The system is profitable for the bus companies and so convenient for users that auto fuel consumption is the lowest of any city in Brazil. Lerner was recently invited to

demonstrate the system in New York, with loading tubes and four buses on loan from Curitiba making a 2.5 mile circuit in downtown Manhattan.

Then there is Curitiba's way with garbage. Says Lerner, "I once heard a lecture by a Swede who explained how in his country they separated out 18 types of garbage, each one going in a container prettier than the last. That is fine for the first world but impossible in a city where half the population doesn't read and lives at the bare poverty level. The success of our program is not getting too sophisticated. Solutions to city problems are really simple; it's people who complicate things."

Curitiba's citizens separate their garbage into organic and inorganic categories for pickup by separated trucks. Poor families in squatter settlements, unreachable by the garbage trucks, used to throw their garbage in the woods. Now they bring bags of recyclable waste to their neighborhood exchange and receive in return bags of eggs, milk, oranges, and potatoes (bought from outlying farms) or bus tickets.

The recyclable waste goes to a plant (itself built of recycled materials), which employs 100 people to further separate the waste into metal, glass, etc. The workers are all people who need jobs -- the handicapped, recent immigrants, alcoholics. Says Jaime Lerner, "We're not only recycling garbage, but human beings as well."

Recycled materials are sold to local industries. Reusable glass jars go to a cannery to be steam-cleaned and filled with jam. Styrofoam is shredded and used to stuff blankets for the poor. The whole program costs no more than the old one of garbage pick-up and landfill (and trash in the woods) but the city is cleaner, there are many new jobs, and the poor get food and transportation for their trash. Curitiba recycles 2/3 of its garbage, one of the highest rates of any city, North or South.

New buildings in Curitiba are by law limited in height. Builders get a tax advantage if their projects include high percentage of green area. The city has a phone-in hotline to report industrial polluters. In spite of these and other strict environmental laws, Curitiba contains 341 major industries, including Fiat, Pepsi, and Volvo. Hitochi Nakamura, Curitiba's environment secretary says, "Our environmental laws are not slowing industrial development."

Many people have contributed to Curitiba's innovations, but there is no question that its crucial resource has been the vision and inventiveness of Jaime Lerner. Alan Jacobs, professor of city and regional planning at Berkeley, says of Lerner, "He's imaginative and willing to try damn near anything that makes sense, without analyzing it to death. I think it's the best planning and development program in the world. Everybody can learn something from Curitiba." Lerner himself says, "The city is so fascinating, you cannot give up because it is amazing how far you can go. The strategic vision ... leads us to put the first priorities on the child and the environment. For there

is no deeper feeling of solidarity than that of dealing with the citizen of tomorrow, the child, and the environment in which it is going to live."

Lerner carefully divides his time so he can deal with both short-term and long-term concerns. He works on keeping streetlights lit, and buses running on time -- and then he worries about the future. How many residents will there be in 2020? Where will they work? How much trash will they generate? Growth is a problem for Curitiba. There were 21 slums in 1971; now, because of rapid immigration and Brazil's birth rate, there are 209. The city population is projected to rise to 2.7 million by 2020. Lerner says, "Our city isn't a paradise. It has most of the problems of other cities. We haven't got rid of the *favelas*. But when we provide good buses and schools and health clinics, everybody feels respected. And they start to share responsibility for managing their city."

GRONINGEN: A CYCLING CITY

(By David Nicholson-Lord, taken from the January/February issue of *Resurgence*)

Where most cities snarl and roar, Groningen ticks, squeaks, rattles, and (occasionally) rings its bell. This is because in Groningen, the Netherlands' sixth largest city, the bicycle, not the car, is the dominant form of transport. If this is the future, it is easy on the ear-drums.

Fifteen years ago ruinous traffic congestion led Groningen to dig up its city-center motorways in favor of the bicycle, the pedestrian, and the ideal of a "compact city."

"This is not an environmental program," says Gerrit van Werven, one of the architects of the cycling policy. "It is an economic program. We are boosting jobs and business. In this city it has been proved that planning for the bicycle is cheaper than planning for the car."

Groningen, a city of 170,000, has the highest level of bicycle use in the West. Fifty-seven percent of its inhabitants travel by bicycle -- compared with four percent in the UK.

Since September 1977 -- when a six-lane motorway intersection in the city's historic center was replaced by greenery, pedestrian streets, cycle and bus lanes, and a zoning system that outlawed through traffic -- the city has staged a remarkable recovery. Rents are said to be among the highest in Holland, the outflow of population has been reversed, and businesses, formerly in revolt against the bicycle-favoring policies, are clamoring for more traffic restraint.

A vital threshold has also been crossed. Through sheer weight of numbers, the bicycle lays down the rules, slowing down traffic, coloring the attitudes of drivers. According to Mr. van Werven, this demonstrates the "important law that the more cycling there is, the safer it becomes."

Cycling in Groningen is viewed as part of an integral urban renewal, planning, and transport strategy. Bicycle-friendly devices -- separate cycle-ways, advanced stop lines at traffic lights -- are routine. New buildings must provide cycle garages. There are tens of thousands of parking spaces for bikes, either in "guarded" parks -- the central railway station has room for over 3,000 -- or street racks. Under the City Hall a nuclear shelter has been turned into a bike park.

A half-hour ride around the city shows roads being narrowed or closed to traffic, cycleways under construction, new housing to which the only direct access is by bicycle. Out-of-town shopping centers are banned. The aim is to force cars to take long detours, but to provide a "fine-mesh" network for cycles, giving them easy access to the city center.

"We don't want a good system for bicycles, we want a perfect system," says Mr. van Werven. "We want a system for bicycles that is like the German autobahn for cars. We don't ride bicycles because we are poor. We ride them because it is fun, it is faster, it is convenient."

Groningen's 10-year bicycle investment program is costing £20 million, yet an independent survey concluded that every commuter car it keeps off the road saves at least £170 a year in "hidden" costs such as noise, pollution, parking, traffic congestion, and health.

The next step is the elimination of all cars, except those belonging to residents, from the city center, an area one kilometer square. This plan will not be finished until the first decade of the next century, but Mr. van Werven believes it will set a pattern for other cities to follow. "It's a little like surfing," he adds. "You have to be on the first wave."

SINGAPORE: A CITY DETERMINED TO BE GREEN

(Singapore is one of the most controlled, disciplined, admired, and sometimes criticized cities in the world -- criticized partly because of its relentless commercialism and partly because of its absolute, though often beneficent, dictatorship. Singapore has been a model of economic development and population control, but not, until recently, of environmental awareness. The city's water comes by pipeline from Malaysia, its food comes largely from Indonesia, its oil comes from Indonesia and Brunei, and its air and water pollution have mostly been released downwind and downstream.

But when Singapore decides to do something, it does it, with no nonsense. The following article from the InterPress Service is by Kunda Dixit (and was brought to our attention by **Alan AtKisson**). It is copyrighted by the InterPress Third World News Agency and may not be reproduced, reprinted or posted to any system or service without specific permission from IPS -- which has been received for this issue of the *Balaton Bulletin*.)

SINGAPORE, Apr 14 (IPS) - Having attained Asia's second highest living standard, the tiny city state of Singapore now wants to set an example by turning itself into the world's most environment-friendly country by the year 2000.

Singapore is already Asia's cleanest city. Its air quality is better than in most advanced nations, its rivers and lakes teem with fish, and the average Singaporean lives to a ripe age of 76.

Much of this has been achieved with carefully-planned public campaigns used as an instrument for social engineering, such as a 1970s program to turn Singapore into a 'Garden City.' Today, Singapore keeps itself spic and span with strict controls on vehicles and industries and an array of stiff fines for everything from littering to not flushing toilets.

To become a model green city by the year 2000, Singaporean officials are using a massive education campaign to make the island republic's citizens environmentally conscious and to minimise waste of resources and energy. "We are fortunate that we started our environment protection programs early, but we cannot afford to slacken our efforts," Singaporean environment minister Abdullah Tarmugi told journalists at a conference on urbanisation here this week.

Despite the fines, Tarmugi said, "Social habits like littering still persist. Stricter penalties cannot be the solution in the long-term."

Since the 1960s, Singapore's public health and environment campaigns have often been launched on a war-like footing and are named like military operations: 'Keep Singapore Mosquito Free' and 'The Clean Public Toilet Campaign'. "While foreigners may be cynical about our fines on not flushing toilets or on chewing gum, it is true that public campaigns with punitive action and rewards have been highly effective," says Victor Savage of the Singapore National University.

A media blitz coordinated with an education campaign in primary and grade schools have proved to be very potent tools for social engineering. Says Savage: "The government has felt that one of the best ways of bringing home the message to the

family is by the way of its children. Children listen to parents, but in Singapore the parents have also to listen to their children."

Singaporean officials now want to take the green campaign one notch higher by not only addressing issues like recycling, and noise pollution but also problems of wasteful consumerism.

"In our goal to make Singapore a model green city by the year 2000, we have to address the more fundamental issues of consumption habits and the values tie to a material society," said Tarmugi. "Unfortunately, the symbols of quality of life in Singapore are too often associated with material goods."

Older Singaporeans, who remember when the city was a colonial backwater with endemic tuberculosis and malaria, shake their heads at a younger spendthrift generation that they say has taken affluence for granted. At a convent school in Singapore, the principal shows a cabinet full of watches, wallets and other valuables that were lost by students who never came to collect them.

