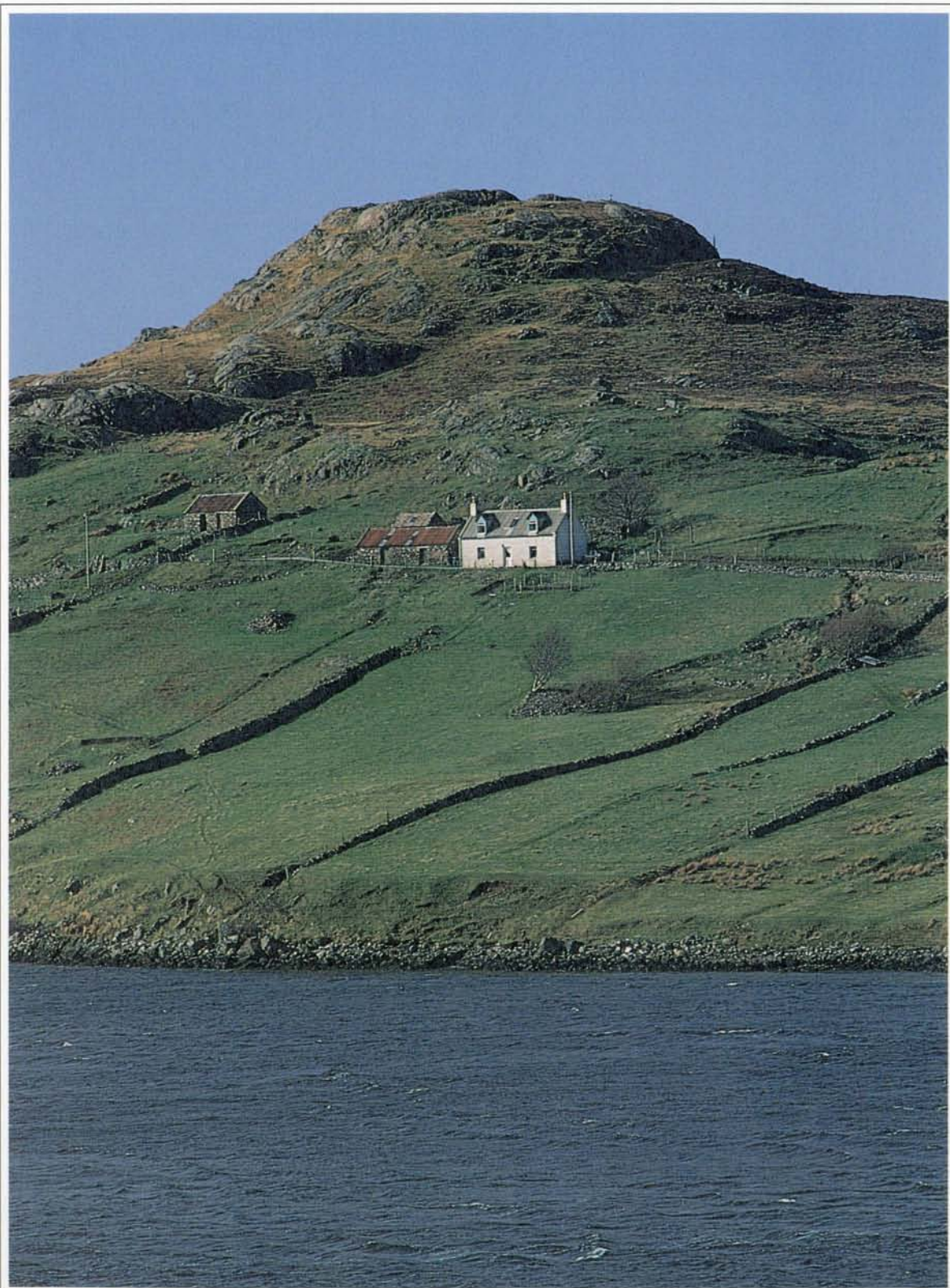


The Ecologist

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Eggs, Eugenics and Economics

The English language has a new phrase — “the yuck factor”. Coined in December 1993, it describes public abhorrence at the prospect of medical scientists’ harvesting immature human eggs from the ovaries of aborted female fetuses to enable women to have children through *in-vitro* fertilization (IVF). Already successfully carried out in mice, the technique is awaiting approval from the British Medical Association to extend the research to humans.

Many medical scientists take it for granted that the “yuck factor” is mere squeamishness on the part of an uninformed public about a benign scientific advance. It is assumed that, like the public horror which greeted the first autopsies or organ transplants, it will disappear within a few years.

But revulsion at the idea of mining aborted fetuses for their ovaries is not just fastidiousness. For many, it represents more: a refusal, albeit an inarticulate one, to accept a society in which humans and bits of humans become both factors of mass production and material for a new “consumer eugenics”.

Human Experiments

At present, the IVF technique uses mature eggs taken either from the woman undergoing treatment or from a donor. These are obtained through the awkward and risky procedure of dosing a woman with a cocktail of potentially-carcinogenic hormones so that at a pre-ordained moment her ovaries release 12 to 40 eggs instead of the usual one, which are then retrieved with a laparoscope while the woman is under general anaesthetic. Assuming that immature eggs could be matured in the laboratory, it would be much simpler and more efficient to harvest them from the ovaries of corpses, or, even better, aborted fetuses. Whereas an adult woman has thousands of eggs, a 14-week old female fetus has laid down millions. A main proponent of fetal harvesting, Roger Gosden, points out that the use of fetal ovaries would greatly increase the supply of eggs available for the increasing numbers of “infertile” heterosexual couples on the waiting list for IVF treatment.

But in fact the main reason, now as in the past, scientists are seeking more eggs is not to provide couples with IVF “therapy”; rather, the “therapy” was designed as a way of increasing the flow of germ material for egg and embryo research. British IVF pioneer Robert Edwards dreamt of “egg heaven”, an endless supply of human ova for his life-long research in embryology. This demand has proved to be self-reinforcing. The more embryos there are in scientific circulation (one estimate puts the current number at 200,000), the more pressure there is on governments to allow expanded embryo research — which in turn generates a demand for yet more eggs.

Given its status as a sideshow to a broader programme of embryological research, it is not surprising that IVF has been, from the start, essentially an experiment on human subjects which is only intermittently and belatedly exposed to public scrutiny or regulation. Basic codes of medical practice have

been contravened, and controlled animal research to determine the long-range effects of IVF, embryo transfer and the use of hormones has never been conducted. Although Lesley Brown, the first successful IVF subject, was under the impression that the technique was tried and tested, her doctors confess that they in fact had no idea what was going to happen when, after dozens of failures with other women, an embryo “took” in her womb in 1978. Subsequent use of the technique has resulted in the deaths of several women, and ectopic pregnancies, spontaneous abortions, multiple pregnancies, premature births, underweight births, caesarean birth rates and congenital malformations all seem to be higher than in “natural” conceptions. The technique’s failure rate is high. In Australia, it gives a baby to only one couple in ten, while in England, the “take-home” baby rate is around 14 per cent. As one Australian scientist admitted (after illegally injecting eggs with sperm and implanting the resulting embryos in women without checking for abnormalities), “each patient is sort of experimental”.

The eggs obtained through IVF “treatments” are raw material for biotechnological and genetic research which aims to screen embryos for “genetic abnormalities” ranging from Down’s syndrome to conjectured genetic predispositions to heart disease or even aggressiveness. The ultimate aim is to develop “somatic gene therapy”, in which new genes would be inserted into cells to replace “faulty” ones; or “germ-line therapy”, in which eggs, sperm or embryos would be manipulated for the “benefit” of future generations in what some genetic determinists have dubbed a “cost-effective way of cleaning up the human gene pool”.

The IVF package is thus contributing to a resurgence of eugenics in a new, more palatable “consumer” or “therapeutic” form, well in keeping with Thatcherite notions of individual choice. As Harvard biologist Ruth Hubbard points out, “in this liberal and individualistic society, there may be no need for eugenic legislation. Physicians and scientists need merely to provide the techniques that make individual women, and parents, responsible for implementing the society’s prejudices, so to speak, by choice.”

Lucrative Opportunities

Experimental as it may be in its origins, fragmentation of the procreative process is commercially significant in that it allows people’s desire to have perfect children “made-to-order” to be transformed into an *economic* demand. As the chair of one company says, “when you consider that about 15 per cent of the population in most developed countries is infertile, the prospective clientele is enormous”; another points to a \$19 billion US market of “three million baby-starved couples”. Small wonder that one company is described as having five babies on its IVF “assembly line”; that another has applied for a patent on the instruments and process used to flush an embryo from one woman so that it can be implanted in another; that a doctor carrying out a laparoscopy has been compared to a miner panning for

"human gold"; and that some companies plan to charge women for the storage of their eggs and embryos. In 1990 an Australian newspaper reported going rates for fertile eggs at \$1,500, sperm at \$55, and the use of a womb for "surrogate motherhood" at \$18,750.

As Rural Advancement Fund International points out, future parents may even have to pay for their own embryos if the patent on their germ line is held by someone else. Observers incautiously inclined to dismiss such speculations as science fiction might recall that Ron Brown, the US Secretary of State for Commerce, has applied for a patent on the germ line of a Guatemalan woman who has naturally occurring antibodies to a particular virus, and that agribusiness has taken out patents on genetically-engineered cows and chickens, while the pharmaceutical industry has patented reprogrammed mice, sheep and pigs to test and to produce drugs. Some scientists profess themselves curious to find out whether ape or crossed ape-human embryos could be brought to term in human wombs; cattle embryos from Britain are routinely shipped abroad in rabbits to be transplanted into African or Australian stock.

Consequences for Control

For people's procreative capacities to be given economic value is nothing new. For women of many societies, the marriage market is a fact of life; while in the British aristocracy in the preindustrial-age, as historian Lawrence Stone observes, men were frequently assigned the role of "walking sperm banks", held in celibate reserve to perpetuate their family line in case of an elder brother's demise.

What makes the new reproductive technologies different is the way they fragment human tissue itself into factors of mass production and into commodities. By being made into discrete, laboratory-friendly entities with economic value, human eggs and embryos — like land, forests, water, labour and various forms of knowledge — are being enclosed and transformed into scarce resources circulating in a highly centralized market system. The disembedding of eggs and embryos from women and from current procreative practices is placing new forms of power in the hands of influential economic actors — most of them men — just as surely as the abstraction of manufacturing "labour" from myriad sets of highly localized practices of livelihood helped place new forms of power in the hands of nineteenth-century capitalists.

It is medical scientists who would in all probability define many of the choices presented to the new consumer of procreative goods: which embryo to implant; how to adjust it to make it disease-resistant or "desirable" in appearance, sex or overall genetic make-up; and whether to dispose of it, freeze it, or recycle it as experimental material. To put IVF's failure rate "in perspective", human procreation is already being reinterpreted as "inherently inefficient even in normal, fertile couples", paving the way for the future development of some babies outside the living womb altogether: researchers have already developed a fetal incubator in which spontaneously aborted human fetuses have been kept alive for up to 48 hours, and have kept clinically dead women "alive" so that an embryo can be implanted in them. As the dragnet of the "beneficiaries" of IVF and experimental assisted-conception technologies is thrown wider and wider, women's procreativity will become not only further medicalized but also *experimentalized* to an unprecedented degree, while their control and autonomy over procreation, their bodies and

their lives will be further eroded.

This fragmentation will create new attitudes and values which will affect even those not directly involved in IVF. If women have in the past complained of being viewed mainly as baby-making machines, they are now likely to find themselves increasingly regarded as egg factories and commercial incubators. Already embryologists and genetic researchers have joined anti-abortion enthusiasts in reducing pregnant women to "uterine environments" for the fetus. But while many anti-abortionists divide a woman from her unborn child by assigning it a moral status equivalent to or superseding that of the woman, the researcher does so by defining the fetus as material for genetic improvement or transplantation, or as a source of immature ova. Women may well be discouraged from aborting when scientists think they can "repair" a "faulty" embryo, yet encouraged to do so when fetal tissue is required for commercial or scientific purposes. Just as today children in some parts of the world are "grown" for the commercial value of their organs, women could be paid, coerced or emotionally blackmailed to become pregnant and have their female fetuses aborted for their immature eggs or other tissue. This is an abuse to which poor women and women of the Third World would be particularly vulnerable. Such women would probably be encouraged to abort late to ensure that the fetus remains intact.

Beyond Regulation

Technical innovations such as the new reproductive technologies do not have a life of their own; there is nothing "inevitable" about their encroachment on social existence. Among the many ways concerned environmentalists and feminists have to challenge them is to support independent regulation of the new reproductive industries and practices. Current legislation in Britain already makes it illegal to clone or attempt trans-species work with humans, and does not allow commercial surrogacy or experiments with embryos gestated more than 14 days. The British Human Fertilisation and Embryology Authority (HFEA) has asked for public opinions on the use of ovarian tissue from corpses and fetuses to be submitted by June this year. Although often limited, reactive, defensive and belated, the effectiveness of such regulation is indicated by the fact that many in the medical and scientific professions are going to great lengths to portray it as an attempt to hinder "progress" and to interfere with people's right to have children.

Yet regulation is not enough, not least because it implies that what is regulated is, in its essence, acceptable. There must also be constant efforts to open up reproductive and genetic engineering to full public discussion and debate about its social, political and economic implications, so as to counter the narrow pursuit of scientific control and the greed for profit which such engineering promotes. Contrary to some scientists' claims, a truly informed debate would in all likelihood lead to a halt to the use of these technologies. Without such a debate, commercial interests in conjunction with medical research could end up influencing our future in ways never dreamt of, even in science fiction.

The Editors

Reference: Rowland, R., *Living Laboratories: Women and Reproductive Technology*, Lime Tree Books, 1992.

Write to HFEA, Paxton House, 30 Artillery Lane, London E1 7LS, UK. Tel: 071-377 5077; Fax: 071-377 1871. Its public consultation document, *Donated Ovarian Tissue in Embryo Research & Assisted Conception*, outlines the questions comments are requested on.

Lies, Dam Lies and Ballistics

"There are those who see the aid budget," said Britain's Overseas Aid Minister Timothy Raison before he was sacked, "as simply a big pot to be used for buying business or impressing foreign rulers". The Pergau "aid-for-arms" scandal now being investigated by the House of Commons Select Committee on Foreign Affairs confirms what Raison implied and what critics have long maintained — that aid is little more than a slush fund fuelling a corrupt and corrupting system of patronage politics, and that the familiar rhetoric of "conquering poverty" is a cynical deception.

The immediate background to the scandal surrounding Malaysia's Pergau dam lies in an aggressive arms sales drive, launched in the early 1980s by Margaret Thatcher, then Prime Minister — a drive continued by her successor, John Major. Under Thatcher's direction, huge arms orders were secured from Saudi Arabia (a deal personally negotiated by the Prime Minister herself), Ecuador, Oman, Jordan, Nigeria, Indonesia and India. The climax came in 1988 when Thatcher returned from a visit to Malaysia with an arms order worth over £1,000 million.

Within months of this deal being made, Britain announced a bilateral loan of £234 million towards the cost of a £400 million hydroelectric dam at Pergau, on the Thai-Malaysian border. From the start, opposition MPs in both Malaysia and Britain suspected that the aid package had been used as a "sweetener" to lubricate the arms deal. And they were right. Although Britain insisted that the timing of the two deals was purely coincidental, documentary evidence now makes it perfectly clear that the aid package was linked *in writing* by a "mathematical formula" to the arms deals, in direct contravention of the 1966 Overseas Aid Act which forbids British aid money being used for the purchase of military equipment.

It would seem that "batting for Britain" (Thatcher's description of her mission on behalf of Britain's arms dealers) went far beyond arguing the merits of British armaments. In the Malaysian case, quite apart from lying to the House of Commons, it apparently entailed: paying £60 million to the ruling political party of Malaysia, in addition to £40 million to agents and ruling families in Malaysia; breaking Britain's rules on submitting all aid projects to domestic tendering, awarding the contracts for Pergau jointly to Balfour Beattie — a company with close links to the Conservative Party — and Cementation International, a company which employed Thatcher's son as an adviser.

The affair also raises questions about the influence of others closely identified with the Conservative party or Thatcher's inner cabinet who had (or currently have) some financial interest in the arms deal and related aid project. The "revolving door" between Whitehall and the City, which has long ensured a place for ex-Ministers and top civil servants in the boardrooms of corporate Britain, has seen Sir Charles Powell, Thatcher's Foreign Affairs adviser until 1990, become a director of Trafalgar House, which owns Cementation. Both Lord Prior, a former minister under Thatcher, and now chair of GEC, the construction and defence conglomerate, and Lord King, ennobled by Thatcher and president of British Airways, have also been linked to the affair.

It is sheer hypocrisy for Conservative politicians — the champions of "law and order", "free market economics" and "good governance" — to flout British law so as to use taxpayers' money to subsidize an uncompetitive and questionable business, whilst deceiving the British public that British aid is going to help the poorest of the poor. Worse still is the underlying racism and chauvinism that apparently provides a rationale for the government's chicanery. This attitude surfaced recently when cabinet minister Michael Portillo

gave official backing to the tap-room slander that associates "corruption" with the Third World by telling an audience of university students: "When you go into business, you will win contracts because you are good at what you do. Go to a number of other countries and you would win contracts because your cousin was a minister or because you have lined the pocket of some official." But corruption is likely to breed wherever power and money intermingle, in Britain as well as in Malaysia or Ecuador. Indeed, there are powerful interests in Britain who have deliberately fostered corruption abroad, not least by subverting the efforts of those attempting to put an end to it. For example, in the early 1980s, revelations that the Shagari government in Nigeria had taken up to £22 million in "commissions" on a British Aerospace deal for 18 Jaguar ground attack fighters prompted a military coup. When the new regime announced a major anti-corruption drive that might have jeopardized the deal, the British government allegedly connived in supporting a "counter-coup" to unseat the new government.

What the Pergau scandal reveals is the extent to which corruption permeates the British aid industry. Indeed, the deals now under scrutiny were not initiated by shifty-eyed "outsiders" but by "respectable" (often knighted) heads of British industry with an inside track on aid policy. Operating through a variety of committees and policy groups — notably the British Overseas Trade Board and the Overseas Projects Board — these figures have used their positions to secure taxpayers' money for projects which are then awarded to their favoured companies, often without any pretence at competitive tendering. This system has allowed just five companies to cream off 42.5 per cent of the £1.37 billion allocated to Britain's "aid and trade budget" since 1978. With over 70 per cent of British aid "tied" to the purchase of British goods, it has been an easy — and perfectly legal — scam.

Nor does the scam end with bilateral aid. The money lent via the World Bank and other multilateral institutions is used for similar self-serving ends by those who know how to work the system. From 1982 to 1985, the four major multilateral development banks disbursed some \$76 billion to Northern companies in contracts for goods and equipment, construction works, consultancies and the like. To win such contracts, companies regularly meet with bank employees to identify projects in the pipeline; invite project staff to their companies for seminars; and involve themselves as closely as possible in the project cycle. Money may not change hands, though undoubtedly in some cases it has, but the "buddy-buddy" system that results works to ensure that the main financial and political beneficiaries are those with the right contacts. Over half the money lent by IDA — the soft loan arm of the World Bank — in 1992 went to companies in the world's ten richest nations as payments for goods and services. The UK tops the list of the rich countries benefiting from "aid" for the poor: £285 million IDA dollars came to Britain in 1992, more than went to Bangladesh.

Lady Thatcher and Mr. Major may not conform to Portillo's clichéd image of corrupt politicians: but the lack of an obvious pantomime villain in the Pergau script simply underlines the sophistication and scale of corruption in Britain today. This corruption causes millions to suffer in the South. In some cases, it may be the cluster bombs and jet fighters sold by Britain that are the direct cause of their plight; in others, it may be the pork-barrel dam being built by a British company that has resulted in their forcible eviction or loss of livelihood. Either way, they are unlikely to be taken in by talk of Britain's aid being used to alleviate poverty or to promote good governance. And nor should we.

The Editors

The New Sultans

Asian Loggers Move in on Guyana's Forests

by

Marcus Colchester

Intensive logging to supply the international market with raw logs and plywood has long been dominated by Asian companies. But as the forests of South-East Asia become exhausted, the industry is moving its capital, staff and machinery to South America, in particular to Guyana. The massive foreign investment is welcomed by governments and developers, but for the region's indigenous peoples and forests, the implications are dire. Introduced patterns of patronage and persuasion, replicating those prevalent in Asia, now threaten to transform the country's political economy through a new form of "South-South colonialism" which will be no less damaging than the North-South colonialism of the past.

Not long ago it was possible to state with some optimism that the forests of Guyana — a country approximately the size of Great Britain — would be one of the last remaining areas of the Amazonian forests to survive relatively intact into the next century.¹ Under the 1969-1989 socialist dictatorship of Forbes Burnham, the country's economy stagnated: the logging industry declined and pressure to convert the forests to agriculture was slight. The small forest loss that is now occurring results mainly from fuelwood collecting and charcoal manufacture in forests near the coast, where most of the country's 800,000 people live.

