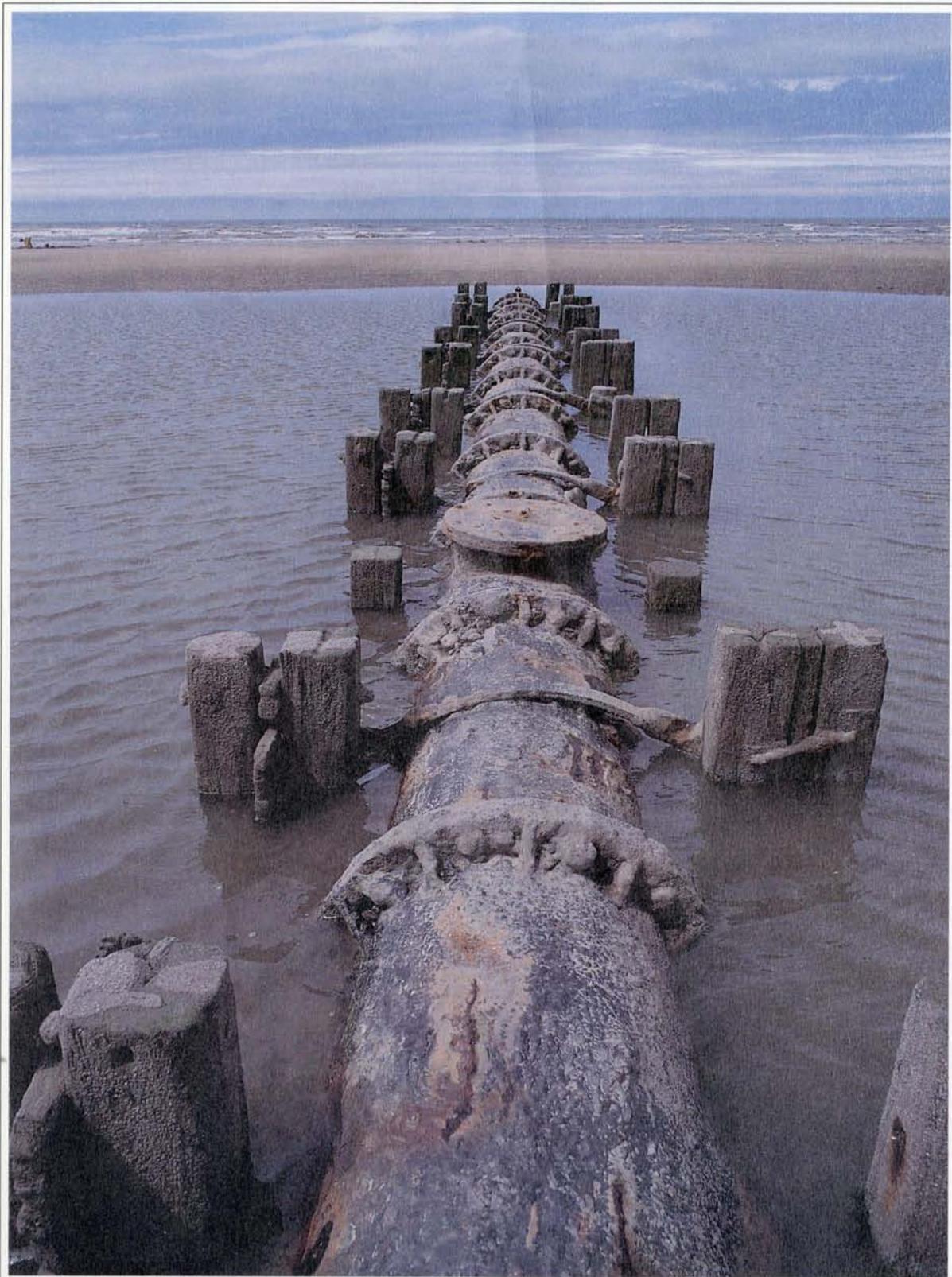


# The Ecologist

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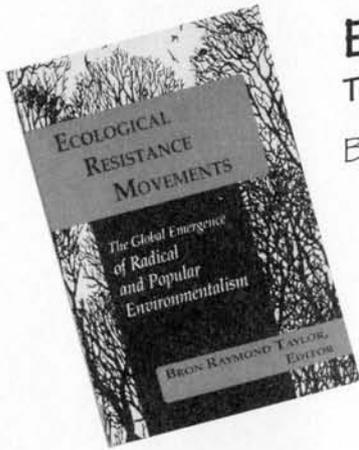


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## Water Privatization

Public Health and Consumers



# ECOLOGICAL RESISTANCE MOVEMENTS

The Global Emergence of Radical and Popular Environmentalism

Bron Raymond Taylor, editor

❖ "This is a timely collection of essays, which brings together some of the disparate voices and views from the ecological movement around the world." — *The Times Literary Supplement*

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## Editorials

**Hot Air: Global Warming and the Political Economy of Threats** ..... 2  
*David Edwards*

**Multilateral Agreement on Investment:  
"The Constitution of a Single Global Economy"** ..... 5  
*Scott Nova and Michelle Sforza-Roderick*

## Feature Articles

**Regulating the Water Industry:  
Swimming Against the Tide or Going Through the Motions?** ..... 6  
*Richard Schofield and Jean Shaoul*

To finance investment in Britain's water and sewerage industry to meet higher EU standards and to replace a vast decaying underground infrastructure, customers have been charged higher prices for their water and sewerage services since 1989 when the industry was privatized. Yet the increased revenues have not been ploughed back into the network with the result that services have deteriorated, despite government assurances that the industry would be regulated.

**The Authoritarian Biologist and the Arrogance of Anti-Humanism:  
Wildlife Conservation in the Third World** ..... 14  
*Ramachandra Guha*

Wildlife conservation programmes in the Third World have all too often been premised on an antipathy to human beings. In many countries, farmers, herders, swiddeners and hunters have been evicted from lands and forests to make way for parks, sanctuaries and wildlife reserves. Biologists have been a major force in pushing for such evictions.

**The World Bank and Russian Oil** ..... 21  
*Ellen Schmidt*

The World Bank is planning to finance an oil extraction joint venture in Western Siberia between Amoco and the Russian company, YNG, in what would be one of the largest investment projects in Russia. Because of potential catastrophic environmental and social degradation, several Russian, European and US non-government organizations are calling for a moratorium on the development of new oil fields in the region and for the rehabilitation of existing fields, pipelines and refineries.

**Unequal Commoners and Uncommon Equity:  
Property and Community Among Smallholder Farmers** ..... 28  
*Robert McC. Netting*

Those with a stake in common property regimes are often assumed to share and share alike in a form of "primitive communism". Critics rightly point out that inequality is, in fact, a feature of many commons. Nonetheless, the governance of common property does ensure equity through broadly representative, democratic decision-making. Privatizing the commons, however, entrenches inequalities.

**Books** ..... 34

The Conquest of the Amazon, Nelson Rockefeller and Evangelism in the Age of Oil — Gender and Land Rights in South Asia — Environmental Values in American Culture

**Letters** ..... 40

**Campaigns and Updates** ..... Centre pages

**Cover Photo:** A sewage outflow at Blackpool, UK. (Mark Edwards/Still Pictures).  
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## Hot Air

## Global Warming and the Political Economy of Threats

To the casual observer, the reality — or otherwise — of a threat to humankind would appear to be determined by inexact but essentially rational calculations based on evidence, hard facts and best guesses, all wrapped up in a framework of concern for the general well-being of people and planet. Not so. In fact, the perceived seriousness of a threat is largely determined by the extent to which it is a help or a hindrance to goals set by centres of political and economic power. Consider, for example, the political and corporate responses (and in particular the response of the media) to the very real threat posed by global warming, on the one hand, and the politically-generated threat to the West posed by the Soviet Union, on the other.

## Climate Change

The world is currently heating up faster than at any time in the last 10,000 years. Every climate model predicts rates of global warming between 10 and 100 times faster than at any moment since human beings began to walk the earth.

These models are based on indications that human activity has increased atmospheric greenhouse gases by 90 parts per million (ppm). Gases found trapped deep in Antarctic ice 15,000 years ago indicate that increases in greenhouse gases of 100ppm were sufficient to raise global temperature by three degrees Centigrade. Given that greenhouse gases are projected to rise a further 140ppm by the year 2050, even if current emission rates were cut immediately by 50 per cent, it is not hard to see why climatologists are predicting trouble ahead.

In support of these models, evidence of global warming is coming in thick and fast the world over. The ten hottest years in human history have all been recorded since the beginning of the 1980s. Norwegian scientists reported in September 1993 that the polar ice cap is melting at a rate 10 per cent faster than it can be replaced. A year later, researchers at the British Antarctic Survey (BAS) reported "the greening of Antarctica" — a "rapid increase" in the continent's only two flowering plants at sites 600 miles apart, with one flowering grass 25 times more common than it was 30 years ago. According to BAS, Antarctic summer temperatures now persist 50 per cent longer than they did during the 1970s.

The European Sub-Polar Ocean Programme has found that the Ogden Feature, a tongue of ice which acts like a water pump, driving currents in the North Atlantic, has failed for the past three years in succession, an unprecedented event, because global warming has reduced the area of ice in the Greenland Sea. A knock-on effect is the weakening of the Gulf Stream, which keeps northern Europe warmer than other regions at the same latitude. Violent changes in the region's climate may thereby be triggered.

Ice which has held the outer layers of the Swiss Alps together for 10,000 years is now melting at a rate of 30 metres per year in some places. Villagers are threatened by the prospect of "tidal waves" of "melt-water descending on their

homes" bearing "an avalanche of rocks" and "the collapse of cliffs that flank their valleys".

Scientists are warning of what is unknown as well. Warm, tropical waters tend to store and release carbon dioxide, for instance. Oceanographers fear that in a warmer world, warmer seas may amplify global warming by releasing their stored carbon dioxide. During the early 1990s, the Joint Global Ocean Flux Study found astonishing variations in the carbon dioxide content of the North Atlantic, even over short distances. "The variations observed", concluded the authors of a 1991 paper in *Nature*, "suggest that estimates of the oceanic storage or release of carbon dioxide calculated from existing data will be subject to significant error".

Similarly, 17 climate modelling teams from around the world stated in 1991 that the role of snow in global warming varied from strongly-positive to weakly-negative. More recently, Martin Parry of Oxford University has said that:

"Unexpected changes cannot be ruled out. There are potential surprises out there, both in time and in place ... We don't know when these unexpected impacts could occur, or where."

A significant minority of climatologists have also warned that, without immediate and drastic reductions in the emission of greenhouse gasses, the world may be caught up in a "runaway greenhouse effect": global warming may trigger further global warming in a series of positive feedback loops — a vicious circle that might eventually make the planet uninhabitable.

Scientific evidence would thus indicate that the threat of global warming is real. The response to it, however, is not.

At the 1992 "Earth Summit", the world's governments signed the Climate Convention to combat global warming. Industrialized nations promised to "aim" to level off their emissions at 1990 levels by the year 2000. Most Western countries will not meet these modest targets. In fact, the International Energy Agency estimates that, by the year 2000, global greenhouse gases will be 17 per cent higher than in 1990; by 2010 they will have risen by 49 per cent. Similarly the World Energy Council reports that combined emissions of Western countries actually increased by four per cent between 1990 and 1995. Only Britain and Germany are on track — Britain because it happened to change from coal-fired energy to gas for political reasons (Margaret Thatcher's destruction of the coal industry was not motivated by a desire to protect the environment); and Germany because the inefficient industries of the east have been shut down.

The United States signed the Climate Convention in the full knowledge that its carbon dioxide emissions were projected to rise by 13 per cent by the year 2000, with its multinationals providing the lion's share of \$1,000 billion investment in the search for oil over the subsequent ten years. President George Bush adopted the "wait and see strategy" favoured by big business, despite the fact that the environmental systems under investigation are of such complexity that certainty is impossible and the waiting will never end.

Action to combat global warming has been minimal. The

British Energy Conservation Trust has received only a tenth of its planned funding. British Energy Minister Tim Eggar cites accidental pollution cuts as justification for opposing other measures, while Eileen Clausen, the US Assistant Secretary of State for environmental issues, admitted the obvious truth that governments were "in disarray" over climate change, there was "no clear policy direction", and "little thought" had been given to implementing and enforcing any policies.

## A Western Fantasy

The response of the authorities, corporate interests and the mass media to global warming stands in sharp contrast to the response of those same authorities and interests to the Soviet Union's supposed military designs on the West. The threat of the "evil empire" was a persistent theme popularized through the mass media from the 1950s until the collapse of the Berlin Wall in 1989. The West became obsessed with supposed "bomber gaps", "missile gaps" and "windows of opportunity"; no expense was spared to ward off the danger of potential nuclear annihilation.

Whereas there is now overwhelming scientific evidence to indicate the reality of global warming, there was always plenty of evidence to show that the Soviet "threat" was a Western fantasy. Few state planners really believed that the Soviets intended to confront the West militarily. George Kennan, head of US State Department Planning, could not have been clearer when he argued in 1947 that "it is not Russian military power which is threatening us; it is Russian political power."

This theme runs through the state documentary record. Vietnam, for instance, is considered by many to be the defining event of the Cold War: a collision between communist expansion in South-East Asia and the US determination to stop it. According to Major Patti of the US Office of Strategic Services (the forerunner of the CIA), stationed in Hanoi in 1945 when Vietnam was a French colony, there was "an extraordinary pro-American spirit" in the country, a spirit "that was everywhere at the birth of Ho Chi Minh's Vietnam". The Vietnamese, Patti reports:

"didn't regard America as an imperial power. They thought we were different from the Europeans and they were desperate not to be associated with international communism, not with the Chinese or Russians, but with us in America".

Ho Chi Minh's repeated and impassioned appeals to President Roosevelt and other senior US officials for US support for Vietnamese independence received no reply — only the subsequent delivery of some 3.9 million tons of bombs on South Vietnam.

British intervention in Malaya in the 1950s was supposedly to "fight the communist terrorists to enable Malaya to become independent" and "to prevent the spread of communism and resist Russian expansion". Yet the Colonial Office itself acknowledged four years after the beginning of the emergency that "no operational links have been established" between Malaya and Soviet or Chinese communists, nor any material support.

The Middle East was popularly portrayed throughout the Cold War as being at permanent risk of a Soviet push towards the Persian Gulf. In July 1950, however, British Chiefs of Staff noted that "the success of indirect or subversive action by the Soviet government . . . in any of the Arab states or in Israel is improbable in the immediate future". The threat of direct Soviet action was not even deemed worth discussing. The US State Department noted in the same year that communist

parties were "non-existent in Yemen and Saudi Arabia; outlawed in Iraq, Egypt, Syria and Lebanon and apparently unorganized in Jordan". Indeed:

"throughout the Arab states, at the present time, extreme rightist or ultra-nationalist elements may exercise greater influence and form a greater threat to the maintenance of a pro-Western orientation than the communists".

The same is true of Nicaragua, El Salvador, Chile, Iran, British Guinea, and any number of other places where attacks were launched against "international communism". Wherever Western intelligence agencies were operative — the Middle East, "Black" Africa, North Africa, the Far East, South Asia and South-East Asia — no evidence for a Communist threat was reported. The US government's own Bureau of the Budget stated in May 1950 that:

"It is hard to accept a conclusion that the USSR is approaching a straight-out military superiority over us when, for example, (1) our Air Force is vastly superior qualitatively, is greatly superior numerically in bombers, trained crews and other facilities necessary for offensive warfare; (2) our supply of fission bombs is much greater than that of the USSR, as is our thermo-nuclear potential; (3) our Navy is so much stronger than that of the USSR that they should not be mentioned in the same breath; (4) the economic health and military potential of our allies is, with our help, growing daily; and (5) while we have treaties of alliance with and are furnishing arms to countries bordering the USSR, the USSR has none with countries within thousands of miles from us."

## In Deepest Peril

The "threat" of a Soviet Union bent on military confrontation with the West had several advantages, however. It enabled governments to secure vast public subsidies of high-tech industry through massive defence spending programmes. Big business had everything to gain from responding to a terrible threat — just as big business now stands to lose massively from responding to the threat of global warming. Cold War analyst John Lewis Gaddis was surprised at the extent to which economic considerations shaped strategies to "contain" Soviet and Communist influence. "Containment," he said, "has been the product, not so much of what the Russians have done, or of what has happened elsewhere in the world, but of internal forces operating within the United States." British historian Mark Curtis highlights that:

"the immediate beneficiaries of the rearmament programme were to be the large corporations within the military-defence sector of the economy. With guaranteed industrial production and a guaranteed market (the Department of Defence) they were able to achieve high levels of output and reap large profits."

The "red scare" was also useful for hiding the fact that British and US "economic interests" in the Third World in the post-war period have been, as Curtis puts it, "synonymous with the systematic exploitation and impoverishment of the local population". Recently-released documents make clear the utility of "the threat of international communism" for keeping the reality of this exploitation from public understanding. The Foreign Office noted in 1950, for instance, that:

"if Soviet pressure were relaxed as a result of some major tactical deviation, the development of the system might be arrested in proportion as the compelling cause of the

Soviet danger diminished . . . [and] the consolidation of the West, under Anglo-American leadership, might well be in jeopardy”.

Thus it comes as no surprise that US Former Under-Secretary of State and future Deputy Secretary of Defence, Robert Lovett, insisted in March 1950 that “if we can sell every useless article known to man in large quantities, we should be able to sell our very fine story in larger quantities”.

This “fine story” was along the lines of that issued in April 1950 by the US National Security Council as Directive 68: “The Soviet Union, unlike previous aspirants to hegemony, is animated by a new fanatic faith antithetical to our own, and seeks to impose absolute authority over the rest of the world”. As a result, the citizens of the United States “stand in their deepest peril”, threatened with the “destruction not only of this Republic but of civilization itself”.

## When Goblins Walk the Earth

The mass media brought the “red scare” to a remarkable pitch, with endless articles, documentaries, books and films furthering the notion of a Soviet conspiracy working ceaselessly to weaken Western defences to the point where a surprise attack could be launched.

In contrast, the mass media has, by and large, responded with indifference, scepticism and a wilful amnesia to warnings about global warming. There are few hysterical articles, books, documentaries, films, depicting storms, rising sea levels, mass poverty and the like.

A prime example was the media response to an October 1990 UN conference at which the Intergovernmental Panel on Climate Change (IPCC), an official body of more than 2,000 scientists, concluded with virtual unanimity that global warming had occurred over the past century and that the risk of further warming was serious with the risk ranging from “significant” to “near-catastrophic”. Yet the *New York Times*’s headline ran “US Data Fail to Show Warming Trend”, while the cover of *Forbes* magazine heralded “The Global Warming Panic: A Classic Case of Over-Reaction”.

Six years later, little had changed. On 6 June 1996, the IPCC reported that “the balance of evidence suggests a discernible influence on global climate”. Some ten days later, *The Sunday Times* was of the opinion that “The latest apocalypse, global warming, is just that. Lots of hot air.” A couple of weeks later, an editorial in *The Daily Telegraph* argued that “to many scientists, the likelihood of man-made global warming is about as credible as stories of goblins and fairies”.

Although extremes of temperature — both warm and cold — are predicted by climate change models, the “it’s-chilly-so-global-warming-is-a-joke” quip has become a perennial feature of media reporting. The poor British summer of 1993 convinced *The Times* that “global warming was revealed as an empty promise”. More recently, *The Sunday Times* derided those warning of the threat of climate change for “trying to alarm a sceptical and shivering nation”.

Sardonic ridicule has become the order of the day. Pat Coyne argued in the *New Statesman* in June 1994 that the revision of the informed consensus that global warming was a genuine threat was “in the air” on the basis that predictive computer models are “necessarily simplifications” which may therefore “be drastically modified”. His conclusion was that, in chilly Britain, a bit of global warming “seems more than enticing . . . the sooner the better”.

Novelist John Mortimer joined the general media assault in *The Guardian* in July 1996 when he wrote that he “can’t wait for global warming to bring England a Mediterranean climate”,

if only he “had enough faith in weather forecasters to believe it will happen”. Cue much ribald humour about the British climate, British work habits and lazy Mediterraneans.

## Corporate Manipulation

It matters little that comments such as those made by Mortimer and Coyne are false and absurd; the fact is that articles of this kind — albeit benign and humorous in intention — serve corporate goals of ridiculing the threat of global warming. Ever since IPCC scientists concluded that humans were discernibly altering the climate, a campaign has been waged by corporate interests against their findings. As Sherwood Rowland, whose laboratory first discovered the ozone-depleting properties of CFCs, has said:

“It is quite common on the scientific side of industry to believe that there aren’t any real environmental problems; that there are just public relations problems.”

Similarly, Paul Brown of *The Guardian* reports that “Dozens of stories lending credibility to dubious science have been fed to newspapers.” In particular, the Global Climate Coalition, representing Shell, Texaco, Exxon, Ford and other noted environmentalists, is spending millions of pounds to persuade governments to do nothing about climate change because it fears action “is bad for business.” Stephen Schneider, head of Interdisciplinary Climate Systems at the US National Centre for Atmospheric Research, has estimated that conversion to a post-greenhouse economy would cost government and corporations “hundreds of billions of dollars every year for many decades, both at home and in financial and technical assistance to developing nations”. Thus the Global Climate Coalition “claims the scientists are going over the top and says there is as yet no proven need to do anything”. The Coalition has produced a document signed by 100 of the biggest US companies asking that no action be taken on climate change.

To his credit, Roy Greenslade of *The Observer* commented in July 1996 on the failure of the press to cover global warming. Referring to British Environment Secretary John Gummer’s declaration at the June 1996 IPCC gathering that “Global climate change needs global action now. The alarm bells ought to be ringing in every capital of the world”, Greenslade wrote, “I thought . . . this is sure to be big news in the morning. I imagined the front page stories, the feature articles and the leaders”. It was not to be.

“Every right wing paper has attempted to debunk global warming”, Greenslade writes. He concluded that there were probably two opposing reasons for the media’s failure to cover either the IPCC report or Gummer’s speech:

“Those papers which greeted the conference by accepting its central thesis assumed they had done enough. Papers which cannot stomach the scientific evidence for global warming ignored it. This latter attitude leaves readers seriously uninformed about a serious issue.”

The reality has more to do with the corporate nature of the media, their parent companies and advertisers and is a shocking indictment of the notion that we in Britain or the United States have a free press. Before the world is submerged in melt water, it seems sure that we will already have long since drowned in banality and half-truths.

David Edwards

David Edwards is author of *Free To Be Human*, Green Books, 1995, (also published as *Burning All Illusions*, South End Press, 1996) and of *The Compassionate Revolution*, Green Books, forthcoming 1997.

# Multilateral Agreement on Investment

## "The Constitution of A Single Global Economy"

In popular mythology, economic globalization is a natural phenomenon, like continental drift: impossible to resist or control. In reality, globalization is being shaped and advanced by carefully planned legal and institutional changes embodied in a series of international agreements. Pacts like the General Agreement on Tariffs and Trade (GATT) and the North American Free Trade Agreement (NAFTA) promote the unregulated flow of money and goods across borders and strip elected governments of their regulatory authority, shifting power to unaccountable institutions such as the World Trade Organization (WTO), the successor to GATT.

Virtually unreported, the latest and potentially most dangerous of these agreements is now under negotiation at the Organization for Economic Cooperation and Development (OECD). The purpose of the Multilateral Agreement on Investment (MAI), as the proposed pact is known, is to grant transnational investors the unrestricted right to buy, sell and move businesses and other assets wherever they want, whenever they want. To achieve this goal, MAI would ban a wide range of regulatory laws now in force around the world and preempt future efforts to hold transnational corporations and investors accountable to the public. Negotiators plan to complete the agreement by May 1997 and to present it to the 29 OECD countries for approval as a treaty. Once MAI has gained OECD assent, the agreement's backers (the United States and the European Union) then intend to push the new accord on the developing world.