"By the 1980s, we had the basic infrastructure in place," says Yeo Boon Leng, chief engineer of strategic planning and research at the environment ministry. "But new global issues are beginning to impact on us." Yeo sees several worrying trends: consumption and waste generation are soaring as incomes rise. And despite taxes that make cars in Singapore the most expensive in the world, the city's number of vehicles is rising.

The Singapore masterplan for the year 2000 calls for reducing carbon dioxide emissions, improve energy efficiency and keeping garbage production at one kg per person per day. Singapore also wants to be a hub for green technologies for the Asia-Pacific region and eventually become an exporter of environment-friendly products.

Despite its small size, the 620 sq km island republic is setting aside five percent of its land area for 19 nature reserves linked by nature corridors.

Critics of the Singapore plan, while applauding the moves to curb consumption, say the country is so microscopic that whatever is done here will have minimal impact regionally. They say Singapore needs to look beyond its borders at the rampant destruction of rainforests in neighbouring eastern Malaysian states of Sarawak and Sabah and in Indonesia. Singapore is a major transshipment point for timber exports and for toxic wastes from industrialised nations, bound for other countries in the region.

Conservationists are also worried that the government's actions go against its green rhetoric. The government has decided to give permission to build a golf course that encroaches on a lake used by migratory birds.

A new breed of the 'Ugly Singaporean' also seems to have evolved -- Singaporeans who feel so restricted by rules at home that they go on a littering rampage the minute they cross over into Malaysia.

TRAIN STATISTICS

(Taken from a WorldWatch booklet, "Back on Track: The Global Rail Revival," by Marcia D. Lowe, April 1994)

U.S. citizens travel 228 km by road for every km they travel by rail. Canadians travel 75 road km for every rail km. The ratio is 14 for Britain, 8 for France, 2 for Japan, and 0.1 for the former Soviet Union.

An intercity passenger train is three times as energy efficient per passenger-mile as commercial air transport, and six times as efficient as a car with one occupant.

For every ton of goods shipped by rail rather than truck, NOx emissions are cut by 67 percent; carbon monoxide, volatile organics, and particulates are cut by 90 percent; and carbon dioxide is cut by 88 percent.

Two railroad tracks can carry as many people per hour as 16 highway lanes.

A single large airport occupies as much land as 500 km of the French high-speed rail system.

The Japanese bullet trains have carried over 3 billion passenger trips without a single fatal accident. The same amount of travel on Japanese highways would have killed 2000 people.

In the United States the per-km risk of dying in an automobile accident is 18 times higher than the risk of dying in a train accident. In the Netherlands and Germany the ratio is 29 times. In France it's 80 times.

In fiscal year 1994 the U.S. government will spend \$20.3 billion on highways and only \$1 billion on rail transport. European countries spend roughly 3 times as much on roads as on rail -- an average of 1-1.5% of GDP for rail, as opposed to 0.04-0.07% of GDP in the U.S.

Rail travel is government-subsidized in every country, but car travel has even greater subsidies. The direct subsidy to U.S. drivers (in highway funds not obtained from the gas tax) is \$32 billion; the indirect subsidy (in costs of policing, traffic control, air pollution, etc.) is estimated at \$300-\$600 billion per year. Per kilometer of travel the unpaid social costs of cars in Germany is twice that of airplanes, and seven times that of trains.

Improving and electrifying the track between Boston and New York could displace 50 flights per day and eliminate the need for a controversial second Boston airport. The rail improvements, including new high-speed trains, would cost \$1.3 billion. The new airport would cost \$5 to \$10 billion.

When carrying the same load at the same speed, trains produce 25-50 percent less noise than road transport.

Eastern Europe and the former Soviet Union contain more than half the world's light rail and tramway systems. The former Soviet Union has the world's second longest intercity track mileage (second to the United States).

China transports 80 percent of her inland freight and 56 percent of her intercity passenger trips by rail -- the highest ratios of any country. In India the percentage of goods transported by rail has fallen from 89 in 1950 to 51 in 1992.

Light rail (trolley, tram) costs \$10-\$15 million per km to install. Surface metro costs \$30-\$50 million per km. Underground subway costs \$100-\$150 million per km.

High-speed rail uses 2 to 4 times as much energy per km as regular rail.

One 40-ton truck causes as much wear and tear on a road as 9600 cars.

STATISTICS OF A POOR NEIGHBORHOOD IN A RICH CITY

(In a recent issue about food access in American cities, the Chicago-based magazine *The Neighborhood Works* published the following statistics, collected from the Phillips neighborhood in Minneapolis, Minnesota. Phillips is the largest neighborhood in Minneapolis, one of the most ethnically diverse, and one of the poorest. The findings from this study, and many others, show that the modern food system does not funnel food easily into poor neighborhoods. Shopping malls don't exist there. People don't have cars. Big supermarket chains are uninterested in the inner-city market. So residents end up with less access to food, and poorer quality food, for which they pay higher prices, than higher-income people elsewhere.)

Population of Phillips: 17,247
Total neighborhood income: \$114 million

<u>race</u>	<u>population</u>	<u>% of population</u>	<u>% of total income</u>
White	7,759	49%	67%
Native American	4,148	24%	11%
African-American	3,677	21%	14%
Asian	1,406	8%	5%
Hispanic	667	4%	3%

(census double-counts some categories)

Number of households: 6,465
Single-parent households: 1,569 (24%)

Average annual income per person: \$6,610
per household: \$17,633

Percentage of houses owning a vehicle: 54%

There is no light rail, tram, or train service.

Buses follow only major arteries and are geared to rush hour traffic to downtown, not to traffic within the neighborhood.

Number of people employed within neighborhood boundaries: 15,000
Number of neighborhood residents working in neighborhood: 1,000
Number of neighborhood residents holding jobs anywhere: 5,356

Food establishments in Phillips:

supermarkets	1
smaller food stores	12
food coops	0
farmers markets	0
cafes	13
fast food places	8
bars serving food	2
bakeries	2
community gardens	5 (producing about \$5000 worth of food per year)
free meal programs	10

Distance to nearest farmers market: 3 miles

Distance to nearest farm: 10 miles

total annual neighborhood expenditure for food: \$20 million
average household expenditure for food: \$258/month
number of households using food stamps: 3,864 (60%)

average monthly allocation for food stamps, per household: \$141
number of meals given out at free meal programs: 131,000/year

IMPRESSIONS OF INDIA **by Bert de Vries**

Travelling east

Land is still the basis of Indian life: agriculture and land ownership structure the existence of the 600 million people who inhabit the 500,000-odd villages across the Indian subcontinent.

Leaving Delhi for a 24-hour train trip to the district of Palamau in Bihar, one enters the vast and old scenery of Uttar Pradesh, or UP as the Indians say. At the end of the rainy season, in March, the horizon is filled with lush green colours against a background of brown, imminent desert. Irrigation allows this miracle. It is done inefficiently but at low investment: just let the water run across the fields. Everywhere are small irrigation pumps, and I'm told that the groundwater is rapidly being depleted.

This is part of the Green Revolution, one step in the race of human ingenuity against environmental limits. It enabled an almost fourfold rise in the production of foodgrains since 1950. Per capita food availability in India has risen 30% since 1950, 15% since 1973 when I travelled in India for a couple of months. To me there is no doubt: there is distinctly less poverty, less misery around than 20 years ago -- a great achievement for this large, democratic and largely war-free country.

Agra, Kanpur, Allahabad. Small villages present themselves, like a stage in a play to be seen from the open door of a train wagon by this passing traveller. Women and girls carry bundled pieces of wood or water cans. A barber is doing his job next to two mechanics who attempt to repair a motorcycle with a hammer. Two boys try to cross a greenish-brown pool in a leaking rowboat. The architecture of the houses reflects the web of social relations, as a protective -- but, I'm told to remember, also oppressive -- veil.

Varanasi - during the night there are only the sounds of steps, shadows walking in the dark. It is four o'clock in the morning when we arrive in Daltonganj.

Daltonganj is a town in southern Bihar. Bihar means 'Garden.' Here Buddhism originated. Daltonganj is the capital of the district of Palamau, one of the poorest regions in India. When we arrive, the first rays of sunlight fall upon the sleeping bodies on the station's platforms, stairways and hall. Silence and darkness slowly make place for noise and light. A few hours later, a brownish smoke veils the skyline: breakfast is being prepared, mostly with coal as fuelwood becomes more difficult to

get. The streets become crowded with people, rikshas, scooters, squeezing around each other on the bumpy roads. Dozens of small shops open their curtains and windows, and the smells of vegetables and fruits mix with those of gasoline and lubricants. A priest has started to recite *puja*, helped by modern technology in the form of a large speaker. He sings throughout the night and the next morning -- is it still the same priest or do we just imagine that the voice is quivering now and then? The next day Muslim prayers take over from the nearby mosque.

When the twilight falls, quite suddenly to a person from the north, a metamorphosis takes place. I was told that central electricity is supplied only two hours a day in Daltonganj, and I had pondered on the consequences: computers, refrigerators? But now I realize that those two hours, between 6 and 8 pm, help people make the transition to the darkness. Even during these two hours, there are blackouts -- but one gets used to it. Why this shortage, which is estimated for all India in the order of 10-20%? It appears that the coal and steel industries are the first to get power and what's left is distributed to the towns and villages. Another reason is that the State Electricity Board causes a large deficit in the state budget, which in turn is partly the result of high subsidies on electric power for agriculture.

TARU fieldwork

The people from The Action Research Unit, TARU, are here to do fieldwork for six months, constructing a unique map of both physical and human resources. They use satellite data for the physical resource base and overlay this information with locally obtained data. Some 60 villages are thoroughly mapped in hydrological, ecological and socio-economic terms. TARU's dedicated and intelligent people come close to the ideal for anyone who is committed to spend "development aid" money properly -- which they themselves may dislike, though, as it easily may lead to dependence and complacency.