However, since 1989, the successive administrations of Presidents Desmond Hoyte and Cheddi Jagan have embarked on a programme of economic liberalization, under World Bank and IMF pressure to carry out structural adjustment. In line with the World Bank's new panacea for the debt crisis — the promotion of "Foreign Direct Investment"² — generous fiscal incentives have been offered to overseas companies in order to lure in transnational capital.³ There has been a massive increase in aluminium, gold and tantalite mining, mainly funded by Northern mining corporations, with serious environmental consequences.⁴

Less expected have been the huge investments made by Asian timber companies which have secured generous contracts to log the country's Amazonian forests. These companies have almost exhausted the forests of South-East Asia and are looking elsewhere for supplies of timber to meet the demands of the international market. Their gaze has fallen upon the relatively unexploited forests of Guyana. With abundant capital, well-established markets, an experienced workforce and surplus machinery, they are well-placed to move in. As a result, more than 80 per cent of Guyana's State Forests have been leased out and logging has become a major force in the country's political economy. The interior forests are not yet disappearing, but they are under assault.

Logging Boom

Of the estimated 16 million hectares of Guyana that are forested, at least 14 million hectares are considered suitable for timber extraction. Not all of this forest is presently accessible, and only 9.1 million hectares are defined as "State Forests" falling under the jurisdiction of the Forestry Commission.

In 1989, when only 2.4 million hectares of State Forest were being actively exploited, it was acknowledged that the timber extraction — mainly of "greenheart" (*Ocotea*) — was probably unsustainable. At the same time, as studies by both CIDA — the Canadian International Development Agency — and the World Bank demonstrated, there was an almost total absence of institutional capacity on the part of the Forestry Commission to oversee logging operations.⁵

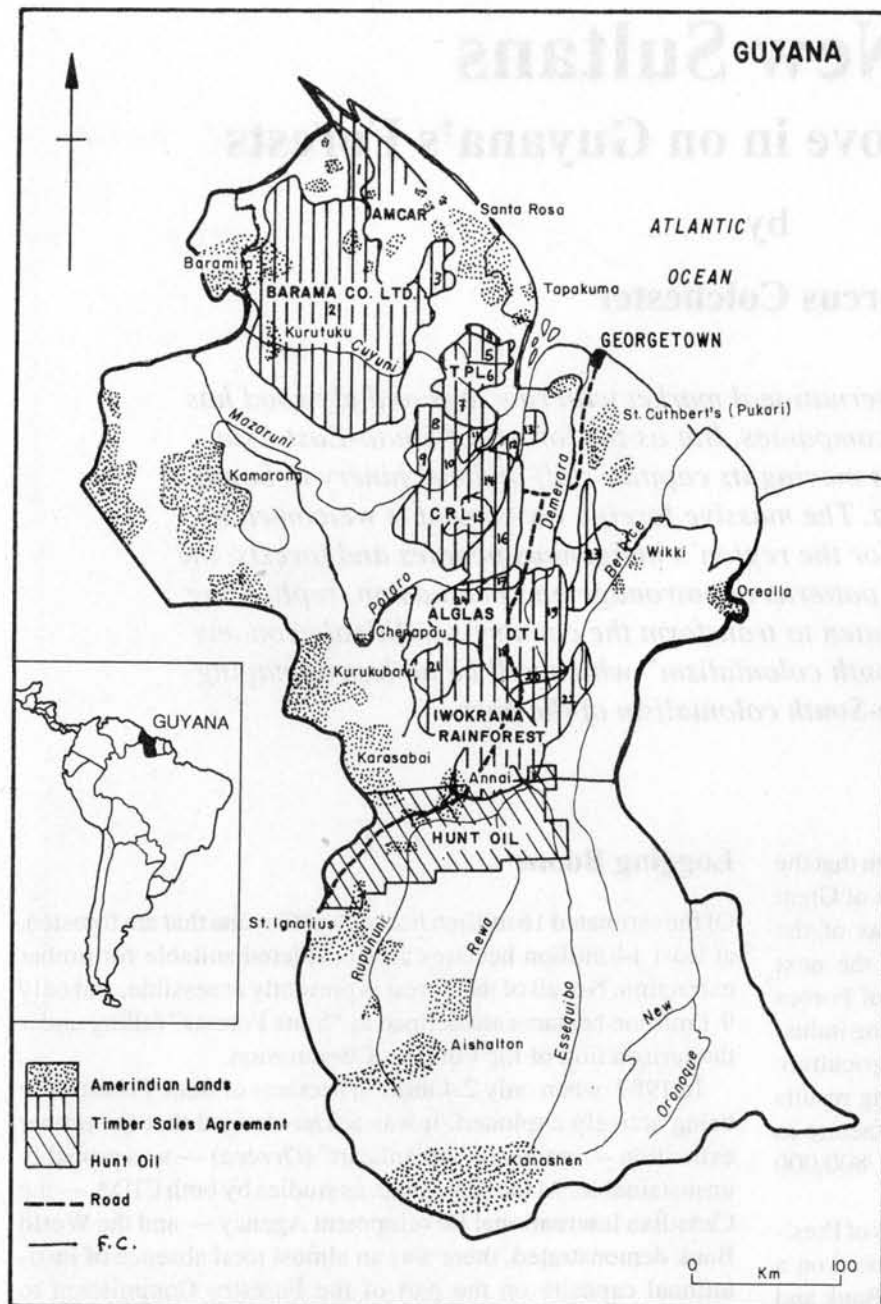
By early 1993, unofficial data suggest that the area of State Forest leased to concessionaires was some 7.1 million hectares, about 80 per cent of the State Forests. In addition, an estimated 1.1 million hectares outside the State Forests had been leased out under other permits.

As in most other tropical forest countries, political patronage has to a large extent determined who it is that gains logging concessions in Guyana. Most of the large concessions given out to Guyanese nationals between 1985 and 1991 have been to Ministers, members of parliament and supporters of the political party which ruled until 1992, the PNC. Moreover, in the five years preceeding 1989, seven companies absorbed 94 per cent of foreign assistance given to the sector, of which two companies alone received 75 per cent.⁶

The Sultans of Logging

Under the liberalization policies of the Hoyte administration, foreign companies investing in forestry were accorded extraordinarily generous terms to exploit enormous timber concessions. Most of the agreements they reached with the government are secret. However, the leaked contract of one locally-incorpo-

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In 1988 and 1989, the Guyanese Forestry Commission, with the help of the Canadian International Development Agency, proposed a National Forestry Action Plan to revive the forest sector and establish government control of logging, reforestation and non-timber forest products use. The Plan proposed that logging be expanded to a total area of 3.6 million hectares and suggested that some US\$ 23 million would be needed to improve forestry administration and provide 76 trained forestry technicians. The total area of forest leased out, however, is well over twice that recommended by the Plan, proposals which were themselves heavily criticized, while the Forestry Commission has only five trained foresters and no Commissioner.

Barama is also permitted to hold external accounts and foreign currency accounts within Guyana; it may employ 15 per cent foreign workers (more if local labour with the right skills is unavailable); and any disagreements between Barama and the government are subject to the arbitration of the "International Centre for Settlement of Investment Disputes" in Washington, DC, in which case the company "shall be deemed as a national of a State other than Guyana".⁹

The contract setting up the Barama concession stipulates that the company will attempt to extract timber according to the principle of sustained yield. However, whereas both the Forestry Commission and Barama admit that they do not know how to achieve this, the company has invested in the enterprise on the expectation of extracting an average of one cubic metre per hectare per year. It is very doubtful if the low-canopy forests of the North-West, where tree diameters are below average, can in fact regenerate into saleable timber at this rate.¹⁰ A survey of

the concession by the Edinburgh Centre for Tropical Forests notes that excessive timber harvesting was a major risk that "could potentially jeopardize the objective of the entire BCL programme",¹¹ and a recent report from a disaffected employee alleges that the company is already exceeding its stipulated rate of cut.¹²

Deals between local timber companies confuse the picture still further. The Barama company is one of several that are known to buy logs from other operators and export them. Lack of records and effective oversight means that it is difficult to establish whether these logs have been extracted according to agreed management plans or not.¹³

rated consortium, the Barama Company Ltd. (BCL) — owned by the South Korean trading giant, Sung Kyong (20 per cent), and the Sarawak logger Samling Timbers Sdn. Bhd. (80 per cent) — reveals the lengths to which the Hoyte administration went to attract foreign investment. The Barama concession is a classic example of the type of "enclave" development that has led to the over-exploitation of forests throughout the tropics for little national gain.⁷ The Barama agreement grants the company a 25 year licence — automatically extendable for a further 25 years — to cut some 1.69 million hectares of forests in the North-West of Guyana for the export of raw logs, sawn lumber, veneer and processed plywood. Initially the company expects to export some 300,000 cubic metres of timber, rising to 1.2 million cubic metres per year after ten years — in 1989 the total annual export for the entire country was about 94,000 cubic metres.⁸ The company will enjoy a ten-year exemption from income tax, corporation tax, withholding tax, consumption tax, property tax, most timber export taxes and most import duties. Even royalty payments have been fixed in Guyanese dollars over the first 20-year period — a gift to the company, as devaluation of this weak currency is likely.

A second controversial operation, Demerara Timbers Ltd. (DTL), controls about half a million hectares on the middle Essequibo and Upper Demerara rivers. Although full details of the contract have not been made public, the company has advertised the generous fiscal incentives it secured from the government (including a five-year tax holiday) in order to attract foreign investors.

Who owns DTL, however, is something of a mystery. The initial buyer, Britain's Lord Beaverbrook, paid some US\$16 million for the concession and the associated mill from the

Guyanese parastatal, Demerara Woods Ltd. The company was then acquired by the United Dutch company, which subsequently went into receivership; now DTL has been temporarily bailed out by Asian investors, allegedly coordinated by Malaysian businessman Alex Ling Lee Soon.

Most recently, the Forestry Commission has been negotiating with a new foreign consortium variously referred to as Forest Management Investments Ltd. or Mazaruni Forest Industries Limited (MFIL) over 600,000 hectares of forest in the Mazaruni region of west Guyana. The consortium includes companies such as BP Batu Ampar Wood Industries of Indonesia, Turama Forest Industries Pty Ltd. of Papua New Guinea, Forest Management Services of Singapore and the SK Timber Corporation of Malaysia.¹⁴ These companies are members of the Malaysian logging consortium, Rimbanun Hijau, which controls 80 per cent

of the destructive trade in timber from Papua New Guinea.¹⁵

Malaysian interests are also thought to be behind the operations of Caribbean Resources Ltd, which is owned by CLICO, a Trinidad-based insurance company. CLICO is reported to have secured a US\$150-million export contract with a Singapore-based company, Forest Marketing Services, to supply Guyanese timber to the Philippines, Korea and the US. In sum, it appears that over half of Guyana's State Forests are under the control of a single "family" of Asian (mainly Malaysian) logging companies.¹⁶

In December 1993, Guyanese President Cheddi Jagan made a special tour of the capitals of South-East Asia, China and Japan to encourage yet further "Foreign Direct Investment" and "South-South Cooperation". The results became apparent in January 1994 with news of yet another lucrative deal for a logging concession of 1.2 million hectares for the Malaysian timber giant, Leeling Timber. Leeling has announced plans to invest US\$60 million in logging and veneer and furniture production in Guyana, with the aim of producing for the Caribbean, North American and European markets, taking advantage of lower tariff barriers due to the CARICOM and Lomé trade agreements. Leeling is also closely connected to the Korean conglomerate, Hyundai, which handles its marketing. The Malaysian conglomerate Berjaya has also shown interest following a visit in January 1994 by billionaire Vincent Tan. In all, nearly four million hectares of concessions are being negotiated outside State Forests.¹⁷

Environmental Degradation — Political Corruption

What is happening to Guyana's forests is far from unique. Indeed, the pattern is typical — a runaway expansion of the timber industry streaks ahead of an inadequately-staffed, under-funded and politically-marginal forestry department, which vainly attempts to keep pace with developments.

The numerous environmental problems resulting from such



Tree cutting in the Mitsubishi/Daiya Malaysia concession in the Sangan area of Sarawak for export markets in Japan and Britain.

Nigel Dickinson/Still Pictures

expansion have been well documented in Papua New Guinea,¹⁸ Malaysia,¹⁹ Indonesia²⁰ and Africa.²¹ Sustained-yield objectives are soon overridden by profit motives, excessive timber is extracted and no one checks on actual logging practices.

Poor roads, chemical spills and abusive labour practices damage the forests, undermine public health and bring poverty instead of wealth. Incidental damage to soils and residual stands caused by careless felling, poor tractor use and repeated re-entry may permanently limit the ability of a forest to regenerate. Even selective logging, if carelessly carried out, can cause a loss of the greater part of the forest canopy, leading to erosion, hardening of the soil and a chronic decline in fauna. Scrappy regrowth dominated by large herbs and secondary softwoods impedes the regeneration of timber species.

Lack of supervision also opens the way to corrupt practice. Loggers underdeclare the volume of timber extracted, or misdeclare its quality, in order to avoid royalties. Transfer pricing — by which companies avoid tax by selling timber to overseas parent companies, or cronies, at artificially low prices — is normal practice. The real losers are local communities, national economies and the environment.

But the most severe threat posed to Guyana by the expansion of logging may be as much political as strictly environmental. The unprecedented scale of foreign investment under economic liberalization, particularly in the logging and mining sectors, has a considerable influence on decision-making. The visible result in the timber industry is the replication of patterns of political patronage prevalent in Asia, which risk further undermining Guyana's hesitant steps towards a functioning democracy in which rulers are accountable to the ruled.

Logging and Democracy: the Malaysian Experience

To understand the dangers now confronting Guyana, it is important to examine Malaysia's experience with logging. The political economies of the Malay states have been trade-based since before the first millenium as they developed as entrepôts

conveniently placed to take advantage of the trade winds from India and China. The Malay sultanates developed highly-centralized political structures in which power was vested in rulers who personally dispensed favours to their subjects.²² Like the political structures in Java and Japan, the result was to give "politics a special character of personalized hierarchical relationships. Networks of political loyalties focused around personal attachment to individual leaders and dispensers of benefices, whose political fortunes decided the fate of a host of clients."²³

One of the surprising features of colonial intervention in South-East Asia is the extent to which these traditional patron-client relationships survived colonial rule and thrived again thereafter. Despite the emergence of vigorous forms of capitalism, political power — now firmly tied to the formal apparatus of the modern State and, in Malaysia, at least ostensibly controlled through electoral politics — has continued to be exercised for personal ends by clientelistic means.²⁴ As in many other Third World countries, as Richard Robison has noted, the pattern has been "for the state to assume political leadership of the capitalist revolution given the relative weakness of the domestic capital class. The bourgeoisie has... developed within the framework of state-led capitalism in which political ascendancy lies with the officials of the state itself."²⁵

Natural resource-based industries have in particular favoured the emergence of this pattern, since these resources are typically state-owned. In Sarawak, for example, authority to hand out logging concessions is jealously kept within the portfolio of the Chief Minister, who uses his position to enrich his political clients and buy off his opponents. The practice of handing out concessions as political rewards to members of the State legislature has been commonplace over many years and has created a class of instant millionaires.²⁶

According to tradition, those who gain these political favours are rarely those who actually work them to profit, but rather, in return for a share of the profits, they pass the opportunities on to other clients in return for a share of the profits. In Sarawak, for example, the politician-concessionaires maintain a web of mainly Chinese contractors who provide the capital, machinery and expertise to carry out the logging.

Political systems which do not seek to distinguish between personal benefits and the functions of office have a high politi-

cal cost. They provide easy opportunities for corruption and the denial of rights and interests of other social sectors.²⁷ Throughout South-East Asia — as the experience in the Philippines, Thailand, Burma and Indonesia illustrates well — the land rights of forest dwellers have consistently been denied and native leaders bought off or eliminated where they have stood in the way of the timber tycoons.²⁸

The official Commission of Inquiry into the timber trade in Papua New Guinea — where 80 per cent of the timber trade is handled by Malaysian companies — highlighted the destructive effect of loggers operating there. It concluded:

"It would be fair to say, of some of these companies, that they are now roaming the countryside with the self-assurance of robber barons; bribing politicians and leaders, creating social disharmony and ignoring laws in order to gain access to, rip out, and export the last remnants of the province's timber. These companies are fooling the land-owners and making use of corrupt, gullible, and unthinking politicians. It downgrades Papua New Guinea's sovereign status that such rapacious foreign exploitation has been allowed to continue with such devastating effects to the social and physical environment, and with so few positive benefits."²⁹

In sum, the experience of South-East Asian countries shows that, unless properly supervised and made publicly accountable, the timber industry in these countries may damage the evolution of democratic institutions. The handing-out of logging concessions promotes the domination of the political economy by nepotistic, patronage politics. This undermines democratic principles and causes an increasing marginalization of rural people, who find they can no longer rely on their political representatives to defend their interests.

As Robert Klitgaard has pointed out, the conditions under which corruption flourishes are monopolies, discretion and the absence of accountability.³⁰ Echoing the Malaysian experience, he notes:

"Developing countries are particularly vulnerable to the harms of governmental corruption. The public sector plays such a large and central role in the society, usually encompassing economic activities left to private firms in many nations of the industrialized West. Often there are few or no alternatives to the party or ruler in power."³¹

Forestry in Guyana offers a perfect breeding ground for this kind of malpractice. Authority to hand out logging concessions is vested in a small, barely accountable government office. Details about concessions are kept secret and, as the World Bank has noted "most pertinent information on how the Forestry Commission deals with individual timber operators is regarded as confidential and is not publicly available".³² The Forestry Commission itself is not placed within a Ministry, but under the presently non-functional Guyana Natural Resources Agency (GNRA), which is directly under the office of the President. Since the last (expatriate) Commissioner for Forests resigned, the Commission has been run by the Chair of its Board — the President's brother-in-law. Beyond his brief, and without even the Deputy Commissioners' knowledge, he has been single-handedly negotiating logging concessions with foreign companies. The World Bank has concluded that the Guyanese Forestry Commission is an example of the "capture theory of regulation", whereby the regulatory body is controlled by the industry it is supposed to regulate.³³

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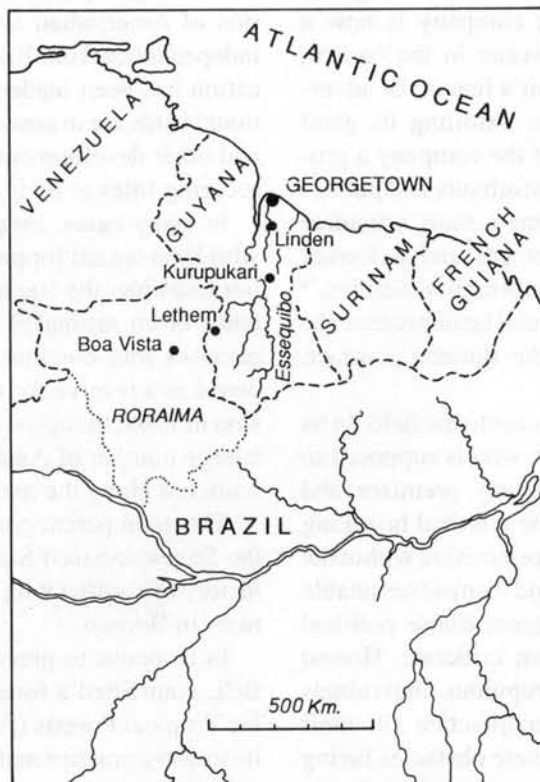
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The Road from Brazil

In 1989, the Brazilian government made a concessional loan of US\$15 million through its external lending agency, CACEX, for the construction of an all-weather road from the Rupunini savannahs in Northern Brazil through to the Essequibo river at Kurupukari in Guyana. The construction company was Paranapanema, which has a notorious record within Brazil for its abuse of indigenous rights. The eventual aim of the project is to create a road link between Boa Vista in Brazil and Georgetown, Guyana's capital, following the route of an old trail along which cattle from the Rupunini were brought to market on the coast.

Human rights organizations were quick to protest. Survival International pointed out that the project was likely to bring problems long associated with road-building throughout the Amazonian region, which would be "quite beyond the capacity of the Guyanese government institutions to control": accelerated forest loss, increasing movement of settlers and the clearing of forest for cattle ranches, all at the expense of the local forest-dwellers. Both Survival International and the Guyana Human Rights Association called in vain on the government to carry out a social and environmental impact study before continuing with the road-building.

Amerindian communities on the road have expressed mixed opinions about the potential benefits of its being upgraded. Whereas some believe the road may lead to their demise as distinct peoples, others see that the road link could provide essential communications allowing them to travel to the capital for trading and health reasons. On two points all are agreed: strict controls on movement across the border and up and down the road must be instituted; and Amerindian lands must be secured and clearly demarcated before the



road building proceeds.

The road has now been completed from Lethem to Kurupukari, though it is of very variable quality and some parts are only single-lane, lack proper culverts and are rapidly being washed out. Since 1991, ex-British army Bedford 4x4 trucks, run by Georgetown-based haulage companies, have begun an irregular service between the frontier and the capital taking supplies (mainly foodstuffs) down to Lethem and carrying Brazilian exports back to Georgetown at about one-third of the cost of airfreight.

Although the road has not yet been completed, a study by the University of Guyana has already shown that Brazilians are moving in and out of south Guyana without regulation, and that Amerindian lands have been taken over without proper consultation or compensation.² Cattle-rustling has increased and land conflicts between ranchers and indigenous communities are gradually intensifying.