Negotiations are at an advanced stage. Yet few of the general public, particularly in either the US or European Union countries, have even heard of the agreement. Trade officials are treating MAI like nuclear secrets; the mainstream media is oblivious. Whether MAI is adopted, and, if so, just how far its deregulatory tentacles will extend, depends on whether opponents can force the proposal from its present obscurity into the light of public debate.

As proposed, MAI would force countries to treat foreign investors as favourably as domestic companies; laws violating this principle would be prohibited. Under these conditions, transnational corporations would find it easier and more profitable to move investments, including production facilities, to low-wage countries. At the same time, these countries would be unable to use strategies they have employed in the past to wrest benefits from investments, such as imposing performance requirements on transnational investors and providing special protection for domestic business. These performance requirements include laws mandating the employment of local managers or requiring the purchase of materials from local vendors. Efforts to promote local development by earmarking subsidies for home-grown businesses and limiting foreign ownership of local resources would also be barred. Removal of these investment barriers would increase job flight from industrial nations and place new pressures on countries, rich and poor, to compete for increasingly mobile investment capital by lowering environmental and labour standards.

A key MAI provision could also threaten corporate accountability laws. MAI could undermine statutes in any nation that link the establishment and receipt of subsidies, tax breaks and other public benefits to corporate behaviour. Depending on the outcome of the current negotiations, MAI may ban these so-called performance requirements. These include laws requiring subsidized firms to remain in the

territory for a minimum number of years or to meet certain job-creation and local hiring goals; community reinvestment rules that require banks to invest in underserved areas; and the living wage laws that are the focus of activist campaigns in many countries.

Perhaps most disturbing, MAI would preempt strategies for restricting corporate flight to low-wage areas — a major cause of job loss and income stagnation in the industrialized world. On top of the damage done by plant closings and layoffs, corporations use just the threat of flight to undermine the bargaining power of unions and to scare policymakers away from the tough regulation and strong public investment necessary to raise living standards. Though remote from today's policy agenda, rules limiting the capacity of corporations to flee are essential to restoring the ability of government and labour to deal with corporations on anything like a level playing field. MAI would bar such rules in any country that is a party to the agreement.

In its scope and enforcement mechanisms, MAI represents a dangerous leap over past international agreements. It grants any corporation with a regulatory gripe the right to sue a city, state or national government before an international tribunal — with a binding outcome. Governments would enjoy no reciprocal right to sue corporations on the public's behalf. And MAI ignores most of the exceptions in previous agreements such as NAFTA and GATT; these clauses created exemptions for domestic laws designed to protect human and animal health and safety, promote local economic development and conserve natural resources. The full extent of the drafters' ambitions is reflected in WTO Director General Renato Ruggerio's recent characterization of the MAI negotiations: "We are writing the constitution of a single global economy".

If MAI is a constitution, its bill of rights is for investors only. The agreement contains no standards to protect workers or consumers or to shield small businesses from anti-competitive practices by transnationals.

The US government backs MAI for the same reason it supported NAFTA: increased international commerce is said to be inherently beneficial and whatever's good for corporations has to be good for the nation.

Organizations like Citizens' Trade Campaign, Global Trade Watch and the AFL-CIO trade union have made major strides educating government representatives and the public on trade and investment issues. If unions, consumer groups, environmentalists, state and local officials, and small businesses build on this work and make their voices heard, it is not too late to modify or even derail the agreement.

The outcome is critical — not just because of the destructive provisions of MAI itself, but because it is the next battleground in an intensifying campaign to institutionalize corporate dominance. While pundits rhapsodize about the triumph of unrestrained capitalism, corporate leaders know that social democratic politics may yet make a comeback. And they aspire to tie the hands of future policymakers by using their present political clout to inscribe deregulation indelibly in international law. Francis Fukuyama may be satisfied that the current winning streak of market ideology heralds the end of history. The corporations, however, want to put it in writing.

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# Regulating the Water Industry

## Swimming Against the Tide or Going Through the Motions?

by

**Richard Schofield and Jean Shaoul**

*Since the privatization of Britain's water and sewerage industry in 1989, customers have been charged higher prices to cover the cost of maintaining and enhancing a vast and aging infrastructure. Yet the industry has not ploughed its increased revenues back into the network with the result that the services it provides have deteriorated. Some areas of the country may now have insufficient water in the event of drought, while sewers in several places are likely to crack, leak and collapse. This has happened despite government assurances that standards and investment would be ensured through regulation. Any failure of the public water supply system is not an aberration due to some rogue company or unusual weather conditions: it is systemic.*

In the summer of 1995, six years after Britain's water and sewerage industry was privatized, the public water supply in West Yorkshire which served several million people failed. Yorkshire Water Services installed standpipes and proposed to shut down the water supply on a rota basis. But instead, as a result of public opprobrium and government intervention, hundreds of water tankers ferried in water for several months from Northumbrian Water to Yorkshire to fill the empty reservoirs at a total cost of some £50 million.

Six months later in an unusually cold spell, many people in Northumberland went without tap water because Northumbrian Water's supply system failed. This time it was because of a lack of water flowing through the mains (a result of low volume and water pressure) because of increased demand elsewhere. This in turn caused the main water supply pipes to crack.

The water companies attributed these failures to an exceptionally hot and dry summer and an exceptionally cold winter respectively. The public, however, thought differently. Throughout the country, criticism grew that since the 1989 sell-off of Britain's water and sewerage industry, ordinary customers were being charged higher prices for a deteriorating service, while the profits were going towards high shareholder dividends and vastly-increased directors' salaries.

### **Underwriting Financial Viability**

When planning the sell-off, the government had recognized that a private water and sewerage industry — ten regional monopolies — would try to cut corners in the pursuit of profit.<sup>1</sup> But it maintained that as long as "customers are fully protected . . . the water industry, their customers and the nation as a whole should all benefit".<sup>2</sup>

Such consumer protection was to be ensured by quality, environmental and economic regulation. The Office of Water Services (OFWAT) was set up to carry out economic regulation.<sup>3</sup> Its primary duty was to ensure that the privatized water companies had enough money to finance the supply of water and sewerage services, including maintenance and enhancement of the infrastructure<sup>4</sup> — the companies could not be allowed to go bankrupt because they provide essential public services. It was also charged with ensuring that the companies met certain minimum supply and quality standards and that consumers were not charged potentially high monopoly prices.<sup>5</sup>

The government decided that price capping<sup>6</sup> — an upper limit on the prices water companies could charge for their services — would limit average prices in real terms while providing maximum incentives to the companies to improve their efficiency and quality, reduce costs and invest effectively.<sup>7</sup> Restrictions on dividends to shareholders were explicitly rejected.

The water industry's price cap consists of two elements: an amount to cover rising capital investments and standards; and an expected level of efficiency savings of about two per cent per year. At privatization in 1989, the price cap — or K factor as it has become known — was set at five per cent above the Retail Price Index for the water industry as a whole (the limit varied between the ten companies depending on their proposed investments). Once fixed, the price cap was to stand for five or ten years at which point OFWAT would review it. Any excess profits would be "clawed back" and poor levels of service penalized by setting a lower price cap for the next five years. This price formula ensured that the water companies earned more than enough money from sales to maintain and enhance their services (*see* Box, p.7).

Despite this underwriting of the companies' financial viability, the water supply system still failed in 1995. Examination of the ten water and sewerage companies' expenditure on infrastructure; the levels of service they provided; and the actions taken — or not taken — by OFWAT indicate why the water supply failed.

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## Water and Cash Flows

In 1992, the ten water and sewerage companies in England and Wales — Anglian, Northumbrian, North West, Severn Trent, Southern, South West, Thames, Welsh, Wessex and Yorkshire — accounted for 73 per cent of the industry's revenues derived from the sale of water services and 96 per cent from the sale of sewerage and waste water services.

Even before privatization, sales had been steadily increasing; after the sell-off in 1989, they rose more dramatically. Total revenue for the ten water and sewerage authorities was £2.250 million in 1985, £3.170 million at privatization in 1989, and £5.155 million in 1995.

Some 95 per cent of domestic sales, however, (about two-thirds of total sales) are not related to the amount of water consumed; they are based on a property's rateable or taxable value. The volume of water delivered and sewage collected has, in fact, declined since 1991-92, largely because of a drop in industrial demand due to recession and the changing composition of industry in Britain. Thus, increased revenues were not the result of selling more water but of higher prices, set by the price cap formula.

Not all the sales revenue is profit, however. Averaged over 1985-1995 for the ten water and sewerage companies as a whole, about 29 per

cent of sales revenue went towards paying for bought-in goods and services, such as energy, advertising and public relations. This is low compared to the 60-70 per cent in manufacturing and 80 per cent in retailing. This is because the water industry does not have to pay for its raw materials, water and sewage, while many of its activities are carried out "in house".

Labour costs averaged over these ten years were just 28 per cent of what was left of sales revenues, again lower than in manufacturing (70 per cent) and the retail sector (40-45 per cent).

Employment in the water industry has been falling for some time. It dropped by 17 per cent between 1981-85 and by 11 per cent between 1985-89 — an indication that most of the "efficiency savings" were made *before* privatization, not after. There was a further 10 per cent fall in employment at privatization, since when employment costs have been reduced still further by introducing non-standard, individual labour contracts and contracting out some work. It is doubtful whether labour costs could be reduced any further without severely affecting service delivery. (Anglian Water, however, announced in February 1997 its plans to make about six per cent of its workforce redundant to save £10 million a year, while Southern Water, recently taken over by Scottish Power, has announced that it will sack nearly half its workforce.)

The next claim on revenues is capital depreciation and maintenance which takes another 20-25 per cent of what is left having paid for bought-in goods and services. This proportion is much higher than in many other industries because of the water industry's vast and aging underground network of infrastructure — water mains, sewers, impounding and pumped water storage reservoirs, dams and sea outfalls — all of which have to be maintained indefinitely.

Taxes, debts and interest on loans also have to be paid, but at present, the government and bankers exact a small toll from the water businesses. In the six years since privatization, despite corporation tax of 35 per cent, the water companies have paid almost nothing in tax as a result of tax allowances set at privatization and capital allowances on the investment programme. In addition, the industry's £4.95 billion debt was written off at privatization.

Thus an extraordinary feature of the water and sewerage industry compared to other industries, even before it was privatized, is that the largest share of the sales revenue is profit, an average of 51 per cent over 1985-1995. Whether in public or private hands, water and sewerage is probably the most cash generative business in the country.

## Capital Expenditure to Meet EU Standards

Most of the capital investment since 1989 on the water industry's overground assets has been necessitated by stricter EU legislation designed to clean up coastal waters and to improve the quality of drinking water and treatment of urban waste water. At privatization, a plan was agreed between each water company and OFWAT as to its proposed investment over the subsequent five years.<sup>8</sup>

Since privatization, the water industry as a whole spent five per cent more on capital expenditure for water services than it had budgeted for, although some companies (notably Southern, Severn Trent, Yorkshire, Wessex and Northumbrian) spent less. Nearly all the companies, however, underspent their capital expenditure budgets for sewerage services. Overall, for the ten water and sewerage services combined, the companies spent £235 million less than they had budgeted for.

Yorkshire Water had hoped to save £50 million on sewage treatment works when the Department of the Environment redefined the coastal waters as starting within three miles of

Hull. This would have enabled Yorkshire Water to dump untreated sewage straight into the Hull estuary which had been redefined as "sea".<sup>9</sup>

Meanwhile, shortly after Thames Water's £2.1 billion investment plans had been accepted by OFWAT, the company announced that it was going to spend only £1.75 billion as a result of "efficiency" savings it intended to make.

OFWAT reported in 1992 that capital expenditure was "15 per cent below the level assumed in 1989," but maintained that the drop was because construction costs had declined.<sup>10</sup> Anticipating public criticism, the regulator also stated that, while the companies were required to achieve certain standards, they were not required to spend a specified amount of money on doing so. No evidence has been provided in either company accounts nor OFWAT reports as to which capital investment projects specified in the 1989 plans have actually been carried out; the proportion of proposed projects which have been implemented; nor the extent to which those which have been carried out meet the required quality standards and levels of service.<sup>11</sup>

If the companies have indeed carried out their investment plans as specified, then it is difficult to avoid the conclusion that inflated investment estimates provided the basis for higher prices for consumers. And whereas the companies can ask OFWAT to increase the prices they can charge if standards rise or their investment costs increase, consumers have no similar redress if investment is less expensive than expected or, more importantly, if companies fail to invest adequately.<sup>12</sup>

If, on the other hand, the companies have not carried out their investment plans as specified, savings have been made at the expense of the environment and public health.

## Maintaining the Infrastructure

The second aspect of capital expenditure relates to the repair and maintenance of the water and sewage infrastructure — the underground network of water mains, sewers and storage reservoirs.<sup>13</sup>

The accounts show that it would cost about £110 billion to replace the infrastructure assets at today's prices. Since the underground network has a life expectancy of about 60-100 years, this would imply spending about 1-2 per cent of the current replacement cost of the assets every year. Rather more would be needed to restore the underground network to a satisfactory state, given that the infrastructure is in such in poor condition. Over the six years since privatization, one could therefore expect an expenditure of at least 10-12 per cent of the asset value.

Since privatization, however, the ten companies have spent about £1.7 billion in total to maintain the infrastructure, just 1.5 per cent of the current asset value. Expenditure on maintenance is now at about the same level it was before privatization when revenues were much lower and when it was widely acknowledged — not least by the water industry's current management — that expenditure on maintaining the infrastructure was inadequate. Indeed, the government justified water privatization on the grounds that large investment was needed in the infrastructure which only the private sector could provide.

Moreover, what has actually been spent on maintaining the infrastructure has been lower than the provision for such maintenance every year since privatization. As with capital expenditure, the underspend has been largely in sewerage maintenance — £680 million actually spent compared to £904 million put aside for maintenance.

Overall, this implies a significant deterioration of an old and decaying infrastructure with important public health implications — an increase in smells, the rat population and the possibility of sewage leaking through cracked sewers into the groundwater and water system. Consumers, however, have paid for their water and sewerage services at prices intended to cover infrastructure maintenance.

In its first Periodic Review, held in July 1994, OFWAT allowed levels of maintenance expenditure to continue on the grounds that such levels had maintained services in the five years under review.<sup>14</sup>

The regulator also claimed that the original plans had "overstated the required level of expenditure since companies have achieved the volume of work programmed at privatization at lower prices,"<sup>15</sup> even though no evidence of this has been made public. Implicitly, the regulator gave his approval to running down the underground network.<sup>16</sup>

## Network Performance Measures

While financial analysis clearly shows an underspend on asset investment and maintenance, non-financial measures relating to the performance of the network — the number of leakages, sewer collapses or burst water mains, for instance — may indicate whether water and sewerage services are in fact being maintained satisfactorily.

Little information is publicly available about network performance, however. The only evidence is indirect — the length of water mains and critical sewers renewed or replaced, the number of communications pipes replaced since 1989, and the amount of water lost due to leakages.<sup>17</sup>

About 3.7 per cent and 3.9 per cent of the water mains in England and Wales have been relined and renewed respectively since 1989. About 0.8 per cent of the critical sewers, estimated to be 20 per cent of the total sewerage system, have been renovated and replaced — Yorkshire Water stands out as having done little to renovate or renew critical sewers. Meanwhile, five per cent of the pipes connecting a total of 21 million properties to the water and sewerage system have been replaced. If such levels of investment continue, it would take more than one hundred years to reline or replace the water mains and five centuries to renew or replace critical sewers. Victorian civil engineering was good — but not that good.

OFWAT has claimed that good progress is being made in renovating old stock (that which is more than 60 years old). Since 14 per cent of the old stock had been replaced since 1989 and a further 14 per cent renovated, it concluded that it would take about 33 years to replace the remaining stock over 60 years old. Without taking account of the aging of the rest of the stock, OFWAT stated that "taken together with the renewals programme, this implies a significant catching up on maintenance of older assets."<sup>18</sup>

Most of the renewals and renovation took place immediately after privatization, and the rate of work is now declining, a fact which OFWAT has interpreted as indicating that:

"urgent renewals and renovation activity on critical sewers has been completed, and the emphasis of maintenance expenditure is returning to renovation rather than renewal".<sup>19</sup>

The only other information available about the state of the water and sewerage network is the amount of leakages. More than 30 per cent of the water distribution input is lost through leakages, largely at pipe joints. Actual losses are rising because the higher the losses, the more input has to rise to meet demand. Losses from the companies' underground network were estimated at 77 per cent of total losses in 1995, the rest being lost from reservoirs and customers' supply pipes.

The companies themselves have set voluntary leakage control targets. The targets set by Thames and Yorkshire in 1993-94 were less demanding than those in their 1989 plans on which the prices charged to consumers were based. Only three companies had achieved their 1990 targets by 1994-95.

Some companies argued at the time of OFWAT's first Periodic Review in 1994 that additional expenditure had to be allowed for increased leakage control activity. OFWAT rejected this claim on the grounds that "the levels of capital maintenance expenditure allowed for are sufficient to maintain current leakage levels."<sup>20</sup> The regulator did not seem to view the issue in terms of reducing leaks or meeting other performance targets. As a result of public concerns, however, the regulator

stated in 1996 that if the companies failed to meet their targets in future, he would recommend mandatory action or make adjustments to prices in the next five-year Price Review.<sup>21</sup>

The absence of detailed and consistent expenditure listings by service and activity and of measures of physical performance on a company-by-company basis makes it difficult to relate leakage control to expenditure on the infrastructure, or indeed to relate any aspect of performance to financial expenditure.

OFWAT publishes no other system performance measurements nor makes them available for public inspection, even though it does collect such information.<sup>22</sup> It does not require the companies to provide an aging analysis of their assets nor the length of its defective pipes. None of this information, vital for understanding the financial expenditure required to maintain the system, can be described as "commercially confidential" when the companies operate as regional monopolies.

Thus, not only is it unclear the extent to which the companies are maintaining the water and sewerage system: it is even less clear how the regulator checks their investment plans and expenditure relative to the objective requirements, and whether the regulator is monitoring and, more importantly, requiring the companies to maintain the system. Indeed, an independent inquiry into Yorkshire Water's supply failure in the summer of 1995 pointed out that OFWAT had reviewed the company's plans in 1994 and had not drawn attention to any deficiencies.<sup>23</sup>

## Levels of Service

There are other non-financial measures of performance, however, which may give a better indication of whether water and sewerage services are being maintained or not.<sup>24</sup> In the run-up to privatization, quality indicators and levels of service indicators, which reflect the adequacy and performance of the underground assets, were defined and agreed jointly between the companies, the government and OFWAT. Levels of service indicators assess:

- adequacy of water resources;
- water restrictions;
- adequacy of water pressure;
- unplanned interruptions to supply;
- the risk of sewerage flooding;
- customer billing queries;
- customer complaints;
- customer compensation.

Several of these indicators were set in 1989 by the companies themselves, which also set their own voluntary levels of service targets to be met by the time of the first review.<sup>25</sup>

Overall, the poor quality of OFWAT's information makes it difficult to draw any firm conclusions about levels of service. Most of the companies have not achieved their voluntary, not particularly onerous, targets; a few companies have performed



*A member of the public service union, Unison, demonstrating at the 1996 annual general meeting of South West Water against the high salaries and other benefits awarded to the "fat cats", the directors of the water and other privatized utilities.*

very badly on a particular indicator. OFWAT does not compare the companies' actual performance with their targets, and, before 1995, gave no indication of any action it had taken concerning the underperforming companies.

According to the companies' own assessment of the adequacy of their water resources and the risk of water restrictions during a dry period, some 12 per cent of the population throughout England and Wales (6.4 million people) were considered to be at risk of water shortages in 1994-95 in the event of drought. The locations of those estimated to be at risk of water restrictions and those who did not, in fact, have adequate water during the dry summer of 1994 (and indeed in other years) did not correspond closely. Yorkshire Water brought in a hosepipe ban in 1994 and had had hosepipe bans in four of the previous six years, yet did not predict that its customers would be at risk of restrictions. Public pressure compelled OFWAT to recognize in 1995 that the companies' own assessments of whether their water supply was adequate were inaccurate.

More than ten per cent of the population were affected by water shortages, as reflected in hosepipe bans, in three of the five years ending March 1995. Yet OFWAT defined a reasonable reference level in measuring the adequacy of a company's water resources as "hosepipe bans, on average, once every ten years".<sup>26</sup> Several companies breached this criterion.<sup>27</sup>

The total number of properties throughout England and Wales below the industry's and OFWAT's criterion for adequate water pressure is about 180,000. Yet OFWAT noted that "company studies of their systems led to the discovery that 37,000 properties previously considered to receive adequate pressure were in fact at risk of receiving low pressure".<sup>28</sup> Yorkshire had the worst performance concerning water pressure of all ten companies, well below its target.<sup>29</sup>

As to the number of unplanned interruptions to supply lasting 12 hours or more because of burst mains, five companies reported fewer unplanned interruptions by 1995, while the

performance of the other five deteriorated. Yorkshire showed a marked deterioration. Only two companies met their targets, even though none of the companies' targets were onerous in relation to performance levels in 1989-90.

All the companies performed below OFWAT's reference level for the number and percentage of properties considered by the companies to be at risk of sewage flooding more than twice in ten years due to heavy rain. In 1995, the regulator stated that improvement would be a gradual process because of the high level of investment required. The data on the number of properties which have actually been flooded is collected and reported, but it is not used as an official indicator of performance. There was a wide variation between the companies' ability to predict the number of floodings and the actual number of floodings.

The number of customer billing queries between 1992-1995 was high given that water and sewerage charges are more or less the same each year, unlike other utility bills which depend upon meter readings. The percentage of complaints rose but tapered off in 1994-95.

Since 1993, the water companies have been required to pay compensation if they fail to deliver certain standards of service. Fewer payments were made in 1994-95 than in 1993-94, but as the regulator pointed out, this was less than warranted by their poor performance because many customers were unaware of the compensation scheme.

Despite all these indicators, OFWAT has concluded that "although there are occasional fluctuations in levels of performance, the overall trend has been one of steady improvement."<sup>30</sup> Reporting on the levels of service for 1994-95, the regulator stated he had written to those companies whose performance was particularly poor.<sup>31</sup> In fact, he did so only after public concern began to emerge.

## Quality Indicators

Like the information about level of service indicators, little data is available to indicate whether the billions of pounds made available to the water companies via price rises since privatization have been used to meet water quality and sewage treatment standards. For instance, information relating to each company's compliance with quality standards has not been presented, analysed, interpreted or related to past and projected investment.<sup>32</sup>

OFWAT did present some data relating to water quality for the first time in 1995,<sup>33</sup> information which was largely obtained from the other two regulators of the water industry, the Drinking



*A member of the group Surfers Against Sewage, which campaigns against untreated sewage being discharged into the sea, collects solid matter from a Cornish beach washed ashore from a nearby sewage outfall.*

Water Inspectorate, which monitors the quality of drinking water, and the Environment Agency, which oversees environmental regulation and implementation of EU directives. On the basis of this data, OFWAT reported a general improvement in water quality, yet did not provide comparative historical data to substantiate this conclusion.

More information is available from the Environment Agency on unsatisfactory sewerage services. In 1994-95, five companies were discharging effluent in breach of their consent licences, meaning that across the country as a whole, nearly seven million people were not served with adequate sewerage treatment. Yet without presenting historical data (even though it was available), OFWAT stated that in 1994-95 the proportion of sewage treatment works in breach of the discharge regulations had dropped from six per cent to two per cent over five years, meaning that only 12 per cent of the population were affected.