The visit to the TARU office, a rented apartment with a generator to run the computers and the newly brought-in digitizer, starts with a plethora of information. I prepare myself for a the usual confrontation when travelling: how to be open to all those visual and verbal impressions, yet preserve some kind of an ordered mental picture.

The district of Palamau is recently victim to severe drought. Thirty percent of the people live on -- and from -- five percent of the land. Caste still dominates the social scene, although there have been relocations in relative ranking and coalition-forming. This region is also one of the last resorts of the Naxalites, the strongest leftist movement in India. The Naxalites control one third of the land and use the remaining forests as shelter. In exchange for certain rights and privileges, they demand part of the food produced. The leaders, it is said, still operate from a vision, but in the lower ranks it is replaced by macho dynamics. There are still significant numbers of tribal

people in Palamau. They live mostly from forest produce. Some have become agricultural workers under the influence of Christian missionaries.

This part of Bihar is on the eastern outskirts of the great Gondwana coal belt. To the west is Singrauli, a giant World Bank-supported openpit coal mining area. Coal is used mostly to generate electric power. Long trains loaded with coal can be seen in the stations, and coal is stolen from the wagons along the track. In 1950 some 45% of the region was covered by forests. This has been reduced to somewhat over 30%, mostly due to commercial logging. The *zamindars*, the middlemen installed by the British, sold large amounts of teak after Independence. Pressure from landless people appears to be less important to deforestation; they use the forests mostly for fuelwood.

The evening, with candlelight, beer, rum and cigarettes, brought philosophical and political discussions, which may be full of non-productive intelligence and over-healthy skepticism but are nevertheless a delight to me. Two elements I vividly remember. All TARU workers agree that it is not environmental constraints but social organisation that cause poverty and famine. The potential [food] productivity of this region is quite above the actual. The aim is to increase people's capability to use a larger fraction of the potential, through changes in land-ownership and through behavioural changes (aspiration level, time-horizon, cooperatives).

This brought up a second question: is it laziness or wisdom when people do not strive for "development"? Once again the story came up of the Indian farmer and the Western development worker. "If you work harder, you get more harvest." "For what purpose?" "You can sell it in the marketplace!" "Why?" "To earn more money and buy land and...become rich!" "And then, when I'm rich?" "You can go on holiday and sit down in the sun and..." "That's what I'm doing already..." I heard the same story about a Mexican orange seller and an American businessman.

In his recent book, *The Third Revolution* (Penguin, 1992), Paul Harrison brilliantly summarizes the theory of Boserup and Wilkinson: progress comes out of poverty, which in turn is caused by overpopulation. Hunter-gatherers spent ten times less effort in getting a better diet than in low-input agriculture. Similarly, the industrial revolution was caused or at least spurred by the wood shortage all over Europe. To me it is a quite compelling ecological truth that a community tends to grow up to its environmental limits and, once it is there, it has to adapt by way of equilibrating mechanisms or to innovate by expanding the limits. Equilibrating mechanisms, like late age of marriage as in medieval Europe, or ritual war as among certain tribes (and nations), can help sustain a community, but they are delicate and vulnerable to outside forces. They may also involve oppression of the individual. Expanding the limits is often an easier way, and the pioneers, the emigrants, the entrepreneurs express the community's need for change. Often, these will be the young ones because they may

sense that the wise laziness of the old will not serve them for long. These young ones may be risk-takers, blinded, rude, misguided -- that's part of the story I guess.

I was told that Western advice led to the building of dikes around cities along the Ganga-river in north Bihar. This in turn aggravated flooding: the same amount of water but less land to flood. So the dikes were raised. As a result millions of people now live in a precarious situation. Being a Dutchman and with only my child-plays-on-the-beach understanding of floods, I wondered why Dutch cities are not in this precarious situation.

So much for this never-ending piece of philosophy.

The villages

One day we went to some villages south-east of Daltonganj. The green colours of irrigated lands with rice and wheat slowly disappeared. Vast stretches of land are almost completely eroded. It is hard to believe that less than 30 years ago this was still forest. Most farmers here are marginalized, of lower caste, pushed onto lands where they have to survive on lentils, maize, sugarcane. March marks the beginning of the dry period and June will be the most difficult time for them : the rains will start but the crops cannot yet be harvested.

In the midst of the eroded lands, a few trees are left from which one can guess the erosion. The land surrounding the trees is at least three feet lower. The trees are left because the place is considered sacred. We walk from one part of the village to another, passing by a school. Inside four girls and seven boys are silently sitting on the floor, waiting for their teacher. There are two teachers for the village; many children have to work. The school consists of a brick-concrete building with two completely empty rooms. On the other side of the school-building I see five or six large heaps of red, dusty soil. I ask, for confirmation, whether there are termites here. Well, this was more than just a mistake because it reminded me of how I see only what I can see... The TARU people explained that these heaps are used for proof of soil loss.

In most villages is at least one drinking-water pump -- one of the successful "development projects," based on well-sealed, Indian-designed simple pumpsets. Slowly, I start to appreciate some of the obstacles to "development" in this region. The villagers prefer walking a bit further for fuelwood to planting trees. There is not much confidence in cooperative undertakings. It will take a woman 2-3 days for 20-40 kg of fuelwood which will satisfy the needs of a 6-person family for 2-3 days... Most farmers don't see the opportunities of the market place. Many government wells are unused. Irrigation is done with a wooden-pole construction to lift the water by hand or animal power. There is not yet a serious groundwater problem -- it's just that after a drought the recharge of groundwater takes longer than it used to.

Nearby, we visit one of the 100 large irrigation schemes. It is based on electric pumps with a diesel-standby, lifting riverwater to elevated lands and villages. This one, like the others, is not functioning. Electric power supply was unreliable or absent, electromotors are difficult to repair, the diesel engine is rusting away. I know that this example would strengthen the views of right-wing business people in the Netherlands who argue that aid is throwing money away (unless they happen to be the ones who deliver it). I feel frustrated, the more so when I sometimes sense not only resignation but almost satisfaction at yet another example of failure. It reminds me of the Marxian concept of "Verelendung" -- can it be that only failures will teach people to take their own responsibility with their own ideas, tools, powers?

Corruption takes many forms. Apparently a ubiquitous one is to be paid by the government for construction work, often as part of a program with a lofty name like Water For The Poor, and then use inferior design, materials etc. In Bihar the present government has forced out the large contractors -- orders are now given to "a local crook" who takes 10% but is at least less anonymous. One starts to understand a poor villager who responds, on being asked where the new dam should be built, that he doesn't care as long as he can get employed and earn some money. The key thing about the large flows of money from the central government is to get your share. Such a tapping-off economy (of government money, of coal, of water, of electricity) is, I guess, the entrepreneurial version of what Lord Keynes had in mind. It's not fair, it's not effective, it's not sustainable, but apparently it's a quite "natural" way of allocating anything that is not visibly private property. In my view, Western democracies increasingly tend to operate along similar principles.

The National Park

Thanks to a friend of one of the TARU workers, we had the opportunity to stay one night and one morning in the National Park south of Daltonganj. After a beautiful sunset, the darkness of the forest falls upon us and I enjoy the bright sky full of stars. The forester's campsite has its own generator, partly run on biomass, a kind of weed called lantana. At sunrise we walk through beautiful forests full of tall bamboo. I'm surprised: it is autumn here, the trees shed their leaves in preparation for the tough dry season.

In two jeeps we cross through the jungle. Here, too, the forest is threatened. The inner part is protected, the outer part is degrading: fuelwood gathering, tree cutting for timber. A contractor pays, Rs. 20 for each of the 12 labourers involved and they pay Rs. 5 each to the policeman who catches them. Yet, should the tribal people not be allowed to manage themselves what used to be their source of sustenance? Unfortunately, they -- like everybody else -- can't hide anymore from the outside world, with its cash payment for timber, fruits, nuts, butterflies.

This National Park is renowned for its tigers and elephants. Some 40 tigers are left; the elephants are in trouble because the corridors through which they move are closing in, and if they run into villages they are awfully mal-treated. Yet, it is a great trip for me. Of course, I have my disappointments: the wolves are dogs, the panther a cat, the tigers hiding. On the return trip we have tea in a small eating-place. The village children are watching television: Donald Duck. When the Duck family scene ends, a lady announces a program on the illustrious music of Southern India. "Switch it off," and within a minute all the children are gone.

The next morning we leave Daltonganj, heading east again to Calcutta. I had never visited Calcutta before. Often it is described as the ultimate in Asian drama. I will only recall our brief visit to the garbage recycling. In the distance I see tens of people moving around in a giant garbage pile. To the right are large, black, smoking rectangles: here the non-usable garbage is converted into a kind of fertilizer. Part of the sewage water is led to large ponds where it is food for fish -- ponds that may disappear because of urban expansion. Here, everything is thoroughly ecological: a city as one giant organism and we are now looking at intestines, kidneys, feces. People helping the degradation -- like bacteria.

Traffic - a reflection of culture ?

Travelling by car in India is quite an experience -- let me say a few words about it by way of closure. In rural areas cars, trucks and buses are driven in a macho and terrorizing way -- and the driver of the car rented by the TARU workers made no exception. Using mass, speed, and the horn as the main weapons, vehicles try to establish their superiority over older means of transport. I saw an old man jump aside when our car rushed beside him at a distance of about one foot. Several times we startled a shepherd out of his sleepy mood and made him chase after his animals. In fact, vehicles face only one obstacle: nature, in the form of big bumps in the road and, during the rainy season, large drowned areas. Indian drivers appear to have more patience with cows, buffalos and elephants than with people; sheep and goats are lower in rank.