In 1992, the Brazilian government offered Guyana a further US\$14 million for Paranapanema to finish the last section of uncompleted road between Kurupukari and Mabura Hill near Linden. However, the deal fell through after the IMF, whose financial support for structural adjustment in Guyana

gives it the right to veto government acceptance of foreign loans, objected that the road was not a priority. In October 1993, the Brazilian State Governor of Roraima offered to complete the road in six months in exchange for bartered lumber, rice and sugar to the value of US\$5 million.

The advantages of the road to the northern Brazilian states are obvious: ready access for Brazilian exporters through Georgetown's port to huge markets in the Caribbean and NAFTA regions. The advantages to Guyana are not so clear; there is no evidence that the government has studied the likely impact of the road on the national economy. Local producers and businesses will be outcompeted by a flush of cheap imports from Brazilian companies which benefit from economies of scale, while new settlers are likely to bring property speculation and soaring land prices. An uncontrolled flow of settlers into Guyana would lead to shanty towns, water shortages, sanitation problems and all the social pathologies associated with poverty and inadequate housing.

At present there appears to be no regulation on goods or people moving from Brazil to Guyana apart from a sporadic check on the bridge across the Demerara at Linden and it is possible to travel all the way from Brazil to Georgetown without once having one's papers checked. The completion of the road will lead to the invasion of Guyana by landless settlers, miners, timber cutters, urban squatters and drug smugglers.

Even the World Bank has expressed its doubts:

"This road is controversial in that it is not economically justifiable at this time, or in the near future, in terms of costs and benefits to road users. In addition, the potential harmful impacts of the road on the environment and indigenous populations have not been adequately studied."³⁴

Barama's Empire

The timber industry has been quick to turn to its advantage existing patronage networks in Guyana. Barama's influence, for example, now extends through every level of Guyana, from the top downwards. President Jagan's Asian fund-raising tour was financed by Barama.³⁵ The Barama company is now a visible dominant force on the political scene in the capital, Georgetown. Barely a day goes by without a feature or advertisement appearing in the national press, extolling its good works. Comfortable salaries have secured the company a protective screen of political high-fliers as consultants and public-relations experts, including one of Guyana's most articulate spokespersons in the non-aligned movement and a former information officer at the United States Information Service.³⁶ As for the GNRA, it is now without an official head because the previous incumbent, having negotiated the Barama contract, left to take up a consultancy for Barama.

Barama's network of corruption extends out to the field. In its concession area, the Commission forester, who is supposed to monitor logging practices, lives in company premises and travels in company-supplied transport. The political hijacking of the Forestry Commission has led to demoralization within the department. Frustrated forestry officials find themselves unable to control or regulate the activities of loggers whose political connections effectively protect them from criticism. Honest officials resign their posts and less scrupulous individuals prepared to overlook, or profit from, malpractice fill their positions. Vested interests are the most severe obstacles facing sound forest management, obstacles often coyly referred to as "lack of political will".³⁷

Amerindian Affairs

Those who suffer most are indigenous forest dwellers. With over 90 per cent of Guyanese concentrated along the coast, Amerindians, as the country's indigenous peoples are known, are the majority of those living in the interior forests. Recognition of Amerindian land rights was a condition of Guyanese independence from Britain in 1966, but land titling and demarcation has been inadequately carried out. Tribes whose traditional lands are in areas scheduled for mining, dam construction and other developments have experienced greater difficulty in securing titles to their claims.

In many cases, logging concessions have been handed out with little regard for pre-existing Amerindian claims and titles. For example, the Barama Company's concession overlaps the lands of an estimated 1,200 Amerindians (*see* Map, p.46). It encloses four communities with titles and overlaps land proposed as a reserve for the Carib people by the Lands Commission in 1969, though not yet recognized as such. It also encloses a large number of Amerindian homesteads without land titles, scattered along the main rivers.

The main parent company of Barama Company Limited — the Sarawak-based Samling Timbers Sdn. Bhd — has a long history of conflict with indigenous peoples in its logging operations in Borneo.

In response to pressure from environmental organizations, BCL contracted a forestry consultancy, the Edinburgh Centre for Tropical Forests (ECTF), to oversee the implementation of its forestry practice and to carry out an "independent" social and environmental impact assessment of the company's future operations. ECTF visited the area in early 1993 and reported some potentially serious negative impacts of BCL's operations, including the reduction or elimination of traditional food, shelter and other forest resources of local communities; increased hunting, wildlife trade, illegal timber felling, settlement, shifting cultivation and mining; social conflicts over jobs, markets, and prices; split communities; culture shock for remote communities; pollution from chemical spills; and introduced diseases.

Amerindians near the logging camp have since complained to the Minister of Amerindian Affairs about illnesses caused by the pollution of their waters, forced resettlement, the bulldozing of crops, low wages, delayed payments and lack of injury benefits.³⁸

Ever since the Barama deal was announced, the Amerindian Peoples Association (APA) has been strongly critical of the fact that the concession does not respect Amerindian land rights and that there was no consultation with Amerindians in the decision to grant a logging concession in the area. Since March 1993, the organization has repeatedly called on the Minister for Amerindian Affairs to review the contract. It was only in September 1993, after the APA called for an international boycott of Guyanese timber, that the Minister acceded to their requests and promised to institute a Commission of Enquiry to review the Amerindians' claims and the Barama contract. Since then, despite intense international appeals, the Minister for Amerindian Affairs has failed to institute such a Commission.

Movements for Change

Indigenous groups such as the APA are now receiving increasing support from human rights and environmental groups who are now able to speak out more openly in the present climate of political liberalization. Public concern about Amerindians and

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the environment is quite high and the critical situation in the interior has become a focus for national debate. The Guyanese environmental group GEMCO has been strongly critical of the environmental damage caused by mining and their independent sampling of rivers has shown dangerously high levels of mercury pollution. Continued adverse publicity about mining has led the government to take initial steps to regulate the industry, although it still lacks the institutional capacity to implement these controls.

On logging, however, the government has proved less responsive. Groups such as the Guyana Human Rights Association, the Amerindian Peoples Association and GEMCO — backed by international environmental groups — have criticized the deals being secured by foreign companies and have called for a freeze on the handing out of new concessions and a detailed public review of the whole sector — a call supported by editorials in a number of newspapers.³⁹ The Government has yet to heed these voices.

Calls for an independent social and environmental impact assessment of the Boa Vista to Georgetown road have been made since 1989, and academics have alerted the public to the threat posed by increasing Brazilian penetration of the country (*see Box: The Road from Brazil*, p.49).⁴⁰ Janette Forte and Anne Benjamin of the University of Guyana have highlighted the risks of increased mining, logging and settlement by Brazilians taking over the interior, replicating the pattern of environmental destruction, land alienation and human rights abuse found over the border. "At this juncture, we simply lack the personnel, technology and financial resources, to maintain our sovereignty vis-à-vis Brazil", they argue.⁴¹

This non-governmental movement could potentially act as a counterweight to the demands of foreign-dominated mining and logging lobbies, though it is hampered by a lack of good information. The national press, while vigorous, reports the issues in terms of accusation and counter-accusation with little apparent capacity for independent investigation or verification of allegations.

Global Concern

Foreign aid agencies, recognizing the growing gap between the Guyanese government's capacity to regulate the timber industry and the industry's explosive expansion, have offered assistance to the government to help strengthen the Forestry Commission. The Canadian government, keen to follow up its National Forestry Action Plan, has set up a "Forestry Support Unit" which focuses on making inventories of Guyanese forests and providing training to Forestry Commission staff. The project is also assisting the Commission to elaborate new criteria for the management plans required by Timber Sales Agreements (TSAs), with much stricter guidelines on the need for inventories, silvicultural practice, and so on. It is unclear to what extent all this work can be applied retroactively to existing TSAs — which already cover the vast majority of Guyana's accessible forests. Britain's Overseas Development Administration (ODA), too, is finalizing an aid project to support the Forestry Commission. The project, not due to commence until November 1994, emphasizes institution-building and training, with a welcome focus on independent monitoring of forestry practice.

None of this is likely to have much effect as long as the government of Guyana lacks a responsible policy regarding the



*Guyanese
President Cheddi
Jagan*

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interior. The present administration has shown itself unwilling to stand up to the pressures of the various economic interest groups — the mining, logging and road-building lobbies — and its commitment to sustainable development is little more than lip service.

A potential diversion from the building of a national commitment to responsible development in the interior has come from the unexpected quarter of international conservation organizations. These groups are worried by the growing pressure on the country's interior but unwilling to tackle the root causes of the problem, have been pressing Guyana to establish protected areas in various parts of the interior. The Worldwide Fund for Nature (WWF), both in the UK and the US, has spent considerable effort trying to persuade the government to expand the Kaieteur Falls National Park on the Potaro river, a famous tourist attraction. This initiative has been blocked by engineers interested in the hydro-electric potential of the river's tributaries and miners who illegally work gold above and below the falls. A similar initiative, promoted by Conservation International and with technical assistance from the European Community, aims to create a Kanuku Amerindian National Park in the Rupununi region.

The Commonwealth Secretariat, the United Nations Development Programme (UNDP), the Global Environment Facility (GEF) and Britain's ODA have been developing an experimental "sustainable forestry programme" on the Upper Essequibo river, which is mainly oriented to the promotion of academic studies of land use and biotechnologies.⁴²

The problem with all these projects is that they neither question the country's environmental priorities nor have much chance of long-term success given the lack of institutional capacity within the country. Meanwhile they are soaking up what little international assistance is available for environmental reform and diverting national expertise and concern away from more pressing issues.

The New Sultanates

President Cheddi Jagan justifies deals such as those cut with the Barama Company as a healthy response to Northern colonialism. At the recent opening of Barama's plywood factory, south of Georgetown, he noted:

"It is good that [investors from Malaysia and Korea] have now decided to come here . . . because they are coming here, not only with capital, but with knowledge of Third World backward countries, kept backward because of colonialism and neo-colonialism. They have been able to forge ahead, applying science and technology, a disciplined work force, and setting the pace, so to speak, in the world today of growth and development."⁴³

Yet, far from benefiting Guyana, the influx of foreign capital has brought a disturbing new form of "South-South colonialism", in which the environmentally-destructive, clientelistic political economies of one region are being replicated in other "less developed" regions.⁴⁴ The interests of urban capitalists are increasingly able to override rural and environmental values. New cosmopolitan elites — or "global tribes", as Joel Kotkin has called them⁴⁵ — are emerging alongside the old, cementing their business deals through a different set of ethnic and cultural ties. These elites, like the Western business elites which they imitate and, increasingly, compete with, are unaccountable to the people within their home or their host countries and unconcerned for their welfare. The phenomenon is not limited to Guyana: transnational Asian logging companies are also invading Surinam, Burma, Laos, Vietnam and Papua New Guinea with comparable political, social and environmental results.

The growth of such nepotistic, transnational elites casts doubt on the continuing relevance of development reforms that focus exclusively on addressing North-South inequities. As the Guyana experience is beginning to reveal, North-South equity may count for less than nothing, unless accompanied by social justice within the South, as well as the North. But it is not only attempts to redress structural inequalities at the global level through, for example, international trade negotiations which are needed to bring direct benefits to the poor and promote environmental care. Internal political reforms, which secure local control of resources and which promote transparency in negotiations, accountability in business transactions and public participation in decision-making, are even more vital.

As Southern political economies become increasingly dominated by transnational elites, the benefits of debt relief, aid and better terms of trade for Southern commodities are less likely than ever to "trickle down" to the poor in whose name they are demanded. A "better deal for the South" in terms of debt forgiveness and aid programmes may all too easily translate into a bonanza merely for the new sultans and their retinue — and environmental pillage to be endured by the poor.

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Disposing of the Waste Trade

Closing the Recycling Loophole

by

Jim Puckett

Over the last five years, increasingly severe restrictions have been agreed internationally to limit the trade in toxic wastes, in particular, the export of wastes from Northern countries to those of the South. However, some industries have avoided these restrictions by defining their wastes as "recyclable". In many cases, these claims are untrue; in others, the waste is indeed recyclable but nonetheless poisonous. There are strong hopes, however, that signatories to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal will agree to close this recycling loophole, and thus achieve an effective global ban on the international trade in hazardous wastes.

"I think the economic logic behind dumping a load of toxic waste in the lowest wage country is impeccable and we should face up to the fact that . . . underpopulated countries such as Africa are vastly under-polluted."

Lawrence Summers

Former Chief Economist of the World Bank

December 1991

In November 1993, the nations of the world banned the deliberate discharge of industrial wastes into the sea. For centuries, the oceans had been regarded as a convenient, seemingly bottomless pit into which all forms of rubbish and offal would graciously disappear. But by the early 1970s it was becoming obvious that the global commons of the high seas no longer had the capacity to assimilate safely the increasing profusion of nuclear and other hazardous wastes that the industrial nations were throwing into it. The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter¹ — the London Dumping Convention as it was known — was convened in 1970 to deal with this problem. Last year, after two decades of debate — and despite protestations from certain industrialized countries — it finally agreed to a full ban on all industrial and nuclear waste dumping in the sea.

But although ocean-dumping has been banned, another area for irresponsible waste disposal is still permitted in international law — the countries of the South and of Eastern and Central Europe. Instead of releasing poisons into the "global commons" of the sea, industry is now dumping them upon poor communities in the Third World.

As waste disposal over the last twenty years has been progressively restricted to sites on land, so public pressure in industrialized countries against the landfilling and incineration of hazardous wastes has grown, resulting in the closure of some

waste sites and the adoption of stricter regulations — all of which add to the cost of disposal. The cost of landfilling a tonne of hazardous waste in the US soared from \$15 per tonne in 1980 to \$250 in 1989.² Meanwhile, the past two decades have seen a dramatic rise in the quantities of hazardous waste subject to regulation. While industry has been reluctant to invest in projects that prevent the production of waste, the growing recognition of the serious environmental impacts of these wastes has resulted in more and more regulation. In the United States alone, the amount of hazardous waste leapt from nine million tons a year in 1970 to 238 million tons in 1990.³ The lack of a preventative approach to waste management has led to more and more hazardous wastes, while an increasingly concerned and knowledgeable public has allowed fewer and fewer places to put them.

An Impeccable Logic

The combined effect of these trends has been an increasing pressure to export toxic waste. Toxic waste, if left to the "free market", will follow a path of least resistance. Obeying what the Chief Economist of the World Bank has called "impeccable economic logic",⁴ the hazardous by-products of industrialization inevitably move towards those areas with the least political and economic clout to resist them. Wastes move down an economic "gradient", defined by the contrast in disposal costs in different locations, and determined by many factors including differing environmental legislation and liabilities, labour costs, land value and debt.

The offer of hard currency in exchange for accepting hazardous wastes is one that many poorer, debt-ridden countries find difficult to refuse. For example, the government of Guinea-Bissau recently agreed to receive over 15 million tonnes of toxic waste for \$600 million — four times its Gross National Product. When asked "Why?", the Trade and Tourism Minister stated simply, "We need money".⁵ Deals such as these form the basis of the international waste trade.

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A Growing Trade

The international trade in waste first gained public notoriety in the North in the late 1980s, when reports of "plague ships" carrying unwanted cargoes of waste from port to port grabbed the media's attention. The trade is still proliferating. Since 1989, more than 500 attempts to export over 200 million tonnes of waste from the 24 member countries of the Organisation for Economic Cooperation and Development (OECD) to 122 non-OECD countries have been catalogued.⁶ At least 5.3 million tonnes of waste are known to have been exported and dumped. These figures almost certainly represent only the tip of the iceberg, and there are no signs that the trade is declining. On the contrary, Greenpeace recorded 48 proposed international waste trade deals in 1989, 69 in 1990, 58 in 1991, 119 in 1992 and 70 in the first half of 1993.⁷ Germany, the world's largest exporter of waste, has increased its exports every year since 1988.⁸

In the last few years, the waste trade business has shifted its destinations to areas of less opposition or awareness. Whereas preferred targets from 1986-1991 were in Africa, the Pacific, the Caribbean and Latin America, today they are in Eastern and Central Europe, the Commonwealth of Independent States, and Asia. In 1992, Canada reported shipping to Asia 11,691 tonnes of plastic waste and 20,581 tonnes of non-ferrous metal scrap, much of it toxic heavy metals or contaminated with hazardous residues.⁹ The US exported over 17,000 tons of toxic lead and plastic waste to Asia in the first seven months of 1993.¹⁰ On average at least 3,700 tonnes of toxic wastes are exported to Asia every day — enough to fill 185 40-foot long, seagoing containers.¹¹ And since the fall of the Berlin Wall in 1989, waste from the European Union (formerly the European Community) to almost all Eastern and Central European countries has increased dramatically. Out of the 500 cases of waste export documented by Greenpeace, 338 have been to former Eastern Bloc countries.¹²

The Basel "Dumping" Convention

The plague ship scandals prompted a worldwide effort, under the auspices of the United Nations Environment Programme (UNEP), to stem the waste trade. This led, in March 1989, to 118 nations signing the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal. Fifty-five countries have now ratified the treaty.

The use of the word "control" in the Convention's title — rather than "prevention" or "prohibition" — is significant. During the negotiations leading up to the Basel Convention, the vast majority of nations made it clear that they wanted to ban waste trafficking altogether — particularly from developed to developing countries — but the proposal for a worldwide ban (Antarctica excepted) was vetoed by the OECD countries. Instead, OECD countries successfully lobbied for the Convention to adopt a weak control regime known as "Prior Informed Consent" (PIC), under which a hazardous export may not take place unless the "competent authority" in the recipient country is notified in advance and gives written consent to the export. The Convention can be interpreted as not applying to radioactive wastes and it allows weaker agreements regarding waste trade with countries that are not party to the Convention.

On the eve of the signing of the Basel Convention, Gianfranco Ambrosini, an Italian businessman who had masterminded a shipment of waste from Italy to Djibouti in the Horn of Africa,

publicly scorned the treaty on Swiss television. Compared to other hurdles he faced in shipping wastes to the Third World, he said the acquisition of the signature of one government official, as required by the PIC provisions of the Convention, was no problem.¹³

He has been proved right. Since the adoption of PIC regimes, numerous examples of abuse have occurred and waste exports from OECD to non-OECD countries have increased significantly. This is not surprising for two reasons.

Firstly, PIC does not address the unequal relationship that results from the economic disparities between industrialized and "developing" nations. On such an uneven playing field, consent by poorer countries to accept waste represents not so much a free informed choice as a decision between two evils — poverty or poison. Many of these countries cannot afford the necessary technologies and expertise to minimize the damaging effects of hazardous waste "disposal". "It is simply illusory," states Lothar Gündling of Germany's Max Planck Institute, "to expect that developing states, by themselves, will be able to protect their populations and environments adequately against the risks of imported hazardous goods and technologies."¹⁴

Secondly, PIC assumes that the "competent authority" in the receiving country will inevitably act in the best interests of local people and the environment. Not only is this impossible to guarantee but, by investing officials — rather than the potential victims of waste imports — with the power to withhold consent, PIC undermines local democracy and institutes a system of decision-making that is wide-open to abuse.

The South's Answer to Basel

Having failed to secure a worldwide ban on the trade in hazardous wastes through the Basel Convention, the countries of the South have been working to put a stop to the trade through regional and national agreements. These include:

- **The Lomé IV Convention.** In December 1989, the 12 member states of the European Union (EU) and 69 African, Caribbean and Pacific (ACP) countries agreed that the EU should not be allowed to ship nuclear or hazardous wastes to the ACP countries for the subsequent 10 years; the ACP countries agreed to prohibit hazardous and radioactive waste imports from any country.
- **The Bamako Convention.** In January 1991, in Bamako, Mali, members of the Organisation of African Unity banned the import of all forms of hazardous and nuclear wastes into the African continent, as well as the import of products that have been banned for use in the country of manufacture.¹⁵ The Bamako Convention currently has 25 signatories; six have so far ratified the agreement which will enter into force after the 10th ratification.¹⁶
- **The Central American Agreement on Hazardous Waste.** In December 1992, six Central American nations also banned all imports of hazardous wastes and of toxic substances not permitted in the country of manufacture.¹⁷
- **South America.** In November 1993, a meeting in Santiago, Chile, convened by UNEP and the Economic Commission for Latin America and the Caribbean, decided "to establish a regional convention that prohibits importation of all hazardous wastes to the region including those destined for recycling."¹⁸

- **South-East Asia.** In September 1993, the Inter-Parliamentary meeting of the Association of South-East Asian Nations (ASEAN) voted for a regional convention to prohibit the import of toxic wastes into South-East Asia.¹⁹
- **South Pacific.** The South Pacific States aim, by 1995, to conclude a regional convention to prohibit hazardous waste imports into the region, through the South Pacific Forum.²⁰ The Permanent Commission of the Southern Pacific (South American) States has also proceeded to adopt a protocol to ban waste imports into that region.²¹
- **Barcelona Convention.** In the Mediterranean region, the Parties to UNEP's Barcelona Convention for the Protection of the Mediterranean Sea agreed in October 1993 to adopt a protocol prohibiting the export and transit of hazardous wastes to developing countries within their region, and to support the total prohibition of the export and transport of hazardous wastes to developing countries under the Basel Convention.²²
- **Black Sea.** The states bordering the Black Sea region have recently adopted a convention and have highlighted a waste trade ban protocol as one of their immediate priorities.²³
- **National Bans.** Many countries have enacted unilateral hazardous waste import bans. Colombia, for example, has a full waste import ban in its national constitution.²⁴ In 1986, three countries had banned hazardous waste imports; by 1988, that figure had risen to 33, and by 1992, to 88. The total is now 103.²⁵

Piriapolis — a Turning Point?