Some 4.8 million people were served by unsatisfactory sea outfalls — untreated sewerage discharge straight into the sea — a

category in which North West Water and Welsh Water were the worst offenders. This practice will become illegal in 1998, but the extent to which it was occurring in April 1995 raises doubts as to whether the water and sewerage companies will be able to comply with the law by then. Again, without providing historical data, OFWAT described the reduction in the number of unsatisfactory sea outfalls as a "gradual improvement in performance."<sup>34</sup>

Unsatisfactory sewage overflows — the percentage of combined sewers (foul and surface water) which flood during heavy rainfall — is still a problem as well. Because combined sewers of this type are inherently unsatisfactory, in the late 1960s the government and the then publicly-owned water industry decided to replace these wherever possible. Yet little appears to have been done.

Overall, sewerage services are still far from satisfactory and may well constitute an environmental and public health hazard. OFWAT, however, has merely noted that:

"Price limits allow for companies to maintain compliance with current standards and achieve compliance with new quality standards. The progress in delivering these quality standards is being monitored and will be reported on over the next five years."<sup>35</sup>

Nothing is being done to ensure that the necessary investment takes place. The regulator's failure to publish information in a consistent form which can be easily interpreted is enabling the companies to avoid the costs of compliance.

As to pollution, North West, Severn Trent, Welsh and York-

shire were the worst offenders in terms of the number of pollution incidents reported, but few successful prosecutions resulted.<sup>36</sup>

On the basis of the level of service indicators and quality indicators, some companies are clearly not maintaining adequate water and sewerage services.

## Ineffective Regulation

Economic regulation has obviously provided the companies with ample financial resources; it has not, however, protected the public. Not only has the money allocated for capital investment and maintenance not been spent on such expenditure; more importantly, the original allocation for maintenance was inadequate. The failure of the public water supply within six years of privatization was not simply an aberration or because of a rogue company or freak weather conditions: it was systemic. Why were government plans to protect consumers through regulation so ineffective?

OFWAT has three means of enforcing performance standards from the water companies: the price capping mechanism; company licences; and statutory regulations. So far, it has relied predominantly on price capping penalties — or rather the threat of such penalties — to nudge water companies into improving their standards of performance. The regulator has applied to the government just once to issue regulations concerning the compensation scheme. OFWAT has not requested that any of the levels of service indicators or targets become mandatory.<sup>37</sup>

To date, achievement — or lack of achievement — of performance targets has not played an explicit part in reviewing the price cap. The regulator does, however, seem prepared to take account of such failures in the price setting process in future. For instance, he commented in 1996:

“If companies fail to meet these [leakage] targets in 1997-98, I will take action, for example, by recommending mandatory targets . . . I will also take account of such failures at the next price review”.<sup>38</sup>

But the regulator has still opted for a mix of persuasion and licence renegotiation to address performance rather than pressing for mandatory legal standards. As a result of public pressure, he has persuaded a number of water companies to make “voluntary” rebates to its customers because of company failure to comply with performance standards. But rebates, voluntary or otherwise, do not address the issue of how performance standards are to be maintained or improved.

Apart from OFWAT's letters

of rebuke to offending companies in 1995, no action was taken on leakages until the hot summer of 1995 when OFWAT decided to enquire more deeply into the performance of three companies, North West, South West and Yorkshire Water, in the worst affected areas. The regulator concluded that Yorkshire Water had seriously failed to make the necessary arrangements to maintain adequate supplies of water, in particular by not controlling distribution losses, nor minimizing supply interruptions and flooding from sewers. He added that “The company had not paid sufficient attention to these matters and did not have adequate plans to deal with them”.<sup>39</sup>

But rather than taking enforcement action against Yorkshire Water, the regulator accepted in 1996 a “formal” undertaking from the company to improve its performance by 1997-98 in relation to sewage flooding and leakage, plus improvements in other services. In addition, the company agreed to amendments of its licence conditions requiring the company to pay dividends only if its ability to finance its business was not impaired.<sup>40</sup> Clearly, the regulator prefers to use his pricing powers rather than statutory enforcement duties to address service level performance.

Mandatory standards enforced by the regulator would certainly enable all parties — water companies, OFWAT and consumers — to know when and to what extent general duties had been contravened. Yet under existing legislation, the regulator has a discretion *not* to enforce even mandatory standards if by doing so he would override his duty “to ensure . . . that [the water companies] are able to finance their functions” — and the functions of a privatized company include paying out shareholder dividends.<sup>41</sup>

The legislation clearly recognizes the conflict between making profits and providing a certain level of service — and resolves it in favour of profit. If the regulator asserts that water companies are adequately financed and performing their functions properly, yet levels of service are falling, he is implicitly accepting that the British public have to live with a privatized industry which charges higher prices for services of lower standards. If, on the other hand, he accepts that the infrastructure is not being maintained sufficiently so as to ensure future levels of service, he must take this into account in the five-year Price Review. The companies, however, can apply to increase their prices so as to maintain the infrastructure. For this reason, the regulator has warned *against* statutory maximum levels of leakages.<sup>42</sup> The alternative would be for the companies to borrow more. Either way, prices would sooner or later be allowed to rise.



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## Going Through the Motions

OFWAT has indeed ensured, via rising prices, that the water and sewerage companies have had the finances to provide water and sewerage services. The companies, however, have underspent on their budgeted investment and infrastructure maintenance programmes and, most importantly, made insufficient provision for such maintenance.

The implications are twofold. Firstly, some areas have not been, and may not in the future be, adequately resourced in the event of low rainfall. Any such shortage would be the result of inadequate maintenance of the infrastructure, not an unexpected and sudden increase in demand, nor the result of weather conditions. Secondly, some areas are likely to face problems with their sewerage services as the sewers crack, leak and collapse. Both these implications have major public health implications.

The water industry, as the provider of one of society's essential services, is the most cash generative sector in the country. The cash surplus has been drained as generous dividends have been given to shareholders; spectacularly unsuccessful acquisitions outside the core business of water and sewerage made, resulting in huge losses; and the remaining surplus cash recycled as interest bearing loans. The water companies have also had to borrow externally to finance the investments they have carried out.

This has all been accompanied by regulation supposedly to protect the consumer, ensure levels of service provision for the future and prevent monopoly profits — regulation which played a crucial role in legitimizing privatization. The form of

regulation chosen by the government, price capping, determined increased sales revenues and permitted the generous disbursement of profits into dividends and acquisitions. The level of profits have been maintained at the expense of the infrastructure which consumers will ultimately have to pay for in the future, as borrowing increases to fund the investment programme.

Given OFWAT's overriding concern to maintain the ability of the companies to finance their operations, it seems likely that prices will continue to rise. The cost of paying out dividends, the investment programme and the maintenance of the infrastructure will be borne by the customer.

The origins of a publicly-owned water industry in Britain lie in the Public Health Acts of 1848 and 1875; it was recognized in the nineteenth century that the private sector could not be relied upon to provide "wholesome" water or sewerage services commensurate with public health and safety. The private ownership of services vital for everyone's well-being is no more successful at the end of the twentieth century than it was in the nineteenth century. All the ambiguities and contradictions in the regulatory process stem from the fact that it is impossible to satisfy all the claims of those with an interest in a privately-owned water industry, particularly those of shareholders and customers. In attempting to do so, the regulator is both swimming against the tide and going through the motions.

For a full copy of this paper with financial and other tables broken down by company and/or year, please contact Dr Jean Shaoul, Department of Accounting and Finance, University of Manchester, Manchester M13 9PL, UK. Tel +44 (0)161-275 4027; Fax: +44 (0)161-275 4023; E-mail: <jean.shaoul@man.ac.uk>

## Notes and References

1. These ten companies are Anglian Water, Northumbrian Water, North West Water, Severn Trent Water, Southern Water, South West Water, Thames Water, Welsh Water, Wessex Water and Yorkshire Water. Britain's water industry comprises these ten companies and the already privately-owned Statutory Water Only Companies (reduced in number via takeovers and mergers from 29 to 19 as of April 1996). This article considers the ten water and sewerage companies only and excludes the water only companies.
2. Department of the Environment, "Privatisation of the Water Authorities in England and Wales", Cmnd 9734, HMSO, London, p.13.
3. The head of OFWAT is Ian Byatt. A Drinking Water Inspectorate was set up to monitor the quality of drinking water, while environmental regulation and implementation of EU directives went to the National Rivers Authority (part of the Environment Agency since April 1996). The NRA assumed overall management and resource planning of the water environment; to a large extent, this determines how much the privatized water companies have had to invest in, for example, the management of urban waste water and the clean-up of coastal waters.
4. OFWAT, "Future Charges for Water and Sewerage Services", Report, Birmingham, 1994.
5. OFWAT, "Issues involved in Regulation of Privatised Water Utilities", Speech by Alan Booker, Deputy Director General, OFWAT, to the Institute for International Research, Malaysia, "Financing Water Utilities Symposium", 1992.
6. The formula devised for British Telecom and used in the other privatized utilities. See Littlechild, S., "Regulation of British Telecom's Profitability", report to the Secretary of State, Department of Trade and Industry, HMSO, London, 1983; Littlechild, S., "Economic Regulation of Privatised Water Authorities", Department of the Environment, HMSO, London, 1986.
7. The other privatized and regulated utilities had been required to reduce their prices in real terms, whereas the regulatory mechanism for the water industry provided for rising real prices so as to provide the finances to comply with EC legislation mandating higher water quality and waste water treatment standards. It was estimated in the 1980s that more than £28 billion needed to be invested to compensate for years of neglect and underinvestment and to meet rising public health standards. This estimate was revised upwards in 1990 and additional investment required. The European obligations would have made the privatization unattractive to potential buyers unless they could be recouped by price rises. See OFWAT, Annual Report 1990, Birmingham, 1990; OFWAT, "1992-93 Report on the Capital Investment and Financial Performance of the Water Companies in England and Wales", Birmingham, 1993; OFWAT, op. cit. 4.
8. In 1990, OFWAT costed this investment for all the water companies in England and Wales up to the year 2000 at £30.5 billion at 1990-91 prices. For the five years 1995-2000, the 1990 projections estimated that the programme of improved standards and maintenance projects would cost £14.3 billion. In 1994, these were scaled down by one billion pounds despite inflation rising at about three per cent per year. The 1994 estimates did include another £11 billion for the Urban Waste Water Treatment and Disposal programme and other EC requirements not included in the earlier projections. See OFWAT, op. cit. 4.  
In addition to the drop in projected investment costs, actual expenditure has fallen as well. Investment between April 1989 and March 1995 totalled £11.360 billion, but cost the companies considerably less because such investment qualified for tax allowances. The projected gross expenditure for 1990-1993 (at 1990-91 prices) was £9.946 billion for all the companies, but the actual net cash spend was £9.2 billion, a considerable shortfall in real terms. See OFWAT 1990, op. cit. 7.
9. The local authority obtained a reversal of this definition via a Judicial Review.
10. OFWAT, "1991-92 Report on Capital Investment and Financial Performance of the Water Companies in England and Wales", Birmingham, 1992, p.4. Since 1992, OFWAT has provided data about the actual and expected expenditure levels for each of the companies on water, sewerage and both services together. See OFWAT, op. cit. 4; OFWAT, "1994-95 Report on the Financial Performance and Capital Investment of the Water Companies in England and Wales", Birmingham, 1995.
11. There are indications that, contrary to most major capital expenditure programmes, for instance, the Channel Tunnel between Britain and France, capital investment in the water and sewerage industry turned out to be less expensive than expected. But the companies were not investing in uncharted waters; the total projected spend was for numerous relatively small-scale projects whose technologies and costs were well-known. It should not have been difficult to specify or cost the investment programme accurately. The plans were never made public, nor the extent to which the original plans were adequate to meet statutory obligations and wider public health requirements.

- See OFWAT, op. cit. 10.
12. The regulator, in part at least as a result of the public outcry over the rising water prices, reviewed prices at the end of the first five years, instead of allowing the price formula to stand for the 10 years as intended. The first Periodic Review in July 1994 set an average price increase of inflation, as measured by the Retail Price Index, plus 2 per cent. OFWAT did not claw back to any significant degree any of the profits via the price formula either during or at the end of the initial five-year period. See OFWAT, op. cit. 4.
  13. Any expenditure on overground assets or on increasing the capacity of the underground network is classified as investment on additional assets and depreciated annually. Any expenditure on maintaining the underground network is classified as "renewals"; the water companies average the anticipated cost of maintenance over a certain period and charge it as an annual operating expense. Thus "renewals" is not an accurate reflection of actual expenditure in any one year, although the over and underspend should balance out at the end of the specified term. As part of its 1989 asset management plan, each company estimated how much it needed to spend on maintenance over the following five years (this period has been changed without explanation to 15 years) and then allocated a proportion of this each year.
  14. OFWAT, op. cit. 4, p.37.
  15. OFWAT, op. cit. 10, p.43.
  16. The total cash generated by the water companies since privatization was more than the total expenditure on investment and provision for infrastructure maintenance. In other words, the companies could have covered their investment expenditure from revenues if they had not had to satisfy the demands imposed by private ownership for dividends and future dividend growth. Instead, investment has been increasingly financed by loans. Some parent companies are recycling cash generated by the water companies back to the companies in the form of interest-bearing loans, thereby earning interest from the core businesses but at the same time increasing their costs. See OFWAT, "1993-94 Report on the Financial Performance and Capital Investment of the Water Companies in England and Wales", Birmingham, 1994.
  17. OFWAT, op. cit. 10.
  18. *Ibid.*, p.46.
  19. *Ibid.*, p.46.
  20. OFWAT, op. cit. 4, p.43.
  21. OFWAT, "Leakage of Water in England and Wales", Report, Birmingham, 1996.
  22. The information which it collects as part of the annual July return was made available for the first time at the end of 1996. See OFWAT, "Format for the July Return, Regulatory Accounts and Information from Quality Regulators from 1996", Birmingham, 1996.
  23. Uff, J., "Water Supply in Yorkshire", Report of the Independent Commission of Inquiry, Tourcrete Ltd, London, 1996.
  24. Some of this information is provided by OFWAT in its reports on the levels of service and the financial performance and capital investment. Other information is provided by the Drinking Water Inspectorate and the Water Services Association, the companies' trade association.
  25. The status of these levels of service indicators and targets is far from clear. While at least one company has argued that they are obligations flowing from the statutory duties imposed on the companies, the regulator has variously interpreted them to be free-standing indicators of performance; criteria of satisfactory performance to be used as the basis for rewards or penalties during the five-year Price Review; and indices which determine how much extra maintenance expenditure needs to be allowed for in the next Price Review. See OFWAT, op. cit. 4; Monopoly and Mergers Commission, "South West Water Services Ltd", A Report on the Determination of Adjustment Factors and Infrastructure Charges for South West Water Ltd, HMSO, London, 1995.
  26. OFWAT, "1994-95 Report on the Levels of Service of the Water Companies in England and Wales", Birmingham, 1995, p.40.
  27. The number of drought orders obtained by the water and sewerage companies has declined since 1989 because rainfall during the summers in the early 1990s was relatively high. The information on water shortages was obtained from the Water Services Association. It was published by OFWAT in this form in 1992 only, a good year. OFWAT did, however, publish information on water use restrictions on a national basis, but in such a format that does not permit evaluation of company performance over time.
  28. OFWAT, op. cit. 26, p.20.
  29. OFWAT, "Levels of Service Report for the Water Industry of England and Wales 1993-94", Birmingham, 1994. In 1994-95, Yorkshire did achieve its target but was still the worst performer.
  30. OFWAT, op. cit. 26, p.4. Some of the service standards are directly enforceable by customers via the Guaranteed Standards Scheme (GSS), introduced under statutory regulation Water Supply and Sewerage Services (Customer Service Standards), amended in 1993. The GSS allows customers to claim compensation in the event of a water company failing to: keep an appointment; respond within 20 days to an account query or complaint; install a meter after payment; give notice of a planned supply interruption or failing to restore the supply within specified period; restore supply within 24 hours after an unplanned interruption; or sewer flooding. As the 1996 independent enquiry into Yorkshire Water remarked, there is no right to compensation, either as a guaranteed standard or as a legal right, for interruptions to water supply, even if the interruption amounts to a breach of the company's licence condition. See Uff, J., op. cit. 23.
  31. OFWAT, op. cit. 26.
  32. The regulator has announced that in future he intends to measure investment by outputs. See OFWAT, op. cit. 10.
  33. *Ibid.*
  34. OFWAT, op. cit. 26, p.32.
  35. *Ibid.*, p.32.
  36. This seems to be because the NRA is unwilling to prosecute rather than any inability to obtain convictions in the courts. Failure to prosecute means that there are no effective sanctions against the companies which therefore have no reason to improve.
  37. OFWAT's main methods of monitoring the water companies' compliance with their duty to maintain an efficient and economical system of water supply sufficient for domestic purposes are system performance measures, levels of service indicators, and quality indicators. If performance against these measures is sufficiently poor to constitute breach of the water companies' duties, it could result in statutory enforcement proceedings. Domestic purposes is defined as "water supplied on any premises for drinking, washing, cooking, central heating and sanitation. In relation to houses, it also includes water used for garden watering and car washing, but only if the water is drawn from a tap inside the house without using a hosepipe or similar device". Similar duties exist in relation to the sewerage service.
  38. OFWAT, op. cit. 21, p.2.
  39. OFWAT, "Report on the Conclusions From OFWAT's Enquiry into the Performance of Yorkshire Water Services Ltd", Birmingham, 1996, p.1.
  40. *Ibid.*, p.3.
  41. As OFWAT stated, "Those who bought the original shares and retained them up to March 1994 would have made an annual return of between 25 and 34 per cent in real terms after the payment of income tax at the standard rate." The average return on the ten water companies and the FTSE 100 index for the period since privatisation was 94 per cent and 35 per cent respectively. Water shares outperformed the market by nearly 300 per cent. The regulator drew no conclusions from the fact that shareholders had earned an above average return on their original investment. See OFWAT, op. cit. 4, p.38.
  42. OFWAT, "Mandatory Leakage Targets Will Mean Higher Customer Bills Says OFWAT", News Release, Birmingham, 31 October 1995.

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# The Authoritarian Biologist and the Arrogance of Anti-Humanism Wildlife Conservation in the Third World

by

Ramachandra Guha

*Wildlife conservation programmes in the Third World have all too often been premised on an antipathy to human beings. In many countries, farmers, herders, swiddeners and hunters have been evicted from lands and forests which they have long occupied to make way for parks, sanctuaries and wildlife reserves. This prejudice against people is leading to new forms of oppression and conflict. Biologists, who seek to preserve wilderness for the sake of "science", have been a major force in fomenting such prejudice.*

**"Where will be taxonomists and evolutionists when cows and corns dominate the earth?"**

Hugh Iltis, US botanist 1967<sup>1</sup>

**"If biologists want a tropics in which to biologize, they are going to have to buy it with care, energy, effort, strategy, tactics, time and cash."**

Daniel Janzen, US conservation biologist, 1986<sup>2</sup>

**"Conservation and biology are interdependent and inseparable because biology is at the heart of all phases of conservation and is the ultimate arbiter of its success and failure."**

David Ehrenfelds, *Conservation Biology*, 1987<sup>3</sup>

**"Any grandiose plan for the conservation of wild life without adequate provision for human interests is doomed to fail. Conservation in developing countries often has to be a compromise between scientific idealism and practical reality."**

Raman Sukumar, Indian ecologist, 1985<sup>4</sup>

When India became independent in 1947, it had less than half a dozen wildlife reserves; now it has more than 400 parks and sanctuaries which cover 4.3 per cent of the country, and there are proposals to double this area. Wildlife conservation is not only extensive; it is also big business, and not just in India. In response to a growing global market for nature tourism and egged on by strong domestic pressures, other Asian and African nations too have undertaken ambitious programmes to conserve and demarcate habitats and species so as to "protect them for posterity".

Five major groups together fuel the movement for wildlife conservation in the Third World. The first are city-dwellers and foreign tourists who season their lives a week or a month at a time with sojourns in the "wild". Their motive is straightforward: pleasure and fun. The second group comprises ruling elites who view the protection of particular species, the tiger in

India, for instance, as central to the retention or enhancement of national prestige. Spurring on this process is a third group, international conservation organizations, such as the International Union for Conservation and Nature (IUCN) and the Worldwide Fund for Nature (WWF), which work to "educate" people and politicians to the virtues of biological conservation. A fourth group consists of functionaries of the state Forest or Wildlife Service which is mandated by law to control the parks. While some of these officials are inspired by a love of nature, the majority — at least in India — are often motivated by the power and benefits (overseas trips, for example) that come with the job. The final group are biologists, who believe in wilderness and species preservation for the sake of "science".

These five groups tend to be united in their hostility to the farmers, herders, swiddeners and hunters who have lived in the "wild" from well before it became a "park" or "sanctuary". They regard these human communities as having a destructive effect on the environment, their forms of livelihood aiding the disappearance of species and contributing to soil erosion, habitat simplification, and worse. Their feelings are often expressed in strongly pejorative language. Touring Africa in 1957, for instance, a prominent member of the US Sierra Club sharply attacked the Maasai for grazing their cattle in East African sanctuaries. He held the Maasai to be illustrative of a larger trend, wherein "increasing population and increasing land use" — rather than industrial exploitation — constituted the main threat to the world's wilderness areas. The Maasai and "their herds of economically worthless cattle", he said, "have already overgrazed and laid waste too much of the 23,000 square miles of Tanganyika they control, and as they move into the Serengeti, they bring the desert with them, and the wilderness and wildlife must bow before their herds".<sup>5</sup>

Thirty years later, the World Wildlife Fund (WWF) initiated a campaign to save the Madagascar rainforest, home to the Ring Tailed Lemur, the Madagascar Serpent Eagle, and other endangered species. Their fund-raising posters had spectacular sketches of the lemur, the eagle and the half-ton Elephant Bird, which once lived on the island but is now extinct. The human race "is a relative newcomer to Madagascar", noted

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the accompanying text, “but even with the most basic of tools — axes and fire — he [sic] has brought devastation to the habitats and resources he depends on”. The posters also depicted a muddy river with the caption: “Slash-and-burn agriculture has brought devastation to the forest, and in its wake, erosion of the topsoil”.<sup>6</sup>

This poster succinctly sums up the conservationist position with regard to the tropical rainforest: the enemy of the environment is the hunter and farmer living in the forest, who is too short-sighted for his, and our, good. This belief (or prejudice) has informed numerous projects across the world to constitute nature parks by throwing out the human inhabitants of these areas, with scant regard for their past or future in the name of the global heritage of biological diversity.