In the city I can draw from a broader experience, as we had at least ten different taxi-drivers. In Delhi I was driven around by an old Sikh who still upheld a non-developed time-concept. "Everyone in a hurry now," he answered when I told him I would like to be back within an hour. While I did some shopping, he waited for me more than half an hour. "No problem," he nodded when I asked about how long he would wait. "Only when it is two or three hours." His driving was of an old, shrewd animal, pushing here, pushing there, switching off the engine in front of a red light or amidst a total jam, performing a kind of traffic anarchism which came close to an art.

During my few trips with him I induced that at least one law in India is enforced: most scooter-drivers wear helmets. Later on, **Aromar** explained that only the driver is

obliged to wear a helmet, not the one, two, or three passengers who are most vulnerable in case of an accident.

On my trip to the airport I happened to have another Sikh driver, young, with fierce-looking eyes. All his energy went into the accelerator, which meant that we had within ten minutes some acknowledged enemies alongside our car. Overtaking from the left, overtaking from the right, he was using his headlights to express his temper because his horn showed signs of exhaustion. This, in turn, helped me to read the large text on the backside of the trucks: "PLEASE HORN." We almost crashed because of two elephants without backlights on the motorway. The car behind us set out for retaliation. It's quite a relief to arrive after such a trip for a flight with the "safest and most reliable airline in the world." I wondered whether it was all my fault: after all, I left rather late for the airport and Aro might have told him to speed up. But when he tried to charge me three times the normal fare, I felt back to normal.

In the spirit of **Michael Thompson's** four cultural paradigms, I should add that I also had a ride with a fatalist. Obviously, this man had not much experience nor ambition as a driver. We were bumped this way, bumped that way. Advocates of participatory research could benefit from this experience when teaching about Brownian motion. It also is one of those experiences in which you are almost forced into a religious outlook on life.

Since 1950 the number of motor vehicles in India has increased almost 80-fold, road length about 5-fold. India has still only 1 motor vehicle for every 40 inhabitants. Air pollution from traffic has led Delhi within a few years to the top three of most polluted cities. After we had driven around in Calcutta, for several days my handkerchief got black spots when I blew my nose. Every year some 40.000 people are killed in traffic accidents in India, some 250.000 people injured. At this stage one can already discern the contours of the system to emerge when many more million scooters, cars, trucks and buses will enter the system -- and how inaccurately the growth of Gross National Product reflects the real changes behind it.

PAKISTAN'S SUSTAINABLE DEVELOPMENT POLICY INSTITUTE

(The following article is excerpted from the January 12, 1994 *Chronicle of Higher Education*.)

Several young Pakistani scholars, most of them foreign-trained and employed in academic posts overseas, have returned to their homeland to establish the country's first independent think-tank.

In its first year the Sustainable Development Policy Institute has begun research on a wide range of subjects important to Pakistan. All of them are in some way connected to the environment, development, and social justice -- the three areas of most concern to the institute's founders.

Among other things, the institute is involved in a project to establish a private university for the social sciences and humanities in Islamabad. In conjunction with the new institution, to be called Khaldunia University, the institute plans to offer a two-year multi-disciplinary master's degree program in environmental studies.

Tariq Banuri, a Harvard-trained economist, established the institute a year ago. Banuri says he is one among many Pakistanis now in their 40s who, after being educated overseas and spending many years working abroad, have decided to return to their homeland. Why now? "Intellectually," he says, "the place is more alive now than 10 or 15 years ago."

The institute is located on a quiet street in a residential part of the capital, where a small sign bears the letters SDPI. The two floors of the spacious house have been divided into small, open cubicles with computers on every desk. Most of the research assistants working in the cubicles are young women, and most were educated abroad, many in the United States.

One young intern, Ayesha Rahman-Khan, a senior at Mount Holyoke College, describes herself as part of a new generation. "We're not like our parents," she says. "We're beyond postcolonialism. We represent a new synthesis. We can pick and choose from ideas of the North and the South for ourselves, and for the future of our country, in an international, global atmosphere."

Nausheen Farrukh, a research assistant, says it is the institute's policy "to hire young people, with fresh minds." Ms. Farrukh, who studied at Harvard University, describes the institute's work style as unique in Pakistan. "Here we're allowed to initiate our own projects. The atmosphere is informal and non-hierarchical."

"As young women, we wouldn't get these opportunities anywhere else in Pakistan," says Sadaf Alam, who studied at the London School of Economics.

Tariq Banuri cites population research as an example. At the international and national levels, Pakistan -- which has the highest growth rate in Asia -- is considered to have a population problem. But this is not recognized at the level of the family and local community. "Much of the emphasis on addressing this problem has been on technological and financial means," he says. "The social and political aspects, which have been neglected, are our interests."

Centralized bureaucratic programs to control population growth have not been effective, he adds. "We think of collective decision making as the entry point to working on these problems."

The institute came into being originally to do research to help the country put into effect its national conservation strategy. However, a long-term objective is to build an institution that can participate in the global debate on fundamental issues in the social sciences. "Sociological and economic theories are being challenged because of the globalization of problems and the inadequacy of existing explanations, says Iftikhar Ahmad, a research fellow.

BOOK REVIEW: FAIR TRADE **by Liz Krahmer**

Michael Barrett Brown, *Fair Trade: Reform and Realities in the International Trading System*, Zed Books, London & New Jersey, 1993.

Michael Barrett Brown, the Chair of the Third World Information Network (TWIN) and Twin Trading Ltd., has written a highly readable 225-page book covering the current inequitable international trade regime and efforts to create more balanced commerce. His book reflects his commitment to promoting fair trading links between the North and South and his experiences with alternative trade organizations (ATOs), such as TWIN, that purchase products from small-scale cooperatives and producers' associations in the South using principles of equal exchange and sustainable development.

The book is divided into two sections. Part One outlines the history of trade and how the slave trade, colonial rule and capitalism contributed to the current division of labor, food and other world resources. Brown provides useful tables and clear descriptions to explain the casino-like commodity markets as well as the commodity trap -- the low prices received by producers of primary commodities. He outlines the relative strength of the multinationals, middlemen and banks as compared to the primary producers and consumers.

The second half of the book is devoted to methods of "making trade fairer." Brown covers the failure of commodity agreements, aid and external debt to improve the GDP and standard of living of people in the South. He presents an interesting chapter on centrally planned trade that looks at COMECON and the "Little Dragons" of Asia. He suggests that the reason for the success of the Asian countries was their willingness to become more democratic and economically accountable. They relaxed their rigid central planning and emphasized international trade after an initial period of industrialization, in contrast to the COMECON nations that continued to rely on tight

currency controls and extensive production subsidies, thereby generating low productivity and price distortions.

The book then turns to centralized planning used by corporations and governments in the First World. The Common Agricultural Policy (CAP) is shown as a planning measure that has been effective in ensuring food self-sufficiency in Western Europe and protection against imports, while paying EU farmers sustained high prices. While criticizing the use of transfer pricing and advertising, he credits multinational corporations with developing more open, flexible and participative forms of planning that could serve as a model for others.

The final chapters are devoted to alternative trade systems. The benefits of “countertrade” -- international bartering of goods -- for countries with limited foreign reserves or poor access to international debt are explained. The book also recognizes a drawback to countertrade -- that the value of imported and exported goods must equal. An overlooked practice of using warehoused primary commodities as collateral for trade loans is also recommended.

The creation of a “trade clearing union” is highlighted. This concept, originally forwarded by Dr. Andreas Goseco of the FAO in 1964, would offer a payment mechanism among developing countries. Licensed brokers in a central location would receive orders and sales offerings for various goods and services. Once a match was made, the broker would transfer title of the goods. The titles could develop into a form of commodity credit note or currency that could be actively traded in lieu of gold or hard currency. A system developed today could utilize a large-capacity computer and electronic bulletin boards to link buyers and sellers. Each subscribing member country would need to provide some credit lines to other subscribers so that imports could occasionally exceed exports and vice versa.

Alternative trade organizations (ATOs) can also promote fairer trade. Usually operated by non-government organizations, ATOs generally develop trade links with small producers in the Third World. The ATOs offer tools, technical training and credit to enhance production and then market the output via mail order catalogs and speciality stores in the First World. The ATOs provide Third World producers with business services and a greater share of the profits (cutting out the middlemen and bankers) while simultaneously educating First World consumers about fair trade and sustainable development. ATOs are now forming networks, such as the International Federation of Alternative Trade (IFAT). In addition to working with other movements like green consumerism, ATO networks are establishing:

- 1) A Fair Trade Mark: This badge would be awarded to products that are made or grown in the Third World with processes that are labor intensive, healthy, respect human rights, and contain high local value added. The

goods manufactured by small producers and cooperatives or minorities or other oppressed peoples would be favored. Buyers would promise to pay a fair price, offer financial credit and commit to guaranteed purchases over several years.

2) Consumer and Producer Unions: Elected authorities (unions) would be formed at local, national, regional and international levels to respond to local initiatives. These community-based groups would become the building blocks for a decentralized political and economic order and allow for greater accountability to people. Economic enterprises could be developed in a variety of forms -- social and individual, public and private, cooperative and competing.