The growing determination of non-OECD countries to enforce bans and the political liability of opposing them has caused many industrial countries to break ranks within the OECD and support moves to ban hazardous waste exports of all kinds from OECD to non-OECD countries, including recycling. The first public indication of dissent came in December 1992 when the signatories to the Basel Convention met in Piriapolis, Uruguay. Shocked by the force with which attending developing nations argued for a full ban, and knowing that they would be outnumbered if it came to a vote, those opposed to prohibition scrambled furiously to compromise or delay the ban tabled by the outgoing Director of the United Nations Environment Programme, Mostafa Tolba, based on an appeal by the G-77 group of developing countries.

These opponents could muster little support, however, even among the industrialized countries. Switzerland stated that it could support a full ban and was joined by Sweden. Then in a surprise move, the Danish delegation broke with the European Union by announcing their support for a full ban. Italy joined Denmark, followed by a number of other EU countries and two former Eastern Bloc countries, Poland and Hungary. The icy North-South stalemate of the Basel Convention began to thaw.

However, the Piriapolis meeting did not in the end vote for a total ban. A last-minute compromise was forged, probably because it was felt that the wealthier nations, some of whom had not completed ratification procedures for the convention, would never be persuaded to ratify if a ban were already in place. The



Imported lead-acid automobile batteries temporarily impounded by customs authorities at Tanjung Priok port in Jakarta, Indonesia, one of the few countries in Asia to have banned some waste imports. Efforts to prosecute individual lead-acid battery importers have failed to stem the invasion: Australia is the main source, exporting over 11,000 tonnes of lead-acid batteries in 1992. In the first five months of 1993, the UK shipped over 700 tonnes of lead-acid batteries to Indonesia, compared with 200 tonnes the previous year. The IMLI plant, located south of Surabaya and the largest importer in Indonesia, is typical of recycling operations throughout Java. When the plant started up in the late 1980s, villagers believed it was for processing wood. Instead, it burns 60,000 tonnes of lead acid batteries each year, sending clouds of smoke and ash over adjacent ricefields. The local people say that ash from the factory often falls into their wells and onto their food. The effluent from the plant is highly acidic. The waste from the IMLI furnace, a mixture of lead and plastic, is dumped outside the factory gates and taken home by villagers who melt it down in woks over open fires in their backyards to sell the extracted lead. Half of the villagers cough blood. Lead levels in IMLI workers and local villagers are between two and three times greater than the acceptable Indonesian occupational health standards.

parties to the convention instead agreed that exports for final disposal from industrialized to developing countries should cease. Exports for recycling, however, could continue until a review of the issue was submitted and the parties to the Convention acted upon it. They also agreed that all hazardous waste imports by developing countries should cease, regardless of the reason for the import²⁶ — a clause that plainly contradicts the provisions permitting the export of recyclable waste.

The Basel Convention is poised to make its final decision on the question of a total ban when it reconvenes in March 1994 in Geneva. Nine of the 12 EU member states are now on record as supporting a total ban. Just seven industrialized countries remain opposed to a worldwide ban on waste dumping: Australia, Canada, Finland, Germany, Japan, the United Kingdom, and the United States (while Belgium is undecided). Will these "Sinister Seven" yield to international condemnation at Geneva, and ban all hazardous waste exports to non-OECD countries. Or will they remain lodged in the outmoded, throw-away, industrial policies of the past?

Hazardous Recycling

The principal bone of contention for the Basel Convention is whether or not industrialized countries will be allowed to export to developing countries those wastes destined for recycling or recovery operations. The chemical industry no longer opposes a complete ban because it recognizes that chemical waste exports to the South bring bad publicity. But certain free trade and industrial interests, supported by a number of national governments, are pressing for retention of the right to export "recyclable" wastes. At the forefront of the recycling lobby is the scrap metals industry, represented in particular by the Bureau International de la Récupération (BIR), which uses the International Chamber of Commerce to lobby on its behalf at all Basel Convention meetings. Over the past decade, the metal industries have avoided some of the high costs of landfill or recycling at home by exporting heavy metal residues, slags and sludges to locations where labour costs are cheaper and environmental enforcement minimal. This industry also exports metallic scrap that can be contaminated with heavy metals or organic compounds, such as PCBs or PVC which can create dioxins when the metal is melted down. Rather than seeking means to ensure that the wastes they export are devoid of toxic impurities, the scrap metal industry has seen fit to launch a strategy aimed at undermining the international effort to end the hazardous waste trade.

As more and more legislation allows waste to be traded if it is destined for "recycling", hazardous waste generators and their brokers have been quick to classify their waste as "recyclable". From 1980 to 1988, only 36 per cent of all waste trade schemes claimed some form of "recycling" or "further use" of the waste. But from 1989-1990, the figure had risen to 54 per cent,²⁷ while in the most recent surveys, carried out in 1993, 90 per cent of waste trade schemes show some form of "further use" or "recycling" as a pretext for waste export.²⁸ These figures are in the context of an overall annual increase in hazardous waste exports from OECD to non-OECD countries. If recycling is the only legal means to trade in waste, then determined waste traders will claim to be recyclers.

The head of the United Nations International Registry of Potentially Toxic Chemicals (IRPTC) programme in Geneva, Jan Huisman, has expressed concern about this rapid increase:

"It's a new fashion, a second generation of waste export. There is still quite a lot of effort going into waste 'disposal' which is not exactly dumping, but which may turn out to be not very far from that."²⁹

Sham and Dirty Recycling

Of particular concern are two main categories of "recyclable" hazardous waste exports that we may call "sham" and "dirty" recycling. Both of these use the word "recycling" as a pretext for making profits from hazardous waste disposal.

In cases of sham recycling, the waste was never intended to be recycled; it is classed as such simply to benefit from "green" associations and to qualify for export. For example, much

plastic waste exported to Asia for alleged recycling is simply dumped in the open countryside.

Dirty recycling is less blatantly fraudulent, since a proportion of the waste is recuperated — but the profitability derives less from recycling than from exporting material to avoid the high cost of ensuring against occupational or environmental damage. It is a transfer of pollution. Often, many so-called "recyclers" make the real profit from simply taking the waste away from the brokers — the recycling process actually cuts into that profit. Others, such as scrap exporters, are involved in a more legitimate trade as their waste does have a positive economic value; but often it is so contaminated that it qualifies as hazardous waste, or it involves the recycling of metals such as lead or

cadmium which are dirty operations wherever they take place. The export of these scrap materials is subject to market conditions that often have a direct relationship to lower environmental standards and working conditions.

As almost any waste can be claimed to be of "use" to the

poor, it is easy to characterize almost all waste trade in terms of some form of recycling. Common examples include burning hazardous wastes to create heat energy or as road-building material. But much more outlandish proposals have been made as well, including the use of hazardous wastes for construction materials and fertilizer. It has even been proposed that solid wastes be used to raise the level of Pacific islands in order to counter the effects of global warming and rising sea levels.³⁰

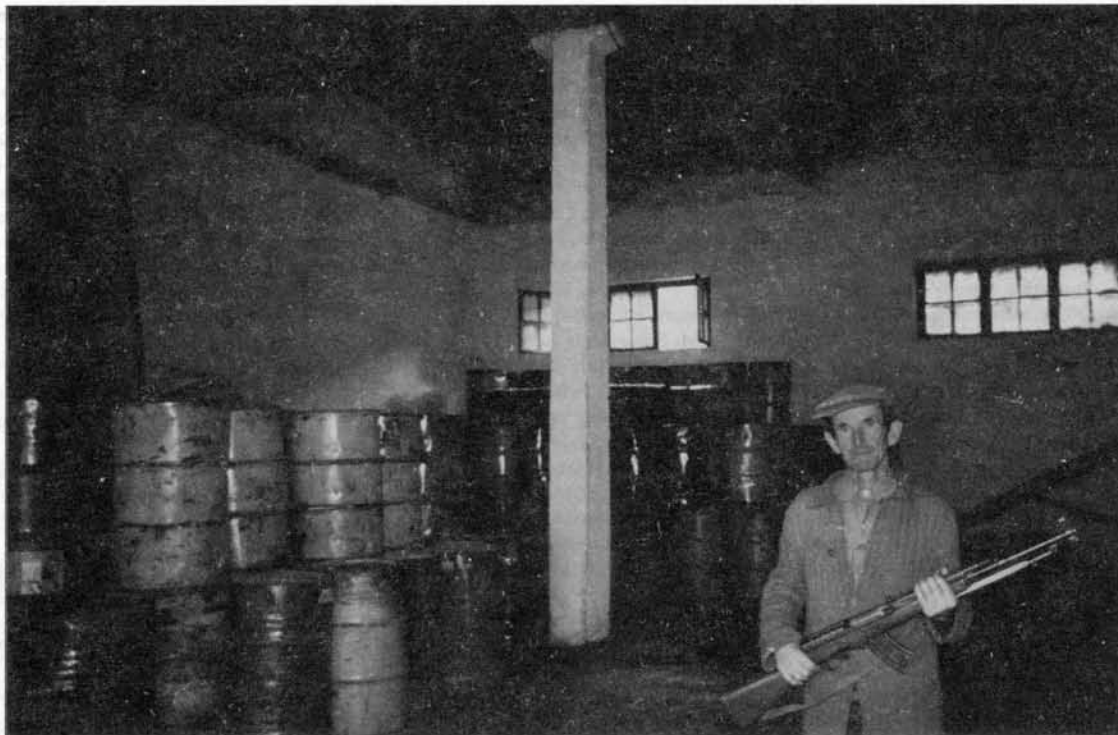
In many such cases the process of recuperation is highly polluting, dangerous for workers, or leaves toxic residues that will still be dumped. It is easy to assume that wastes bound for recovery operations are less dangerous than wastes bound for "final disposal". But as recycled wastes are usually handled more, they tend to present a greater threat to workers' health and safety than wastes destined for outright dumping. Furthermore, residues from recycling operations often have a higher concentration of toxic chemicals than the original wastes from which they came. Inevitably, since nothing can be recycled 100 per cent, hazardous residues and emissions from any such processes are released as pollution on the receiving country's territory.

Greenpeace researchers have visited over 30 countries to report on waste importation facilities and sites. In many facilities in Asia, lead batteries and PVC plastics are melted down by workers who do not wear protective clothing or breathing equipment of any kind. At the Zinc Nacional plant in Monterey, Mexico, mountains of slags and residues from the unprofitable recycling of the dusts from air pollution control filters in US steel mills dwarf nearby homes. And in Cato Ridge, South Africa, a Thor Chemicals worker has died while others have been incurably poisoned through exposure to mercury imported from the US and Europe by a plant which continues to import waste mercury.³¹

Waste to East

A second contentious issue in the March 1994 Basel Convention meeting is likely to be the export to Eastern and Central Europe of Western waste. Prior to 1989, with the exception of East Germany, the economic and political barriers between East and

An Albanian soldier guards against theft of drums of German pesticide waste sent as "humanitarian aid" at a warehouse near Milot, Albania. As of 1992, some 790 tonnes of pesticides and other hazardous wastes from Germany had been left in Albania in leaking, rusty drums.



S.V. Stengel/Greenpeace

West created a *de facto* ban on waste trade between those regions. But almost immediately after the collapse of the Berlin Wall, Western hazardous wastes started arriving in the new republics of Eastern and Central Europe and the Commonwealth of Independent States. Wastes, primarily from Germany, have been flooding into Poland, Romania, Russia, Hungary, Ukraine, the Baltic States and Albania. The bans on waste exports to Third World countries have further stimulated this trade. While a number of newly-independent republics have recognized the need to halt waste imports to Eastern and Central Europe, the cold war terminology of the 1989 Basel Convention only recognizes "developing" countries as vulnerable targets of waste trafficking. This term does not, in international law, include the countries of the former Eastern Bloc. There are therefore demands that the Convention change its language to include the devastated economies of Central and Eastern Europe, by using the term "non-OECD". The governments of Albania, Bosnia Hercegovina, Croatia, Hungary, Latvia, Lithuania, Poland, Romania, Slovenia and Ukraine all support a ban on waste trade from OECD to non-OECD countries. However, certain of the "Sinister Seven" countries — notably Finland and Germany — continue to look eastward and refuse to contemplate a ban on waste shipments to "non-OECD countries". It will be a hollow victory if waste exports are banned from the North to the South, while Western Europe is allowed to continue pouring its toxic wastes into the already ravaged environments of Eastern Europe.

Closing the Global Escape Valves

"It is a grave abuse and an offence against the solidarity of humanity when industrial enterprises of rich countries profit from the weak economies and legislation of poorer countries by exporting dirty technologies and wastes which degrade the environment and health of the population."

Pope John Paul II
22 October 1993

There is considerable pressure on the "Sinister Seven" countries to "plug the recycling loophole" and resolve the issue of Eastern Europe at its March meeting — in other words to agree to ban the export of all hazardous wastes from OECD to non-OECD countries. Such a ban would represent an unprecedented step in the long process of sealing off all global outlets for toxic waste, and in particular a victory for the countries of the Third World and former East Bloc whose combined determination has forced the OECD countries to confront a problem they would otherwise have ignored.

Perhaps the most compelling argument for such a prohibition is that it would provide an incentive for industry to phase out the production of hazardous wastes. The progressive closure of the global escape valves — ocean dumping and now waste trade to the South and East — would make waste production and disposal increasingly expensive and difficult, and the introduction of clean production methods correspondingly more attractive. A clear example of such a powerful incentive at work has already been demonstrated in Germany, where the industrial use of toxic halogenated solvents was reduced from 180,000 tonnes in 1989 to 50,000 tonnes in 1992 after Germany banned their disposal by incineration at sea in 1990. To minimize the use of toxic solvents, industry began using innovative approaches such as ultrasound de-greasing, rapeseed oil, and water based solvents.³²

It would be naive to think that the attempt by industry to find other escape valves will end after the legal waste trade is banned. The next move will no doubt be the wholesale export of dirty technologies and products themselves; this issue of technology transfer is likely to be the toxic battleground of the next decade. But a ban at Basel would be a vital precedent, which could eventually lead to the banning, under the auspices of the same Convention, of any technology transfer that is not consistent with the best clean production methods available in OECD countries. The final prohibition of all hazardous waste trade from OECD to non-OECD countries at Geneva would be a key step towards eliminating all toxic waste production.

1. This Convention was first adopted on 13 November 1972 and entered into force in 30 August 1975, since when it has been regularly renegotiated. Dumping at sea was outlawed at the 16th Consultative Meeting of the Convention, held between 8-12 November 1993 in London.
2. Figures not adjusted for inflation. Tiemann, M., *Waste Exports: US and International Efforts to Control Transboundary Movement*, US Congressional Research Service, Washington DC, December 1989, pp.4-5.
3. US General Accounting Office, 1987, based on US Environmental Protection Agency data and estimates.
4. Office Memorandum from Lawrence M. Summers: Subject — GEP, The World Bank/IFC/MIGA, 12 December 1991. Mr Summers is currently Under-Secretary for International Affairs at the US Treasury Department.
5. "Africa: the Industrial World's Dumping Ground?", *African Business*, July 1988, pp.10-11; Agence France Presse, 20 May 1988; "Donors to give \$300 Million to Guinea-Bissau", *Reuters News Reports*, 5 July 1988.
6. Vallette, J. and Spalding, H., *The International Trade in Wastes: A Greenpeace Inventory, International Waste Trade Schemes and Related International Policies*, Fifth Edition, Greenpeace USA, Washington DC, 1990; *Toxic Trade Update*, Greenpeace International, all issues 1990 to 1993; Data of Andreas Bernstorff, Greenpeace Germany, Hamburg.
7. Ibid.
8. Figures for total exports from Germany have increased every year since 1988. *OECD Environmental Performance Reviews*, Germany, Paris, 1993, p.190; Data of Andreas Bernstorff, Greenpeace Germany, Hamburg.
9. *Statistics Canada*, Ottawa, 1993.
10. Port Import and Export Research Service data based on Department of Commerce figures, Nick Morgan, Greenpeace USA.
11. Greenpeace, *The Waste Invasion of Asia: A Greenpeace Inventory*, Greenpeace Toxic Trade Campaign, January 1994.
12. 215 of the 338 schemes were of German origin. Bernstorff, A. and Puckett, J., *Poland: The Waste Invasion, Greenpeace International Dossier*, 11 October 1990; *Romania: The Toxic Assault*, Greenpeace International Dossier, August 1992; *Waste Attack on the New Baltic States*, Greenpeace International Dossier, October 1992; *Russia: The Making of a Waste Colony*, Greenpeace International Dossier, November 1993; Data of Greenpeace Russia, Greenpeace Ukraine and Andreas Bernstorff, Greenpeace Germany.
13. Ernst Klatte, Greenpeace delegate to the Basel Convention, who appeared

- with Gianfranco Ambrosini on Swiss television in March 1989.
14. Lothar, G., "Prior Notification and Consultation", in Handl, G. and Lutz, R.E., (eds.), *Transferring Hazardous Technologies and Substances: The International Legal Challenge*, Martinus Nijhoff, 1989, pp. 63-64.
15. The Organization of African Unity, based in Addis Ababa, Ethiopia, currently includes all African nations with the exception of South Africa and Morocco. Article 2, para. 1 (d), of the Bamako Convention includes "hazardous substances which have been banned cancelled or refused registration by government regulatory action, or voluntarily withdrawn from registration in the country of manufacture, for human health or environmental reasons" in the Convention's definition of hazardous waste; Wawa O. Leba, Director of the ESCAS Department, OAU General Secretariat, Addis Ababa, January 1991.
16. Wawa O. Leba, op. cit. 15.
17. Acuerdo Regional sobre Movimiento Transfronterizo de Desechos Peligrosos, Cumbre XIII de Presidentes del Istmo Centroamericano, Panama, 9-11 April 1992; Article 1, paragraph 1 defines waste as in the Bamako Convention.
18. Recomendación No. 1, Reunión regional conjunta CEPAL/PNUMA sobre el manejo ambientalmente adecuado de residuos peligrosos en America Latina y el Caribe y la aplicación del Convenio Basilea, 15-17 November 1993.
19. Joint Communique, ASEAN Inter-Parliamentary Organization's Fourteenth Working Committee and General Assembly, Kuala Lumpur, 20-25 September 1993.
20. Paragraph 50, Forum Communique (SPFS (93)11), 24th South Pacific Forum, Nauru, 10-11 August 1993.
21. A meeting of legal experts, convened by the Permanent Commission on the Southeast Pacific (CPPS) in October 1991 in Quito, Ecuador recommended that the regional coordinating unit prepare a "Draft Protocol on the Prohibition of the Transport of Waste and its Disposal in the Southeast Pacific". The protocol is now prepared and is slated for adoption in 1994; Marijane Lisboa, Greenpeace Latin America Project.
22. Report of the Eighth Ordinary Meeting of the Contracting Parties to the Barcelona Convention for the Protection of the Mediterranean Sea against Pollution and its related Protocols, held in Antalya, Turkey, 12-15 October 1993 (Document UNEP (OCA)/MED IG.3/5). Section 3, Paragraphs 4 and 7.
23. The Convention on the Protection of the Black Sea against Pollution, adopted in Bucharest, 21-22 April 1992, Article XIV, Pollution by hazardous wastes in transboundary movement, states: "The Contracting Parties shall take all measures consistent with international law and cooperate in preventing pollution of the marine environment of the Black Sea due to hazardous wastes in transboundary movement, as well as in combating illegal traffic thereof, in accordance with the Protocol to be adopted by them."
24. Article 81 of Constitution of Colombia, "Colombia: Government Clarifies Policy Barring Toxic Waste Imports in 'Free-Trade' Zones, International Environmental Reporter, 6 November 1991.
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The Environment Industry

Profiting from Pollution

by

Joshua Karliner

Deflecting pressure from environmentalists in the 1960s and 1970s for cleaner manufacturing processes, industrial corporations in Northern countries pushed for legislation which concentrated on the treatment of toxic pollution rather than its elimination from the production process. As a result, air, water and land contaminants continue to be produced, but a powerful and highly-competitive industry now specializes in their treatment. This "environment industry", eager to profit from potential demand for clean-up technologies in the industrializing countries of Asia and Latin America, is trying to ensure that Southern governments follow the legislative path already taken by the North of mitigating pollution rather than eliminating it.

In 1974, DuPont, the largest private producer of toxic waste in the US, announced: "We believe that the disposal of wastes ought to be regulated, instead of regulating the nature and use of the product or the type of manufacturing process used." It was supported by Dow Corporation, the second largest US producer of hazardous wastes, which argued that granting the government "authority to control production, composition, and distribution of products . . . would be devastating to free enterprise commerce."¹

Both companies were responding in US Senate Hearings to public and government concern about pollution. In reply to arguments that legislation should focus on the source of the problems — that industry should be forced to begin a fundamental transformation towards clean production — the corporations demanded "end-of-pipe" solutions: investment in new technologies to dispose of toxic waste more safely.