## Ecologists as Arbiters

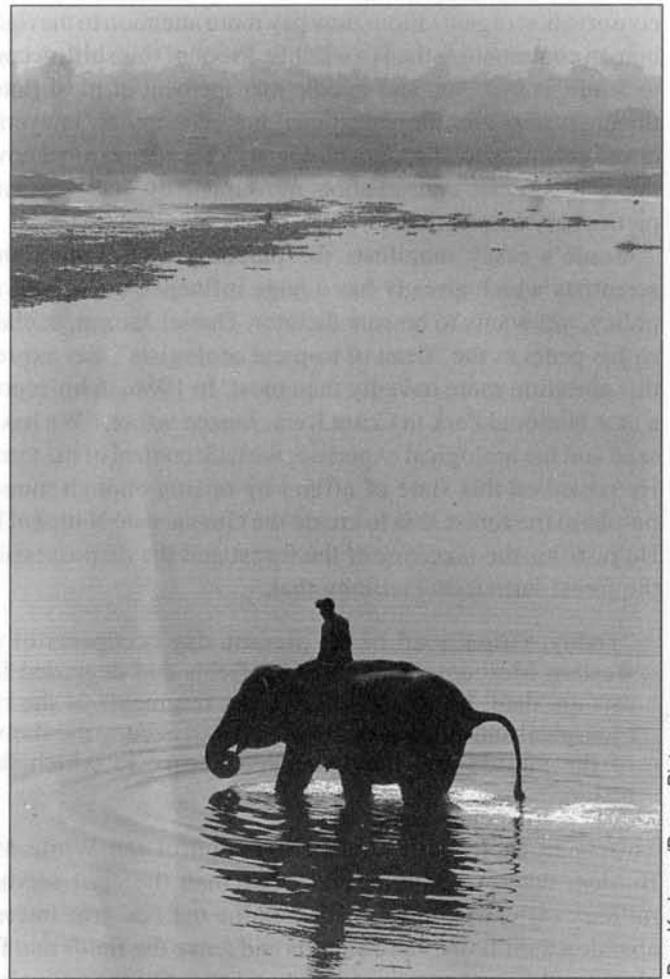
Biologists have been in the vanguard of today’s environmental movement. The author of *Silent Spring*, the work considered by common consent to have sparked modern environmentalism, was a biologist, Rachel Carson. So were numerous scholars and writers who shaped the environmental debate in the 1960s and 1970s — Garrett Hardin, Paul Ehrlich and Ray Dasmann in the United States; C. J. Bregér in The Netherlands; F. Fraser Darling and Julian Huxley in Britain; and Bjorn Gillberg and Hans Palmstierma in Sweden are just a few names.

Biology differs in three major respects from the disciplines of physics and chemistry. First, biologists are taught to look for interdependence in nature, viewing individual life forms not in isolation but in relation to one another. Secondly, ever since Charles Darwin’s theories of evolution in the nineteenth century, biologists have been oriented towards longer time frames than chemists or physicists, thinking in aeons and generations rather than months and years. Finally, biologists have a direct interest in species other than humans; as ornithologists, botanists and zoologists, they are alert to the interests of bird, plant or animal life. This interest in other species, however, sometimes blinds them to the legitimate interests of the less fortunate members of their own.

Impatience with other humans is especially marked among conservation biologists for whom farmers and forest-dwellers have come to represent a messy obstacle to the unimpeded progress of scientific research. A “seeming goal of humanity”, wrote renowned conservation biologist Daniel Janzen in 1986 in the *Annual Review of Ecology and Systematics*:

“is to convert the world to a pasture designed to produce and sustain humans as draught animals. The challenge, in which the tropical ecologist is a general, knight, foot soldier and technical specialist, is to prevent humanity from reaching this goal. The true battle, is, however, to reprogram humanity to a different goal. The battle is being fought by many more kinds of professionals than just ecologists; however, it is a battle over the control of interactions, and by definition, the person competent at recognizing, understanding, and manipulating interactions is an ecologist.”<sup>4</sup>

While the article’s military metaphors and its appearance in a prestigious scientific journal are noteworthy, Janzen was simply reiterating a well-worn theme. More than 20 years previously, a similar claim had been made by a botanist from the University of Wisconsin, Hugh Iltis:



Bror Karlsson/Panos Pictures

*The dogma of total protection can have tragic consequences. Conflicts between elephants protected in Indian parks, for instance, and farmers living on the edge of such parks have led to people being killed by the animals and crops being destroyed. In the Keoldeo Ghana bird sanctuary in Bharatpur, meanwhile, scientists forbade villagers from exercising their traditional grazing rights — when villagers protested, police opened fire, killing several of them. When the ban was enforced in following years, the population of key bird species, such as waterfowl and the Siberian crane, declined. Grazing, by keeping down the tall grass, had helped these species forage for insects. Scientists have remained adamant in their refusal to lift the ban.*

“If there is anybody who should provide leadership in the preservation movement it is the systematic or environmental biologist . . . We are not only citizens and humans, each with individual desires. We are not only trained taxonomists and ecologists, each perhaps wishing to preserve the particular organisms with which we work. But we, the taxonomists and ecologists, are the only ones in any position to know the kinds, the abundance and the geography of life. This is a knowledge with vast implications for mankind, and therefore vast responsibilities. When nobody else knows, we do know where the wild and significant areas are, we know what needs to be saved and why, and only we know what is threatened with extinction.”<sup>8</sup>

A recent assessment of global conservation by US biologist Michael Soulé complains that the language of policy documents has ‘become more humanistic in values and more economic in substance, and correspondingly less naturalistic and ecocentric’. Soulé seems worried that, in theory (though certainly not in practice), some national governments and international

conservation organizations now pay more attention to the rights of human communities than to wildlife. Proof of this shift, according to Soulé, is that “top and middle management of most [international conservation organizations] are economists, lawyers and development specialists, not biologists”. He alleges a “takeover of the international conservation movement by social scientists, particularly economists”.<sup>9</sup>

Soulé's essay manifests the paranoia of a community of scientists which already has a huge influence on conservation policy, yet wants to be sole dictator. Daniel Janzen, acclaimed by his peers as the “dean of tropical ecologists”, has expressed this ambition more nakedly than most. In 1986, in his report on a new National Park in Costa Rica, Janzen wrote, “We have the seed and the biological expertise: we lack control of the terrain”. He remedied this state of affairs by raising enough money to purchase the forest area to create the Guanacaste National Park. He justifies the takeover of the forest and the dispossession of the forest farmer by claiming that:

“Today, virtually all of the present-day occupants of the western Mesoamerican pastures, fields and degraded forests are deaf, blind and mute to the fragments of the rich biological and cultural heritage that still occupy the shelves of the unused and unappreciated library in which they reside.”<sup>10</sup>

This is an ecologically-updated version of the White Man's Burden, where the biologist (rather than the civil servant or military official) knows that it is in the natives' true interest to abandon their homes and hearths and leave the fields and forest clear for the new rulers of their domain — not the animals they once co-existed with, but the biologists, park managers and wildlifers — to determine collectively how the territory is to be managed.

This conservationist's point of view has been challenged in a recent book on African conservation by Raymond Bonner, *At the Hand of Man*, which lays bare the imperialism, both unconscious and explicit, of Western wilderness lovers and biologists working on that continent. Some of his conclusions are as follows:

“Above all, Africans [have been] ignored, overwhelmed, manipulated and outmaneuvered — by a conservation crusade led, orchestrated and dominated by white Westerners.”

“Livingstone, Stanley and other explorers and missionaries had come to Africa in the nineteenth century to promote the three Cs — Christianity, commerce and civilization. Now a fourth was added: conservation. These modern secular missionaries were convinced that without the white man's guidance, the Africans would go astray.”

“[The criticisms] of egocentricity and neo-colonialism . . . could be leveled fairly at most conservation organizations working in the Third World.”

“As many Africans see it, white people are making rules to protect animals that white people want to see in parks that white people visit. Why should Africans support these programmes? . . . The World Wildlife Fund professed to care about what the Africans wanted, but then tried to manipulate them into doing what the Westerners wanted: and those Africans who couldn't be brought into line were ignored.”

“Africans do not use the parks and they do not receive any significant benefits from them. Yet they are paying the costs. There are indirect economic costs — government revenues that go to parks instead of schools. And there are

direct personal costs [for instance, from the ban on hunting and fuel-collecting, or from displacement].<sup>11</sup>

The remarks of a Zambian biologist, E.N Chidumayo, reinforce Bonner's conclusions:

“Many conservation policies in Africa tended to serve foreign interests, such as tourism and safari hunting, and largely ignored African environmental values and cultures. In fact, the only thing that is African about most conventional conservation policies is that they are practiced on African land.”<sup>12</sup>

*At the Hand of Man* focuses on the elephant, one of the half a dozen or so animals that have acquired “totemic” status among Western wilderness lovers. Animal totems existed in most pre-modern societies, but as Norwegian scholar Arne Kalland points out, in the past the injunction not to kill the totemic species applied only to members of the group. Hindus do not ask others to worship the cow, for instance. But those who love and cherish the elephant, seal, whale or tiger try to impose a worldwide prohibition on its killing. No one, they say, anywhere, anytime, shall be allowed to touch the animal they hold sacred even if (as with the elephant and several species of whale) there is some scientific evidence that small-scale hunting will not endanger its viable populations and will, in fact, save human lives at risk because of the expansion, after total protection, of the *lebensraum* of the totemic animal. The new totemists also insist that their species is the “true, rightful inhabitant” of the ocean or forest, and ask that human beings who have lived in the same terrain (and with the animals) for centuries be sent elsewhere.<sup>13</sup>

The rise of conservation biology in the late twentieth century has an uncanny similarity to the rise of scientific forestry in the late nineteenth century. Both disciplines lay claim to the same territory — the uncultivated parts of the globe, covered with what one group of scientists defines as forest, the other as wild. The parallels in their methods and aims are striking. As the foresters once did, the biologists use alarmist and hyperbolic language to canvass public support. Foresters used to talk of the threats to social stability and economic growth posed by the non-availability of natural resources; biologists now speak in apocalyptic tones (the “sixth extinction”, for example) of the dangers to civilization posed by the loss of biodiversity. The rhetoric is prelude to the privileging of their own knowledge, the argument being that only they have the expertise to deal effectively with the problem they direct our attention to. The biologists have followed the foresters in forming professional associations and professional journals to advance their interests: *Conservation Biology* and the Society for Conservation Biology being the analogues of the *Journal of Forestry* and the Society of American Foresters, products of the scientific crusades of another age. Finally, the biologists also decertify and diminish other forms of knowledge, in particular the knowledge of local people and communities.

## Whistle-Stop Opinion Makers

An ongoing controversy in the Nagarhole National Park in southern Karnataka is illustrative. In the park live an estimated 40 tigers, the species towards whose protection enormous amounts of Indian and foreign money and attention have been directed. Nagarhole is also home to about 6,000 tribal people, who have been in the area longer than anyone can remember,

perhaps as long as the tigers. The Karnataka Forest Department want the tribals out, claiming they destroy the forest and kill wild game. In response, the tribals answer that their demands are modest, consisting in the main of fuelwood, fruit, honey and the odd quail or partridge. They do not own guns, although coffee planters living on the edge of the forest do. Is it the planters who poach the big game, they ask? In any case, if the forest is for tigers only, they query why the officials have invited India's biggest hotel chain, Taj, to build a resort inside the park.

Into this controversy jumped Dr John G. Robinson as he was passing through Karnataka. Dr Robinson who works for the Wildlife Conservation Society in New York oversees 160 projects in 44 countries. He conducted a whistle-stop tour of Nagarhole and hurriedly called a press conference in the state capital, Bangalore. Throwing the tribal people out of the park, he said, was the only means to save the wilderness. In Robinson's opinion, "relocating tribal or traditional people who live in these protected areas is the single most important step towards conservation". Tribals, he explained, "compulsively hunt for food", and compete with tigers for prey. Deprived of food, tigers cannot survive, and "their extinction means that the balance of the ecosystem is upset and this has a snowballing effect".<sup>14</sup>

All over India, the management of parks has sharply pitted the interests of poor tribal people who have lived in the areas for generations against those of wilderness lovers and urban pleasure seekers who wish to keep parks "free of human interference" — that is, free of other humans. These conflicts are being played out in the Rajaji sanctuary in Uttar Pradesh, in Simlipal in Orissa, in Kanha in Madhya Pradesh, in Melghat in Maharashtra and in numerous other locations.<sup>15</sup> In all these instances, Indian wildlifers have joined the Forest Department to evict the tribal people and rehabilitate them far outside the forests. In this endeavour, they have drawn sustenance from Western biologists and conservation organizations, who have thrown the prestige of science and the power of the dollar behind their crusade.

A partisan of the tribal might answer Dr Robinson and his ilk in various ways. He might note that tribals and tigers have co-existed for centuries; it is the demands of cities and factories that have of late put unbearable pressures on the forest, with species after species joining the endangered list. Tribals are being made the scapegoats, while the real agents of forest destruction — poachers, planters, politicians and profiteers — escape notice.

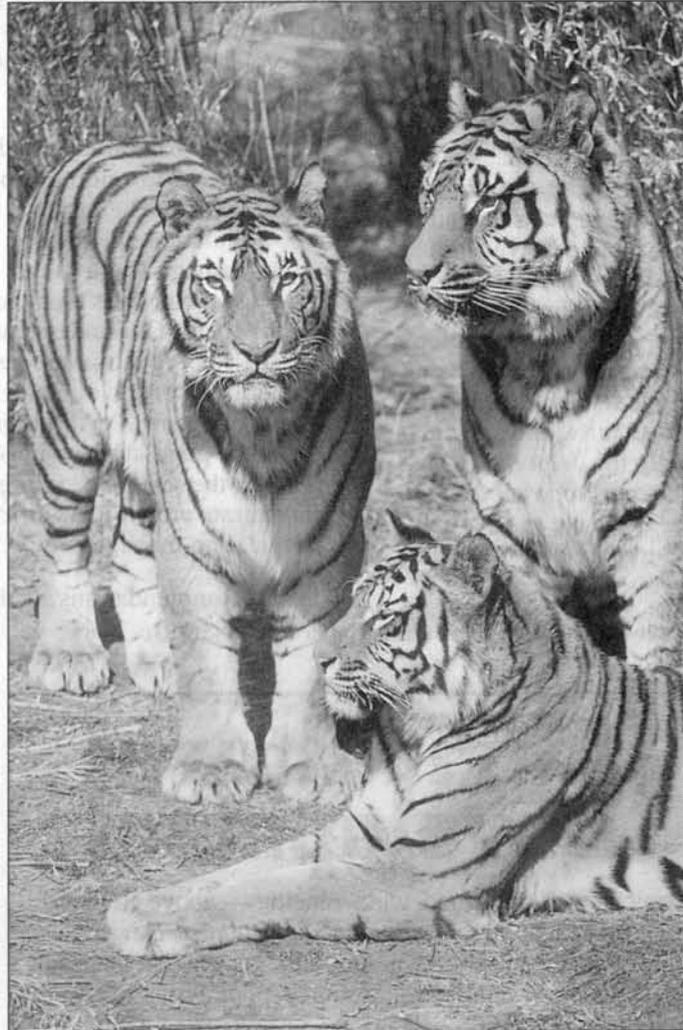
As Dr Robinson flies off to his next project, he might reflect on his own high-intensity lifestyle, which puts a greater stress on the world's resources than dozens, perhaps hundreds, of forest tribals.

In Nagarhole, the tribal partisan might further point out that even as plans are afoot to evict the tribals, Taj is being welcomed in to build its hotel. Meanwhile, the Forest Department has applied for funds from the Global Environment Facility (GEF) to build seven patrol stations and a network of roads connecting them. It is claimed that these are necessary for greater vigilance against poachers; what they will in fact do is open up the forest still further to outside interests.

The tribal partisan might argue, finally, that a policy which treats forest dwellers as enemies rather than partners can only be counter-productive. What this policy will encourage, in time, is poachers and smugglers of ivory and sandalwood who can count on tribal acquiescence in the battle against their immediate perceived common enemy, the Forest Department.<sup>16</sup>

All this was said much better and more eloquently over three decades ago by anthropologist Verrier Elwin. Writing in 1963, having made his home among the tribals and forests of India for some 30 years, Elwin deplored the "constant propaganda that the tribal people are destroying the forest". He asked pointedly how the tribals "could destroy the forest. They owned no trucks; they hardly had even a bullock-cart; the utmost that they could carry away was some wood to keep them warm in the winter months, to reconstruct or repair their huts and carry on their little cottage industries". Who, then, was (and is) the real culprit? Elwin wrote of the:

"feeling amongst the tribals that all the arguments in favour of preservation of forests are intended to refuse them their [rights]. They argue that when it is a question of industry, township, development work or projects of rehabilitation, all these plausible arguments are forgotten and vast tracts are placed at the disposal of outsiders who mercilessly destroy the forest wealth with or without necessity."<sup>17</sup>



*The Asian tiger has become an endangered species, not least because the forests which provide their habitat and food are being destroyed by the demands of an industrial economy. Tribal people are frequently made the scapegoats of such destruction.*

## The Juggernaut of Conservation

The main difference between Verrier Elwin's time and today is the growing influence of wildlifers. In the past, the tribals were expected to give way to the juggernaut of development so that

their forest abodes could be claimed by iron mines, steel plants, and large dams. To that juggernaut has been added the gospel of "total conservation", which consistently elevates the interest of the tiger above that of the tribal. That Elwin did not follow this order of priority is not unrelated to the fact that his discipline of social anthropology tends to place the concerns of humans, especially vulnerable humans, above all else (and all others).

These conflicts must not be reduced, however, to a contest over which discipline privileges which species. More sociologically-sensitive biologists, for instance, have warned of the dangers involved when wilderness and wildlife conservation programmes neglect the concerns of those communities who live in and around protected areas. The great Indian ornithologist, Salim Ali, came straight to the point when he wrote in 1977:

"No conservation laws or measures can succeed fully unless they have the backing of informed public opinion, which in our case means the usually illiterate village cultivator. In other words, unless we can make the villager understand, and convince him [sic] of the logic in expecting him to preserve the tiger or leopard that has deprived him of maybe his sole worldly possession—the cow which moreover provided the meagre sustenance for himself and his family — how can we induct his willing cooperation? Similarly, how can we expect him to see any sense in being asked not to destroy the deer or pig that have ravaged the crops which he has toiled for months to raise, and on which all his hopes are banked? Admittedly this is going to be a very difficult task, but I believe it is not impossible if we could but find the right approach. We have never really tried enough. Devising a realistic strategy is now a challenge to all conservationists."<sup>18</sup>

In 1994, ecologist Raman Sukumar, whose work on the Indian elephant has highlighted the conflicts between large animals protected in parks and farmers who live on the periphery, conflicts manifest in incidents of human-slaughter and the destruction of crops, remarked that:

"It is both unrealistic and unjust to expect only a certain section of society, the marginal farmers and tribals, to bear the entire cost of predatory animals. We have to work towards ameliorating the impact of wildlife on people if conservation of wildlife and their habitats is to gain acceptance among such people who interact with these in their daily lives . . . Today the local people see sanctuaries or national parks as simply the pleasure resorts of the affluent. There is urgent need to reorient management of our wildlife reserves so as to pass on economic benefits to local communities . . . If an adequate proportion of the income derived from tourism is retained by the local economy there would be increased motivation

for people to value wildlife and their habitats . . . It is time we take bold new approaches towards reconciling economic development with conservation."

With regard to the elephant-human conflict in southern India, Sukumar has been more than forthcoming with "bold new approaches". He urges proper and just compensation for the loss of life, which currently varies, depending on the province, from a niggardly Rs 2,000 (US\$30) to Rs 15,000 (US\$250) and for damage to crops. He also thinks that in some cases, trenches and electric fences might dissuade elephants and other large mammals from trespassing into habitations and fields. Most radically, he states that "wildlife populations that come into severe conflict with human interests may have to be directly managed to keep their levels below tolerable limits". He goes on to explain:

"It is clear that the adult male elephants are inherently more predisposed to raiding crops as a consequence of social organization. The removal of an adult male elephant from the population would have a far greater effect in reducing crop-damage (by a factor of 20 in economic terms) and saving human lives than the removal of an elephant from a family herd. Our understanding of demographic processes in such polygynous species also show that the loss of a certain proportion of males is not likely to affect the intrinsic rate of growth of the population. The removal of females from the population would certainly reduce its growth rate. Hence, the selective culling of male elephants identified as inveterate crop raiders or rogues would be the best form of population management."<sup>19</sup>

These recommendations are the outcome of years of careful and patient scientific work, yet they have had only a marginal influence on policy. Most conservationists remain uninterested in working towards a "realistic" strategy. Forest Departments will not pay proper compensation, claiming that it would open the floodgates to all kinds of rustics with all manner of forged claims. Other biologists, and wildlife lovers in general, will not countenance any talk of "culling", on moral grounds — all life is sacred, for instance, — or on instrumental ones — the population of which species will we have to manage next?<sup>20</sup>

Meanwhile, the tension around national parks continues: fed up with conservationists, public and private, villagers in Karnataka have been more than willing to aid a notorious sandalwood and elephant smuggler, Veerappan, who at least takes better care of their stomachs. Thus elephants raid crops and take the occasional life, while Veerappan cheerfully eludes the thousands of security personnel who have tried for a decade to catch or kill him.

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Conflicts such as these have led more thoughtful Indian biologists to reject the notion that species and habitat protection can succeed only through the punitive guns-and-guards approach favoured by the majority of wildlife conservationists, both domestic and foreign. Some ecologists, like Raman Sukumar, have sought to resolve conflicts between large mammals and humans; others, like Madhav Gadgil, have tried to move biodiversity conservation away from a privileging of large mammals towards a more inclusive and decentralized approach that would also honour and revive older systems of nature conservation such as sacred groves. Sociologists with rich field experience, such as Ashish Kothari, have pleaded for a more democratic system of park management in which the voices of local communities would ring out loud and clear.<sup>21</sup>

These conservationists by no means wish to see a world dominated by cows, corn and those who raise them. They too want a world which includes the tiger and the rainforest; they too want to ensure that those islands of nature not yet fully conquered by humans remain that way. Their plea, however, is to recognize wilderness protection as a distinctively North Atlantic brand of anti-human environmentalism, the export and expansion of which should be done with caution, care and, above all, humility. Protected areas in the countries of the South must take full cognizance of the rights of the people who have lived in (and oftentimes cared for) the forest long before it became a National Park or a World Heritage Site.<sup>22</sup>

In addition, the present philosophy and practice of conservation is flawed in a scientific as much as a social sense.<sup>23</sup> National park management in much of the Third World takes over two axioms of US wilderness thinking: the monumentalist belief that wilderness has to be "big, continuous wilderness", and the claim that all human intervention is bad for the retention of diversity. These axioms have led to the constitution of huge sanctuaries, each covering thousands of square miles, combined with a total ban on human ingress in their "core" areas. Little or no thought has been given to the conservation of diversity *outside* these strictly protected areas.

These axioms of "giganticism" and "hands off nature", though sometimes cloaked in the jargon of science, are simply prejudices. Given that the preservation of plant diversity is as important as the preservation of large mammals, a decentralized network of many small parks makes far greater sense. The network of sacred groves in India used to fulfill some of these functions. Yet modern wilderness lovers are in general averse to reviving that system: apart from rationalist objections, they tend to be opposed in principle to local control, preferring instead centralized land management. The belief in a total ban on human intervention is equally misguided. Studies show that the highest levels of biological diversity are often found in areas with some (though not excessive) human intervention. In opening up new niches to be occupied by insects, plants and birds, partially disturbed ecosystems can have a greater diversity than untouched areas.

## Conservation Imperialism

"Green missionaries" such as conservation biologists and their supporters are possibly more dangerous, and certainly more hypocritical, than their economic or religious counterparts.<sup>24</sup> The globalizing advertiser and banker works for a world in which everyone, regardless of class or colour or gender, is, in an economic sense, a North American — driving a car, drinking

Pepsi and owning a 'fridge and washing machine. Christian missionaries, meanwhile, having discovered Christ for themselves, want all pagans to share in the discovery. The conservationist, however, wants to "protect the tiger or whale for posterity", yet expects other people to make the sacrifice.

Moreover, the processes unleashed by this green imperialism are well nigh irreversible. The consumer, titillated into trying out Kentucky Fried Chicken, can always say, "once is enough", while the Hindu, converted by baptism to Christianity, can decide later on to revert to his or her original faith. But tribal people, thrown out of their homes by the propaganda of the conservationist are condemned to the life of an ecological refugee, a fate for many forest people which is next only to death.