Brown concludes his book with the following comment:

Human capacities are so much greater than we ever allow for, and the aim must be to encourage them to develop to the full... Such a fulfillment of human capacities has to be the ultimate objective of a new economic order, and all our attempts to establish fairer trade relations between the peoples of the First and Third Worlds have to be judged against our success in achieving this wider purpose... We cannot now foresee what the new structures will be, but we can be sure that they will only be of lasting value, if they are both ecologically sustainable and able to offer a fair share of the resources of the earth to all its inhabitants.

ANNOUNCEMENTS

City Conferences

The European Conference on Sustainable Cities & Towns will be held in Aalborg, Denmark, May 24-27, 1994. Jointly sponsored by the European Union and the City of Aalborg, and administered by the International Environmental Agency for Local Governments. The participants will discuss and adopt a Charter of European Sustainable Cities and Towns, which will launch a Campaign that will invite all European cities and towns to develop local action plans. More than 50 workshops will guide participants through discussion and learning processes.

For more information contact the ICLEI European Secretariat, Aalborg Conference Team, Eschholzstrasse 86, D-79115, Freiburg, Germany. Tel 49-761-3689220, Fax 49-761-36260.

Global Forum '94 -- Cities and Sustainable Development. 24 June to 3 July in Manchester, England. This massive event expects 15,000 delegates and representatives

from at least 50 cities (acceptances already include: Surabaya, Kathmandu, Krakow, Colombo, Berlin, Dhaka, Nairobi, Rio de Janeiro, Barcelona, Bombay, Mexico City, Dakar, St. Petersburg, The Hague, and many others). Speakers will include Anil Agarwal, Anita Roddick (founder of The Body Shop), Maneka Gandhi, and Maurice Strong. Full registration costs £60 for 10 days.

For information contact Events Manager Sarah Adams at the Global Forum Secretariat, Churchgate House, 56 Oxford Street, Manchester M1 6EU, England. Phone 44-61-236 0868. Fax 44-61-234 3743. Email gf94@gn.apc.org

The Commission on Sustainable Development and HABITAT II

Human settlements reaches the agenda of this year's meeting of the Commission on Sustainable Development (set up as a response to UNCED), and countries will be expected to illustrate how they have begun to implement the recommendations of Chapter 7 of Agenda 21.

That chapter identified the problems of increasing migration to the world's urban centres and the resulting symptoms of pollution, poor sanitation, consequent ill health and poverty, as well as the potential impacts of urban sprawl onto neighbouring agricultural land or geographically unsound zones.

Recommendations to combat the problematic aspects of human habitation -- particularly in developing countries where they are most intense -- included locally designed energy efficient construction and transport programmes; support for the informal economic sector; improvement of rural living conditions and the development of medium sized cities that create employment and housing.

These issues have been discussed before however and will continue to be so. The first United Nations Conference on Human Settlements, HABITAT I, took place in 1976 in Vancouver, Canada. The Global Strategy for Shelter to the Year 2000 was adopted by the United Nations General Assembly in 1988. And this year, the preparatory process will get underway for HABITAT II, the second UN conference, which is being held in Istanbul, Turkey, from 3-14 June 1996 .

The themes of that conference are: 'Sustainable Human Settlements in an Urbanizing World ' and 'Adequate Shelter for All'. It will review the implementation of the recommendations given by previous conferences and the Global Strategy.

The Habitat International Coalition, an international NGO based in the Netherlands, has issued a briefing note about the HABITAT II conference and what can be expected. It warns: "The situation of human settlements the world over has deteriorated during the last two decades. The number of poor and homeless people has increased dramatically. Adopting more solemn resolutions in itself will not help. In view of the

experience of the last years its is also unrealistic to believe that enough international resources will be mobilised the solve the problems."

HIC points out that the emphasis will be on shifting priorities at a national level and in a similar vein to the preparations for the UN Conference on Environment and Development, non-governmental organizations will be expected to participate widely.

The first Preparatory Committee for Habitat II was held in Geneva from 13-22 April this year. The second session will be held in Nairobi from 26 April to 9 May 1995. Applications for accreditation to the conference and its preparatory process should be addressed to Davinder Lamba, Convenor, HIC Habitat II Task Force, c/o Mazingira Institute, PO Box 14550, Nairobi, Kenya; tel: (254 2) 443219; fax: 444643.

Environmental Education Conferences

International Science Education Conference

Rio Followup in Eger, Hungary, 22-27 August 1994

(Sponsored by the International Council of Scientific Unions, the International Union for Pure and Applied Physics, GIREP, UNESCO, the International Center for Theoretical Physics, in cooperation with the Hungarian Academy of Sciences, Eötvös University, and the Eötvös Physical Society.)

The Earth Summit in Rio de Janeiro has shown that after the ending of the Cold War local and global environmental problems are going to become the central issue for coming generations. The goal of this conference is to build bridges between real facts, environmental emotions, school science, education and democratic responsibility. In the mornings plenary lectures will summarize recent facts and trends. In the afternoons workshops will present and discuss the pedagogical aspects, including student observations, computer simulations, decision-making games, study trips. Exhibitions will be organized as well. The conference starts Monday evening 22 August with an opening reception and concluded Saturday noon.

Eger is a charming Baroque town in northeast Hungary, famous for its red wine, with train and bus connections to Budapest. The participation fee of \$100 USD includes social events and proceedings. Addition costs of accommodation (in double rooms with shower for 5 nights, breakfast and lunch) amount to \$200. Single hotel rooms and more economical dormitory accommodations are also available upon request.

Bert de Vries will be demonstrating the new climate game (developed by him and Dennis Meadows) at this conference.

Contact George Marx, Department of Atomic Physics, Eötvös University, Puskin 5, Budapest, H-1088, phone 36-1-266-7902, fax 36-1-266-0206.

Conference on Environmental Education in Europe

CEEE '94

11-16 October 1994, Latvia

EUROPEAN ENVIRONMENTAL FUTURES

Organized by University of Latvia Ecological Centre, in collaboration with the Faculty of Education of the University of Strathclyde, Scotland, the Noordelijke Hogeschool Leeuwarden, the Netherlands, the Mid Sweden University, Sweden, and the Gaia Educational Centre, Thessaloniki, Greece

A SHORT HISTORY

The CEEE '94 is the fourth conference in a series that started in 1988 in Rome. The second conference was organized in 1990 by the former Jordanhill College, Glasgow and the third one took place in 1992 in the Netherlands organized by the Hogeschool Rotterdam & Omstreken and the Noordelijke Hogeschool Leeuwarden. The CEEE '94 in Latvia is a natural continuation of communication among European countries developed by such tradition which combines efforts on an international level especially bringing in the East European context.

THE RATIONALE

We are extremely dependent on each other economically, politically, socially and ecologically. In order to reach sound development we must work out joint strategies for our common future.

The subtitle of the CEEE '94 "European Environmental Futures" is meant to be a small step toward such a perspective. It may enable futures theory to be applied through environmental education in various types of scenario giving a chance to people for better living and participating in a future society.

We are challenged to develop creative visions for seeking and finding ways towards a predictable future, an alternative future and a desired future.

TARGET GROUPS

- schoolteachers
- teacher trainers
- curriculum developers
- NGOs involved in environmental education

THEMATIC PROGRAMME

The conference will concentrate on various topics and issues in order to realize a role of environmental education in preparing for the future society:

- public awareness and environmental education for changing personal attitudes and practice enabling people to make their own sustainable decisions

- competence and ability of schoolteachers, trainers and curricula developers in tackling complex environmental issues, promoting development of knowledge and understanding, skills and abilities, values and attitudes
- role of NGOs in bridging the gap between non-governmental activities and formal educational settings
- innovation and interactive training through application of learning by doing, simulation and gaming, small group project work, and other teaching/learning methods
- information acquisition and dissemination through networking by means of ground mail and e-mail communication
- environmental education strategies in European countries showing feasible ways to share experience and find governmental support for new research, training and implementation projects in environmental education on the local and international level.

MODE OF THE CONFERENCE WORK

There will be

- keynote addresses
- concurrent topic sessions
- panel discussions
- planned workshops
- spontaneous discussions in mutual interest groups
- poster sessions and exhibitions of information
- training materials, programmes, games and simulations ("take" and "don't take" tables)

CONFERENCE LANGUAGE: English

TIME: October 11, 1994 the first evening introductory party will take place. Departure on October 16, 1994 when optional sight visits and excursions will be suggested.

CONFERENCE VENUE

Hotel "Daina" (30 km from the centre of Riga) situated in the resort city Jurmala.

CONFERENCE FEE (REDUCED): 270 USD

which includes 5 day lodging, all meals, conference papers, refreshments, cultural programme, airport and railway station connections.

The organizers are seeking for funds to cover the participation of East European registrants.

PRELIMINARY REGISTRATION

The conference will be limited to 90-100 participants. The final decision on participation will be made by the Programme Committee in order to have different disciplines and countries represented.

If you are interested, please write to:

CEEE '94
Ecological Centre
University of Latvia
19 Rainis blv. Riga
LV-1586 Latvia

Tel. +371-2-225304 Fax: +371-2-225039
Telex 161172 TEMA SU E-mail: root@ekocentrs.riga.lv

A New Book on Industrial Metabolism

Udo Simonis has sent us a copy of a new book, edited by him and by Robert Ayres, entitled *Industrial Metabolism: Restructuring for Sustainable Development* (United Nations University Press, Tokyo, New York, and Paris, 1994). The book is an outgrowth of several conferences and workshops sponsored by the UNU, IFIAS, and other organizations. It contains papers by many authors including:

- Robert Ayres, "Industrial metabolism: theory and practice"
- Udo Simonis, "Industrial restructuring in industrial countries."
- Rajendra Pachauri, Mala Damodaran, and Himraj Dang, "Industrial restructuring in development countries."
- Peter Allen**, "Evolution, sustainability, and industrial metabolism."
- William Stigliani and Stefan Anderberg, "Industrial metabolism at the regional level: the Rhine Basin."
- Paul Brunner, Hans Daxbeck, and Peter Baccini, "Industrial metabolism at the regional and local level: a case study on a Swiss region."
- Marina Fischer-Kowalski, Helmut Haberl, and Harald Payer, "A plethora of paradigms: outlining an information system on physical exchanges between the economy and nature."