Dow, DuPont and their allies were largely successful. Pollution control regulations have been imposed in the US over the last 20 years — and a flourishing new sector of industry has emerged to clean up the toxics produced by the rest of industry. This "environment industry" supplies businesses with the materials, technology and expertise to comply with the new regulations, and itself operates commercial waste disposal facilities.

Today, the pollution control and waste treatment industry is a global giant. While

Joshua Karliner is Executive Director of the San Francisco-based Environment-Business Bureau.



Rechem employees checking toxic waste prior to its incineration

Greenpeace/Pearson

its exact scope is difficult to define, a study prepared by the Organization for Economic Cooperation and Development (OECD) placed the global market for environmental equipment and services at about \$200 billion in 1990 and forecast 50 per cent growth to \$300 billion by the year 2000. The International Finance Corporation, the arm of the World Bank which lends to the private sector, used a broader definition to come up with a 1990 figure of \$300 billion, estimating that the industry would double to \$600 billion by the turn of the century. By comparison, the aerospace industry's annual market is about \$180 billion, while chemical products are estimated at \$500 billion.²

This new industry is concentrated almost exclusively in the "brown" end-of-pipe sector of clean up and control, rather than the "green" area of pollution prevention and process innovation, which makes up less than one per cent of the environment industry in revenue terms.³ The vast majority of companies are not investing clean technologies and products such as emissions-free, hydrogen-powered cars; non-polluting, closed-system industrial factories; or solar and wind energy plants. Instead they create substitutes for CFCs that are not ozone-friendly and that contribute to climate change; they spend billions of dollars on smokestack scrubbers instead of replacing the smokestack with a clean technology; they build toxic waste dumps which are delayed-action time-bombs because they will eventually leak into the groundwater; and they build hazardous waste incinerators that spew millions of pounds of poison into the air and leave behind a toxic by-product of dioxin-laden ash.

As Grant Ferrier, editor of the *Environmental Business Journal*, writes, polluters "pay lip service to proactive environmental management and pollution prevention, but most have yet to put their money where their mouth is in terms of active programmes."⁴ The OECD states that building an ecologically sound industry is risky "because clean technologies involve more fundamental changes in processing; they will expose companies to greater economic and market risks and have greater impacts on competitiveness than end-of-pipe modifications."⁵

Regulatory Advantage

The environment industry is characterized by an odd international division of labour, based on a "regulatory comparative advantage" among corporations from the three most powerful economic regions of the world — Japan, Europe and North America.

Stringent air quality regulation in Japan has resulted in Japanese leadership in end-of-pipe air pollution control technologies, dominated by companies such as Mitsubishi and Hitachi; whereas a strong European legislative focus on water quality has given German, Swedish, French and British companies the edge in creating and selling end-of-pipe water treatment technologies. In The Netherlands, meanwhile, efforts to address land contamination issues gave Dutch companies the lead in advanced soil remediation technologies. In the US and Canada, legislation led firms to specialize early on in waste treatment, the largest segment of the environment industry worldwide.

Indeed, in 1992, the US environment industry as a whole accounted for about 40 per cent of the world market, brought in revenues of about \$86 billion — nearly two per cent of the country's GNP — and employed close to 200,000 people. Roughly half of this turnover came from 60,000 or so small firms. The other half was made up of a few large firms, many of them polluters in their own right.⁶

For example, four of General Electric's US factories are on the Environmental Protection Agency's list of the most dangerous sources of air pollution,⁷ although the company has added air pollution control equipment to its balance sheet, becoming the top manufacturer in the US and sixth in the world.⁸ DuPont, which produced more than 348 million pounds of waste in 1989, has developed its own toxic waste management services, including incineration and deep well injection.⁹

The military-industrial complex is a growing competitor in this field. Defence corporations such as Westinghouse, which profited for years from lucrative nuclear weapons contracts, are now vying for the billions of dollars the Department of Energy is handing out to clean-up the radioactive mess they made.

World Waste Watcher

A number of specialist "environmental service" firms have taken the lead in hazardous waste disposal: Waste Management Technologies (WMX), formerly Waste Management Inc; Browning Ferris Industries; and the Canadian company, Laidlaw.¹⁰

WMX is the US and world leader, accounting for roughly 10 per cent of the entire US environment industry's earnings. Dubbed by one Wall Street analyst as "the proxy for the environmental industry,"¹¹ WMX has grown from a collection of small trash hauling companies into a global corporation which, in terms of revenue, is the size of aircraft manufacturer Lockheed, almost as big as the energy and defence corporation,

The environment industry is similar to the health care industry — an ever-growing giant that makes its money by treating the symptom of the problem rather than investing in its prevention.

Westinghouse, and larger than chemical giant Monsanto or Weyerhaeuser, the logging multinational. In 1991, it was ranked 89th among global corporations in terms of revenue, while its 64,000 employees made it the 66th largest corporate employer in the world. Its subsidiary, Waste Management International, is the fastest growing arm of WMX. With operations in 17 countries in Europe, Asia and Latin America, its international activities already account for roughly one-fifth of the corporation's entire revenues.¹²

Like other such companies, WMX has been heavily criticized by environmental groups in the United States, many of them from African-American and Latino communities where WMX has located a disproportionate number of its most hazardous activities. They have sued the company for civil rights violations ("environmental racism"), accusing it of poisoning people and their natural surroundings, of blatantly disregarding the concerns of local communities, of destroying opportunities for other, healthier forms of economic development and of riding roughshod over democratic decision-making processes.

Further afield, local communities in various parts of Mexico have managed on

at least five occasions to organize themselves sufficiently to reject WMX plans to build incinerators and hazardous waste dumps in their areas.¹³

In addition to its conflicts with local communities and environmentalists, WMX has run foul of government legal and regulatory agencies. Between 1980 and 1990, the company paid \$45 million in environmentally-related fines, penalties and out-of-court settlements. During the same period, WMX received well over 600 citations and orders related to pollution violations. By the end of 1992, it had been identified as a potentially-responsible party at 107 Superfund sites — up from 96 in 1989.¹⁴ In 1992, WMX's subsidiary Chemical Waste Management pleaded guilty to six felony violations for "failure to notify the United States when reportable quantities of hazardous substances were released into the environment." The company agreed to pay a \$11.6 million penalty, in what the US Department of Justice called the "largest environmental crimes case ever."

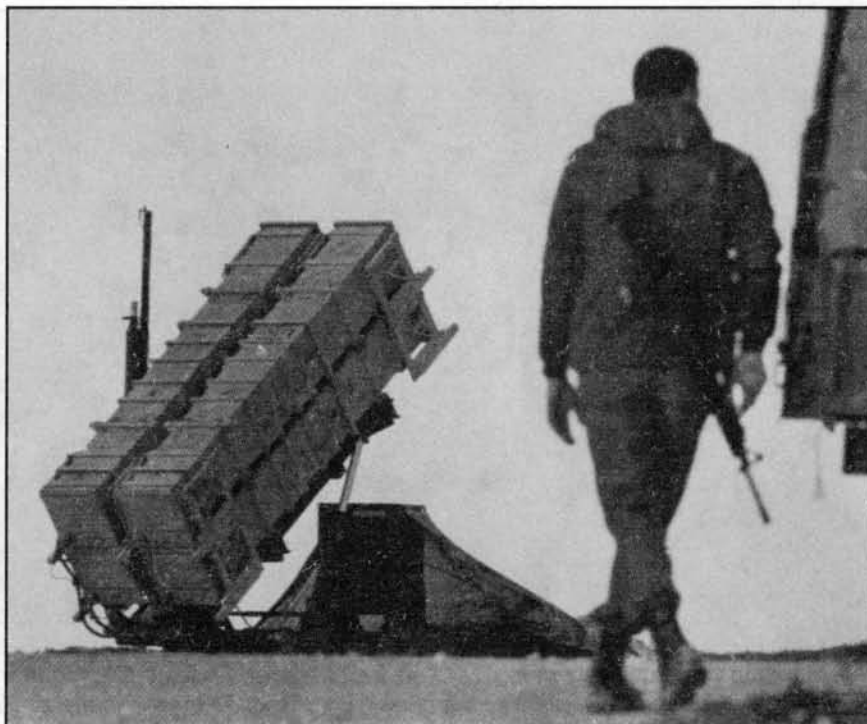
After reviewing such evidence, a lengthy report by the San Diego District Attorney concluded that WMX's history presented "a combination of environmental and anti-trust violations and public corruption cases which must be viewed with considerable concern." More bluntly, Alabama activist Kaye Kiker has nicknamed the company "Criminal Waste Management".¹⁵

Export the Problem

As the environment industry's rapid growth in the North begins to level off, it is expanding elsewhere. The industry's entrance into Third World countries is the culmination of a three-stage process of exporting toxic industrial development from North to South:

- first, economic "development" is exported through free trade policies and financing by multilateral and bilateral agencies;
- secondly, environmental regulations to control the excesses of this development are introduced;
- finally, "environmental" technology and services are exported to service these regulations.

A Patriot anti-missile launcher, manufactured by Raytheon, on operational stand-by at an Israeli Air Force base during the Gulf War. "You may think of Raytheon as a defence company," comments an industry representative, "but really they're an environmental company." Raytheon's Annual Report now lists "environmental businesses" among its activities, including "cleaner" nuclear, chemical, pharmaceutical, biotechnology and power generation ventures.



Popperfoto/Reuter

As free trade policies have prised open Third World markets, transnationals have moved into countries pursuing export-oriented industrialization. This has resulted in the rapid emergence of environmental problems which, until recently, existed largely in Northern industrialized countries.

For example, the highly toxic chlorine industry, which is at the root of much of the industrialized North's hazardous waste crisis, is stagnating in the US and Western Europe. But leading manufacturers of chlorine — Dow Chemical, Solvay and ICI — are expanding into the Third World, investing in chlorine production in countries such as Brazil, Mexico, Saudi Arabia, Egypt, Thailand, India, Taiwan and China.¹⁶

In addition, many of the factories, technologies and products that transnational corporations have moved to the South are either banned or under pressure for environmental and health reasons in their country of origin. For example, DuPont sells leaded petrol throughout Latin America, although it is banned in the US, Canada and elsewhere.¹⁷

Similarly, Mitsubishi set up a "rare earth" processing factory in Malaysia to make chemicals for colour television screens, a process which had been judged too dangerous to site in Japan. Mitsubishi then dumped plastic bags of radioactive waste behind the factory.¹⁸

The most blatant example of these double standards is the cluster of *maquiladoras* on the Mexico-US border — free trade zones where US

transnationals, including General Motors, Union Carbide and Motorola, have set up thousands of plants to take advantage of low wages, encouraged by lax laws concerning labour unions, workers' health and safety and environmental compliance.¹⁹

Export the Legislation

Until recently, little was done in newly-industrializing countries to control, regulate or manage any of the waste produced as a result of this form of development. In the last five years, however, the pollution has become increasingly difficult to ignore. Spurred on by local and international environmental protests, and by international agreements on environmental issues, a number of Southern governments are beginning to emulate their Northern counterparts by legislating, but they are importing regulatory models from the US, Europe and Japan. Mexico, for example, passed 77 new environmental regulations in the late 1980s and early 1990s — many of them based on US and European law. Similar legislative initiatives took place during the same period in Malaysia, Thailand, Indonesia, Chile and Poland.²⁰

The US and other countries are striving to export their regulatory models, because as industry representative Levi Richardson points out, "regulatory transfer leads to technology transfer". With this in mind, the US Agency for Interna-

tional Development (USAID) and the Environmental Protection Agency are training and building relations with policy makers and bureaucrats from various Asian countries, who will develop their nations' regulatory regimes.²¹ The Japanese government is carrying out similar programmes.

The Asian Development Bank estimates that the Asia Pacific region will need to spend between \$12 billion and \$70 billion a year to mitigate the environmental damage due to the region's economic development. The governments of Hong Kong, Taiwan and South Korea, for example, are planning to spend a total of \$5 billion between them over the next five years to develop municipal and industrial waste management systems. In Malaysia and Thailand, the environment industry's current annual private sector market of \$210 million in each country, is expected to grow by 15 to 25 per cent annually. The private sector Thai market alone is expected to reach \$1.5 billion by the year 2000.²²

The 1992 environmental market in the six largest Latin American countries was estimated to be \$2.5 billion, 40 per cent of which was supplied by imports; this market is expected to grow by 25 per cent in the next few years. In Mexico alone, 1992 expenditures of \$614 million are projected to jump to \$10 billion in less than 20 years.²³

Meanwhile, it is estimated that Poland's "ecological policy", if implemented, would provide a \$260 billion market over a 30-year period.²⁴



Protecting the environment from the environment industry. Local protesters on the site of a waste disposal plant and incinerator, proposed by International Technology Europe, in Humberside, north-east England.

Export the Clean-Up

"Environmental" technology is therefore being exported to Asia, Africa, Latin America and Eastern Europe, much of it financed by multilateral and bilateral aid agencies. Part of this "aid" for "development" will be given out in contracts to transnational corporations.²⁵ Urging US taxpayers' support for the Global Environmental Facility, a joint World Bank, UNDP and UNEP fund, a US Treasury official recently told a US Congressional committee:

"The environmental services industry . . . stands to derive significant benefits from the MDBs' [multilateral development banks] greatly increased emphasis on environmental work . . . That is one of the benefits we expect to get from our participation in the Global Environment Facility."²⁶

Mexico expects to spend some \$2.5 billion to address air pollution problems in the country's capital, almost half of which will come from foreign governments and MDBs.²⁷ Hundreds of millions more dollars will be allocated by the same sources to install hazardous waste dumps, incinerators, air pollution control devices and waste water treatment facilities to "clean up" the border area with the US.

Some of the technology exported through aid is outdated. For instance, after a decade of popular protest, hazardous waste incineration is declining as the preferred method of waste disposal in the United States, and the Clinton administration has proposed tightening US

government controls on it. Yet incinerator exports to the South are rising.²⁸

Competing for Global Waste

Although US, European and Japanese companies still tend to specialize in the sector emphasized by the regulation of their country of origin, they are also viewing the globally-expanding environment industry as an area of competition. Some mergers, joint ventures and licensing agreements link US, European and Japanese companies, but general patterns of "environmental" investments reflect traditional geographic spheres of interest. According to Harvey Himberg, of the US Overseas Private Investment Corporation:

"the large American presence in the mining, petroleum, and industrial sectors in the [Latin American] region provides US suppliers with many clients who are already familiar with their products."²⁹

Member countries of the European Union have an advantage in all sectors of the business in Eastern Europe, while South-East Asia received more than 80 per cent of Japan's environmental equipment exports in 1992.³⁰

Competition across the trade blocs takes several different forms as the world's most powerful nations try to capture the largest share of the emerging "environmental" markets of the South and of Eastern Europe. Some countries are already taking measures to give their industry a "competitive" edge in the global market. The US Congress, for example, is consid-

ering legislation to facilitate the export of US environmental technologies.

As well as attempting to sell regulatory regimes to client countries, bilateral aid agencies are also directly advancing the interests of their national corporations. For example, a USAID contractor charged with promoting small and medium-sized US business in Eastern Europe recently spent two weeks guiding corporate giants WMX and Westinghouse through Eastern Europe's bureaucracies, in an attempt to secure environmental clean-up work for them.³¹ US Secretary of Commerce Ron Brown told a gathering of environmental industrialists recently:

"the more pressure that we put on ourselves, on Mexico and on every place else in the world to do something about the environment, the more they're going to reach out for environmental technology. And where are they going to get it? They're going to get it from us!"³²

Profiting from Cleaning-Up

Cleaning up toxic pollution can contribute to environmental and human health in many countries. Few would deny that it is essential to clean up the toxic disasters created by the *maquiladoras* on the Mexico-US border or the excesses of industrialization in places such as Brazil, Poland, Thailand, South Korea or Taiwan. In particular, the critical need for potable water and waste water treatment facilities in the Third World is one which the environment industry could help meet.

Yet by applying discredited technologies such as incineration, the environment industry is concealing the toxic economic development model being used in the South behind a thin green veil of environmental management. While the environment has become big business, the environmental crisis has continued to escalate. What corporate "environmentalists" and government bureaucrats often hail as the solution has become part of the problem.

Since "corporate environmentalism" has no incentive to make the requisite changes towards clean production on its own, and transnationals wield such power over the regulatory process, pressure for clean production is likely to continue to come from the communities around the world whose health, livelihoods and ecosystems are threatened by these "environmental" corporations.

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Reclaiming the Scottish Highlands

Clearance, Conflict and Crofting

by

Alastair McIntosh, Andy Wightman and Daniel Morgan

The internal colonization of the Scottish Highlands by the British state in the eighteenth century followed a path similar to that of many Third World countries. Often betrayed by their clan chiefs, peasant "crofters" were thrown off their lands to make way for sheep ranching and to provide labour for the cash economy. For over two centuries, the few remaining Highlanders have endured the loss of their lands and the manipulation of their culture by absentee landlords. But now a new movement of cultural regeneration, partly finding its inspiration in the political and ecological resistance movements of the Third World, is challenging the power of the landowning "lairds", reclaiming both land and community.

By the middle of the eighteenth century, the "Great Improvers" of England were dismantling the system of open fields and common lands, which provided many rural people with a relatively independent subsistence, and were converting them to commercial agriculture. The dispossessed peasantry were left with little option other than to become wage-labourers.¹

But the improvers were unable to carry out the same process in the Highlands and Islands of Scotland, even though Scotland had been part of the British Union since 1707. This mountainous area at the northern extremity of the British Isles was inhospitable to intruders. Human settlements survived by hunting, gathering, cattle farming and subsistence agriculture, and were ruled by patriarchal, often feuding clan chiefs.

Many of these clans put up armed resistance to the imposed British state. In 1745, Prince Charles Edward Stewart ("Bonnie Prince Charlie") raised an army from among the Highland chiefs and marched south to England, meeting little resistance. The "Jacobites" came within 120 miles of London, but, lacking the strength and confidence to press on, were forced to retreat. A year later, the British army confronted them at Culloden Moor, to the east of Inverness, where the last

battle to be fought on mainland Britain took place. The Highlanders were massacred and resistance to Southern domination came to an end. The Highlands entered a 200-year process of enclosure and cultural disintegration in which some half a million people² were directly, or through economic pressure, forced off their land.

The Time of Grey

In the aftermath of Culloden, pacification of the clans became the immediate priority of what was in effect a colonial state, comprising not only the English, but also lowland Scots and some clan chiefs. A process known as "proscription" was elaborated which took the heart out of Highland culture while leaving many outward structures intact for administrative purposes. Under pain of being "liable to be transported to any of His Majesty's plantations beyond the sea, for seven years,"³ the 1747 Act of Proscription banned the wearing of Highland dress, the gathering of Highland people, playing the bagpipes and other forms of traditional entertainment, and the carrying of arms. As the proscription on dress included the wearing of colour, the era became known as "the time of grey." Bagpipes were regarded as an instrument of war, to be played mainly within the British army (where their uses included variously impressing and frightening other natives of foreign lands). The Act of Proscription was not repealed until 1782, by which time its effects had been "inter-

nalized" among the Highlanders in a "culture of silence."⁴

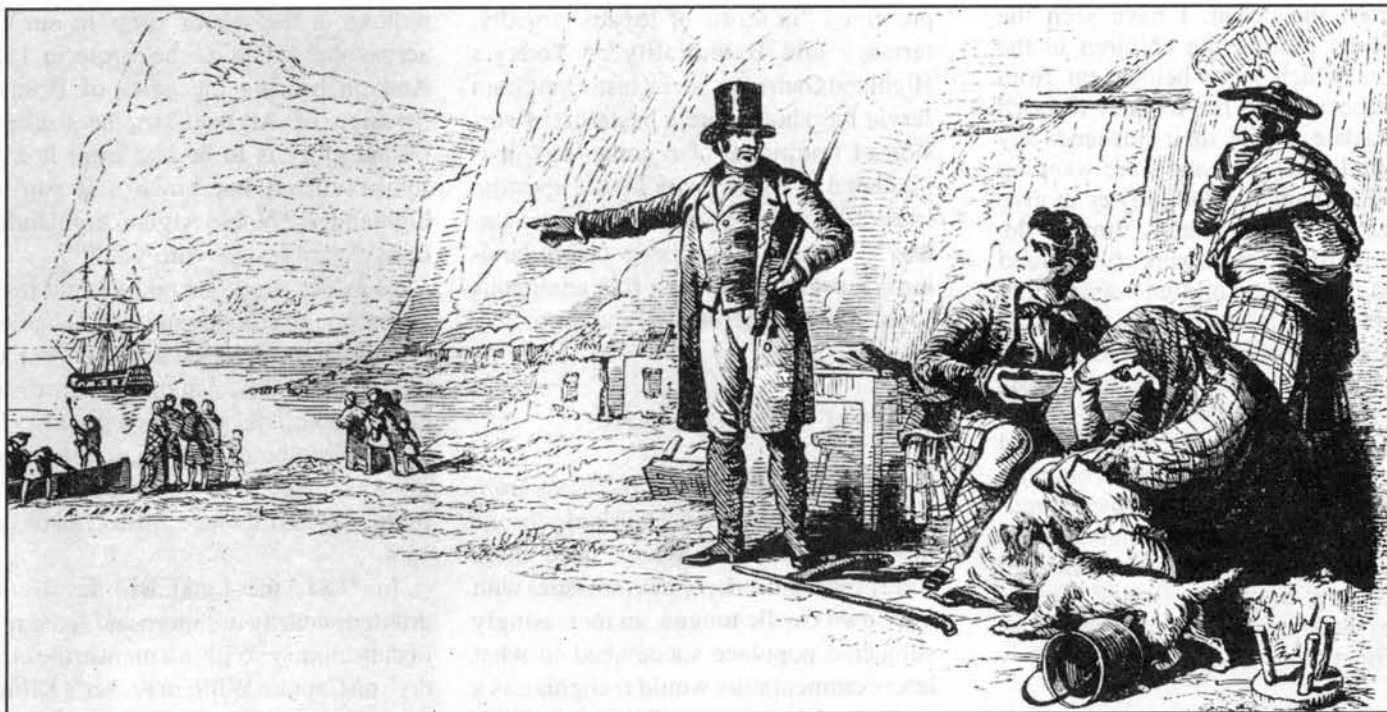
Under another Act, the 1747 Heritable Jurisdictions Act, those who did not accede to English jurisdiction had their lands forfeited and placed in the hands of government-appointed surrogates: the majority, however, acquiesced. Consequently:

"The British government was... able to pursue its policies of cultural marginalization not by expropriating the traditional Highland aristocracy but by incorporating the more powerful members of the clan figuration within the Hanoverian hegemony."⁵

For their clansfolk, the implications were profound. Traditionally, clan lands were not the private property of the chief but were invested in him on behalf of the entire clan.⁶ Membership of the clan, defined by blood lineage or acceptance of the chief's patronage, gave clan members rights of use of land and water. The post-Culloden regime replaced this traditional system of land rights by a *latifundia*-style system whereby land was commoditized and enclosed.