For the Chenchu hunter-gatherers who have been "asked" to make way for a tiger reserve in the southern Indian state of Andhra Pradesh, the problem is that "they have to pay for the protection of tigers while no one pays for the conservation of their communities". As one Chenchu told a visitor from the state capital, "If you love tigers so much, why don't you shift all of them to Hyderabad and declare that city a tiger reserve?"<sup>25</sup>

This essay is based on the keynote address to the Conference on Wildlife and Human Rights in Asia, Centre for Development and Environment, University of Oslo, September 1996.

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  20. "Culling" is contrary to the ideology of "deep ecology" that provides philosophical cover to authoritarian biologists and conservationists. Another unfortunate case concerns the thousands of crocodiles raised in captivity on the Madras Snake farm by Romulus Whittaker and his colleagues. The farmers are awaiting permission from the Indian government to harvest a species that they have convincingly demonstrated is no longer "endangered". Permission has not been forthcoming, despite the fact that it will generate substantial amounts of foreign exchange to the state (from the sale of leather bags and the like) and provide employment and income to the Irula tribals with whom the Snake Park works.
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  24. This article is a companion piece to an essay of mine published in 1989 in *Environmental Ethics*, in which I took apart the then hegemonic ideology among US environmentalists of "deep ecology". I argued that deep ecology's anthropocentric/biocentric distinction was of little use in understanding the dynamics of environmental degradation in the real world. I showed that deep ecology's claims to be a philosophy of universal significance were spurious, made possible only by twisting out of context the thought of non-Western thinkers such as Lao Tsu and Gandhi. I suggested that the noble, apparently disinterested motives of deep ecologists fuelled a territorial ambition — the physical control of wilderness in parts of the world other than their own — which led inevitably to the displacement and harsh treatment of the human communities who dwell in these forests.
- The article evoked a variety of responses, both for and against. The veteran Vermont radical, Murray Bookchin, himself engaged in a polemic with US deep ecologists, wrote a short letter of congratulation. A longer response came from Norwegian philosopher Arne Naess, the originator of the term "deep ecology". Naess felt bound to assume responsibility for the ideas I had challenged, even though I had distinguished between his emphases (more sympathetic to the poor) and those of his US interpreters and followers. Other correspondents, lesser known but no less engaged, wrote in to praise and to condemn. Over the years, the essay has appeared in half a dozen anthologies, as a voice of the "Third World", the token and disloyal opposition to the reigning orthodoxies of environmental ethics.
- In the North American context, mine was a rare dissenting voice, yet the arguments of my 1989 essay would have made perfect sense to many of my Indian colleagues — indeed, it could not have been written in the absence of conversations over the years with scientists such as Sukumar and Gadgil. Perhaps it attracted the attention it did only because it constituted one of the first attacks on a form of "trans-nationalism" generally considered benign. After all, I am not talking here of the US marines with their awesome firepower or of the World Bank with its money power and ability to manipulate developing country governments. These are men (more rarely, women) who preach the equality of all species, who worship all that is good and beautiful in Nature. What could be wrong with them? Eight years later, I see no reason to revise my characterization of deep ecology as "conservation imperialism". See Guha, R., "Radical American Environmentalism and Wilderness Preservation: A Third World Critique", *Environmental Ethics*, Vol. 11, No. 1, Spring 1989. Published responses to this essay include Johns, D.M., "The Relevance of Deep Ecology to the Third World: Some Preliminary Comments", *Environmental Ethics*, Vol. 12, No. 2, 1990; Baird Callicott, J., "The Wilderness Idea Revisited: The Sustainable Development Alternative", *The Environmental Professional*, Vol. 13, No. 2, 1991.
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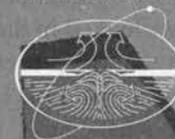
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The Ecologist



# The World Bank and Russian Oil

by

Ellen Schmidt

*The World Bank is planning to finance an oil extraction joint venture in Western Siberia between Amoco and the Russian company, YNG. If it goes ahead, it would be one of the largest investment projects in Russia. Because of the potential catastrophic environmental and social degradation, several Russian, European and US non-government organizations are calling for a moratorium on the development of new oil fields in the region and for the rehabilitation of existing fields, pipelines and refineries.*

*"Perhaps never has so vast a territory been so despoiled so rapidly. Now the question is whether the capitalism of the new Russia will save Siberia and its reeling eco-systems or finish them off."*

Eugene Linden, *Time*, September 1995

Working in close conjunction with the International Monetary Fund (IMF), the World Bank is developing various structural and sector programmes to transform Russia into a market economy.<sup>1</sup> Its main goal is to raise the prices of Russia's marketable goods to world market levels so as to increase export revenue. Special priority has been assigned to promoting and liberalizing foreign trade;<sup>2</sup> existing trade barriers and export controls such as quotas and customs duties are being dismantled.<sup>3</sup>

The oil and gas sector is considered by the World Bank to be key to Russia's economic transformation. Oil, natural gas and petroleum products already generate the bulk of Russia's foreign exchange earnings, and because oil and natural gas provide "quick" income, the energy sector is more likely to attract foreign investment than other sectors. The IMF and World Bank have their own self-interests in mind, too — they want the country to pay back the billions of dollars they have lent it, and foreign debt has to be paid in hard currency.<sup>4</sup>

## Diminishing Output and Deteriorating Pipelines

More than 70 per cent of Russia's crude oil comes from Western Siberia, even though the region's oil and gas industry is only 20 years old. Oil production in Russia was at its peak in the "golden years" of the 1970s and 1980s. Now, the region's primary oil fields are severely depleted. Annual production dropped 44 per cent between 1988 and 1993 from 420 million tons to 235 million tons<sup>5</sup> and is still falling, although not at such a precipitous rate.

To increase output by forcing the oil to the surface, the pressure in some underground oil deposits in the country has been increased by setting off underground nuclear explosions<sup>6</sup>

or by pumping in huge amounts of water, which then seeps away and contaminates groundwater. Often, a "two per cent solution of hydrochloric acid" is injected with the water into the soil. The blend of oil, water and hydrochloric acid corrodes oil pipelines, shortening their life by three to four years.<sup>7</sup>

Much of the pipeline network in Western Siberia, and indeed throughout Russia, is extremely dilapidated. According to a 1995 Russian parliamentary commission, some five million tons of oil and gas, worth 72 billion rubles and "enough to cover Russia's budget deficit",<sup>8</sup> escape into the environment every year through leaky, antiquated pipelines or as the result of negligence.

Thousands of tons of oil from national and export pipelines have poured into fields and rivers, even though the World Bank maintains these pipes are in better condition than other pipelines.<sup>9</sup> After the catastrophic 1991 pipeline spill in the Komi Republic, the third largest oil spill ever anywhere in the world, according to the US Department of Energy, the Western oil corporations whose oil flowed through the pipeline (Conoco of the US, British companies Quest Energy and British Gas, and Gulf Canada) assumed no responsibility for the accidents.<sup>10</sup>

## Modernizing Oil Production

During 1993-1996, the World Bank allocated more than US\$1.3 billion to the Russian oil sector, primarily to rehabilitate oil fields in Western Siberia no longer producing at peak capacity by making closed-down wells serviceable again and drilling new wells on existing oil fields — the Soviet strategy had been to move from one huge pool of easily-extracted oil to the next, ignoring the more inaccessible fields. Funding is also earmarked for the repair and replacement of pipelines and the implementation of new technologies to make the widespread practice of flaring natural gas unnecessary. The beneficiaries of these measures are three major, recently privatized, Russian oil companies — Yuganskneftegas, Megionneftegas and Tomskneft — all of which operate in Western Siberia.

The focus of these World Bank's loans to modernize and recondition abandoned wells is to expand oil production in the Siberian fields back to its former levels of the late 1980s, even though a 1995 OECD report on Russia's energy policy stated that:

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"The peak levels of output achieved in the late 1980s were essentially unsustainable . . . Extreme pressures under the old Soviet system to accelerate production almost at any cost during the preceding decades led to over production at the large, high productivity fields".<sup>11</sup>

In an unpublished progress report on its activities in Russia, the World Bank rates its two major rehabilitations loans — US\$605 million in 1993 and US\$500 million in 1994 — with a "U" for "unsatisfactory" in terms of achieving their targeted goals and the status of their implementation. Only 28 per cent of the 1993 loan had been disbursed by early 1996, while hardly any of the

1994 loan has to date been spent on concrete rehabilitation projects.<sup>12</sup> According to the OECD, US\$6 billion needs to be invested over a period of several years to rehabilitate just one "supergigantic" oil field, Samotlor;<sup>13</sup> Russia's Ministry for Fuels and Energy has estimated that US\$10 billion is needed to rehabilitate the country's 32,000 non-producing oil wells.<sup>14</sup> Meanwhile, the German Institute for Economic Research reports that "estimates of the rehabilitation costs for the production sites only could increase by up to a power of 10, if extensive environmental clean-up measures become mandatory".<sup>15</sup>

The loans stipulate specific measures to reduce environmental

## Environmental Destruction

Western Siberia is almost the same size as the Amazon River basin; its wooded area is three times larger than Great Britain. In 1991, a Russian scientist declared that:

"Western Siberia is a region that is on its way to totally destroying its life-supporting resources. A comprehensive investigation of how these resources are being used is absolutely necessary if the country does not want to lose this region forever. Today, nature would need 500 years to heal the injuries it has already suffered".

In 1993, an expedition of more than 30 Western and Eastern scientists were invited by a Russian oil company, Noyabr'skneftegas, and the Moscow-based International Forestry Institute to evaluate the environmental damage caused by oil production in the Noyabr'sk oil fields in North-western Siberia (close to the North Priobskoye field) and to recommend ways of halting the devastation. British journalist Fred Pearce who accompanied the expedition reported how:

"From helicopters, Western scientists for the first time saw how hundreds of thousands of square kilometres of swamp and virgin pine and birch forests have been carved into small fragments by oil pipelines, roads, pylons and seismic survey lines. Russian data seen by the team provided evidence of extensive oil pollution



*Cleaning up the massive oil spill from pipelines in Komi Republic in 1991.*

of lakes, marshes, groundwaters and rivers that flow north to the Arctic Ocean. In places, gas flares dotted the skyline and black smoke billowed across ancient sphagnum bogs."

The scientists condemned obsolete production methods and the ruining of the countryside. None of the 7,000 kilometres of pipeline in Noyabr'sk, for instance, are fitted with leak detectors, even though some of these pipelines laid 20 years ago have an average life of just five or six years. Also criticized was the haphazard excavation and movement of huge amounts of sand to build elevated roads and drilling pads. The expedition pointed out that arbitrary construction of roads and railway embankments had caused flooding in forested areas and restricted natural run-off, and noted that there are no legal provisions requiring drilling pads, roads and pipelines to be removed once production has ceased.

Russian ecologists point out that the environmental degradation in oil fields further south is so much worse that oil extraction around Noyabr'sk could be considered exemplary in comparison.

In another Siberian region, Nizhnevartovsk, some 80 per cent of all catchment basins — artificial reservoirs constructed to collect extracted oil at a central location — leak and contaminate the groundwater. Air pollution is severe as a result of the burning of natural gas extracted with the oil. Meanwhile, in the Khanty-Mansijski Autonomous District, a 1994 World Bank study noted that:

"about 100,000 tons of oil and oil products have been spilled over 200,000 hectares of fishing grounds. In the process, 17,700 hectares of fish spawning grounds have been polluted, spoiling 28 spawning rivers. The immense and vitally important Ob' River is badly polluted, with concentrations of some harmful substances being 25 to 30 times in excess of admissible levels. During summer months in the district, over 300 fires per month are commonly recorded. These fires, often caused by flared gas or burning oil spills, destroy woodland and grazing areas of lichens and mosses which are vital to successful reindeer rearing. Over 11 million hectares of reindeer grazing lands (out of an original 22 million hectares) have been withdrawn in Western Siberia for oil and gas production. Over 17 million hectares of hunting lands have been seriously compromised through oil and gas production. The three Producer Associations [Megionneftegas, Tomskneft and YNG] are located in the traditional hunting and fishing areas."

# Trampling on Climate Policy

Burning natural gas and oil releases not only gases that cause local and regional pollution, such as sulphur and nitrogen, but also climate-changing gases such as carbon dioxide and methane.

Russia generates approximately 1.7 billion tons of carbon dioxide a year, an amount which accounts for nearly ten per cent of total global carbon dioxide emissions and makes the country one of the world's top carbon dioxide emitting nations.

As the World Bank points out, Russia is also one of the largest sources of methane emissions, generating some ten million tons every year. This is equivalent to more than 200 million tons of carbon dioxide annually — methane is 20 to 30 times more potent as a greenhouse gas than carbon dioxide. Other sources estimate that Russia's methane emissions each year are the equivalent of Germany's annual carbon dioxide emissions.

Russia acceded to the UN Framework Convention on Climate Change in 1994, thereby declaring its willingness to bring its emissions down to 1990 levels by the year 2000 and agreeing to submit a national report on the status of emission levels and measures to reduce them. The level of greenhouse gases in Russia has fallen since 1990, but solely as a result of the involuntary decline of the industrial sector. Climate-friendly conditions such as energy efficiency and demand side management are not being established while new technologies are not being promoted.

The Russian government has done little to implement energy conservation and efficiency plans, even though the current reforms of the industrial and electricity sectors would favour such action. As Russian energy experts note:

"We believe that implementation of integrated resource planning and demand-side management tools could have a significant impact on Russia's energy consumption, and thus on carbon dioxide emissions. So far these kinds of approaches are being introduced only very slowly and with great difficulty".

Lack of funds is one of the main hindrances, according to the experts. But considering the billions of dollars that multilateral and bilateral sources are pumping into Russia, it would seem to be more a matter of priorities.

The World Bank appears to have recognized the magnitude of the emissions problem in Russia. It criticizes the Russian government on the grounds that:

"Environmental data are unreliable . . . Environmental regulations and laws to govern and control the most egregious of environmental problems . . . have been slow to appear, and [greenhouse gas] emissions have received little attention at the legislative level; and responsibilities are poorly defined. Although the concept of environmental impact assessment has been recognized, little attention has been given to the impact of [greenhouse gas] emissions attendant to development activities."

Signatories to the Climate Convention established a fund to help developing countries and the countries of Eastern

Europe and the former Soviet Union finance climate protection in trade and industry and to anchor such protection in legislation. This fund went into the Global Environment Facility (GEF), of which the World Bank is one of the primary administrators. The GEF is now funding a small project to gather data on methane emissions in Russia so as to obtain a more accurate picture of such emissions and another to increase the safety of the natural gas pipelines near Volgograd, 600 kilometres North of the Caspian Sea.

The World Bank stated at the First Conference of the Parties to the Climate Convention, held in Berlin in 1995, that its loan programmes would be actively geared toward promoting climate-friendly investments. In the case of Russia, it has made some efforts to include energy efficiency measures in its housing and environmental management projects — and is also pumping billions of dollars into the country to expand the extraction of fossil fuel. In doing so, it assumes that Western Europe will import ever larger quantities of Russian oil, even though these countries are also obligated under the Climate Convention to reduce their carbon dioxide and other climate-relevant emissions. "An absurd policy," comments Alexei Grigoriev of the Socio-Ecological Union. "These direct investments in global warming are much, much greater than the investments the same nations make to avoid global warming, such as through projects sponsored by the Global Environment Facility".

stress, but do not give any time frame in which such measures should be implemented, nor do they mention how these measures are to be monitored and, if necessary, enforced.

## Largest Investment Project in Russia

Despite its own "U" ranking for its rehabilitation loans, the World Bank is planning another multimillion-dollar project to develop the North Priobskoye oil field in Western Siberia. Estimated to harbour 2.5 to 2.7 billion tons of oil, these virtually untouched underground oil deposits are huge, even by international standards. In 1993 in an international auction held by the Russian authorities, the US oil corporation, Amoco, won the rights to exploit the North Priobskoye field. It estimates that extraction of 500 million to 700 million tons is financially

viable. Current plans foresee annual output reaching 20 million tons between the years 2000 and 2020. Given that the Russian Federation produced 316 million tons of oil in 1994, North Priobskoye's oil would constitute approximately six per cent of the country's overall output.

Available estimates and information regarding the North Priobskoye oil field's duration and total costs vary considerably. The World Bank cites an investment of US\$22 billion over a period of 45 years; Russian media reports quote sums of US\$25-35 billion over 20 to 50 years. Amoco itself calculates that the project will cost US\$60 billion over a period of 50 years. Even on the basis of the lowest estimates, however, North Priobskoye is one of the largest pending investment projects in Russia today which, if it goes ahead, will have a critical impact on Russia's entire oil infrastructure. During the course of its 50-year duration, the Amoco-YNG joint venture will produce

approximately 600 million tons of crude oil, releasing, once burnt, a total of almost 1.9 billion tons of carbon dioxide (*see* Box, p.23).

Amoco's development of the North Priobskoye oil field would be a 50-50 joint venture with Yuganskneftegas (YNG), one of the three recently-privatized Russian oil companies. The Russian Federation would receive approximately 59 per cent (some US\$28.5 billion) of the profits expected to be generated over the project's lifespan and YNG and Amoco about 20.5 per cent each (almost US\$10 billion).

The investment of approximately US\$3.2 billion for the three year start-up phase would be borne equally by Amoco and YNG. Amoco is to invest US\$600 million immediately; YNG will provide US\$100 million and is set to receive a US\$500 million World Bank loan risk guarantee.<sup>16</sup> In addition, the European Bank for Reconstruction and Development (EBRD) is expected to contribute more than US\$200 million to YNG.

Once these multilateral agreements have been finalized, bilateral and private cofinancing — piggy-back loans and guarantees from the International Finance Corporation (IFC) and the US Export-Import Bank, for instance — is expected to materialize to finance the rest of the investment.<sup>17</sup> After the start-up phase, the project has been calculated to be self-financing.

Besides its loan to YNG, the World Bank also plans to finance expansion of the area's export pipeline network, while Russian authorities are said to be considering enlarging or building new harbour facilities on the Arctic Ocean and expanding the northern marine route for tanker use.<sup>18</sup> The expansion and construction of oil refineries would probably follow this investment.

The World Bank views the Amoco-YNG joint venture as a "catalyst project" to trigger similar joint ventures between Russian and Western companies to develop new oil fields without the Bank's financial help, and as a model for future multilateral loans and guarantees to the private sector in Russia — in effect, open subsidies to the private sector.

Privatization of the Russian oil sector, however, has not led to the "healthy" competition supposed to follow from an expanded marketplace populated by several companies. As one World Bank energy analyst noted, the "foundation for a more productive, efficient and competitive sector has not been put in place." Instead, privatization has "facilitated increased control and ownership by managers, while allowing them to avoid oversight and control."<sup>19</sup>

## Fragile Environment

Given the record of the oil industry in Western Siberia, environmentalists and indigenous peoples are particularly concerned about the potential effects of the joint venture. Although more than 1,000 kilometres separate Siberia's major urban centres and North Priobskoye, the next oil field is only 50 kilometres away. The North Priobskoye oil deposits are in a relatively isolated part of Western Siberia, much of them under the Ob

river floodplain characterized by swamplands, lakes and diverse vegetation. The rest of the area is covered by a mixed forest of slow-growing cedar, pine, birch and spruce trees. Frost covers the soil for most of the year, the temperature only warming up during the short summer. Because the floodplain is almost completely inundated every summer, the oil pipelines will be buried underground, using a new, barely-tested method.

The World Bank's statutes do require a comprehensive environmental impact assessment (EIA) before a final decision is made on financing the North Priobskoye project — yet the EIA is being carried out on a joint basis by Amoco and YNG.

At the instigation of several Russian, European and US non-government organizations and the US Agency for International Development,<sup>20</sup> several improvements in the "terms of refer-

ence" for the North Priobskoye EIA were made in 1995, such as expansion of the assessment area. When pressured further by the NGOs, the World Bank also promised that the results of the EIA would be reviewed by an independent panel of experts selected by the Bank. In addition, the World Bank and Amoco promised to document the social, environmental and cultural situation in the larger project area. The EIA has recently been finished but has not been made public. The EIA will not examine the knock-on effects of the North Priobskoye project, such as the expansion of the export pipeline network, enlargement of the harbour facilities, expansion of the northern ocean route for tankers, and expansion of oil refineries. Amoco already plans to extend its activities to Russian oil refineries and the petrochemical industry.<sup>21</sup> When asked which

pipelines would be used to transport oil from the Amoco-YNG project, the World Bank could not provide a clear answer<sup>22</sup> and appears not to have made any provisions to apportion responsibility in the case of accidents.

## Pinning Down Amoco's Promises

Discussions with World Bank staff indicate that they are aware of the environmental and social problems in the Siberian region caused by oil extraction. They maintain, however, in the case of the North Priobskoye project that such problems do not arise just because a multinational is involved. They claim that all development will be carried out in accordance with high international standards and that more environmentally-compatible extraction technologies will be introduced into Russia as a result of international oil corporations' involvement. Moreover, Amoco is one of the most responsible international oil corporations, they believe, and has said it will respect the rights of the indigenous peoples of the region as far as possible (*see* Box, p.26).

Amoco's production and environmental standards, particularly in the United States, are no doubt much higher than those found in Russian companies, largely a result of the US's tougher and enforceable environmental regulations. The majority of Amoco's oil exploration activities, however, are conducted outside the US (*see* Box, p.25).



## Amoco Worldwide



A long-standing US oil corporation, Amoco is the global leader in natural gas extraction. In 1993, the company generated worldwide revenues of more than US\$30 billion and profits of nearly US\$1.8 billion. It used to operate in more than 100 countries throughout the world, but today centres its oil and gas activities on "just" 25 countries or so.

In recent years, Amoco, like many other oil transnationals, has been shifting its exploration and production activities to areas previously considered too remote or not sufficiently profitable (spurred by rising production costs in existing oil fields and enabled by new extraction technologies). Test drilling has been conducted in barely-explored inaccessible regions. Many of these areas are home to so few people that they are considered insufficient in number to create enough resistance to any exploitation of oil reserves discovered. In addition, environmental and working standards tend to be either inadequate or nonexistent in many regions.

Thus in 1993, Amoco developed plans to pump oil on a large scale in the fragile ecosystem in the eastern part of Canada's Alberta province, an important habitat for elk, mountain

lions and bears. It has started operations in the South China Sea, in Azerbaijan and in the Chittagong hills of Bangladesh. The Chittagong hills are the last remaining continuous expanse of sub-tropical forest in Bangladesh and home to many tribal people.

Amoco achieved dubious fame when the Amoco Cadiz tanker broke up off the northern coast of France in 1978 and 120,000 tons of oil leaked into the ocean, six times the amount spilled by the Exxon Valdez in 1991. During subsequent litigation which lasted until 1992, Amoco tried to keep claims for damages as low as possible without success.

A 1992 leakage report for the previous ten-years puts the volume of Amoco's overall oil leaks at 35 billion gallons. In the United States, Amoco's refineries and bulk storage tanks have caused substantial environmental problems resulting in several lawsuits and fines. Amoco subsidiaries in the US have attempted to build waste incinerators on Native American reservations in the face of strong opposition from environmental organizations. Numerous occupational safety violations in the US and Baltic Sea have also been reported.

Amoco was active in Burma for many years; human rights organizations have

accused the company during its time there of trampling on the country's efforts to establish democracy. After years of international protest, Amoco withdrew from Burma in 1994.

Amoco owns 30 per cent of the Ok Tedi gold and copper mine in New Guinea which is a socio-environmental disaster for local residents and the surrounding ecosystem. In 1984, the mine discharged sodium cyanide into the Fly River, one of the world's largest rivers. Toxic effluents are still discharged directly into the river at a rate of 80,000 to 150,000 tons of highly poisonous waste a day. Yet Amoco was quoted in 1991 as stating that the mine had no significant impact on the environment.