NEWS FROM THE MEMBERS

Alan AtKisson has started a "big writing project," about which he remains somewhat secretive, even to himself. He is also doing little writing projects, including magazine articles, poems, and -- Balaton members will be glad to hear -- songs. "The flow is on," says Alan.

"I'm chairing Sustainable Seattle's new Policy and Planning Task Force, which is to monitor and interact with selected policy-making entities. We're targeting the UN Council for Sustainable Development, the US President's Council for Sustainable Development, and local growth management policies, using a soon-to-be-developed checklist for 'sustainability impact assessment.' Suggestions or ideas welcome."

* * *

Writes **Wouter Biesiot**:

Just had my 7th chemo-shot (out of the 48 they intend to give me). The side effects vary from week to week. Last week it was OK; the week before I had constant nausea. I'm becoming more and more aware of the interaction of the side effects with any tensions that arise in my life. And quite a number of tensions are available, as I try to change from the defensiveness of a hypochondriac to accepting life as it is, with all its inherent uncertainty, and seeing that every day is worth living anyhow. It is quite strength-consuming to stay away from the well-known pitfalls and experiment with different behavior patterns. (I lack requisite variety, to speak in Saraph-language.) But I'm improving.

A few weeks ago I could not resist the opportunity to join in a university course in its final step: playing Stratagem. Shortly before I detected an error in the program that must have been there since its inception (concerning the way foreign trade is handled). In vain we tried to repair it. I took over the responsibility from the course staff (because of all the usual stupid arguments: I know the details of the program, etc.) and entered into a stressful period. I recognized the pitfall, half a day too late. Next time I'll do better. The responsibility-taking-over pitfall is, of course, a standard trick for our type of folks.

Still it was great fun to let them play and to debrief afterward!

* * *

Gerardo Budowski recently ran into **Lucia Liu Severinghaus** in Buenos Aires (how Balaton members do get around!). He also writes, from back home in Costa Rica:

Since May last year I am president of The Ecotourism Society, and I like the challenge of channeling ecotourism into a sustainable, rewarding -- particularly for local people close to the resource -- and environmentally friendly industry. I have written a few papers on the subject, and our Society has published guidelines for managers and tour operators.

Otherwise things are fine here. The new government with Jose Maria Figueres (the son of "Pepe Figueres") will take over next May. The country is in good shape. In January this year I decided to leave the Technical Advisory Committee of CGIAR after 4 years. It was a worthwhile experience, but my eagerness had departed.

* * *

Milan Caha has been studying management in the U.K. at the University of Preston Business School. He will be back in Prague at the beginning of May.

* * *

Susan Cleveland writes that she has managed the transition from Central Europe to the C.S. Mott Foundation in Michigan -- "a big change but all in all quite good."

* * *

Joan Davis has recently returned from a trip across the Sahara Desert. She writes: No trip has left me so moved as this one. I feel a strong urge/need/desire to go back. When? I don't know. I only know that a lot went very deep. I haven't even digested my feelings enough to know why it hit so hard. The beauty of the 'emptiness,' which was not at all empty; the unexpected flowers; the joy/spontaneity of the bedouins; (really) learning the value of water....

Just walking from early morning to dusk...hearing the (very) soft sounds of the camels treading. The moon was so light the first couple of nights, you could read by it.

The mouths in Switzerland seem particularly turned down after experiencing the faces in the desert. But this I recognize every time I travel to a country not belonging to the 'overdeveloped' part of the world...

* * *

In addition to his correspondence about India (see earlier in this *Bulletin*), **Bert de Vries** has lots of other Balaton News:

The trip to India was an unforgettable experience, which I enjoyed tremendously, not in the least thanks to the hospitality and generosity of **Aromar Revi** and his wife, Poonam. Both of them are now dedicated and loving parents for Kaholie, their cute daughter. The hospitality of the TARU workers in Daltonganj and Calcutta made my visit both enjoyable and interesting. Part of the time Aro and I spent outside Delhi: we went to south Bihar, stayed there for about four days, went to Calcutta and then back to Delhi. There we worked on World4 in TARU's office.

One day after I returned from India, **Dennis Meadows** arrived in Utrecht. We worked hard to come up with a first version of the Susclim-game (Sustainable Development & Climate Change). It is a simplified version of Stratagem in which a depletable carbon fuel and an alternative non-carbon fuel provide energy for population capital and goods capital. Carbon fuel use leads to carbon-dioxide emission, which affects lifetime and productivity of the capital stocks through a simple climate change model, based on Jan Rotmans' thesis. The essence is to make the transition to a high and affluent stable population without causing serious damage from climate change. This is possible by investing in energy conservation and using the learning effect from building up the alternative energy capital stock. The game is played by two countries who have the atmosphere as their common resource and have each a [different] carbon resource stock which they can trade between each other. We played it for the first time for students of the Netherlands Institute for MBA Studies (NIMBAS) in Utrecht, during a day on Sustainable Development. Both Dennis and I agreed that it was a quite successful try-out.

As part of the same program, **Herbie Girardet** gave a presentation on sustainable cities; besides, he had a look at the software being developed for the GESPE-project in which multimedia is supposedly playing an important role. The same evening Dennis gave a speech to a group of 20 Dutch CEO's on The Delusion of Sustainable Development. [Editor's note: we have asked for a copy of this speech for a subsequent *Balaton Bulletin*.]

* * *

News from **Samir Ghabbour** in Cairo:

The environmental scene looks better this year. Parliament has finally passed an environmental law which is only 25 years later than the U.S. NEPA. Cairo University has created a Center for Environmental Studies and Research. A few months ago Dr. Atef Ebeid, who was responsible for the Environmental Affairs Agency (created in 1983) was given the official title of Minister for Environmental Affairs (besides his two other responsibilities) in the cabinet reshuffle following the election of President Mubarak for a third term. The University of Ain Shams, which has its own Institute of Environmental Studies and Research since 1983, is reconsidering the structure and

content of its courses. The Faculty of Science in Aswan (the famous High Dam city) has also created its own Unit for Environmental Studies and Research.

But all this should not make us oblivious of other dangerously negative trends. Only today a new TV ad shows a girl directing the spray of an insecticide can into her own face to prove to spectators that it does not harm the ozone layer (sic). Newspapers are full of articles discussing the harmful effects of GATT on the Egyptian economy. No one has a word about its effects on the environment. The comical thing is that no one has the full text of the agreement. It is all by hearsay.)

Now for personal news. I was offered the title of Emeritus Professor and accepted it. I taught a course on ecosystems for the second time at the Francophone University Senghor in Alexandria, using very successfully both Fishbanks and the videotape "Decisionmaking and the Environment." My colleagues and I produced a number of papers on biodiversity in Egypt. But the most gratifying event was that the chapter I wrote in 1978 on "The City as an Ecosystem" has been assigned as formal reading for graduate students of architecture at the Faculty of Engineering.

* * *

Jim Hornig, on a sabbatical from Dartmouth, is presently taking an extended tour of Eastern Balatonia. He will visit **John Peet** in New Zealand, **Chirapol Sintunawa** in Thailand, and **Aromar Revi** in India. He will also visit the Wau Ecology Institute in Papua New Guinea, but he won't see **Lawrence Tjamei** there, because Lawrence is studying at the Institute of Hydraulic and Environmental Engineering in Delft, the Netherlands.

* * *

Drew Jones announces that:

I am leaving the Water Program at Rocky Mountain Institute. The Institute is continuing work in my areas of research, so do not hesitate to contact other RMI staff, particularly Jim Dyer, Scott Chaplin, Richard Pinkham, or Jo Ann Glassier.

For the next year I will be working independently on water issues in Southeast Asia and the Baltic states, and then pursuing graduate studies at MIT.

I will be reachable until July 10 at 303-963-3084. After that I can be reached via

Andrew Jones
233 Speer Avenue
Englewood NJ 07631
201-568-1504

* * *

MIT is about to be blessed with many Balaton members! **Liz Krahmer** has been accepted as a Ph.D. candidate in the System Dynamics Group at MIT. She will begin her studies there next fall.

* * *

Dana Meadows is delighted and astonished to announce the receipt of a grant from the Jenifer Altman Foundation (thanks to **Michael Lerner**) that will support her work with the Balaton Group for the coming three years. This grant is perfectly timed, coming as her Pew Scholarship is about to expire! There are angels in the world, and miracles.

In addition to typing *Bulletins*, Dana has been delivering lambs, planting seeds, writing newspaper columns, and working on her textbook. She spent a day in New York at the PrepCom for the upcoming Cairo conference on population and development, and had lunch in Washington with the staff of the White House Office of Environmental Policy, which includes part of Vice President Al Gore's staff, and the staff of the President's Council on Sustainability (PCSD). She will be joining a task force of the PCSD on media and communications.