The commoditization of land was reinforced by a trend that was already under way even before the 1745 uprising. For many years, the sons of Highland chiefs had been educated away from home to be tutored in the "ways of civilization". As James Hunter, the social historian, notes, the pursuit of such "urban sophistication" created major financial difficulties for the chiefs:

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A REAL "SCOTTISH GRIEVANCE"

DUNCAN—"Oh! but my mother is frail, and can't be sent out of the country in that ship; will you not let Flora and her—"

FACTOR—[sternly] "No, no lad — move on with the old woman; she will not be here in the way of his Lordship's sheep and deer."

"Many chiefs were as at home in Edinburgh or Paris as they were in the Highlands, and French or English rolled off their tongues as easily as — perhaps more easily than — Gaelic. While away from his clan, moreover, the typical chief — conscious since childhood of his immensely aristocratic status in the Highland society whence he came — felt obliged to emulate, or even surpass, the life style of the courtiers and nobles with whom he mingled. And it was at this point that the eighteenth century chief's two roles came into irreconcilable conflict with one another. As a southern socialite he needed more and more money. As a tribal patriarch he could do very little to raise it."⁷

The commodification of clan lands freed the chiefs from such constraints. Just as today, the post-colonial tribal elites of many tropical countries have solved similar dilemmas by selling logging, mining or fishing rights held on behalf of their peoples, so in eighteenth and nineteenth century Scotland, the Highland chiefs raised revenue by imposing rents upon their clansfolk and levies on their cattle (the main livestock kept by Highlanders). When that was insufficient, more severe measures were introduced, for example, "rent-racking" (the progressive raising of rents or reduction of land area) or forcing tenants into waged labour in industries in which the landlord had a financial interest. If these failed to deliver a sufficient cash flow, the "estate" could be sold on

the rapidly-growing land market. Without traditional ties to the community, the new owners — predominantly southern merchants, industrialists and aristocrats — had few scruples as to how they treated the people or the land they now owned.

Clearance for Sheep

The "cash-crop" to which these nineteenth century improvers turned were hardy breeds of sheep — the Cheviot and Blackface — raised for wool. The more sheep, the greater the income, but the fewer the number of people that could live on the land. The Highlanders became an encumbrance.

The solution was the "Clearances", the forced — or heavily persuaded — eviction of huge numbers of indigenous people that began in the second half of the eighteenth century and continued until the late nineteenth century. The dispossessed peasants were either pushed onto nearby marginal land, into waged labour, into the slums of Glasgow and other newly-industrialized cities, or onto emigrant ships bound for destinations such as Canada and Australia.

This eviction was justified with the pretence that it was for the people's own good. Playwright John McGrath writes:

"Although many would have indeed left voluntarily, the majority of these people did not want to go. Further-

more, the fact remains that the fertile ground which had kept so many people through the centuries was now turned into useless land fit only for sheep. The cruelest and most important fact of all is that the criterion for the best use of land ceased to be the number of people it could support, and became the amount of profit it could make".⁸

One of countless examples of the Clearances is the Isle of Rum, which is today a nature reserve devoid of its indigenous population: 300 people were cleared from it in 1826. The proprietor, MacLean of Coll, spent five pounds and fourteen shillings on each adult's passage to Canada. Vacated and let as a single sheep farm, it brought in an annual rent of £800, compared with just £300 previously.⁹

The Clearances continued for over 100 years. There are people alive today who can recall hearing first-hand accounts of them in their youth. This is one of the nineteenth century clearance of South Uist, given in 1928 by Catherine MacPhee:

"Many a thing have I seen in my own day and generation. Many a thing, O Mary Mother of the black sorrow! I have seen the townships swept, and the big holdings being made of them, the people being driven out of the countryside to the streets of Glasgow and to the wilds of Canada, such of them as did not die of hunger and plague and smallpox while going

across the ocean. I have seen the women putting the children in the carts which were being sent from Benbecula and the Iochdar to Loch Boisdale, while their husbands lay bound in the pen and were weeping beside them, without power to give them a helping hand, though the women themselves were crying aloud and their little children wailing like to break their hearts. I have seen the big strong men, the champions of the countryside, the stalwarts of the world, being bound on Loch Boisdale quay and cast into the ship as would be done to a batch of horses or cattle in the boat, the bailiffs and the ground-officers and the constables and the policemen gathered behind them in pursuit of them. The God of life and He only knows all the loathsome work of men on that day."¹⁰

The Balmorality Era

A decisive shift in the pattern of enclosure came when the military demand for wool collapsed with the ending of the Napoleonic Wars in 1815. Remaining unenclosed lands were consolidated with former sheep farms to create the great "sporting" estates which continue to the present day.¹¹ As the century progressed, trend-setting "lairds" (landowners), such as Queen Victoria in her Balmoral Castle retreat, while professing a love of Highland scenery and culture, sponsored emigration programmes and set up land management regimes designed for game. By 1912, one-fifth of Scotland — some 3,599,744 acres — had been converted so that "gentlefolk" could fish for salmon and hunt stag, grouse and snipe.¹² In addition, laws were passed in the nineteenth century to secure landowners' rights of access to land, making criminal offences out of hunting and camping. Until the rise of the sporting estate, an individual's exclusive claim to what nature produced would have been considered absurd; a well-known Gaelic proverb, for example, holds that everyone is entitled to a deer from the mountain, a tree from the wood and a fish from the river.

The shift in land use was echoed by changing attitudes towards the indigenous people. The Highlanders, like Africans and Native Americans, had been caricatured as barbarous and uncivilized, but by the second half of the nineteenth century, they could safely be patronized in terms of "the glamour of backwardness"¹³ and

presented "in terms of loyalty, royalty, tartanry and Balmorality".¹⁴ Today's Highland Games, as social historian Grant Jarvie has shown, are a bastardized version of traditional clan gatherings, manipulated over the years by the sporting landlords to consolidate their social status.¹⁵ Cultural sponsorship offers landlords a pseudo-authentic role analogous to that of the chieftains of the past.

Retreat and Resistance

Not content with stealing the lands from the Highlanders, the new lairds also broke down their culture. Where once there were proud and independent societies with their own Gaelic tongue, an increasingly subjected populace succumbed to what later commentators would recognize as a "culture of the oppressed",¹⁶ with the English language forced upon them through the education system. Afraid to discuss their plight openly, the Highland peoples internalized their oppression to such a degree that they were reluctant even to voice their complaints. John Murdoch, founder of the campaigning newspaper *The Highlander*, wrote in 1873:

"We have to record a terrible fact, that from some cause or other, a craven, cowed, snivelling population has taken the place of the men of former days. In Lewis, in the Uists, in Barra, in Islay, in Applecross and so forth, the great body of the people seem to be penetrated by fear. There is one great, dark cloud hanging over them in which there seem to be terrible forms of devouring landlords, tormenting factors [estate managers] and ubiquitous ground-officers. People complain; but it is under their breaths and under such a feeling of depression that the complaint is never meant to reach the ear of landlord or factor. We ask for particulars, we take out a notebook to record the facts; but this strikes a deeper terror. 'For any sake do not mention what I say to you,' says the complainer. 'Why?' We naturally ask. 'Because the factor might blame me for it.'"¹⁷

Murdoch concluded that:

"The language and lore of Highlanders being treated with despite has tended to crush their self-respect and to repress that self-reliance without which no people can advance."¹⁸

He repeatedly linked "alien rule" of Scotland with the subjugation of people overseas; "the dying wail of the cheated

redman of the woods rings in our ears across the Atlantic," he wrote in 1851. And on hearing the news of Britain's invasion of Afghanistan, he declared: "What glory is to be had from fighting semi-civilized but brave and patriotic highlanders? Noble Afghan highlanders, our sympathies are with you!"¹⁹

Murdoch preached non-violent resistance through cultural and spiritual regeneration, and supported his calls for land-reform with biblical quotations, in a manner that compares with contemporary liberation theology.²⁰ Although his newspaper was forced to close through financial problems, his message did not fall on deaf ears.

In 1881, the Land Bill for Ireland granted security of tenure and fixed rents in that country. Within a month, the crofters²¹ on Captain William Fraser's Kilmuir Estate on the Isle of Skye used tactics such as rent strikes borrowed from the Irish Land League to get their rents reduced by 25 per cent. Soon after, a full-scale rent strike on Skye marked the start of the "Crofters Wars". Forty-seven Glasgow police, who had been brought in to enforce eviction summonses, were greeted by a hail of mud and stones from a crowd of protesters, many of them women, who had arrived from all over Skye, led by their respective pipers. Recognizing that state authority was losing its grip, the British government responded to the local Sheriff's call for help with action which was to be repeated on several occasions in the Highlands and other colonies: it sent in gunboats with police reinforcements, over 400 marines and 100 sailors. Historian Malcolm MacLean notes that:

"This impressive demonstration of force was met with polite passive resistance as people conspicuously dug their potatoes at every township along the coast. The *Glasgow Herald* correspondent observed, 'The district was found in a state of the most perfect peace, with every crofter minding his own business'. "²²

Continuing Subjugation

After years of persistent pressure, the 1886 Crofters Act was passed, giving those who were designated as crofters heritable security of tenure with controlled rents — though by far the greatest areas of land remained outside crofting tenure. It was not until 1976, however, that crofters won the right to buy the

freehold of their land, under the Crofting Reform Act, at a price 15 times the holding's controlled rent. A further 15 years would pass before tenant crofters won the right to apply for permission to plant trees on their land under the 1991 Crofter Forestry (Scotland) Act. Trees planted without this provision are still deemed the property of the landlord, which is one reason why few crofts have any forest shelterbelts.

Absent Landlords

Although these and other Acts of Parliament secured the survival of crofting life, they have done little to restore ownership of the land to the people. Today, throughout Scotland, just 4,000 people — 0.08 per cent of the resident population — own 80 per cent of private land.²³ Many of the large estate owners are absentee landlords — English aristocrats; Dutch and Danish executives; Arabian oil sheiks; Swiss and Scottish bankers; arms dealers; racing car drivers, pop stars and celebrity entertainers, such as Terry Wogan and Steve Davis; and pension funds such as those of Rolls Royce, the Post Office, Prudential Insurance and the Midland Bank. A 1976 study concluded that some 35 families or companies possess one-third of the Highland's 7.39 million acres of privately-owned land.²⁴

Moreover, on some estates, the feudalism of the Clearances still persists. In April 1993, the managers of one of the richest absentee landlords, Sheik Mohammed bin Rashid al Maktoum of Dubai, bulldozed houses on the Sheik's Wester-Ross estate, allegedly because of the "night-time poaching activities of the local population". Twelve family homes were reduced to rubble in a district which has 800 applicants on the local authority's housing waiting list.²⁵

A Devastated Terrain

The transition from communal clan tenure to intensely concentrated private ownership over the last 250 years has not only exacted a high price from the Highland people; it has also dramatically altered the landscape — a landscape that by the year 1750 had already been heavily modified by nearly 8,000 years of human occupation. The archaeological records now reveal, for example, that extensive deforestation occurred in north-east Shetland



One of the largest remnants of the boreal Caledonian pine forest on the Mar Lodge estate in the Cairngorm Mountains. The few trees left are ancient Scots Pine which have an estimated 50 years more of cone-bearing maturity only. So few broad-leaved trees remain that the area looks more like savannah than boreal forest. When the owner of Mar Lodge, US billionaire John Kluge, recently put the estate on the market at an asking price of £10 million, a consortium of conservation groups tried to raise half the asking price, but suspended their bid because of difficulties in raising the funds and "political obstruction". Other landowners lobbied Kluge not to sell the land to conservation groups because of the precedent it would set. Kluge has since withdrawn the Mar Lodge estate from sale. Scrawled on the boarded windows of an old house on the estate is the message "Kluge! Absolve your conscience, return this land to the Scottish people!"

around 3000 years ago; the woodlands at Catta Ness, for example, disappeared within 150 years.²⁶

Nonetheless, the land use changes brought about by the Clearances and thereafter represented a sharp and decisive break in previous land use traditions. Sophisticated systems of transhumance and cropping disappeared, together with much of the indigenous knowledge and experience associated with them as the sheep farms and then the vast sporting estates replaced a largely subsistence, cattle-based economy. Widespread overgrazing of sheep and deer, as well as the burning of upland grazings for game management has drastically altered the ecology of the Highlands, exhausted the soils and diminished forest cover to the point where only one per cent of Scotland today is covered with the remnants of native forest.²⁷ Land productivity in general is widely-believed to have declined through soil erosion, nutrient-depleting practices such as burning and a decline in the use of seaweed, silage, compost and manure.²⁸ The recorded yields of game and productivity of fisheries on estates have dropped²⁹ and, in some parishes, lambing percentages between 1880 and 1975 have declined by as much as one per cent every four years.³⁰

The internationally-acclaimed ecologist, Sir Frank Fraser Darling, whose com-

prehensive survey of the human ecology of the West Highlands in the years immediately after the Second World War was largely ignored by the Scottish Office, came to the damning conclusion that:

"The bald unpalatable fact is . . . that the Highlands and Islands are largely a devastated terrain and that any policy which ignores this fact cannot hope to achieve rehabilitation. The Highlands are a devastated countryside . . . and that is the primary reason why there are now few people and why there is a constant economic problem."³¹

Indeed, to describe much of the Highlands and Islands as "unspoilt" and "a wilderness", as do many tourist brochures, is, in the words of James Hunter, "to abuse both language and history".³² Hunter also cites the observations of Canadian novelist Hugh MacLennan, the great-grandson of a nineteenth century emigrant from the Highlands, who, in an essay entitled "Scotchman's Return", recorded his impressions of the place from which his ancestors had been expelled. In MacLennan's view, the landscapes of Highland Scotland resembled those of the Canadian Arctic in some ways, but differed in one fundamental respect:

"This Highland emptiness only a few hundred miles above the massed

population of England is a far different thing from the emptiness of our own North-West Territories. Above the 60th parallel in Canada, you feel that nobody but God had ever been there before you. But in a deserted Highland Glen, you feel that everyone who ever mattered is dead and gone."³³

The Future of the Forest

Darling's comments on the devastation of the Highlands and Islands came nearly 40 years after the formation of Britain's Forestry Commission in 1919. The Commission had been set up as a result of official concern over declining tree cover and took a serious strategic and economic interest in tree production. The efforts of both the Commission and a few enlightened landowners, however, were almost exclusively concerned with timber production and involved the widespread establishment of plantations of fast-growing softwood species such as Sitka Spruce.

Over the 75 years since its establishment, the Commission has overseen the rapid expansion of forestry in Scotland. In the last 25 years, and particularly since the early 1980s, afforestation has been encouraged through tax concessions and grants which have resulted in vast areas of forestry plantations, owned by private interests.

Local farmers, crofters and communities have little stake in such forestry, much of which is controlled by absentee owners and managed by specialized forestry companies. Crofters eking out a livelihood on the remote areas of the west coast of Scotland see huge barges of timber being hauled off the hillsides and towed to processing plants in the English Midlands. With the barges go the profits. Employees are being laid off and local nurseries, sawmills and offices being shut down.

The Forestry Commission represents a distant, undemocratic and disempowering institution. James Hunter is in no doubt of the need for reform: "The Commission, to be blunt, is a centrally-organized bureaucracy which is to Scottish forestry what collectivization was to Soviet agriculture."³⁴

Reform of both the state forest service and of land ownership of state forests is now being advocated by Reforesting Scotland, a small radical group networking with other social and environmental movements in both North and South, and

the Scottish Crofters Union, which was formed in 1985. Both groups point to the strong contrast between the British government's centralist attitude to forestry in Scotland and British overseas aid policy which now tends to favour "social forestry" projects aimed at giving local communities a measure of participation in the management of their forests (though these schemes often pay only lip service to participation).

Many overseas foresters studying in Britain return home presuming that good forestry practice is, like Scotland's, based on capital-intensive monoculture serving a global cash economy rather than on bioregional and community-based patterns of reciprocity and mutuality in resource use. Conversely, a growing number of British development professionals come back home and realize that the progress which has been made in some community forest projects in Nepal or Papua New Guinea, for example, is not only absent in Scotland but positively ridiculed as having no relevance to areas such as the Highlands and Islands.³⁵ (Fortunately, these two community perspectives are starting to come together in some forestry teaching institutions.)

Reforesting Scotland, which was set up in 1991 to focus on issues of ecological and community restoration, has been partly modelled on self-empowerment groups in the Third World. Many of its members see the answer to the question of land ownership and use as lying in real public ownership — where people at the local level have a stake in the land. This means radical reform of both state and private ownership to empower rural communities and strengthen local economic linkages and multipliers.

Eigg on the Laird's Face

The Reforesting Scotland movement has grown out of a cultural renaissance which has seen many young Scottish people question the social and ecological bankruptcy of mainstream Western life and seek to recover their history, music, language and poetry, as well as draw on old roots of community and place. This is leading to a new and informed sense of empowerment regarding issues such as land restitution, ecological regeneration and cultural renewal.

In 1991, a crofter from Scoraig in the West Highlands, Tom Forsyth, established a charitable trust with the ambitious objective of bringing ownership of the Isle

of Eigg under community control. The trust received an unprecedented 73 per cent vote of confidence in the community ownership proposals from Eigg islanders who resented the showmanship, control and paternalism of the existing landlord, Olympic bobsleigher and businessman, Keith Schellenberg, "Scotland's best known English laird", who was forced to sell the island because of divorce proceedings.

In 1992, the Eigg Trust failed in a bid to raise sufficient funds to purchase the island, not least because Schellenberg undermined the effort by saying he would not sell into community control. But the Eigg Trust did demonstrate that the market for a "collector item" estate³⁶ could be spoiled by the glare of publicity, an aspect which was important in subsequent attempted buy-outs elsewhere. In the words of Jamie Burges-Lumsden of the estate agent Savills, "This kind of thing could be done without — it causes buyers to be suspicious... because a buyer wants to be assured of having maximum control... It worries private buyers and therefore could lower the price."³⁷

The Isle of Eigg, valued at around £2 million prior to the Trust's "market spoiling activities", reputedly attracted a best offer of a quarter of a million pounds and the estate was taken off the market. The day before the sale closing date, BBC Radio Scotland arranged interviews with a number of islanders as part of an hour long "phone-in" debate. When the shock news came through that Schellenberg had held onto his lairdship, all but one islander refused to be interviewed out of what is believed to have been fear of victimization.³⁸ Minds, for a while at least, had been re-enclosed.³⁹

Buying Back the Land

In the same week that the Eigg Trust was denied the chance to buy Eigg and withdrew to become a "trust in waiting", crofters from Assynt in Sutherland announced that they had formed a holding organization in an attempt to bring under community ownership the 21,000-acre North Lochinver Estate, until recently long held by the meat baron, Lord Vesty, but which the crofters considered to be theirs. The Chair of the Assynt Crofters Trust, Allan Macrae, drew parallels between the crofters' claim for land restitution and that of Africans, native Americans and Aborigines: "I think for those of us native to Assynt particularly, we are very conscious

that the land we stand on is in a sense the last stronghold of the native people . . . These lands really are the remnants of what the natives once possessed."⁴⁰

The Assynt crofters raised £300,000 from all over the world. By December 1992, unable to attract a better offer, the creditors of the bankrupt Swedish speculation company, which had acquired the property from Vesty, sold the estate to the community. The purchase was a spectacular reversal of enclosure in Scotland, "even if we did have to buy back what was rightfully ours!" Vesty was interviewed by the media on his reactions, leading Isabel MacPhail, one of the Assynt crofters, to comment:

"Really, it is a bit like the end of colonial rule — gradually our imaginations are unchained . . . For the whole of my life people have been explaining Vesty's 'badness' to me: blocking development; taking the mobile shop off the road; concentrating economic activity in his own hands . . . And in all that time we never realized that if you point a TV camera at him, or give him a few column inches . . . he'll do the job [of exposing injustice] much better himself."