Amoco is a paying member of numerous US business organizations, including the Global Climate Coalition (GCC), which fight national and international environmental laws and agreements. The GCC, partly financed by Amoco, has played an extremely detrimental role in negotiations to improve the UN Climate Convention (such as assisting the Saudi Arabian government formulate its objections to improvements in the Convention's wording).

Amoco's glossy Russian-language brochures claim that the company is the international leader in environmental, safety and social fields.<sup>23</sup> The company's information bulletins for the joint venture project state that environmental protection will be one of its top priorities during all phases.<sup>24</sup> According to these bulletins, the latest, environmentally-compatible technologies will be used for all work on the project ranging from site construction and the setting up of drilling pads to local pipelines and oil processing plants. All workers on the project will be trained in environmental protection. The bulletins also mention a contingency plan in the event of oil leaks and other emergencies common to oil extraction such as fire, involving the participation of selected members of the village in the middle of the North Priobskoye project area. Amoco has also organized town-hall meetings in the village to answer local residents' questions.

Amoco says it will be necessary to build new infrastructure "only" for the project's 600 permanent (non-local) oil workers and that it will minimize every negative effect of this migration. "Only" two to four per cent of the area's more than 5,500 square kilometres will be needed for permanent production sites. Amoco's Russian-language brochures do not mention, however, how much temporary infrastructure will have to be built nor how much soil will have to be moved temporarily. In its information bulletins Amoco mentions a "significant number of temporary construction personnel entering the area" and a "large amount of material being delivered".<sup>25</sup> The wording in

the information bulletins creates the impression that the project will generate many jobs for local villagers. But it is clear that most of the skilled labour will be imported and that any local jobs will be temporary.

Even with the best of intentions, putting what looks good on paper into practice will be extremely difficult. The World Bank is unlikely to allocate more than the usual amount of funds to monitor Amoco's performance in keeping its promises. It will be difficult for the Bank to check two oil corporations operating in an area as vast and remote as Western Siberia. Little information is available on how Amoco intends to monitor its Russian partner's working methods and to enforce new standards.

The World Bank cites improvement in the status of indigenous peoples in Russia as a positive feature of oil projects, an assumption based on statements made by Amoco and YNG that they will respect the rights of the indigenous peoples as far as possible. But it is virtually impossible in Russia to ensure such rights through legal action. The legal system does not grant any fundamental protection against arbitrary acts carried out by unanswerable officials.

As Alexei Grigoriev of the Socio-Ecological Union, one of the largest environmental organizations in Russia, says:

"the oil industry works according to the principle: time is money ... The implementation and enforcement of environmental laws in Russia are very 'flexible' and depend upon who the violator is".<sup>26</sup>

## An Ecocultural Crisis

Many of Siberia's ethnic groups — Nenets, Khanty, Mansi and Selkups — live in the primary oil areas sought after by major corporations: the Nenets live in the tundra in the north of the region; the Khanty and Mansy inhabit the Taiga stretching across the expanses of the Irkutsk and Ob river basins. They are facing an "incredible environmental and cultural shock" as a result of oil extraction.

At the turn of this century, their economic and cultural life, particularly in the north, depended upon nomadic reindeer herding, hunting, fishing and other agricultural activities. Forced resettlement and industrialization during the Stalin era of the 1950s pushed indigenous groups towards the margins of Soviet society.

They have been pushed further still by oil and gas extraction. The oil companies have disrupted the local economy which is dependent upon many of the region's natural resources such as its fishing grounds, pastures, wild animals and wild plants. Land has been confiscated and huge areas contaminated with oil. Siberia's ethnic groups now comprise less than one per cent of the region's population.

In its environmental impact assessment of its oil rehabilitation loans, the World Bank holds the oil industry responsible for many of the local people's social problems such as the appearance of hitherto unknown diseases such as alcoholism, exodus from the area's towns, and destruction of natural habitats and resources. Yet the Bank is still subsidizing further destruction.

Gail Osherenko, Senior Fellow at Dartmouth College, New Hampshire, points out that no attention is being



paid to the most elementary means of improving the situation of indigenous peoples in Russia — granting indigenous groups rights over their traditional territories and their resources. Unfortunately, as Osherenko says, the approach used by the World Bank and other international finance institutions does not start with the revitalization of local economies and is thus unlikely to lead to structural reforms which could improve the environment or the lives of the indigenous peoples. This is for several reasons:

"First, the prevailing theory of development continues to focus on national energy production rather than national energy conservation. Second, investors and lenders target large-scale extractive industry rather than seeking sustainable development projects likely to be more localized and smaller in scale. Thus, there is no programme for investment in, and capacity building assistance to, widespread local economic activities of indigenous and traditional peoples (fishing, reindeer herding, fur farming, production of northern clothing). Third, environmental and social concerns are

treated as externalities or secondary effects of development to be minimized through mitigation."

Many families and local and regional authorities are now dependent upon the revenue generated by oil and natural gas for their livelihoods. As the World Bank states, "the past, present and future well-being of the Khanty and Mansi peoples are intimately intertwined with development of the oil sector". Such dependency works against any fundamental reforms that would force the oil industry to pay the actual costs of swallowing up the land.

The amalgamation of industry and government also ensures that socially-acceptable investments aimed at ensuring a sustainable future for the local people and towns fail to materialize. "Without international investment, this house of cards might collapse," believes Osherenko.

The World Bank and other international players hesitate to push for a fundamental reform of Russia's property laws and to recognize the rights of the indigenous peoples to the land on the grounds that such a move could be interpreted as interference in the country's internal affairs, a contravention of its statutes.

But the World Bank speaks with a "forked tongue" says Osherenko, because together with the IMF, it is interfering extensively in Russia's energy policy, forcing the country to rescind protectionist measures and ordering sectoral reform measures. In addition, Amoco has been reported as financing a group of US lawyers to see that Russia's oil and gas laws are changed to their advantage. In fact, it is "interference" any time Western money is involved.

Rather than invest time and money in compliance with environmental legislation, many companies prefer to pay fines. In addition, nepotism and corruption is said to have increased in Russia as a result of large international projects, particularly in the case of oil.<sup>27</sup> Billions of dollars are finding their way into Swiss bank accounts, for instance,<sup>28</sup> while workers in Russia's energy sector are rarely paid.<sup>29</sup> Environmental protection receives little practical support from Russian authorities. Some companies have on occasion hired assassins to reduce opposition. A member of Russia's green party reported that 15 environmental activists were murdered in 1993.<sup>30</sup> As President Yeltsin's former environmental adviser Aleksei Yablokov said:

"Ordinary people are becoming more environmentally aware, but the economic elite couldn't care less about the environmental situation".<sup>31</sup>

### An Island in a Sea of Misery

Even if Amoco's and the World Bank's promises could be guaranteed, the World Bank is still entrenching social and environmental misery in Russia by financing the predatory exploitation of crude oil — a non-renewable, environmentally-destructive and climate-threatening resource (*see* Box, p.23). Accelerated production of Russian oil will provide the global market with an impetus to increase rather than stem oil consumption and will obstruct efforts to replace fossil fuel consumption with energy conservation measures and renewable energies.

There may well be fewer accidents and environmental transgressions in the course of the North Priobskoye project than has been the case until now in Western Siberia. But the targeted

expansion of oil operations into more remote, environmentally-sensitive areas with the concomitant expansion of the oil infrastructure is no help to either the people or environment of Western Siberia on a long-term basis. Not even Amoco's well-intentioned end-of-pipe measures to protect the environment in North Priobskoye can alter this. German political scientist Elmar Altwater uses the terms "enclave strategy" and "island strategy" to describe the phenomenon whereby international environmental and living standards apply within a specific project area while the surrounding region flounders further into poverty and social disintegration.<sup>32</sup>

Several Russian and foreign NGOs are therefore calling upon the World Bank not to approve the loan to YNG to develop the North Priobskoye oil reserves in Western Siberia when it comes up at the World Bank's Executive Board later this year<sup>33</sup> and for a moratorium on all activities to develop and finance new oil fields in Western Siberia, because of the catastrophic environmental degradation. Instead, the groups are demanding that priority be given to the systematic repair and modernization of both operational and closed-down production sites and the modernization of pipelines and refineries — all of which should include environmental rehabilitation — before any new oil fields are developed. A comprehensive study of the efficiency potential of the Russian energy sector should be carried out before any more loans are granted to expand the country's oil sector. Such a study should list measures for tapping this potential, taking renewable energy sources into account.

The groups are also calling for an independent environmental impact assessment of the North Priobskoye joint venture. Russian non-government organizations, independent institutions and scientific institutes should be allowed to participate as equal partners in formulating a development strategy for Russia and its energy sector.

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## Notes and References

1. The World Bank also coordinates multilateral aid to the country. Financial aid from the West is not in short supply in Russia. In fact, in the history of multilateral funding, never has so much money been pumped into one country within such a short period of time. Nearly US\$9.3 billion flowed into Russian coffers in 1995, an increase of nearly US\$3.3 billion over the previous year. This sum has been augmented by bilateral advisory and project assistance from the G-7 nations (some US\$370 million over 1993 to 1995) while funding from the European Union's Technical Assistance for the Commonwealth of Independent States (TACIS) programme brought approximately US\$208 million into Russia in 1995. The largest bilateral donor is the United States, followed by the Federal Republic of Germany. In the spring of 1996, the International Monetary Fund (IMF) pledged to allocate US\$10 billion for Russia. Multilateral cash injections are contingent upon structural adjustment measures. The IMF's primary goal is to reduce Russia's runaway inflation, and all government spending is to be brought into line with this objective. Consequently, the IMF has demanded rigorous measures to limit government lending, particularly on the part of the central bank. It has also called for steps to cut subsidies and measures to liberalize the export of energy-related resources and other raw materials, all with highly varying degrees of success. Private West-East capital transfer, however, is several times larger than the amount the IMF has promised. In 1994, credit guarantees issued by the German government for private export transactions to Russia were the equivalent of approximately US\$1.9 billion. As a result, that year Russia ranked second only to the People's Republic of China as Germany's leading partner in government-assisted export trade.

2. The government apparatus in the Soviet Union controlled not only domestic prices but set the prices and volumes of imports and exports as well in an attempt to exercise complete control over the domestic economy.
3. Despite strong political pressure from various industrial lobbies, World Bank data shows that customs duties in Russia presently average only about 12 per cent. Import subsidies, which accounted for 25 per cent of the gross national product in 1992, were almost completely eliminated by 1994. When granting loans, the World Bank is particularly insistent upon establishing favourable legal and fiscal conditions for joint ventures with foreign companies, particularly in the energy sector.
4. Although the IMF does not grant loans directly to specific projects, its billion-dollar loan commitments for Russia have been granted with the provision that Russian legislation be amended to allow foreign companies to export without restriction the oil they produce. Under the three-year US\$10.2 billion credit for Russia announced by the IMF in late February 1996, for instance, Moscow is required to eliminate customs on oil and gas exports. Export quotas were abolished in 1995 in response to IMF and World Bank pressure. Together with the World Bank, the IMF is pushing for another hike in domestic oil and gas prices to bring them into line with world market levels and for sweeping tax reform. All these measures are designed to help multinational oil corporations reap stable profits. In addition, the European Bank for Reconstruction and Development (EBRD) has participated in some of the World Bank projects in the Russian oil sector, contributing several hundred million US dollars. It has also granted loans for its own oil and natural gas projects. The EBRD authorized loans for seven Russian oil and gas programmes up to 1995. See EBRD, *EBRD Information*, "Signed Projects Approved in 1995", EBRD, London 1996, p.26.
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# Unequal Commoners and Uncommon Equity

## Property and Community Among Smallholder Farmers

by

Robert McC. Netting

*Common property regimes are often held to be examples of "primitive communism" where all commoners share and share alike. Critics of the commons rightly point out that this view is misleading: inequality is in fact a feature of many commons regimes. Nonetheless, even when inequalities are pronounced, the governance and administration of common property regimes ensures a rough equity through broadly representative, democratic decision-making.*

*Privatizing or enclosing the commons, however, undermines this uncommon equity and entrenches inequalities.*

Common property rights appear as part of recurrent institutions, widely distributed through space and time, governing local access to resources such as marginal grazing areas, swidden fallows, inshore fisheries and irrigation water. Falling somewhere between private property and state territorial control, common property rights are often viewed as an anomaly. They are applied to resources or facilities subject to individual *use* but not to individual *possession*.<sup>1</sup> Controlling the access of potential users to such resources is difficult and costly to enforce. In addition, each user has the capacity to appropriate individually resource units which are thereby subtracted from the goods available to others.<sup>2</sup> The rate at which individuals appropriate from the common pool affects the rate at which the resource can produce or replenish its supply.<sup>3</sup>

Advocates of common property institutions tend to assume that such institutions are unrelated to inequalities of wealth, rank and power, or that they somehow rectify such inequalities. Common property is taken to be a "good thing" because it somehow promotes equality and is based on the voluntary sharing of resources, an attractive proof that not all economically efficient social institutions have to be based on selfish maximizing.

But do people in fact share common property resources equitably? Are commoners who hold defined rights in community grazing grounds, forests or irrigation waters economic and political equals of one another?

The stentorian voices from political economy and neo-marxist theory claim that they are not — there are necessarily rich and poor farmers, classes of land owners or kulaks, and smallholders declining into a rural proletariat. Real equality, joint use and genuine sharing, according to Karl Marx and Frederick Engels, may once have existed in pre-capitalist societies,<sup>4</sup> but, they argue, unequal wealth and power arising from the market and the state mean that some individuals have greater access both to private property and communal resources. An egalitarian ethos, they claim, is thus false consciousness or a pernicious delusion.

Such a grand evolutionary trajectory is simplistic.<sup>5</sup> Far from

being historical relics, commons regimes are an everyday reality for millions of smallholders around the world, including many who live in modern societies. Inequalities of wealth and status certainly exist within commons regimes — and typically become increasingly pronounced where resources are scarce. Nonetheless, such inequalities are rarely permanent. Moreover, even when inequalities are pronounced, the governance and administration of the commons continues to ensure a rough equity through broadly representative, democratic decision-making. Entrenched inequalities and inequity result, however, where common property rights are terminated, either by members agreeing to privatize their joint holdings, or by an external authority.

### Unequal Holdings

To cast commons regimes involving smallholders (and I make no claims for commons regimes other than those involving smallholders) as "primitive communism", where everyone is equal and all share and share alike, is certainly misleading. Among intensive cultivators, the social unit that occupies the smallholding, providing labour and management, using the produce for subsistence and sale, and administering and transmitting rights, is typically a family household (itself the site of inequalities).<sup>6</sup> The very nature of the household enterprise means that, at any point in time, there will be larger and smaller farms, depending on the balance of workers and dependants, the stage in the household developmental cycle, the inheritance or acquisition of property, and the successful management of the farm, as well as on the vagaries of climate and the market. At the same time, there is considerable mobility up and down the ladder of wealth over the life course.<sup>7</sup> In the Swiss alpine village where I undertook research, only four per cent of the variation in a son's wealth could be explained by a difference in the father's wealth, and despite the presence of equal, partible inheritance, there was no consistent relationship between the achieved wealth of siblings.<sup>8</sup>

As agricultural resources become increasingly scarce — the result, for example, of market demand or population pressure — both private property and common property tend to become

Robert McC. Netting was an anthropologist and director of the Institute for Advanced Study at Indiana University. He submitted this article to *The Ecologist* but, sadly, died before the article was scheduled. Therefore only minor editorial changes and cuts have been made.

more institutionally elaborated and jurally defined. Land-short intensive cultivators compete to obtain scarce farm property, and thus there may be marked inequality in their holdings, whether they are self-sufficient and politically independent or whether they are involved in the commercial economy and the state. Permanently-tilled land, cattle and buildings are never, to the best of my knowledge, regularly reallocated and shared equally among households in the community.

There is, however, proportionately much less private property in systems of shifting cultivation where an abundance of common land in the territory of a descent group or a village can be readily portioned out in usufruct plots. On settlement frontiers, a labour force of subordinates is often built up by a "big man" — a lineage elder or chief, for instance, who maintains his rank by defending his turf. A sort of floating tenure prevails in the flood recession regimes of the Senegal River valley, for instance, whereby privileged groups control a portfolio of lands that they dole out widely to others after a good inundation or keep to themselves in dry periods.<sup>9</sup> Chaotic flooding and wildly fluctuating agrarian resources stimulate and reinforce stratification. However, where smallholders have reliably productive, permanent real estate in addition to their rights in the commons, priority of access to the common property is seldom a consideration, and inequality is less hierarchical and intransigent.

Moreover, just as there are inequalities in private property holdings within commons regimes, so the sharing of benefits from the commons is by no means always equal — despite commoners having joint control of the resource. For scarce resources, such as firewood, which are needed by every household in a certain minimal quantity, allocations might be carefully equalized.<sup>10</sup> In the Swiss alpine forests, the elected village council marked equivalent shares of standing timber for cutting, and community members drew lots for these shares. Severe punishments were specified for anyone who took wood not dead or down, although there were always some who "by hook or by crook" surreptitiously took more than they were entitled to. Rights to put cows on the communal alp for the summer, however, depended on an over-wintering rule: cattle owners could send only as many beasts as they could feed from their own supply of hay. Thus the total number of animals was kept roughly in line with the fodder potential of all village irrigated meadows, but individual owners of larger hay lands had the right to graze more cows on the commons.<sup>11</sup> Indeed, a wealth of case studies support Meg McKean's contention that:

"in common property systems everywhere . . . entitlement to products of the commons was almost always based on private holdings and thus reproduced the inequality in private wealth."<sup>12</sup>

## Labour in the Commons

Indeed, numerous studies point to the presence of inequality among smallholders, particularly with regard to their transferable and heritable private property. Such inequality

also frequently extends to access to another common property resource — the coordinated labour time of corporate group members.<sup>13</sup>

Common pasture, water or woods only have worth for the smallholder if there is skilled, reliable labour to build the infrastructure and carry on the regular maintenance that makes individual appropriation of the resource possible. Moreover, work in common may not be confined to the physical commons. The Swiss community charter that defined the rules of the Torbel alp in way back in the year 1483 also decreed that every householder had to help in putting up a villager's new log house.

The Kofyar farmers I knew in Nigeria quickly privatized land they had occupied on a settlement frontier, although they allow free-range grazing once the crops are harvested. Part of their special genius for increasing the production of market crops has been the organization of traditional communal labour to work on individual farms.<sup>14</sup> Though some of this takes place in small clubs of eight to ten individuals who exchange work-time equally, there are also community-wide work parties. A host farmer, for instance, announces to neighbourhood officials when he will brew millet beer, every household sends workers in proportion to its number of productive members, and then the 40 to 80 people who assemble with their hoes make ridges or yam heaps, the same number of which is marked out for each individual, before enjoying the gallon or more of beer per person that gives the occasion its festive air. If a household does not provide its mandatory labour quota without good excuse, the assembled drinkers raise the issue and fine the miscreant (in jars of beer); if the fine is refused, they ultimately ostracize the offender which means not only that common labour will be denied in the future to that household but also that social contact is dramatically interrupted.<sup>15</sup> The sanctioned party is left sitting at home and (most severely) no one will drink with them again. The price of community is common, institutionalized labour; the withdrawal of community for one of its "mutually vulnerable members" is social death.<sup>16</sup> Even in a society where individual households are economically self sufficient, a defector can be penalized with certainty and speed.

But again, although all commoners must participate in communal labour, do the resulting benefits make some smallholders

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more equal than others? Brian Juan O'Neill has demonstrated that labour exchange in a Portuguese rural hamlet benefits the rich disproportionately. The work parties assembled to thresh rye work for each cultivator in turn, but the owner of a large field receives more hours of labour from fellow villagers than they devote to their much smaller harvests.<sup>17</sup> The balance is not rectified by the greater quantities of food in the festive meals provided by the wealthy.

For irrigation maintenance, the household of a proprietor with four days of water sends one person to clean the ditches for an equal amount of time as the poorer household with only a few hours of water rights. The hamlet council — on which each household is equally represented — also calls out labour teams for repair of community property such as meadows, public walls and roads, the cemetery and the water mill.<sup>18</sup>

O'Neill vehemently denies that this small, isolated mountain community is egalitarian in social structure. He does point, however, to a toleration of asymmetric labour reciprocity and an expressed belief in cooperation and mutual assistance at particular moments of the agricultural cycle which crystallize ideals of social equality.<sup>19</sup> Collective obligations temporarily suspend the disparities between rich and poor households in the interests of getting a large task done.<sup>20</sup> Inequality and internal conflict, based on substantial differences in private property, are always present, but both governance and labour on common property resources emphasize equality, and strong cultural values support the non-hierarchical interdependence of households in meeting peak labour demands on their private holdings.

Preliminary analysis of Kofyar labour groups suggests that people expect that each household may be able to call on work parties of neighbours once or twice in a year but seldom more than that.<sup>21</sup> Household size is a rough proxy for total agricultural production and wealth, which implies that the rich do not regularly exploit the common labour of their peers at a higher rate than the poor do. To acquire more hands and thereby accumulate a surplus, the larger cash-croppers have to hire labour.

## Equity and Decision-Making

If the benefits to commoners from common property (including labour) are unequal, and these benefits reinforce obvious differences in smallholder private property, is it possible to insist that uncommon *equity* still exists in the local system? I submit that equality of participation by members in governance, rule-making and monitoring is a requisite of a viable common property institution. Human beings involved with common property characteristically talk about what is happening to their jointly-held grassland or forest or stream; they regulate its use by defining clear boundaries, setting up shares for members, legislating rules for use, monitoring appropriation, and sanctioning free-riders and thieves.

Elinor Ostrom has focused attention on the assembly as a body that creates a constitution, modifies and enforces operational rules, appoints officers, monitors the state of resources, allocates benefits in terms of changing environmental conditions, defends the commons from encroachment by outsiders, officially represents itself as a corporate body in dealing with governmental and juridical entities, and finally decides on the disposition of common property.<sup>22</sup> If this sounds bureaucratic and formal, however, one has just to watch a local assembly or

one of its task groups in operation. Ruth Behar describes the assembly or *concejo* of a village in northern Spain, which met at the church portal after mass, as noisy, raucous, even blasphemous, with violent, *ad hominem* attacks on neighbours echoing fights and slights could go back three generations.<sup>23</sup> But the members do reach consensus, the results of their deliberations are formally inscribed as laws, even if the process of doing so is far from decorous and orderly, and their officers of these institutions do not exert consistent hierarchical authority.

The commoners I know often discuss their "common" problems with the aid (or the hindrance) of social drinking, whether grouped around a pot of millet beer, as with the Kofyar farmers I knew in Nigeria, or, as in Switzerland, partaking of wine from the communal vineyard. Whether such yoking of business with pleasure leads to higher transaction costs or to *in vino veritas* is a matter of opinion, but the ostensible procedure is neither an exemplification of Roberts' Rules of Order nor of some harmonious peasant moral economy in operation. With the catcalls, loud interjections and table thumping, such an assembly sounds for all the world like the House of Commons. Local commons governance may be as messy as any other democracy, but the incentives for cooperation are generally sufficient to produce workable rules and concerted action in the long run. Because the members of a commons need to continue to derive benefits from the resource for their own future welfare and that of their offspring, they have a vital interest in sustainability. A measure of security for all is patently preferable to short-term maximization for any single user. As the Swiss say, stubborn peasants only cooperate when they have to — but they have to most of the time.