* * *

Dennis Meadows has good news:

The World Bank has ordered 100 sets of Stratagem for use in the programs of its Economic Development Institute, its training branch. This means I have the money and the incentive to remanufacture the game. I expect to have 1000 new sets ready in mid to late May. This will come with a new version of the program that is much more flexible to change and has a richer set of data display options -- for example it can put out data to a spread sheet for plotting. I am also ordering some blank boards so that people can hand write or silk-screen print their local language on the board. These games will be available at relatively low price to members of the Balaton Group (like \$30).

Several gifts to the Action Learning Center will give me 30 more acres of land and an endowment and building fund. This summer I will construct a ceremonial center in the deep woods of the Center, where it will be possible to introduce non-Western methods of introspection, contemplation, and ritual that other cultures have developed for action learning.

* * *

Dick Norgaard writes from the University of California Berkeley the following telescopic account of momentous events:

Promoted to full professor November 92; fell in love; co-opening speaker of the annual meeting of the Spanish Association of Economists in Sevilla December 92; presentations on the economics of climate change to ICSU and IPCC Working Group II spring 93; first economist appointed to U.S. SCOPE; married Nancy A. Rader (wind energy consultant, former Nader's Raider) June 5, 1993; honeymooned backpacking in canyons of southcentral Utah; heart attack while at NAS meeting in Woods Hole July 2; helicopter evacuated to UMass hospital in Worcester for angioplasty; cancelled all travels and switched to a diet with no cholesterol and less than 15 grams of fat per day; first book (*Development Betrayed: The End of Progress and a Coevolutionary Revisioning of the Future*, Routledge, London and New York) appearing in mid-March 1994.

Would like to end this with an all's well note, lost 25 pounds on my diet, took my raft and a load of graduate students out for a day on the South Fork of the American River in mid-September, in mid-December learned that my good cholesterol is up and my bad dramatically down, but learned yesterday that a portion of my heart muscle once again is getting insufficient oxygen.

Hope to get back together with Balaton friends when I am fit again.

And a month later, by email:

The saga goes on. Angiogram was such that they did not let me out of the hospital, took the next available slot for bypass surgery, which happened to be Valentine's Day. I am slowly recuperating. It is pretty invasive surgery and I am not accustomed to being patient, but that is what I must be. Can now teach some and work a little each day, but am still getting behind and behind.

* * *

Bela Peceli, our long-time host through the Hungarian Oil and Gas Trust, returned our "do you still want to get this *Bulletin*?" form with the following note:

I have to tell you that in my life in the past 10-12 years it was a great pleasure, honor, and interest for me to participate -- unfortunately always only partly -- in your Balaton meetings in Csopak. Your profound discussions and highly responsible behavior on the problems of mankind, sustainability of life on earth, and protection of the environment for the survival of people, impressed me. On the other hand, I enjoyed very much how merrily you could participate in jokes, songs, and excursions.

I'll never forget those nice days spent with the Balaton Group. I wish you good health, many excellent meetings, and great success in your very important work.

* * *

Carlos Quesada writes:

I have resigned the Vice-Presidency for Research of the University of Costa Rica to fully dedicate myself to sustainable development and environmental education, trying to set up a Center for Sustainable Development within the University. After April 1 intend to follow up matters such as the next meeting of the Irazu Group, the terms-of-reference project, and consolidating the new learning center with the help of **Dennis Meadows** and the Sasakawa Foundation.

* * *

Anupam Saraph has just completed his Ph.D. dissertation (on the systems toolbox) at Groningen University after a winter of intense writing. He and his family plan to return to India on May 6. Anupam hopes to present his work at the International Simulation and Gaming Association meeting in Majorca in October, perhaps combined with a journey to the Balaton meeting and to Groningen for his final thesis defense. He also hopes to establish email connection almost as soon as he gets back to Pune.

* * *

Lucia Liu Severinghaus has been teaching ecology as a visiting scholar at the Hong Kong University of Science and Technology. She also has been traveling, to Buenos Aires, and to Costa Rica, where **Gerardo Budowski's** daughter (who is a travel agent) helped her to see the countryside and "the incredible birds." Lucia says she brought home a Costa Rica calendar to hang on her wall and remind her of the wonderful time she had there.

* * *

Johan Strumpfer has left South Africa's Institute for Futures Research in order to begin a new Programme in Systems Management at the University of Cape Town. He writes, first about the stunning political developments in his country, and second about his new institute:

I guess you are informed about SA and the changes here. There are some quite hopeful signs, and things may still work out well. The level of violence however scares just about every last person. Strangely enough the election week was the quietest week in years in terms of violence. We succeed in being different from everybody else in the world!

The new government is in formation now and there are very exciting developments. I think few societies ever go through such a state where long-term policies are unfrozen to the degree that they are unfrozen here. The implication is of course that the policies decided on now will reverberate far into the future, so now is the time to reflect clearly on policy directions. It's the degree of possible change now that is so exciting.

I really would have liked to come to the Balaton meeting this year, but with the pressures of the new Programme will not be able to make it. At the moment I am the only full-time person, but there are three or so partly involved persons. The programme is self-funding down to the last cent (and you know what that means). We are not supported by the university or any foundation in any way. This puts quite a discipline on making systems thinking work in practice -- otherwise there is no income.

In brief, the Project in Systems Management (PSM) is a collaborative initiative between enterprise and academia to develop more appropriate approaches to the management of complexity. The partners include commercial and non commercial organisations, the University of Hull (UK) and the University of Cape Town. The project is located in the School of Engineering Management at the University of Cape Town. Its activities include:

- 1 Development of new management approaches -- generating and synthesising new knowledge relevant to the management of complex socio-technical systems.
- 2 Process consulting -- helping organisations to solve their problems through the practical application of theory or the development of new theory, as the situation demands.
- 3 Management development -- educating and developing people involved in the management and development of organisations through action based courses and workshops.

We will be giving one-day workshops in systems thinking, scenario planning, organization design, total quality management, and other topics. We will give longer courses on the systems approach to problem solving, and the systems approach to organization design. And we will engage in long-term agreements to work with organisations in a research or consulting capacity on significant issues.

Johan's new address is:

Dr Johan Struempfer
Programme for Systems Management
School of Engineering Management
University of Cape Town, Private Bag
RONDEBOSCH 7700, South Africa

Haruki Tsuchiya writes from Tokyo: "Thank you for sending the *Balaton Bulletin*. It inspires me always. I am happy to feel that I am connected to the Balaton Group."

* * *

Qi Wenhui has a new post office box number. The rest of his address has not changed. The correct full address is now:

Commission for the Integrated Survey of Natural Resources
Chinese Academy of Sciences
P.O. Box **9717**
Beijing 100101 CHINA
telephone 86/1/491-7296
fax 86/1/491/4230

* * *

Diana Wright will not be attending the coming Balaton meeting in September. Instead she will be awaiting her and Steve's first child, due in early October.

STORIES, QUOTES, CARTOONS

How to Calm a Street

(Excerpt from Wolfgang Zuckerman's book *End of the Road: The World Car Crisis and How We Can Solve It*, Chelsea Green Publishing Co., Post Mills VT, 1991.)

The idea of calming a street started in Holland about thirty years ago. After the third child had been run over in a residential neighborhood of Delft, and after the authorities refused to take action, local residents took matters into their own hands. They organized a night raid with picks and shovels to reconstruct their street in line with a new idea, the concept of a *Woonerf* (literally, a "living-yard"). When the authorities arrived with police and bulldozers to reconstruct the street, the residents stood their ground and protected their new layout....

The principle of a *Woonerf* is that a street is valuable public space and should be shared by all users. Thus streets may be altered to allow walkers, bicyclists, and leisure seekers to share the space with cars safely and without conflict. That means that street space should primarily be laid out for slow traffic.... The car is not the enemy; overspecialization of street space for car use is....

The limitation of driving speeds within the *Woonerfs* is often enforced by the provision of physical elements, sometimes called sleeping policemen.... A fast passage

is obstructed in some way: by strips of different paving, width restrictions, speed bumps, offset center lines, trees, benches, lamp posts.... A Woonerf is thus a complete architectural concept, not just a couple of tubs and some white lines.

The Idea of Balaton

(Excerpted from a talk given by psychologist James Hillman at the Center for Psychology and Social Change, Cambridge MA, February, 1994)

Individual identity is intimately bound in the framework of community. We are literally composed of the groups we join, the mentors and teachers in our lives, and a host of familial and communal ancestors, who help us frame, articulate, and live out our ideals. Even when an individual feels most alone or isolated, he or she is, in fact, surrounded by a rich interior support system. The ever-increasing experience of loneliness and isolation in the world may be due in part to a loss of self, stemming from people's loss of connection with community.

A Systems Joke

Once there was a farmer in the cold state of North Dakota who was worried about putting up enough hay to feed his animals through the winter. So he worked hard and piled up a great mound of hay. Then, to be sure he would have enough, he asked his son to go over the hill and ask the Indian chief on the reservation next door whether the coming winter would be a bad one.

The chief listened to the question, sniffed the air, looked out over the horizon, and said, "Bad winter ahead."

The son reported back, and the farmer decided to put up even more hay. Then he asked his son to go check with the chief again.

The chief sniffed again, looked outward again, and said, "Very bad winter. Very cold."

So the worried farmer piled up even more hay and sent the son to ask the chief for one last forecast.

The chief sniffed, looked out, and said, "Very long winter. Much snow. Animals will be very hungry."

"How do you know that?" asked the son.

The chief pointed out toward the horizon and said, "White man put up much hay."

City Quotes

The willingness of most people to live in cities is our only hope for saving what remains of our natural landscape.