Government agencies have so far been supportive of the crofters' activities and the intellectual climate appears to be shifting in their favour. As Professor Bryan MacGregor of the Rural Economy Department of Aberdeen University said recently:

"The present structure of tenure in rural Scotland is the interaction of complex historical and economic forces overlaid with government intervention on a large-scale and influenced by the varying power of the different interest groups over time. There is no reason to assume that it is best for contemporary society or even that it is able to deliver desired policy objectives. Indeed, many of the residual aspects of feudalism might suggest urgent change is required."⁴¹

In 1993, a second community buy-out was achieved by the crofters of Borge and Anniesdale on Skye and others are being considered. Meanwhile, Schellenberg has been forced to put the Isle of Eigg back on

the market, apparently because he finds the community increasingly uncooperative. Recently, following the summary dismissal of a farm manager, his vintage Rolls Royce was mysteriously burnt and indigenous islanders published an unprecedented Open Letter accusing him of libel and driving out local employees.⁴²



Alan Macrae, chair of the Assynt Crofters's Trust, celebrates the sale of the North Lochinver Estate to 100 of its tenant crofters in December 1992. "This is a historic blow which we have struck for people on the land right throughout the Highlands and Islands," he said.

John H. Paul

the view from similar 1,000 metre granite hills in both countries. In Norway, the valley I looked down upon contained a village of 20 small farms, with their own crops, power supply, school and so on — a prosperous and happy place with a good trade surplus and a population with a healthy

age structure. The Skye valley had twenty black-face ewes and twelve lambs. Compared to [Norway's underlying geology and soils], we are sitting on a goldmine. The development potential in the Highlands and Islands is immense."⁴⁴

Crofting as a component of global agriculture has no real future under the reforms of the European Union's Common Agriculture Policy or the GATT treaty. But as a

International Anthem

The crofters movement is drawing inspiration from abroad, as indeed it has done before. When John Murdoch travelled to Norway, Belgium and Switzerland in the last century to study land tenure patterns, he discovered social relationships with the land much superior to those in Scotland. The "peasant proprietorship" canton system of Switzerland made it "perhaps the most enlightened, independent and prosperous country in Europe." Comparing the countries he visited to Britain and Ireland, he found it "very surprising that we who profess to be in the van of progress, and the highest degree of liberty, should be content to be in the most unsatisfactory state, with regard to land, of almost any nation in Europe."⁴³

Recently, 31 professionals, community activists and government officials visited the west coast of Norway on a study tour organized by Reforesting Scotland. There, under similar ecological and climatic conditions, a different social and political history has resulted in a stunningly different human ecology. As Angus McHattie of the Scottish Crofters Union had previously observed:

"On returning from Norway to Skye recently, I had occasion to compare

way of living with the land, if not primarily from the land, which offers a diversified economic base for the community, its star is perhaps rising. The long-term sustainability of crofting points towards the future, not the past. Prince Charles has raised its profile, stating that it "provides a model which many other rural communities throughout the world would do well to emulate."⁴⁵

Others look to crofting as a means of re-establishing a sense of identity. If the lessons of the former Yugoslavia are not to be lost, it must be recognized that "belonging" can no longer be defined in narrowly ethnic terms. The old Highland concept of kinship based on the cherishing of place, community and culture is well expressed in the Gaelic proverb, "The bonds of milk [nurture] are stronger than those of blood". Such an understanding of identity is rooted not in ethnic hatred, but today involves seeking a mutually-respecting and inclusive place in a global plurality of cultures where past injustices are starting to be recognized, forgiven, and, as far as possible, rectified.

Francis Thompson closes his short history, *Crofting Years*, by emphasizing that the contribution of crofting as a way of life is national, if not international. His conclusion could speak for many peasant communities around the world:


"These communities [are] instrumental in producing folk who are still proving to be the 'bank' of social values and ideas for the nation as a whole. And it is from those reserves of character that the will to survive against multinational and national government interests is drawn. That indeed is a song worth the singing."⁴⁶

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Sweet and Sour

The Unanswered Questions about Aspartame

by

Erik Millstone

Several of the tests carried out to assess possible adverse health effects of the artificial sweetener, Aspartame, were investigated by the US Food and Drug Administration in the 1970s because questions had been raised about the conduct and reporting of the tests. In particular, there were doubts as to whether the tests could provide an adequate basis on which to assess the chemical's safety. As three pivotal tests have never been repeated, the public cannot be confident that Aspartame is safe. The way in which the decision was reached to allow this food additive onto the market has worrying implications for both public safety and confidence.

Most public disputes concerning the health effects of a product on sale involve differences of opinion about the interpretation of available scientific evidence. But the controversy over Aspartame, an artificial sweetener used in a wide variety of products, such as soft drinks, and marketed in Britain and other countries by NutraSweet under its own trade name,¹ concerns the authenticity and reliability of the evidence itself. The public has a right to assume that scientific tests on products are objective and thorough and have been carried out to the highest scientific standards. There is considerable evidence that, in the case of Aspartame, the tests were inadequate in all these respects.

Worrying Anomalies

Aspartame is a compound formed by combining two amino acids, namely aspartic acid and phenylalanine. In the early 1970s, a US pharmaceutical company, G.D. Searle, which owned the patent on the chemical, decided to market it as an artificial sweetener. In July 1974, the Food Bureau of the US Food and Drugs Administration (FDA) announced that it was satisfied that Aspartame was safe, and that it would shortly be allowed onto the US market. Subsequent work in the FDA's Drugs Division, carried out by Dr Adrian Gross, cast doubts about the safety of the chemical, however, and in December 1974, the FDA announced an abrupt change in its decision: the imminent introduction of Aspartame was to be postponed, pending the results of an urgent investigation.

The FDA decided to investigate Aspartame after Gross noticed what he thought was a worrying anomaly in a Searle report on another product, Flagyl: the summary at the start of a document did not accurately reflect the detailed data presented in subsequent chapters. The report was returned to Searle in the expectation that it would change the summary to fit the data. Gross was surprised when a fresh submission arrived with some of the data altered to fit the summary.² Officials from the Drugs Division then made an unannounced visit to the Searle's offices and laboratories, in the course of which questions were raised

about the conduct and reporting of tests on the safety of Aspartame: as with Flagyl, the documents submitted by Searle did not accurately represent the conduct of the experiments which it was supposed to be reporting, and consequently may have underestimated the possible toxicity of the sweetener.³ The FDA responded by establishing two task forces, one to concentrate on the pharmaceutical products and the other, within the Bureau of Foods, to concentrate on Aspartame.

The Bureau of Foods Task Force identified 15 studies on the safety and toxicity of Aspartame which it thought needed to be examined in detail so as to determine whether or not they had been properly conducted and reported. The FDA, however, claimed that it only had sufficient resources for its scientists to review just three of the 15 studies; it assigned the other 12 studies to be reviewed by an independent organization called Universities Associated for Research and Evaluation in Pathology Inc (UAREP), under contract to G.D. Searle. This announcement was puzzling. The FDA had just received fresh funding, following Senate Committee hearings, to enable them to scrutinize toxicological data from the chemical industry. Furthermore, Dr Gross had explained to his superiors that it was not only unsatisfactory for Searle to be involved in setting the terms of reference for the UAREP investigation, but also that UAREP did not possess the requisite expertise to rule upon the conduct of animal experiments. Gross considered that the main problem lay in the manner in which the studies had been conducted, yet UAREP was a professional organization of pathologists whose expertise lay in the interpretation of tissue samples, not in the conduct of experiments with live animals.

The Task Force Report

The research by the Bureau of Foods Task Force focused on three pivotal studies, two involving the possible effects of Aspartame on reproduction in rats and mice (including possible embryotoxicity), and one examining the possible carcinogenicity in rats of a decomposition product of Aspartame called diketopiperazine (DKP).⁴

The Task Force found "significant deviations from acceptable procedures for conducting non-clinical laboratory stud-

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ies"⁵ in all three studies, its detailed investigations (known collectively as the Bressler Report) noting that Searle's conclusions failed to reflect accurately the raw data generated in the laboratories. In some cases, there were simply no data to back up the supposed results; in others, it was impossible to determine what were the original results and what were subsequent revisions or summaries. It was even impossible to identify from the laboratory records exactly when a particular animal had died. As the Bressler Report states: "Observation records indicated that animal A23LM was alive at week 88, dead from week 92 through week 104, alive at week 108, and dead at week 112".⁶

No fewer than 52 major discrepancies were found in the Searle submission on the DKP test alone.⁷ The Task Force was unable, for example, to establish how much DKP had actually been consumed by the rats. The FDA investigators found no fewer than three separate documents with different specifications for the content and the purity of the test substance, and they were unable to establish precisely which specification, if any, correctly represented the material(s) used. It was impossible, furthermore, to reconcile the quantity of the chemical requisitioned from stores with the quantities supposedly fed to the animals. There was evidence indicating that the test substance had not been properly ground up, and had been inadequately mixed, so that the animals may have avoided the DKP while eating their food.⁸

A Startling Opinion

However, whilst admitting these discrepancies, the Task Force concluded that they "were not of such a magnitude that they would significantly alter the conclusions of the studies"⁹ — a finding that startled many observers. Indeed, critics argued that, in reaching such a conclusion, the Task Force appeared to be repeating the same mistake for which it had criticized Searle, namely, that its summary failed to reflect accurately the information contained in the reports upon which it was supposed to have been based.¹⁰ However, as Dr Jacqueline Verrett, one of the members of the Task Force, subsequently stated:

"We were limited in what we could actually conclude about the studies. We were not allowed to comment on the validity of any study. It was an explicit instruction based on administrative rather than scientific considerations. We were supposed to figure out what the conclusions would have been if the studies had been fully and correctly reported. We were obliged to ignore the protocols and the non-homogeneity of the DKP. The Bressler Report did show that non-homogeneity. Some animals did reject the DKP. Searle initially said that it may not have been fully mixed but that it did not matter: they later said that it had been fully mixed. We were not allowed to consider those issues by the Bureau of Foods administrator . . . We were ham-strung in being able to comment. The fact is that the studies should not have been considered at all, and that was the position from the beginning."¹¹

In 1978, UAREP delivered its 1062-page report, which concluded that the 12 studies it had audited were "authentic".¹² Until his death in 1992, Dr Gross continued to maintain that UAREP had replicated the shortcomings of the FDA Task Force report: it concentrated on the interpretation of samples of tissue on microscope slides rather than considering the procedures which had led to those particular tissues being placed on those slides.

Public Inquiry or Private Decision?

Despite the fact that these two reviews concluded that Aspartame had been properly tested and that the substance was safe, a vocal lobby in the US — including the Community Nutrition Institute led by James Turner and supported by Dr John Olney — was still not satisfied.¹³ In 1979, in an attempt to resolve the controversy once and for all, the FDA set up a Public Board of Inquiry (PBOI) which presented its conclusions in October 1980.¹⁴

The PBOI confined itself to examining two questions, both relating to Aspartame's possible effects on the brain. It took the view, firstly, that Aspartame consumption would not pose an increased risk of brain damage resulting in mental retardation, but it concluded (by reference to data from two of the studies examined by UAREP) that it was unable to rule out the possibility that Aspartame could induce brain tumours. Consequently the Board recommended that Aspartame should not be permitted for use, pending the results of further tests.¹⁵

If food and chemical companies assume they can get away with poor research and incomplete disclosure, toxic chemicals will reach the market.

However, the Board's role was merely advisory, and it was the responsibility of the FDA's Commissioner, Arthur Hayes Jr., to make a ruling. In July 1981, he announced his decision to approve the use of Aspartame in food products other than soft drinks.¹⁶ He made it clear that he disagreed with the PBOI and that the available data were sufficient to persuade him that Aspartame did not cause brain tumours in laboratory animals.

Hayes was not a toxicologist, and his approval for Aspartame was opposed by several senior FDA scientists.¹⁷ Subsequently, however, two of the three members of the Board revised their own judgement and decided that they agreed with Hayes.¹⁸ For his part, Hayes left the FDA and, two months later, became a Senior Scientific Consultant to the public relations firm Burson-Marsteller, which has acted as a consultant to G. D. Searle and NutraSweet.¹⁹

In 1985, Searle was acquired by the major US chemical company Monsanto, which separated the Aspartame operation from the rest of its activities and placed it under the NutraSweet Corporation. NutraSweet has repeatedly claimed that all the safety tests on Aspartame were properly conducted, pointing out that no charges have ever been preferred.²⁰

The absence of charges, however, would appear to have been in spite of, rather than because of, the efforts of the legal staff of the FDA. In 1977, the FDA's Chief Counsel, Richard Merrill, instructed the US Federal Attorney in Chicago, Samuel Skinner (later to become Transportation Secretary and then Chief of Staff under President Bush) to convene a Grand Jury investigation into Searle and three of its senior officers for their wilful and knowing failure to make reports to the FDA, concealing material facts and making false statements in reports of animal studies conducted to establish the safety of the food additive, Aspartame.²¹

Early in 1977, however, Searle's firm of lawyers, Sidley and Austin invited Skinner to join their firm. Skinner accepted and placed the Aspartame case in the hands of subordinates, pending the appointment of a new Federal Attorney.²² The case never met the deadline imposed by the US Statute of Limitations, despite repeated warnings from Richard Merrill at the FDA,²³ and the indictments were never filed.

The annual London Marathon is part-sponsored by NutraSweet which manufactures and markets Aspartame as a food additive. Such sponsorship associates NutraSweet in the public mind with fitness and health. Many believe that the controversy over the testing of Aspartame brings into question such an association.



Chris Raphael/All Sport

Lack of Oversight

Since the original investigations, a number of other tests have been conducted on Aspartame, many of which have provided results consistent with Aspartame being innocuous. Others, notably the studies of Professor John Olney and of Professor Richard Wurtman, have raised disturbing questions concerning Aspartame's short-term toxicity, particularly in relation to brain function.²⁴ Wurtman has produced both clinical and theoretical evidence that high doses of Aspartame may provoke epileptic seizures,²⁵ whilst Olney has raised the possibility that Aspartame may cause chronic brain damage, especially when consumed in combination with monosodium glutamate.²⁶ But despite such doubts over Aspartame's safety, the three pivotal tests on long-term toxicity, reviewed by the FDA's Bureau of Foods Task Force, have never been repeated.

In March 1990, I provided the UK government with a dossier of evidence showing that tests for the safety of Aspartame had not been properly conducted or reported and requested an urgent investigation, a matter which was later raised in the House of Commons.²⁷ I also provided copies of the dossier to the EC Commission's Scientific Committee for Food (SCF) in July 1990 and to the Joint Expert Committees on Food Additives (JECFA) of the World Health Organisation and the UN Food and Agriculture Organization in April 1991.

At the end of July 1992, the UK government announced the results of a review of the safety of artificial sweeteners, which reiterated their view that Aspartame, along with all other artificial sweeteners, is safe. Both the SCF and JECFA indicated that they too were satisfied that there was insufficient evidence to persuade them to reopen their evaluation of Aspartame.²⁸ Similarly, the JECFA and the FDA have indicated that they remained satisfied with the safety of Aspartame.

So far, none of these bodies has given a satisfactory explanation of their refusal to acknowledge that there are issues which need to be addressed. None of them has addressed or answered the allegations of irregularity in the conduct of the original tests. They have not cited, and apparently cannot cite, any subsequent laboratory studies that cover the disputed territory and which make up for the inadequacies revealed by Gross, Bressler and their colleagues in the FDA.

Vital Questions

The public cannot be certain that the tests to which Aspartame was subjected are adequate until the original tests have been physically repeated (rather than simply reviewed), preferably in independent laboratories. It is therefore difficult to avoid the conclusion that no one is in a position to judge properly the long-term health effects of Aspartame. The failure of the relevant authorities to address these matters in an adequate or open fashion raises vital questions which go far beyond this particular scandal.

It is possible that, after further research, Aspartame may be found to be safe beyond reasonable doubt, at least in respect of its putative embryotoxicity and carcinogenicity. But the shortcomings in the conduct of the regulatory authorities over such a long period remain to be fully investigated and explained, and steps must be taken to try to ensure that such shortcomings are not repeated. Until these matters are subjected to rigorous and open inquiry, food and chemical companies may assume that they can get away with poor research and incomplete disclosure. There is a danger that, as a result, seriously toxic chemicals or environmentally-destructive materials, will reach the market, with potentially disastrous consequences.

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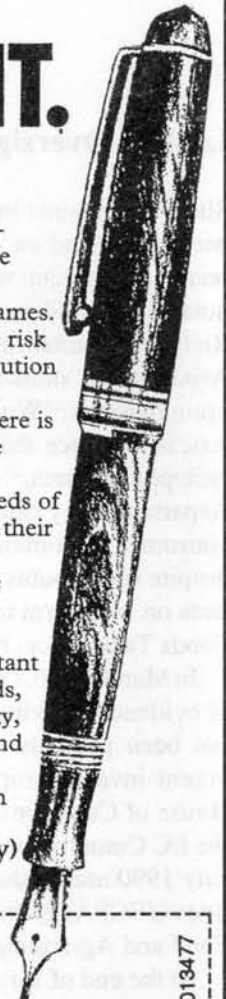
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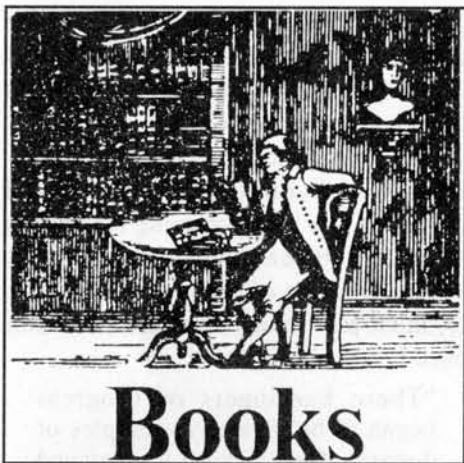
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English Nature

AFTER NATURE: English Kinship in the Late Twentieth Century, Marilyn Strathern, Cambridge University Press, 1992, £12.95/\$19.95, 240pp. ISBN 0-521-42680-4

Some 16 years after the first test-tube baby was born in England, public opinion seems to have accepted the use of *in-vitro* fertilization (IVF) to enable infertile couples to have a child of their own. Recent public furor, however, at disclosures of further uses of reproductive technologies — a black woman giving birth to a white baby, a post-menopausal woman giving birth, and ova from aborted female fetuses potentially being harvested — indicates uncertainty as to whether they are ethical or natural.

In reviewing how changing English perceptions of nature over the past 130 years have overlapped with shifting concepts of kinship, family, household, personhood, society and culture, Marilyn Strathern puts this debate in perspective, as well as shedding light more generally on current "ideas about what is natural, primordial and embedded in the verities of family life".

She points out that the middle-class English — the object of her anthropological study — have not always understood kinship solely as a question of people's biological relationship to each other, the prevalent current understanding of the term. Jane Austen's characters in *Sense and Sensibility*, for example, knew all too well that one's kin might not include biological relations of a lower social standing. Having connections was an attribute of social status as much as who you were related to.

Nor was membership in a family based on biological criteria alone; a family was legitimized and reproduced socially through lawful marriage. Thus ironically a "natural" child — an illegitimate one — was not considered a member of the family and was not, therefore, kin. Facts of kinship were simultaneously facts of nature and facts of culture.

Although kinship epitomizes "tradition under the pressure of change", Strathern identifies the 1860s as a distinct turning point in understandings of kinship, society, culture and nature. Nature became that which had to be improved upon whereas previously it was "at once countryside and character".

To describe the reproduction of organisms in nature, Charles Darwin borrowed 19th century concepts of kin, but neatly omitted their class and status distinctions. By the early 20th century, these naturalized terms had been turned around to redescribe human society, so that human kinship came to be understood as concerned solely with biological reproduction and connection, omitting social relationships. Such "evolutionary thinking facilitated the equation of procreation and biology".

In her final chapter, "The Greenhouse Effect", Strathern describes the extraordinary influence in the 1980s of the policies of the British Conservative government, which she regards as effecting "a cultural revolution of sorts". A horror of collective positions, such as the welfare state and any grouping of people other than the nuclear family, underpinned much of this government's extolling of individual choice. The revolution is summarized in Margaret Thatcher's flattening statement, "There is no such thing as society. There are individual men and women and there are families".

Strathern maintains, however, that until recently, the English have considered the individual to be "equal to neither nature nor culture but . . . participating in the realms of each". But with the conceptual collapse of society:

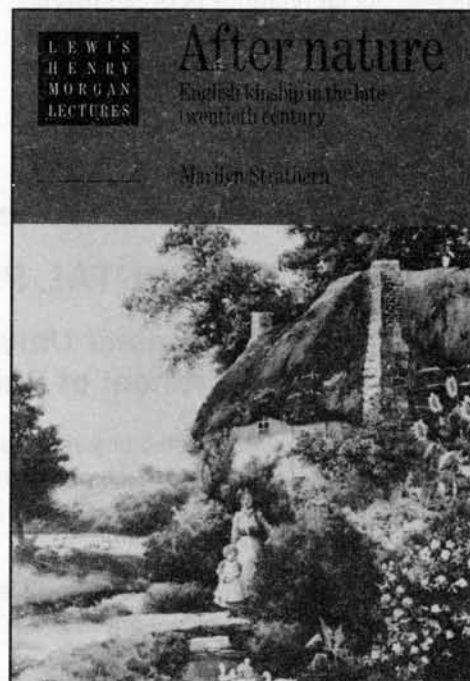
"persons can now be imagined as simply composed of elements of other persons — whether in terms of organ transplants, or the borrowing of cultural forms or the imitation of other individual lifestyles, or even the transmission of genetic particles. We move from the unique amalgam of elements drawn from different domains to a literal assemblage of parts perceived as substitutable or replaceable for one another."