Even societies like those on the Indonesian island of Bali that tend to mute public conflict or to channel it into such symbolic rivalries as the cockfight have crafted common property institutions with egalitarian governance. The irrigation *subak* that Clifford Geertz calls a "wet village" brings together cultivators whose fields form a geographic unit served by a canal.<sup>24</sup> Members may come from different, politically independent communities; they may own a scrap of rice terrace or a princely holding of more than one hectare. But they are all voting members of the *subak*, bound by the rules of its constitution inscribed on a palm leaf, and all have equal voice in the deliberation of its council of the whole.<sup>25</sup> The council elects a chief and other officials who oversee work groups of members; it fines people for infractions, collects taxes and disburses money for improvements, and appoints priests to conduct the shrine rituals that schedule the all-important distribution of water.<sup>26</sup> In a kingdom state society with gradations of status expressed in religious ceremony and linguistic markers, the serious business of irrigation among owners of extremely valuable (and variable) private property is conducted by an assembly of peers with one vote each.

## Bargaining Power and Equity

Is this still a romantic ideal of self-determination? Where are the bosses, the demagogues, the country squires and the affluent landlords who manipulate and intimidate the ordinary peasants? Referring to medieval Europe, Richard Hoffman contends that:

"the common-field system . . . was not simply egalitarian. Communal control of limited resources rested not in the hands of all inhabitants nor, with exceptions, even in those of all heads of households. The assembly of cultivators was

everywhere dominated, if not monopolized, by the better off peasants."<sup>27</sup>

William Roseberry, too, cautions against romanticizing the community of unequals with its free tenants, villeins and cotters:

"Decisions made in the name of community could be taken by privileged individuals who served as community and manorial officers. It is to be expected that they looked out for private interests to the extent that this was possible".<sup>28</sup>

Nonetheless, there are good structural and functional reasons for a local commons to be run by its members. If common property rests as much on exclusion of non-members as on rights, the corporate body must explicitly include members.<sup>29</sup> Everybody is needed — all the available folk knowledge of the environment and every pair of informed, spying eyes has to be employed in monitoring the physical state of the resource and in countering the threats of pilferers and free-riders. The richest member with the largest potential returns carries the greatest risk if his or her less wealthy fellows are not convinced that all their interests in the commons must be equally defended.<sup>30</sup> A single individual has to rely on the support of the whole group, whether massing with spears to defend the common border from trespass, mending the irrigation dam washed out by a flood, or paying the lawyers in some interminable litigation over a patch of prime forest.

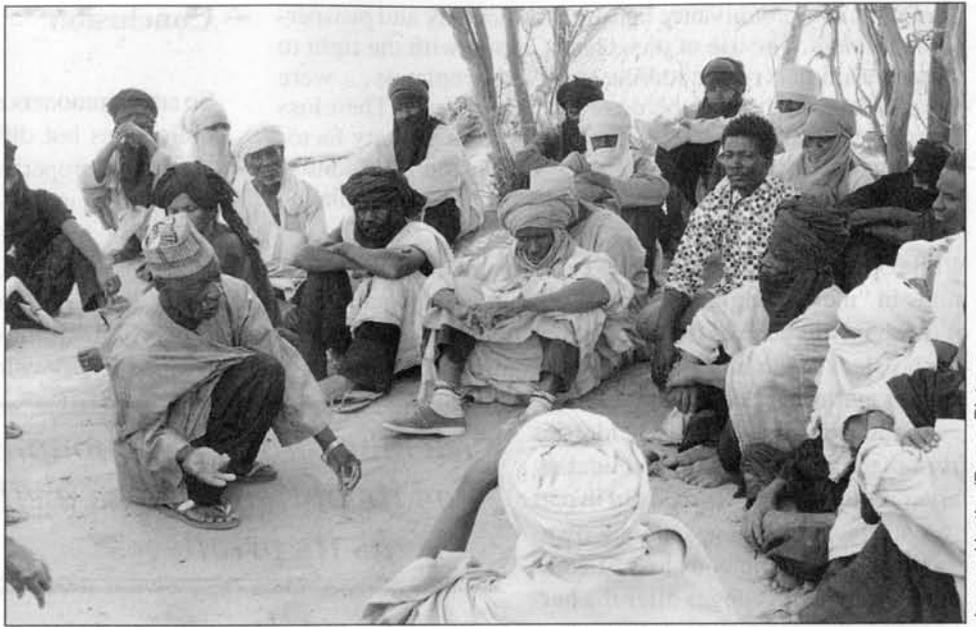
Meanwhile, against the legal depredations of a city or central government, poorer commoners may have to rely on their own well-connected and literate estate owner or mandarin. The wealthy are expected to provide a higher level of administrative services and cash levies than ordinary folk.<sup>31</sup> Alienating any members, rich or poor, from the fellowship of the commons may be harmful to the health of that body politic that is, in actuality, a little commonwealth. Although this view emphasizes consensus, a conflict-oriented analysis reaches similar conclusions:

"The equality which generally prevails in the commons . . . does not grow out of any ideal or romantic preconceived notion of *communitas* any more than out of allegiance to the modern notion that people have 'equal rights'. Rather, it emerges as a by-product of the inability of a small community's elite to eliminate entirely the bargaining power of any one of its members, the limited amount of goods any one group can make away with under the others' gaze, and the calculated jockeying for position of any individuals who know each other and share an interest both in minimizing their own risks and in not letting any one of their number become too powerful."<sup>32</sup>

## Enclosure and Polarization

If aspects of common property regimes distribute access to resources and level differences in political power, what changes would lead to greater inequality, polarization and stratification?

The familiar threats to the commons — privatization and government intervention which institutionalizes state or public land — contribute directly to inequality and prevent permanently the more equitable outcomes of local communal control



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*People involved with common property have a vested interest in talking with each other about what is happening to their jointly-held grassland or forest or stream and regulating its use by defining clear boundaries, setting up shares for members, legislating rules for use, monitoring appropriation and sanctioning free-loaders and thieves. They may only cooperate when they have to — but they have to most of the time.*

from occurring. Exclusion which impoverishes community members and limits their legitimate role in decision-making is a true "tragedy of the commons".<sup>33</sup>

Perhaps the most exhaustively analysed attack on the commons is that of enclosure, especially in historic England, but also in other European and Latin American countries. Because resources of arable land are limited, rural populations press against them, particularly as they grow in numbers or as the resources are taken away, and conflict increases; in doing so, property inequities tend to be translated into diminished rights in the commons. In England, the densest rural populations gave rise to cottagers with holdings below the subsistence level, craft and cottage industry specialists, and landless agricultural wage labourers.<sup>34</sup> These second-class citizens, often in-migrants, were more vulnerable to dispossession and, at the same time, more dependent on the commons to cut firewood (the woodcutter of fairy tales), make charcoal, gather rushes for thatching or fibres to make baskets, collect nuts, hunt small game, and fish. For such foragers, the common marshes, forests and rough grazing were social safety nets.<sup>35</sup>

In India, the land-poor could also take the jobs of shepherds, field guards and communal irrigators that paid too little to hire yeoman farmers.<sup>36</sup> Cleaning up harvested fields was a refuge for women and the elderly, people who often had few alternate means of support.

Enclosure was not, however, solely a reallocation of resources driven by high food prices, low wages and population pressure. It represented conscious strategies of accumulation by the well-to-do, often changing land use in the direction of a single, profitable crop (wool, for instance, in England) and away from the more diversified, intensive production of subsistence food crops. James Fernandez notes that in Andalucia, southern Spain:

"the medieval and early modern rights of the poor and subtenant classes to rent and cultivate common arable lands, to pasture on common pastures, and to gather on and otherwise exploit the wastes were gradually withdrawn

from them by connivance between the nobility and prosperous farmers. The use of these lands, along with the right to pasture animals on the stubble of private croplands . . . were rights basic to the well-being of the power strata. Their loss because of various kinds of enclosure was a primary factor leading to the rural poverty of Andalusia in the 19th century and the conflict-ridden crisis that has continued to plague this area of Spain."<sup>37</sup>

While opportunities for subsistence supplements from the commons in "merrie England" shrunk, charity and meagre support of mechanisms such as the Elizabethan poor law could not pick up the slack. One can just imagine comfortable farmers and squires muttering "no new taxes".

Reallocating individually-held strips from the open field and consolidating larger plots could be worked out in part by swaps and exchanges among owners. But the simultaneous loss of communal grazing privileges after the harvest and the proportionately high costs to smallholders of survey, hedging or ditching the new field, and paying off remaining dues or tithes on land pushed poor farmers to the edge of ruin or indeed, into the abyss.<sup>38</sup> Falling crop prices or occasional bad years could force them into bankruptcy and off the land. As in contemporary attempts at land reform, richer neighbours are always willing to snap up the minifundia that come up for emergency sale.

Even with such an economic logic, however, it must have been difficult to sweep away a host of law-like local customs, rooted deeply in the past of a community, and reaffirmed by generations of practice and dispute resolution. Indeed, in eighteenth century England, it required the full legal power of the state in a multitude of separate, locally specific, laws to abrogate the commons. Even so, vestiges survive to the point where present-day environmentalists and corporations which have taken to harvesting peat moss dispute about fen land as common property. In the Swiss village I studied, a single case of tapping a spring on private land for a household drinking-water source went to the national Supreme Court because the water had once served a public watering trough.

I suspect that enclosure and similar breaches of common property institutions contribute to growing inequality, not because they represent privatization alone, but because they are conducted under the dominance of a national state and its sovereign legal apparatus. The local assembly of informed, economically-interested peers with their own brand of "common" sense and unique understanding of a particular environment is by-passed by standardized statutes, rigid codes and a judicial system designed to ignore geographical and political variations. Those with the qualifications of literacy, cash for court costs and bribes, and friends in high places can ensure, even guarantee, an unequal distribution of the benefits of enclosure. Outsiders, absentee landlords and urban entrepreneurs are not subject to the social controls of village life, and they can ignore restrictions on resource exploitation and short-term maximization. If one can purchase or otherwise acquire rights in the commons without local kin ties, residence, formal admission to the community, fulfilment of labour and official service obligations, and participation in the assembly, then membership is shorn of its responsibilities and its constraints. Common property is not a joint stock company with limited liability. Membership of a commons has its obligations as well as its privileges.

## Conclusion

So are commoners equal or not? Do they have the same duties and obligations but different rights? Elinor Ostrom points out that "common-property institutions are as diverse as private-property institutions and no clear assertion can be empirically supported regarding distributional effects of all such institutions".<sup>39</sup>

In the more limited case of smallholder intensive agriculturists, however, some regularities can be discerned. Common property institutions closely tied to local resource use will be defined and developed in parallel and symbiotically with private property. Households with more private property will derive greater benefit from some productive uses of the commons, but household necessities will often be equally allocated. Work can also be considered as common property. Obligatory labour on both communal projects and individual farms is often drawn equally from all member households, but this may disproportionately benefit large cultivators.

Governance, however, tends to be provided by assemblies of members with procedures of one-person-one-vote and democratic decision-making. Defence of the commons against outsiders, investment of labour and money in the resources, and monitoring against excessive use and free-riding require a responsible corporate group of interdependent rich and poor members.<sup>40</sup> Privatizing or enclosing the commons, either by agreement of the commoners or by external force, tends to widen existing economic and political inequality among smallholders and to impede the solution of collective action problems.

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5. Such a grand evolutionary trajectory is simplistic. Common property among smallholders is not a precursor to private property, but nor is it functionally unconnected. Indeed, as use of scarce land and water is intensified, so resources from the commons become more vital and increasingly subject to regulation. The institutionalization of secure private and communal claims to resources was thus coordinate and interdependent. As Meg McKean points out, "more systematic use of the commons increased the need to manage it well, define eligible users and uses, and exclude ineligible users. Sound resource management required cooperation by all villagers, and became the impetus to solidarity (and occasionally democratic) self government by village units." In the classic three-field system of medieval Europe, for example, scattered arable strips, which produced winter wheat in successive years and the summer crops of oats, peas, beans and barley, were managed and inherited by individual households, whether of freeholders, tenants or serfs. During the third-year fallow and when stubble was available, the unfenced strips were opened for common grazing. The oscillation from private arable land to communal pasturage had to be carefully scheduled and enforced by the community so that standing crops were not damaged, grain fields were manured, and the largest possible number of cattle and sheep were fed. See

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  39. Ostrom, E., op. cit. 2, p.244.
  40. Partial exclusion of members or abrogation of their rights denies their common interest and turns them into enemies who shirk their obligation and refuse to conserve the common pool of resources. Great inequality of income, wealth or class weakens the community necessary for viable common property institutions. See Singleton, S. and Taylor, M., op. cit. 26.

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## Rockefeller's Oil

**THEY WILL BE DONE: The Conquest of the Amazon, Nelson Rockefeller and Evangelism in the Age of Oil** by Gerard Colby and Charlotte Dennett, Harper Collins, New York, 1995, \$20 (pb) 960pp. ISBN 0-06-092723-2.

In 1976, US reporters Gerard Colby and Charlotte Dennett went to Brazil to write about the work of Christian missionaries in the Amazon basin. High on their list of priorities was to learn about a missionary organization called the Summer Institute of Linguistics (SIL). Also known as the Wycliffe Bible Translators, this group was praised by conservatives and liberals alike for translating the bible into hundreds of indigenous languages in Central and South America and helping native peoples cope with the intrusion of Western civilization into their lives.

Numerous critics had also alleged, however, that SIL was the vanguard of destruction of the rainforests and their native inhabitants. Colby and Dennett had heard from Latin American acquaintances that SIL was, in military fashion, a scouting party to survey the Amazonian hinterlands for potential sources of opposition among native peoples to natural resource exploitation (read cattle ranching, clearcutting and strip mining).

SIL was also reputed to employ a virulent brand of Christian fundamentalism that relied on linguistics to undermine the social cohesion of aboriginal communities and accelerate their assimilation into Western culture.

In addition, numerous articles in the Latin American press accused SIL of being funded by the US intelligence community, a claim strengthened by findings of a US Senate Committee that the

Central Intelligence Agency used Christian missionaries to gather information in the Third World.

On their trip, Colby and Dennett found SIL to be a veritable empire spanning every country in the Amazon basin, with a network of bases which resembled picket-fenced US suburbia more than the frontier outposts for the global economy that they actually are. SIL has its own air force and communications system, the Jungle Aviation and Radio Service (JAARS), which permits it to act virtually independently from the governments of the countries where it operates.

Years of research followed their visit, during which Colby and Dennett found irrefutable links between SIL and US counterinsurgency operations. SIL aggressively denied that the native peoples of Brazil and Guatemala were being slaughtered by the military regimes of their countries; yet it allowed its base in the Ecuadorian Amazon to be used by Green Berets combing the Western Amazon for signs of armed insurgency, and it assisted the Peruvian air force, which had napalmed the Mayoruna and Campa Indians.

If Colby and Dennett had limited themselves to simply exposing SIL, *They Will be Done* would still be a formidable journalistic achievement. But they went on to research the US institutions, both private and government, that provided support for SIL's mission. These included Standard Oil; the Pew family, creators of the Sun Oil Company (Sunoco) and the Pew Charitable Trusts; the US Agency for International Development (USAID); and the US military through its donations of surplus military equipment. Although they could find no direct link between the CIA and SIL, they did find several circumstantial and indirect links — financial support from a foundation later exposed as a CIA front, and JAARS's top pilot, Lawrence Montgomery, being on the Agency's payroll.

The authors discovered that SIL owed a large debt to institutions and individuals associated with the Rockefeller family. SIL founder William Cameron Townsend had been inspired by the anti-hookworm and anti-malaria campaigns of the Rockefeller Foundation and the Rockefeller Sanitary Commission, while his linguistics methods owed much to the work of linguist Edward Sapir of the University of Chicago, an institution supported by the Rockefeller Foundation.

Another influence on Townsend was Mexican anthropologist Manuel Gamio,

whose interdisciplinary studies on native peoples were sponsored by the University of Chicago, the Laura Spelman Rockefeller Memorial Fund and the Social Science Research Council. The last two were run by Beardsley Ruml, a member of the inner circle of the Rockefeller family.

One thinker that had a great influence on Townsend's approach to native cultures was John Mott, one of John D. Rockefeller Jr.'s most trusted envoys. Mott hoped to evangelize the world during his lifetime, but had rejected fundamentalism in favour of a broad-minded science-based approach. In a 1932 report he co-authored called "Rethinking Missions", Mott called for more cultural tolerance and social concern on the part of missionaries working abroad and less reliance on vociferous evangelical proselytizing. Such an approach, he argued, would win more converts in the long run and neutralize the nationalistic and communist revolts then brewing in what would later be called the Third World.

Colby and Dennett went on to investigate the Rockefeller family's financial interests in the commercial and industrial development of the Brazilian Amazon. In 1941, Nelson Rockefeller was named by President Roosevelt as coordinator of the Office of Interamerican Affairs (CIAA), which ran intelligence and propaganda operations against Nazis in Latin America. In one of its many flagrant violations of the separation between church and state, SIL assisted the CIAA in its Intensive Language Program for American and Latin American military officers and gathered intelligence on native peoples.

As coordinator of the CIAA, Nelson acquired invaluable information about Latin America's untapped natural resources, especially mineral reserves, information he used after the Second World War, when he formed the International Basic Economy Corporation (IBEC). This company was a key player in opening up the Amazon rainforest to commercial exploitation, a process that eventually led to military dictatorships, genocide of native peoples, loss of biological diversity and unprecedented misery for the majority of Brazilians.

The Rockefeller-led effort to conquer the Amazon and exploit its natural riches had been made possible in no small measure by SIL's missionary activities. Colby and Dennett found a historic parallel in John D. Rockefeller Sr.'s support for Christian missionaries in the west of the

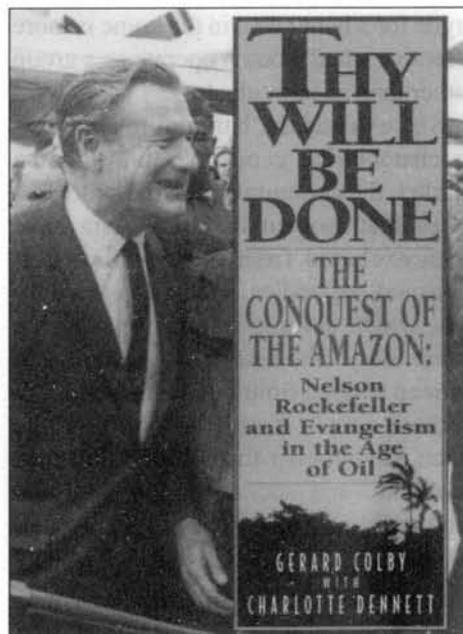
United States who were compiling information on Native American communities who might be potential sources of opposition to the entrance of the Rockefeller Standard Oil company onto their lands. As an extra bonus, the evangelization process weakened the American Indians' social structure and thereby undermined their resolve to fight for their rights. The authors quote Baptist Reverend Frederick Gates, John D. Sr's right-hand man for many years:

"We are only in the very dawn of commerce, and we owe that dawn to . . . the channels opened up by Christian missionaries . . . The effect of the missionary enterprise of the English speaking peoples will be to bring them the peaceful conquest of the world."

In turn, SIL's mission was greatly helped by the Rockefellers and the industrial development process that they were such an important part of. SIL missionaries believe that when the last tribe in the jungles is evangelized, the Second Coming of the Lord will take place; thus the race to develop the Amazon basin's natural resources is only a means to an end. In practice, this symbiotic relationship between commercial exploitation and Christian fundamentalism spells doom for native peoples and the rainforests they inhabit.

Following Nelson Rockefeller's consuming interest in Latin America, the authors go on to detail his days in Venezuela working for Standard Oil's subsidiary, Creole Petroleum, where he developed his concepts of corporate social responsibility; his brief stint as assistant Secretary of State when he was a key behind-the-scenes player in international negotiations that led to the founding of the United Nations and the Organization of American States; his service to the Eisenhower administration as special assistant for Cold War strategy, a position in which he was briefed on top secret CIA operations; his membership in President Nixon's Foreign Intelligence Advisory Board at a time that the CIA was destabilizing Salvador Allende's democratic socialist government in Chile; and much more.

Of special interest to Colby and Dennett were a series of by-invitation-only seminars hosted by Nelson under the sponsorship of the Rockefeller Brothers Fund (RBF) in Quantico naval base during the Eisenhower administration. The Quantico seminars, known officially as the RBF



Special Studies Project, advocated increased military spending and a more confrontational policy towards the Soviet Union. The participants included men who would later become instrumental in developing the Kennedy administration's counterinsurgency doctrine.

The book only skims through Nelson's deeds as governor of New York, focusing instead on his presidential ambitions, which came to a climax with his botched attempt to beat Barry Goldwater to the 1964 Republican presidential nomination. Nelson's crowning political achievement, however, was getting appointed to the Vice-Presidency of the United States in 1974. Unelected Vice-President Rockefeller was then called on by unelected President Ford to chair a commission to investigate CIA abuses. As the authors point out, no one could have been less qualified for the job.

Those who feel tempted to dismiss *Thy Will Be Done's* conclusions as conspiracy theory will find it hard going to refute the book's arguments and conclusions. The 830 pages of text, 92 pages of footnotes and bibliography and dozens of charts, graphs, photographs and maps eloquently document and support every single charge made by the authors. Indeed, it was precisely to placate sceptics that Colby and Dennett adopted this exhaustive approach. In spite of this, *Thy Will Be Done* is amazingly readable, challenging and deeply disturbing.

Right-wing populists in the States will be baffled and perplexed by one of the chief conclusions: that they've been had. According to Colby and Dennett, far from being a threat to the Machiavellian power of the Rockefellers, Christian fundamen-

talists were extremely useful in furthering the global designs of the heirs of the Standard Oil fortune.

Left-leaning liberals, however, will find the book's conclusions even harder to swallow, since the Rockefeller philanthropies (which include the Rockefeller Foundation, the Rockefeller Brothers Fund and the Rockefeller Family Fund) are among the main funding sources of liberal political activism in the US, including civil liberties, feminism and the environmental movement.

Much as one may try to rationalize the embarrassing predicament of taking money from the ultra-rich to finance social change, the question remains: What are the prospects for a progressive US agenda when it is heavily dependent on funding from a philanthropic system that owes its fortune to commercial activities that destroy ecosystems worldwide, erode biological diversity and create a holocaust for indigenous peoples?

Most environmentalists would agree that the destruction of the Amazon rainforest cannot be separated from a host of social, political and economic factors in South America as well as in industrialized countries such as the US. It takes a book like *Thy Will Be Done*, which puts together many of the pieces of the macabre puzzle of the destruction of the Amazon rainforest and the genocide of its indigenous dwellers, to show what this actually means.

Carmelo Ruiz

Carmelo Ruiz is a Puerto Rican journalist.

## Land and Freedom

**A FIELD OF ONE'S OWN: Gender and Land Rights in South Asia** by Bina Agarwal, New York, Cambridge University Press, 1995, £24.95/\$36.95 (pb), 570 pp. ISBN 0-521-42926-9.

Land is the most significant form of property in rural South Asia. Ownership of land determines economic well-being, social status and political power. Despite gender progressive legislation, Bina Agarwal notes in this first major study of gender and land rights in India, Pakistan, Bangladesh, Sri Lanka and Nepal that few South Asian women inherit property and even fewer control it.

Land ownership is largely in the hands of male household members. The

dominant social assumption is that the family is an undifferentiated unit governed primarily by altruism. It is assumed, therefore, that a piece of land owned by the male head will benefit the entire family.

Feminist critiques have challenged this assumption and have documented persistent interfamily inequalities in the distribution of resources and tasks within the household. Building on this scholarship, Agarwal points out why it is critical for policymakers to reconsider the nature and structure of the family.