-- Cindy Hildebrand, from a letter to the editor of *Audubon* magazine, March-April 1994.

We ask our citizens to change their behavior, to leave their sacred cars at home, to pay a higher price for the future, and, moreover, to vote for us. This is a real challenge for the leadership in our democracy. But in a sustainable city that thinks globally, the future of our planet has to be more important than the outcome of the next election.

-- Amsterdam Mayor E. Van Thijn, 1991

Every first-world city has within it a third-world city of malnutrition, infant mortality, homelessness and unemployment. Every third-world city has within it a first-world city of high tech, high fashion, and high finance. Seeing the cities of the world as a global laboratory breaks down the stereotype North/South technology transfer, and opens up the rich possibilities of South/North and South/South exchange, vastly increasing the number of potential solutions.

-- Janice Perlman, 1990.

Wendell Berry Quotes

(All taken from Berry's book *A Continuous Harmony*, San Diego, Harcourt Brace Jovanovich, 1972.)

The mentality that exploits and destroys the natural environment is the same that abuses racial and economic minorities, that imposes on young men the tyranny of the military draft, that makes war against peasants and women and children with the indifference of technology. The mentality that destroys a watershed and then panics at the threat of flood is the same mentality that gives institutionalized insult to black people and then panics at the prospect of race riots.

Our model citizen is a sophisticate who before puberty understands how to produce a baby, but who at the age of thirty will not know how to produce a potato.

A couple who make a good marriage and raise healthy, morally competent children, are serving the world's future more directly and surely than any political leader, though they never utter a public word. A good farmer who is dealing with the problem of soil erosion on an acre of ground has a sounder grasp of that problem ... and is doing more to solve it than any bureaucrat who is talking about it in general. A man who is willing to undertake the discipline and the difficulty of mending his own ways is worth more to the conservation

movement than a hundred who are insisting merely that the government and the industries mend their ways.

It appears to me that the governing middle, or the government, which supposedly represents the middle, has allowed the extremes of left and right to force it into an extremism of its own. These three extremes of left, right, and middle, egged on by and helplessly subservient to each other's rhetoric, have now become so self-righteous and self-defensive as to have no social use.... Whereas the extreme left and right see in each other the imminence of Universal Wrong, the extreme middle appears to sense in itself the imminence of the Best of All Possible Worlds, and therefore looks upon all critics as traitors. What is disturbing ... about these three "sides" of our present political life is not their differences but their similarities. They have all abandoned discourse as a means of clarifying and explaining and defending and implementing their ideas. They have taken almost exclusively to the use of the rhetoric of ad-writers: catch phrases, slogans, cliches, euphemisms, flatteries, falsehoods, and various forms of cheap wit. This has led them -- as such rhetoric must -- to the use of power and the use of violence against each other..... There is a political and social despair in this that is the greatest peril a country can come to.

Education Quotes

(Compiled by **Jaswant Krishnayya** on the occasion of planning a new university for India)

I would revolutionize college education and relate it to national necessities. There would be degrees for mechanical and other engineers. They would be attached to the different industries which should pay for the training of the graduates they need. Thus the Tatas would be expected to run a college for training engineers under the supervision of the State, the mill associations would run among them a college for training graduates whom they need.... Commerce will have its college..... Medical colleges would be attached to certified hospitals..... And agricultural colleges to be worthy of the name must be self-supporting. I have a painful experience of some agricultural graduates. Their knowledge is superficial. They lack practical experience. But if they had their apprenticeship on farms which are self-sustained and answer the requirements of the country, they would not have to gain experience after getting their degrees and at the expense of their employers.

-- M. K. Gandhi in *Harijan* (13-7-1937)

(Tagore on Education)

Rabindranath believed that the out-dated economic doctrines and rigid principles of ruling democracy cannot produce free men..... Education divorced from the real springs of action is no education. Education which tends to exclude the ideals and aspirations of the masses is soul-less and mechanical.....

The present education ... provides a station in life, but not the real satisfaction of knowledge. Real culture is the culture of the heart. "Our educated community is not a

cultured community but a community of qualified candidates," says Tagore... A teacher cannot teach well unless he himself continues to learn just as a "a lamp can never light another lamp unless it continues to burn its own flame." A teacher, according to him, must not only inform but inspire his pupils.... "When the inspiration dies out the information only accumulates."

Tagore's idea of an Eastern University symbolises a reaction against the formal education and mechanical learning of the West.... A student must live in intimate touch with Nature; he must grow in an open atmosphere of service to all creatures, "tending trees, feeding birds and animals, learning to feel the immense mystery of the soil and water and air." This type of ... education alone can lead pupils to the goal of spiritual freedom and ultimate perfection.

-- from *Man, Education, and Values* by V. Narayan Karan Reddy (B.R. Publishing Corporation, Delhi, 1979)

The purpose of education is to cultivate right relationships, not only between individuals, but also between the individual and society; and that is why it is essential that education should, above all, help the individual to understand his own psychological process.

Intelligence lies in understanding oneself and going above and beyond oneself.

-- J. Krishnamurti

Consumption Quotes

(Displayed on the wall of New York's Cooper-Hewitt Museum of Design, enhancing a show called "Packaging the New: Design and the American Consumer." Brought to the *Bulletin* by **Liz Krahmer**.)

The trouble with this country is we expect things to last too long. If you are a good 100 percent American, you ought to buy a new radio.

-- A radio repairman, *Printer's Ink*, January 9, 1930.

The purpose [of styling is to make the customer discontented with his old type of fountain pen, kitchen utensil, bathroom, or motor car, because it is old fashioned, out-of-date. The technical term for this idea is obsolescence. We no longer wait for things to wear out. We displace them with others that are not more efficient, but more attractive.

-- Advertising executive, *Modern Publicity*, 1930.

Our custom of trading in our automobiles every year, of having a new refrigerator, vacuum cleaner or electric iron every three or four years is economically sound. Our willingness to part with something before it is completely worn out is a phenomenon noticeable in no other society in history. It is truly an American habit, and it is soundly based on our economy of abundance. It must be further nurtured even though it is contrary to one of the oldest inbred laws of humanity -- the law of thrift.

-- Industrial designer, *Design for Business*, 1945.

Design these days means taking a bigger step every year. Our big job is to hasten obsolescence. In 1934 the average car ownership span was 5 years; now it is 2 years. When it is 1 year, we will have a perfect score.

-- Head of General Motors' styling section, *Industrial Design*, 1955.

Just Plain Quotes

When we try to pick out something by itself, we find it hitched to everything else in the universe

-- John Muir

Motto of the 1933 Chicago World's Fair: "Science Finds, Industry Applies, Man Conforms."

Suggested 1993 rephrasing: "People Propose, Science Studies, Technology Conforms."

-- from Donald A. Norman, *Things That Make Us Smart: Defending Human Attributes in the Age of the Machine*, Reading MA, Addison Wesley, 1993.

Elie Wiesel, speaking of the Germans who were responsible for the atrocities of the Nazi regime:

They did not come from the underworld; some came from some of the best and most prestigious universities in Germany. They had degrees and even doctorates in medicine, philosophy, jurisprudence, and theology. In other words: they were not shielded by their education. What was wrong with it? It emphasized theories instead of values, concepts rather than human beings, abstraction rather than consciousness, answers instead of questions, ideology and efficiency rather than conscience.

A Diplomatic Miracle

(A story told by Manuel Perez Guerrero, Venezuelan Ambassador to the United States to Judith Skutch-Whitson, publisher of *A Course in Miracles*.)

Many years ago I was sent to France for my education. One of my teachers was an old Jewish philosopher, a very gifted man, who gave me something precious that I've never forgotten. He gave me a technique of quieting myself, a process by which I could touch the deep inner core of my being.

Years later I had a two-week assignment in Paris. It was a very gloomy winter week and I had to get the leaders of 43 Third World countries to agree on 24 principles of action for the United Nations. For the first week the meeting was an absolute cacophony of disaster.

No one was speaking to anyone else. The room wasn't well ventilated and people were smoking and coughing and wheezing and no one was listening. I felt as if I were a total failure.

All of a sudden the face of the Jewish philosopher appeared before me and I remembered that I had forgotten the precious gift he gave me so many years ago. I closed my eyes for a few moments. I took some deep breaths and went deep, deep into my interior where I really live. I asked for help. A voice said to me, open your eyes and go around the room and see each person and surround them with light. I opened my eyes and began to do as I was instructed.

I looked at each of the delegates, slowly, one at a time, and I surrounded each with light and broadcast the thought *I love you*.

It took about half an hour. I was so intent upon my process that I didn't notice when the level of noise receded. The delegates began actually talking and listening in a manner that I had not seen during the entire first week. I wondered what I should do next and so I again closed my eyes and took a few deep breaths and asked for guidance. The voice said that I should ask them all to be silent.

I opened my eyes and said, "Ladies and gentlemen, I've been sitting here quietly watching all this go on and I realize that we are not getting anywhere. We have 24 issues to decide upon and we haven't yet agreed on even one. I know each of you have cultures that recognize creation as being far greater than the individual person, and I know that in your own homes you celebrate that idea. I would like to offer the opportunity of a five minute silence and I would like to ask that everyone touch that part of him- or herself wherein that spirit lives, to ask how we might best proceed."

No one disagreed. I asked that the lights be dimmed, and we closed our eyes for five minutes. And then the miracle happened. We opened our eyes and that room was filled with light. Everyone saw it and gasped. No lights had gone on, the sun hadn't come out, but that room was filled with light.

Within two hours we had come up with a plan on how to approach the 24 issues. We went home two days early, having accomplished our mission.