Agarwal argues that independent land rights are crucial towards establishing more equal gender relations both within and outside the household. She establishes a firm theoretical framework for understanding the relationships of power between men and women, revealed in a range of practices, ideas and representations including the division of labour, roles and resources between genders. She explains the ways in which the "contested terrain" of gender relationships are maintained and identifies the processes through which they change over time as a result of being constantly subject to negotiation and realignment.

The household, viewed as a matrix of relationships subject to constant negotiation, is characterized by both conflict and cooperation. Agarwal argues that this non-unitary household demands a different set of policy interventions than those which stem from an ideal of the "unitary" household.

Agarwal goes on to explore the nature and extent of woman's bargaining power within the family. She demonstrates a subtle understanding of women's unspoken behaviour and adroitly uses folk songs and "women talk" to reveal women's bargaining strategies and behaviours. Through reviewing numerous cases, she finds that independent rights in private land increase a woman's bargaining power in the household and outside in ways that employment cannot.

For example, a greater economic role for women improves their status within the family, while their involvement in market activities gives them greater decision-making power within the household. Studies from outside South Asia indicate that access to independent sources of income increase women's leverage over fertility decisions and that when women earn, their self-esteem and how they are treated by other family members improves. Agarwal finds that women's ability to

argue for a better deal in the home is more effective when women operate as a group rather than as individuals.

She extends the bargaining approach to characterize gender relations in the market, the community and the state. She notes that women in South Asia have been excluded from most public decision-making bodies, such as caste councils, which enforce rules governing the community. She asserts the necessity of women waging simultaneous struggles in various arenas, from the home to the state. For women to mobilize political, economic and social support to claim land will:

"involve contesting the inequities inherent in existing distributions of material resources as well as in gender ideologies and social practices. The very scale of the struggle that will be necessary constitutes a formidable barrier, but it is precisely that which gives this struggle its unique potential to transform women's lives."

Prior to colonial rule the inheritance of property, including land, was governed by local customs in much of South Asia such that inheritance and rights to control land rested largely with men. In significant, though localized, pockets, however, matrilineal and bilateral systems of land inheritance prevailed. Historical evidence suggests that these systems granted women economic and social security and considerable autonomy and equality in marital relations.

Agarwal identifies three communities in three regions in South Asia where matrilineal and bilateral inheritance dominated and women's rights in land were customarily recognized: the Garos, Khasis and Jaintias of Northeast India; the Nayars, Tiyars and Bants of South India; and the Sinhalese, Hindu Tamils and matrilineal Muslims of Sri Lanka. In analysing the conditions under which land rights were granted to women, Agarwal found a significant link between women's property rights and certain marriage customs which reduced the risk of land passing to non-kin.

Localized communities such as these used to play a significant role in the evolution and enforcement of both inheritance and marriage customs. Contemporary laws relating to inheritance, however, are framed and enforced by the modern state while marriage customs and residence are determined by the local community. Agarwal argues that the incongruence

between state and community suggests great resistance in granting women possession of land.

Indeed, many customary practices were eroded by the colonial and post-colonial states, particularly in the legal and economic sphere. State policies have embodied and promoted a view of gender relations steeped in patriarchal norms. Struck by the vulnerability of women's customary rights in land to exogenous forces over which women had no control, Agarwal traces such vulnerability to the fact that women lacked jural authority in traditional public forums. Despite the considerable bargaining power that women of matrilineal and bilateral communities historically enjoyed in marital relationships, their limited access to and bargaining power in community and state decision-making bodies made them vulnerable to the erosion of their property rights and sexual freedoms.

Today, inheritance laws differ widely in the five countries of the region. Women certainly have significantly greater legal rights in landed property than they used to. (Gender inequalities in law do still persist, however, while land reform enactments contain serious gender inequalities. For example, land ceiling laws in India grant additional land to cultivators who have adult sons, or adult sons are allowed to hold such additional land in their own rights — daughters are given no such consideration. Land redistribution and settlement schemes continue to be modelled on the flawed notion of a unitary male-headed household.)

Despite legislation giving women independent property rights, Agarwal emphasizes the considerable gap between law and practice which in many places is still dominated by custom and in which daughters' claims have little social legitimacy. Widows' claims are more socially recognized, although contingent on a variety of factors — whether the widow remains single or chaste, whether she has sons, and whether her deceased husband has partitioned the joint family estate before his death. Such claims have greater social legitimacy in the Southern part of India than in the North. Tribal groups in India and some Hindu and Tibeto-Burman communities in Nepal recognize a widow's limited right to her deceased husband's estate if she has no sons, while some widows in Muslim communities have land in their own names.

Another factor that has obfuscated the issue of independent land rights for

women is development thinking and practice. These have cast women as recipients of welfare programmes which focus on meeting women's "basic needs" — providing women with access to education, health care and food. Such programmes fail to question the distribution of productive resources and political power and the social (that is, gender, caste and class) division of labour. Women's employment is therefore considered as the principal measure of women's economic status, despite the reality that in South Asia land ownership is a more significant determinant of economic well-being. Preoccupied with giving women access to employment to improve their status, women's organizations and development practitioners have promoted non-land-related income generating schemes for women.

Further infringement of women's rights to claim and control the land stem from the strictures on women's visibility, mobility and behaviour, whether internalized or socially-imposed by gossip, reprimand or violence. In addition, women's higher illiteracy rates, their limited access to cash and markets for purchasing inputs, and gender and class biases in extension services are additional barriers that women confront in their efforts to self-manage their land. Women heads of households are more likely to be forced to sell their land in times of economic crisis given their greater economic vulnerability.

Agarwal finds that where women individually owned land or had use rights over it, cases of self-management were rare, though more common among tribal communities. Typically, women rent out the land or male relatives manage it on their behalf. Agarwal underlines the need for ideological and social change together with institutional support to increase women's access to inputs and technology as necessary preconditions for women to claim and control land.

She charts out the degree and extent of hostility and opposition that women are likely to encounter in affirming their land rights across the region. She predicts that these rights will be hardest to ascertain in Pakistan, Northwest India and Bangladesh, whereas in Southern India and Sri Lanka, they may find relatively less resistance.

Despite these various obstacles, women in some

parts of the region are staking their claims to land. In Bangladesh, for example, a significant number of women, especially married women, are claiming their share of parental land on behalf of their sons. However, the circumstances under which some of them do so are disturbing: "Among small farmer households, husbands often pressure their wives and sometimes torture them to get them to claim their parental heritage".

Women's contemporary struggles for land rights over privatized and public lands (including forests under state control, village commons and public spaces within village settlements) are analysed as key to understanding the conditions under which women can assert their rights. Agarwal found that, in most of these struggles, women did not accept their subordinate position as legitimate.

However, when women have been active in land struggles but did not organize around gender specific issues, they have not been able to take up gender issues to advance women's political and economic status. For instance, Marxist political parties and left wing organizations, all proponents of redistributive land reform, have considered gender issues as divisive and distracting.

Since the late 1970s, due to the growth of the Indian women's movement, there has been a growing awareness among some mass-based organizations that gender concerns, such as independent land rights for women, are integral to building a just society. Where peasant women have been active in land struggles, work as a group and actively debate gender and class issues, they have been able to assert a claim to land. Agarwal notes group consciousness among poor peasant women might encompass more than recognizing common sources and forms of oppression and the advantage of organ-

ized struggle for individual gain. It might require group cooperation in terms of pooling land and resources or accepting land under group ownership.

In her final chapter, "The Long March Ahead", Agarwal outlines the scale of political, social and legal changes necessary to establish women's effective land rights. It requires reforms in inheritance laws and land reform legislation, and a firm understanding of the nature of dowry and a political strategy to challenge dowry as a form of inheritance. She stresses the important role that women's movements must play in establishing the social legitimacy for women's claim to property. She emphasizes the need for women to register their legal property and shares in their names and in land records. In addition, she underlines the need for women to occupy positions of jural authority. Systematic male biases in government land allocations must be challenged.

Bina Agarwal's objective with this intellectual tour de force was to provoke serious academic and policy debate and to give issues of women's land rights the centrality they deserve. This ambitious objective is achieved. Her conceptually and politically pathbreaking book is rich in information, analysis and argument.

Agarwal displays a mastery over contemporary philosophical and political debates in development thinking, economics and women's studies. Her focus on the critical, yet hitherto unexplored, link between land rights and women's subordination, will impact theory and praxis in all these fields. Placing the issue of land rights on political agendas in itself represents a first step toward building social legitimacy for these claims.

The weaving of authentic women's voices throughout the text and her engagement in strategies to further women's rights are especially attractive fea-

tures of her writing. The transformative potential of land rights are captured in the words of peasant women in Bodhgaya, Bihar, on receiving land in their own names:

"We had tongues but could not speak.  
We had feet but could not walk.  
Now that we have land  
We can speak and walk."

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makes it essential reading for scholars and activists concerned with land reform, land economics, gender relations, development theory and practice, and the evolution of political and social movements.

*Jael Silliman*

**Jael Silliman** is a visiting professor in the women's studies programme at the University of Iowa. A longer version of this review appeared in *Land Economics*, Vol. 72, No. 2, University of Wisconsin Press.

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## Beliefs in Practice

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**ENVIRONMENTAL VALUES IN AMERICAN CULTURE**, by Willett Kempton, James Boster, and Jennifer Hartley, The MIT Press, Cambridge Massachusetts and London, 1995, \$15/£12.50 (pb) 320 pp. ISBN 0-262-61123-6.

In this volume, three anthropologists describe their ambitious study of environmental values in US culture today. They began by conducting 43 open-ended interviews with a variety of Americans to identify different attitudes towards nature, and then went on to survey a larger number of people to determine the prevalence of these attitudes. The research survey covered five groups: two overtly environmentalist (Earth First! and the Sierra Club), two groups expected to be anti-environmentalist (dry cleaners and laid-off sawmill workers), and the general public.

To their surprise, the authors discovered that strong majorities of all surveyed groups endorsed three "cultural models of nature" which, the authors' claim, widely underlie US attitudes toward nature. These models express the convictions that:

- Nature is a limited resource, a closed system upon which humans depend both physically and emotionally.
- Nature is made up of delicately balanced interdependent parts; disrupting nature produces unpredictable consequences including species extinctions. Human-caused extinctions are morally wrong, both because species have inherent value (a conviction derived in various ways) and for utilitarian, prudential reasons. Consequently, non-intervention in nature is the preferred prescription.

- Market processes devalue nature, modern humans are alienated from it, and indigenous peoples are commonly viewed as the ideal environmentalists.

The authors believe that understanding these three cultural models of nature enables an understanding of what three-quarters of US citizens mean when they describe themselves as environmentalists.

Interestingly, the researchers did not find a similarly prevalent and coherent set of anti-environmental beliefs. Instead, they found that anti-environmentalism is thinly and widely scattered, without a shared ideology. They also found that ecological scientists enjoy a high level of public trust, despite ongoing efforts by anti-environmentalists to erode public confidence in them.

In the light of their findings, the authors went on to ask:

"If American environmental values are so pervasive and strong, why is there not more environmental action? Why don't people act collectively to strengthen environmental laws? . . . Why don't they act as individuals to reduce the aspects of personal consumption that are the most environmentally damaging?"

In sum, why is there such a large gap between environmental attitudes and environmental action?

Kempton, Boster and Hartley downplay a common response that modest commitment yields modest action, arguing instead that multiple structural constraints (such as an economic system biased towards increasing commodity consumption rather than human satisfactions, and an infrastructure built for automobiles rather than bicycles and mass transit) thwart effective environmental action. Their data suggests that greater attention to such constraints is warranted.

But the authors do little to explain why some people become environmentally active and others do not, even though they may agree on most ecological and moral claims. Their data itself, however, yields something of an answer: commitment — or what might be called the "passion" factor.

Although majorities of each of the five groups surveyed seemed to share the three cultural models of nature, the Sierra Club respondents agreed "more strongly", and the Earth First!ers "much more strongly" with "environmentalist" positions than did those from the three non-activist groups. Moreover, since Earth First!ers

are generally more willing than Sierra Club members to make sacrifices or take personal risks in their environmental actions, it is plausible to argue that strength of conviction — "passion" — might well be related to levels of environmental commitment and action.

Noticing how the environmental activists agreed "much more strongly" than individuals from the other groups, I wondered if the authors had made too much of respondent agreement with their survey propositions. Perhaps widespread agreement with the above cultural models of nature represents little more than a recitation of empty truisms that bear little relation to environmental action. In the light of other findings — such as only 18 per cent of Americans express a willingness to work, earn and consume less as part of an environmental strategy — such a conclusion seems equally plausible to the authors' more encouraging finding of widespread environmental concern.

Having conducted over six years of ethnographic research exploring the radical environmental movement, I think there is a huge gap between those who have appropriated widely diffuse cultural truisms, such as those models found by the authors, and those who, like my radical environmental informants, report intimate spiritual experiences in nature which convince them of the sacredness of the natural world and that the other-than-human world has intrinsic value. Thus, to understand the passion factor, we must attend in more depth to the spiritual experiences which often animate environmental action.

To their credit, and unlike many social scientists who ignore religion altogether, these researchers discovered that strong majorities view environmental protection as a religious duty. The authors also found widespread affinity with biocentric notions that non-human life has intrinsic value as well as statements expressing "nature spirituality."

They could have explored such beliefs more, however, and made more of their own data. For example, although majorities agreed with such spiritual propositions, Earth First!ers agreed unanimously and far more strongly than all other groups, while members of the Sierra Club agreed more strongly than those in the other surveyed groups. Most religions have nominal members who, when surveyed, will express agreement with their own tradition's propositions, but whose behaviour is not congruent with such

propositions. Recognizing this common dynamic helps explain why, despite widespread agreement with the posited cultural models of nature, few become actively engaged in voluntary environmental action.

US historians of religion argue that nature-based religion has been common in US history, while recent scholarship has found that nature mysticism has animated many, if not most, of the most influential US environmental activists during the past one hundred years. Environmental action in the United States cannot be accounted for without understanding how frequently it is grounded in religious, usually pagan, underpinnings, grounded in perceptions and beliefs that the natural world is sacred.

Those desiring a synthetic overview of recent research on environmental attitudes would do well to start with this book. Even though I wish the authors had simplified and tested the reliability of their survey statements and expanded their interpretations, their data remains rich and provocative. Environmental activists and policy makers seeking practical rhetorical strategies will find both practical advice and provocative information for their own strategizing. Those interested in grassroots environmentalism globally will want to assess the authors' claim that the cultural models they have found in the US are increasingly found beyond its borders. This volume also makes a contribution to ecological literacy by directing educators to numerous misapprehensions about a variety of environmental issues. It explains how these cultural models of nature oversimplify ecological reality in ways that sometimes mislead both environmentalists and the public.

Overall, the volume is encouraging by showing that ecological knowledge does become assimilated by the public, even if in oversimplified forms. The authors imply that, with greater political leadership by environmentally-educated social actors, the time it takes for public perceptions to converge with ecological science may be dramatically reduced, with a corresponding increase in human action toward sustainable lifeways.

Bron Taylor

**Bron Taylor** is editor of *Ecological Resistance Movements: the Global Emergence of Radical and Popular Environmentalism*, State University of New York Press, 1995 and teaches environmental and social ethics at the University of Wisconsin, Oshkosh.

## BOOKS DIGEST

- **NO LONGER INVISIBLE: *Afro-Latin Americans Today***, edited by Minority Rights Group, Minority Rights Publications, 379 Brixton Road, London SW9 7DE, UK, 1995, £12.95/\$24.95 (pb) 401pp. ISBN 1-873194-85-4.

Persistent myths of "colour-blind racial democracy" mask the discrimination that some 125 million Latin Americans of African ancestry face. A growing movement of diverse ethnic and cultural identities is challenging their oppression and working for collective rights. Each chapter examines a certain country or region, historical background, contemporary experience of discrimination, and contrasting ethnic identities assumed by women and men.

- **BIOPOLITICS: *A Feminist and Ecological Reader on Biotechnology***, edited by Vandana Shiva and Ingunn Moser, Zed Books, London and New York, 1995, £14.95/\$25.00 (pb), 294pp. ISBN 1-85649-336-9.

This anthology aims "to create acknowledgement and recognition of the problematic status of biotechnology in discussions of global ecology and sustainable development, and to mobilize discourses and communities to act on this recognition". The editors consider it crucial that alternative directions within biology, medicine and agriculture, and critiques of science and technology are no longer marginalized in debates over genetic engineering.

- **BEYOND THE BOMB**, edited by Huub Jaspers, Transnational Institute/Greenpeace International/WISE (Ketelhuisplein 43, 1054 RD Amsterdam, THE NETHERLANDS. Fax: +31 20 689 2179) 1996, \$15.00 (pb), 226pp.

This volume publishes the results of five international seminars at which "scientists, writers, government officials and activists were brought together to discuss the history and meaning of the Nuclear Non-Proliferation Treaty and the future of nuclear disarmament". The treaty has recently been extended permanently on the grounds that disarmament was underway. Yet, the US, UK, France and Russia continue to produce new weapons.

- **FUTURENATURAL: *Nature, Science, Culture***, edited by George Robertson et al., Routledge, London and New York, 1996, £12.99/\$18.95 (pb), 310pp. ISBN 0-415-07014-7.

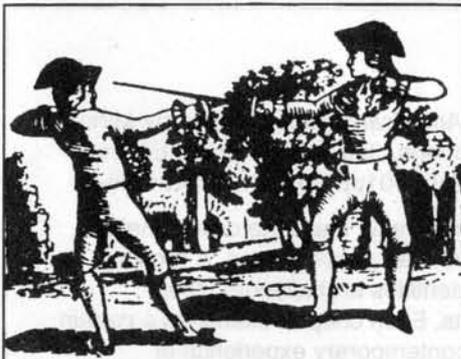
While very real threats confront the "natural" — the air, the land, the oceans and human bodies, for instance — the concept of what is "natural" has become more fragile and instable. This is illustrated in the struggles to come to terms with the implications of new genetic and reproductive technologies. In this volume, leading theorists of culture and science discuss the concept of "nature" — its past, present and future — and the impacts on daily life.

- **CONSERVATION AND ENVIRONMENTALISM: *An Encyclopedia***, edited by Robert Paehlke, Garland Publishing, New York/Fitzroy Dearborn Publishers, London and Chicago, 1995, £85/\$125 (hb), 771pp. ISBN 1-884964-14-1.

This green reference book — some 500 thoroughly indexed essays from 248 contributors — is an excellent primer on the history, scope and subtlety of environmental affairs (despite its North American bias). It presents the complexity and diversity of its subject matter — environmental protection and conservation; polluting activities and health; and long-term approaches to ecological sustainability — particularly from social and political perspectives.

- **WORLDS APART: *Modernity Through The Prism of the Local***, edited by Daniel Miller, Routledge, London and New York, 1995, £15.99/\$18.95 (pb), 270pp. ISBN 0-415-10789-X.

This book explores notions of the "local" and the "global" by examining how various global institutions — bureaucracy to business, soap opera to beauty contests, capitalism to mass consumption — are manifested in various parts of the world, including West Africa, Hawai'i, Australia, Belize and Egypt.



## Letters

### Taking Eco-Taxation into the Real World

Peter Holway, commenting in *The Ecologist*, (November/December 1996, p.316) on Ed Mayo's article, "The Potential of Eco-Taxes" (September/October 1996), questions why a transfer of taxes from employment to resources will aid sustainability; and implies that the fact that eco-taxes will be borne by everyone invalidates the principle.

It doesn't. The resource-hungry consumer lifestyle permeates the whole of our society. People who are poor in the context of our own society are nevertheless using resources and causing environmental impacts at many times more than the *average* for Third World populations, and much faster than people who did not consider themselves poor at all in our own society a generation or two ago. Although it is a real deprivation to be comparatively poor in a rich society — and there must be social policies to deal with that — this is no reason not to use taxation to steer society as a whole towards sustainability, by making it cost more to use finite resources and cost less to use the one resource we can't run out of — human labour.

Mr Holway's speculations that manufacturers and employers would pass on the higher resource costs and use the employment-cost savings to increase profit and dividends are not relevant. It is already a basic principle of business to keep costs as low as possible, charge as much as possible for the product (consistent with maintaining customer goodwill) and make as much profit as possible. This would no doubt continue under an eco-tax regime. But it would become more profitable to use rather less material and rather more labour.

Ed Mayo's article might more fairly be criticized for acknowledging too readily

"potential flaws" in eco-taxation. Of course, governments tend to introduce exemption and abatements which favour heavyweight pressure groups. They always do. That is a characteristic of our political processes, not a flaw in eco-taxation.

Nor is Mayo right in belittling what can be achieved without a more comprehensive and theoretically-sound approach. Governments rarely do the right things comprehensively, and for the right reasons. They do bits and pieces which happen to be politically opportune. But each of the bits and pieces of eco-taxation would make its contribution to steering society towards sustainability. That is one of the advantages of eco-taxation compared with other changes, requiring new structures in society, which may cost a lot, including environmental costs, before the benefits appear.

There is a long way to go. Our present patterns of tax/subsidy often positively promote the waste of resources. If people are "green" enough, and able and lucky enough, to make their living in a sustainable way, at present they pay taxes which are used to *subsidize* resource-hungry transport. Air transport, one of the most resource-hungry and environmentally-damning of all human activities, is one of the most heavily subsidized. We don't all travel by air, but we all help pay for those who do. People with high-street businesses, who help to keep our town-centres alive, pay punitive council taxes while out-of-town superstores, built on greenfield sites and imposing heavy environmental costs by the traffic they generate, pay far less. People insulating their homes and workplaces pay full

value-added tax (VAT) on the materials and labour while people who just burn more fuel pay a lower rate. Maintaining a building costs VAT, knocking it down and building a new one doesn't.

The list could go on, because taxes hitherto have been judged entirely by economic criteria and by "progressiveness" or lack of it, with no account being taken of their effect on the real physical world. Eco-taxation needs to come out of its mental ghetto, as a matter of special taxes for special purposes, into this real world. In this world, we don't usually need to know what is theoretically the "right" rate. Even if we knew it, it would often be too disruptive to introduce all at once. We just need to know in which direction the changes should move, and that isn't usually very difficult to work out.

Finally, no-one supposes that eco-taxation is in itself a complete "green" policy. But it would buy time for deeper changes to evolve. It would usually make a climate more conducive to those deeper changes, by making skilled local repair more economic than throwing something away ("away?" There's no such place) or buying new from some remote factory capable of being staffed by robots or zombies.

Surely the role of green journals and other bodies should be to demonstrate how eco-taxation could work here and now, without adding to total taxation. And to urge governments to stop dithering and tinkering, and get on with it.

**Roy Cattran**

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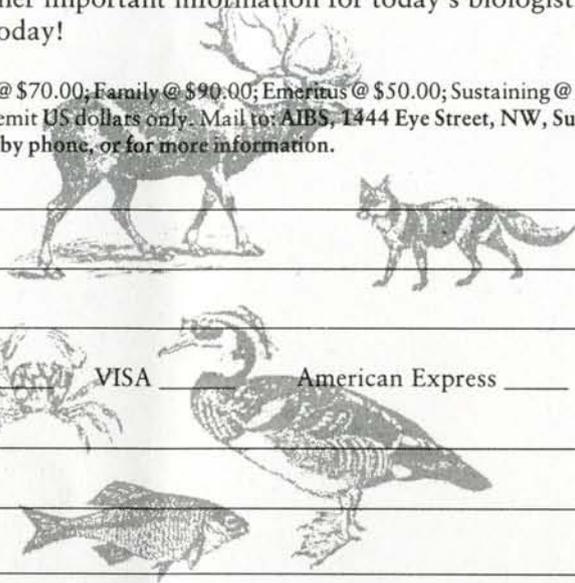
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