Reproductive technologies, particularly those which assist conception, are an outstanding illustration of — and even contribute to — this way of imagining people. The IVF technique used in 1978 put together the egg of a woman whose fallopian tubes were blocked and the sperm of her husband in a "test-tube" so that they would join; the resulting embryo was then put into the woman's womb. The technology has now developed to include donor eggs, donor sperm and donor wombs in various combinations, fragmenting human reproduction into genetic, biological, social and legal components.

Parenthood has also been fragmented, decomposed and deconstructed, raising doubts over who the real mother and father are. But whereas the issue over who the father is — the nurturer or the genetic donor — has, in most cases, been resolved in favour of the contracting father, irrespective of his genetic contribution, who the real mother is is still debatable.

Strathern's description of societies, such as those in Melanesia, where those who have primary care for children are not necessarily biological parents brings into relief the importance of biological connection to the English and their tendency to equate social with biological parenting. No society, however, has ever had to make a distinction between the genetic mother (the woman the egg comes from) and the biological mother, the woman who is pregnant and gives birth, neither of whom may be the social mother.

With assisted conception technologies, the naturalness of procreation (and of societal arrangements based upon them



such as marriage) has "lost its obviousness in a world where couples can seek assistance to beget offspring without intercourse," says Strathern. What is considered natural, however, is invariably used to justify and restrict such interventions.

For example, "medical doctors appeal to the natural desire, natural right even, of people having children 'of their own'", while most doctors will provide assisted conception treatment only to a heterosexual married couple so as to reproduce a natural nuclear family unit.

With such natural certainties as motherhood contested, Strathern says it is not surprising that a nostalgic sense has arisen that there seems to be much less nature in the world than there once was. The present British government's extolling of family virtues and Victorian values is part of this desperate nostalgia, she maintains, and reinforcement for the natural nuclear family as the only context for reproductive technologies to be used in.

Nature, however, is no longer regarded just as raw material to be improved and modified, but has become a consumer item. "Natural" is a strong selling point, as green business has discovered. Strathern points out that consumer choice and values are beginning to influence people's attitudes to the family, values which have been used to make IVF and related technologies publicly acceptable. Children and family life have become consumer products which can be obtained if you desire them, usually for a price. Parents become a particular kind of consumer — those who desire a child (even if the ova and sperm are not genetically theirs). Social relations between parents and children have begun to be converted into market forces. "What is reproduced [by means of reproductive technologies] are not bodies but choices themselves."

Reproductive technologies, particu-

larly those which assist in conception, are forcing us to make explicit to ourselves our understanding of what we thought was obvious — not only definitions of mother, father and family, but also of society and nature. *After Nature* is an apt title for the challenges reproductive technologies present: are they "after nature" in the sense that they are presented in the image of the "natural"? Or are they "after nature" in the sense that they are used "after nature" has gone?

Sarah Sexton

Temples of Doom

BIG DAMS, DISPLACED PEOPLE: Rivers of Sorrow, Rivers of Change, edited by Enakshi Ganguly Thukral, Sage Publications, New Delhi/Newbury Park, CA/London, 1992, £20/\$22.95/Rs120.00 (hb), 199pp. ISBN 0-8039-9436-2 (US 81-7036-291-1).

Dams take up more land than any other type of development project. In India, as in many other countries, they have been a powerful symbol of the march towards development and progress. Up until 1980, about 15 per cent of independent India's total national expenditure had been spent on their construction.

This collection of case studies and essays focuses on dams to analyze the appalling history of forced resettlement in post-Independence India. Estimates of the number of people displaced by development projects over the last four decades vary from two to twenty million, a striking illustration of the paucity of data on forced resettlement. Not surprisingly, those affected belong disproportionately to the ranks of the politically and economically marginalized: according to

government estimates 40 per cent of the displaced are *adivasis* (tribal people), and "a fairly large proportion" of the rest belong to the lowest castes.

In her introduction to *Big Dams, Displaced People*, Enakshi Ganguly Thukral describes how the increasing realization of the high human, economic and environmental costs of dams and their poor technical performance has tarnished their once bright allure:

"These harbingers of progress began to be viewed as temples of doom spelling disaster for man and nature. The rivers destined to bring change became the rivers of sorrow."

The first stirrings against dams began among displaced people in Maharashtra in the 1960s. Opposition soon spread to other states. In 1970, about 4,000 people stopped construction of the Pong Dam in Himachal Pradesh for 15 days in protest at the lack of arrangements for their resettlement. In the 1980s, two major dam projects, Bodghat and Silent Valley, were halted by protests, while today, opposition to the Tehri and Sardar Sarovar projects has made these dams international symbols of the struggle against destructive development.

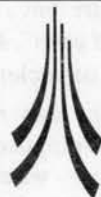
The stories told in the case studies — the Pong Dam; the Hirakud Dam in Orissa (the first major project undertaken in independent India); the Nagarjunasagar Dam on the Krishna River in Andhra Pradesh, begun in the 1950s; and the Ukai Dam on the Tapi River in Gujarat, begun in the 1960s — are depressingly similar: false promises to the people of India of benefits, and false promises to the displaced people of compensation.

Renu Bhanot and Mridula Singh describe how by 1989, 16 years after completion of the Pong Dam, more than half the 30,000 displaced families still had to be resettled. Local people only heard about the dam after Prime Minister Nehru laid the foundation stone in 1960. The people's protests at the flooding of their land were met by lies from politicians over the generous compensation they would receive, and by naked threats. During a visit to the submergence zone, then Finance Minister Moraji Desai told the oustees, "If you move, it will be good, otherwise we shall release the waters and drown you."

Desai was true to his word. When the dam filled, many people who had not moved because they did not have any other land to move to had to abandon their

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Details from:

Alan Holland, Programme Director, Department of Philosophy, Furness College, The University, Lancaster LA1 4YG, UK. (Please quote ref: EC94)
Tel: 0524 592490

homes and belongings to flee the rising waters. Some villages were washed away and several people died.

Bhanot and Singh also consider a dam which did not involve resettlement nor the other social, environmental and economic costs of the large projects studied. "Baliraja: A People's Alternative" tells the story of a small dam in Maharashtra built by local people with local resources. Baliraja Dam is 120 metres long and 4.5 metres high and can irrigate 380 hectares. It was designed for free by a progressive engineer from Bombay and begun in 1987. One of the main problems the people had in building the dam was in getting official permission: "What upset the authorities was that they found themselves superfluous to the entire process."

Water from the Baliraja Dam is shared equitably among the villagers, provided that it is not used for water-intensive crops like sugar cane. Each member of the "water-users' cooperative" has taken a pledge to abide by a set of rules on the amount and timing of water use, the types of crops to be irrigated, and the labour to be committed to building and maintaining the dam. One outcome of the equitable sharing of water rights is that landless people can share in the benefits of the dam by selling their rights to landed peasants.

The final chapter, "A Long Way from Home: The Search for a Rehabilitation Policy", by Vasudha Dhagamwar, is an intelligent analysis of the problems facing social activists fighting for the rights of the rural poor in a country where the number of people is growing rapidly. Dhagamwar discusses a conflict in Rajasthan between environmentalists and activists seeking to rehabilitate bonded labourers on forested land to show the "very many competing claims for a limited, non-expanding resource, namely land." Dhagamwar believes that many activists in India have shirked the fact that tribal and other rural people, whether or not they are forcibly displaced by development projects, will, in the future, be forced by land shortages to take up non-land-based occupations and adapt to the non-traditional economy. Dhagamwar concludes that the "heartless and massive displacement of our people . . . has given a poignant immediacy to a problem that lurks around the corner."

Patrick McCully

Patrick McCully is an Associate Editor of *The Ecologist*. He is currently writing a book on dams to be published by Zed Press in 1995.

Scientific Bias

THE ENVIRONMENTAL SCIENCES, by Peter J. Bowler, W.W. Norton & Company, New York, 1993, (Harper Collins, London 1992) \$15.95/£8.99 (pb) 634 pp. ISBN 0-393-31042-6.

The Environmental Sciences is the most comprehensive history of the scientific disciplines related to environmental science that I have seen. In chronicling humanity's long quest to understand its own origins, it synthesizes many discoveries in geology, evolutionary biology and ecology.

The first chapter sets the scene by discussing ideas on the relationship between nature, culture, science and the scientific method, while the core of the book goes into great detail about such topics as the influence of ancient, medieval and renaissance thinking; changing theories about the origin of the earth; the concepts of nature during the Enlightenment and the 19th century; the influence of naturalists; the age of evolution and the creation of the modern earth sciences; and how Darwinism has affected environmental thought. The last of the 11 chapters looks at modern ecology and the rise of environmentalism.

Of its many excellent features, one in particular stands out. In elucidating how scientists observe phenomena, Peter Bowler clearly demonstrates how their explanations are often influenced (if not outright biased) by their social, cultural, and professional setting. However rational the scientific method may be, scientific hypotheses are generated by humans that live within a particular culture and soci-

ety. These changing cultural perceptions and attitudes towards nature impact upon scientists' data collection and ultimate explanations of the world around them.

All too often today, environmentalists are criticized by "hard-core academic scientists" such as geologists, biologists, physicists or chemists that their environmental "agenda" so affects their way of thinking that their findings or conclusions cannot be considered "scientific" or "factual." While this may be partly true, Bowler makes it quite clear through example after example that "pure scientists" are not themselves practising a value-free search for factual information. They too are biased by their own set of perceptions, priorities, ambitions and grant opportunities.

There are, however, shortcomings and disappointments with *The Environmental Sciences*. First, there is an overemphasis on biology and geology. At times, the book seems to be more about the history of Darwin and evolutionary biology than a history of environmental science. This is despite some good discussion of how the economic and social theories prevalent in Darwin's time influenced his way of thinking. The major insights that geography has made to environmental understanding are mentioned only slightly, a curious omission since much has been written about the history of geographic thought.

Second, there seems to be an underemphasis on the contributions of conservationists — professional or amateur — of the likes of George Perkins Marsh, Gifford Pinchot, Henry Thoreau, Frederick Law Olmsted, John Muir, John Jay Audubon and Rachel Carson. Consequently, it seems that Bowler does not



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Write (quoting Ref: Ecologist 1994) to Alastair McIntosh & Dr Ulrich Loening, Centre for Human Ecology, Institute of Ecology and Resource Management, Faculty of Science and Engineering, University of Edinburgh, 15 Buccleuch Place, Edinburgh EH8 9LN, UK. Fax: +44 (031) 650 6520.

really consider conservationists important figures in the history of environmental science.

The most disappointing feature of this book, however, is the lack of any discussion of current multi- and inter-disciplinary academic programmes which are attempting to bridge the gap between the sciences and social sciences. Although Bowler himself would apparently like to see academia go in this direction, *The Environmental Sciences* concentrates on the more traditional specific "disciplines" of biology, geology, and ecology, while ignoring the groundbreaking "meta-disciplines" such as environmental studies that transcend a multitude of disciplines. A discussion of the differences between "environmental science(s)" and "environmental studies" would have been welcome and how their definitions have changed over time.

Despite these criticisms, *The Environmental Sciences* is still a remarkable book, rich in thought, well-documented and a fascinating read — a strong counter to "the arrogance of the sciences".

Gary A. Klee

Dr Gary A. Klee is Professor of Environmental Studies at San José State University, California.

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BOOKS DIGEST

- **THE STATE AND SOCIAL POWER IN GLOBAL ENVIRONMENTAL POLITICS**, edited by Ronnie D. Lipschutz and Ken Conca, Columbia University Press, New York, (distributed in UK by John Wiley), 1993, \$20.50/£11.50 (pb), 363pp. ISBN 0-231-08107-3.

As human responses to environmental changes are political, neither they nor the "environmental crisis" itself can be understood, much less managed, in technocratic terms. This collection of essays pursues this theme over a range of subjects from grassroots social movements in Kenya and Indonesia to the negotiation of international treaties such as those on global warming.

- **WOMEN, THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT: Towards a Theoretical Synthesis**, edited by Rosi Braidotti, Ewa Charkiewicz, Sabine Häusler and Saskia Wieringa, Zed Books in association with INSTRAW, London and New Jersey, 1994, £12.95/\$19.95 (pb), 220pp. ISBN 1-85649-184-6.

Analyzing development as a discourse of power, feminist critiques of science and debates over the relationship between women and nature, this book is a useful contribution to the sustainable development debate. It pays less attention, however, to the question of how thoroughly gender concerns can be addressed by being incorporated into that debate.

- **BRINGING THE ECONOMY HOME FROM THE MARKET**, by Ross V. G. Dobson, Black Rose Books, Montreal and New York, (distributed in Europe by Jon Carpenter Publishing) 1993, \$19.95/£11.99 (pb), 235pp. ISBN 1-895431-50-6.

The market in question is the global one. An outline of how community life has broken down through increasing dependence on the global economy is followed by a thorough description of LETS (Local Employment and Trading Systems) in Winnipeg which show how local circuits of production, distribution and exchange can initiate the process of rebuilding community.

- **IN DEFENSE OF LIVELIHOOD: Comparative Studies on Environmental Action**, edited by John Friedmann and Haripriya Rangan, Kumarian Press (in association with UNRISD), West Hartford, Connecticut, 1993, \$21.95 (pb), 219pp. ISBN 1-56549-020-7.

Seven case-studies of local groups in various parts of Africa, South America and India show people not just trying to preserve their environments, but fighting for their lives within their specific historical and social contexts and, in the process, organizing and empowering themselves.

- **TEARS OF THE CROCODILE: From Rio to Reality in the Developing World**, by Neil Middleton, Phil O'Keefe & Sam Moyo, Pluto Press, London, (Westview Press) 1993, £12.95/\$19.95 (pb), 288pp. ISBN 0-7453-0765-5.

Agenda 21, one of the international agreements that came out of the 1992 UNCED meeting, is "an immense document of good intentions, made toothless by the rigid exclusion of timetables, serious financial targets [and the] unaccountability of the multinationals". The authors argue that central issues such as women's rights, trade, aid, debt, resource ownership, education and health have been neglected, lending weight to the assertion that the Rio process was really about preserving Northern interests.

- **DIVERSE WORLD-VIEWS IN AN ENGLISH VILLAGE**, by Nigel Rapport, Edinburgh University Press, Edinburgh, 1993, £30 (hb), 212pp. ISBN 0-7486-0417-0.

Any romantic assumptions about rural life in England will be dispelled by this highly-readable account of the chaotic and contradictory interactions in a Cumbrian village between three people — a farmer, a builder and the anthropologist author himself. Showing how people themselves constantly make society and culture, this is a book for anyone interested not only in British society and village life, but also in gossip and belonging.



Letters

Nepal's Forests

The article written by Sabine Häusler, "Community Forestry: A Critical Assessment; The Case of Nepal" (*The Ecologist*, May/June 1993), has come to my attention and demands an informed response. My reply to her observations and criticisms comes from over 30 years association with Nepal, during the past 15 of which I have been directly involved in community forestry research and development. I do not speak for the Nepalese government, nor for Nepalese foresters or villagers, but I am in a position to speak of the circumstances under which community forestry was designed, has been implemented, and is currently changing and coming more under the control of local people in the Himalayan Kingdom.

I must preface my remarks with the statement that the Nepal experience with community forestry is not a perfectly good one. There are many problems, a goodly number of which are derived from actions taken under a previously corrupt form of government and an elite power structure. Not all of the problems have now gone, by any means, but enough has occurred both during and after the *panchayat* era to warrant some counter-argument to Sabine Häusler's largely negative and critical assessment and to provide recent insights on some of the topics discussed.

The author approaches the subject with several obvious conceptual biases. The style of the article is critical-dialectical and, while it embodies some fundamental "truths", it also embodies some fundamental misunderstandings and misinterpretations of what has happened during and after the *panchayat* era of government in Nepal. While parts of her argument can certainly be supported by quoting the rhetoric that has passed for forestry planning and development in Nepal, she has missed an opportunity to look at what has actually transpired on the ground in

Nepali villages. Where, oh where, is the village voice?

Some of the author's information is quite dated for 1993 publication. While she alludes almost in passing to the democratic movement of 1990, it seems that her thesis was formed prior to those experiences; hence, some of what led to the change in form of government, from a party-less *panchayat* system to a multi-party democracy, is ignored. Further, she seems not to comprehend fully the important place of the Nepali experience with decentralization generally since 1982 (despite its many failings), nor of the local level experience with community forestry and "user groups" specifically. Those experiences fuelled and influenced, subtly but certainly, the events of the 1990 democratic movement. It was partly out of the user group experience at the local level that part of the democratic spirit, now found revitalized in Nepal, took root.

It is my premise that the growing experience of Nepali villagers with decentralization generally and "user group" community forestry in particular, even in spite of some top-down, seemingly "colonialist" aspects in those experiences, was enough to familiarize villagers with democratic processes and to help inflame the passions of local people to hasten the demise of the corrupt *panchayat*-based system of government and prepare the way for the democracy now in place.

Sabine Häusler brands the FAO approach to community forestry development in Nepal (based thinly and irresponsibly on two partial quotations) as "commercial monocrop plantation forestry writ small". Bunkum! Of course, some trees and even whole plantations have been planted with commercial objectives in mind, but the bulk of the tree planting in Nepal is intended to rejuvenate community and private forestry with far more at stake, at risk and at heart than mere commercial enterprise. In fact, one of the most successful aspects of community forestry, which FAO assisted the Nepali government to plan and implement over the last 15 years, is the private forestry initiative.

Granted, private forestry in Nepal has some serious problems. It is encouraged in the rhetoric of community forestry in Nepal, on the one hand and, on the other, effectively discouraged by a plethora of regulatory hurdles. But the original and principal goals of the Nepal government and the various donor agencies advising the government, including FAO, have not been commercial. A glance at the 1989 Nepal Master Plan for the Forestry Sector shows a 46 per cent emphasis on community and private forestry. Then, if

communities and private tree owners can convert their forest/tree resources into commercial gain, more power to them! They need it.

Regarding the so-called "Western power/knowledge regime" in Nepal forestry, the best thing to be said is that, yes, knowledge is power. With the user group approach to community forestry, leading up to and especially since the democratic movement events of 1990, far more knowledge/power has been transferred to and reinvested with villagers than has been taken away from them. Furthermore, there is now far more understanding of the part of outsiders — Nepali and Western foresters, and social scientists — and local villagers of the importance of knowledge, especially indigenous knowledge, and how it fuels and focuses existing local or traditional systems of organization for forest resource management. While "the system" and the circumstances in Nepal are not perfect, it has had some positive results, and embodies great potential for the future of grassroots forestry.

It has been difficult to bring women and other marginalized groups into the picture, especially in the face of the elite power structures in place under the previous *panchayat* system of government. Nonetheless, the villagers themselves have risen quite well to the challenge. In a recent study of user group forestry covering its history, successes and potential, researchers from Nepal's Institute of Forestry at Tribhuvan University have found a good number of examples of local people acting responsibly to involve marginalized members of their communities in user group decision-making. These locally-created initiatives do not all date from the post-1990 democracy, but can be traced to the pre-democracy *panchayat* era, thus strengthening the argument that socially responsible user group experiences in the past at the local level had a positive effect in helping to fuel the 1990 democratic movement in the countryside. Additionally, and largely since 1990, the community forestry authorities at the central level in Nepal have taken some of the negotiating approach that the author advocates. Villagers now have far more say in their local forestry affairs, and while there is still a long way to go, much of "the going" is now more firmly in the hands of local people of both genders and the various ethnic and caste groups.

While the author has "tried to highlight the complex interconnections between power and knowledge" in the context of community forestry in Nepal, her criticism

is one-sided. Nowhere in her piece do I hear the clear, steady voice of the people, neither for nor against community forestry. It is as if the author only looked and listened from the top-down perspective.

Finally, there are some glaring factual errors in the article which bring into question its overall integrity and further impune its reliability as a fair and accurate account. One small one: Brian Carson is a soil scientist, not a geologist. One large one: the outcome of the 1990 democratic movement in Nepal did not result in the "overthrow of the King" as the author asserts. Far from it: the King is still very much in power. He did, however, acquiesce to popular demand to allow the system of government to be restructured away from the previous "party-less panchayat" to a multi-party democracy, and he strongly endorsed the promulgation of an entirely new and more democratic national constitution. In no sense did he personally capitulate or resign the throne.

Donald A Messerschmidt

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CANADA

Sabine Häusler replies . . .

I acknowledge Donald Messerschmidt's dedicated 15 years work in Nepal; I know some of it and appreciate it. Most of his criticisms of my article, however, seem to be based on misunderstandings, firstly of the Foucauldian approach used in the article to describe the evolution of community forestry as a Western discourse of power, illustrated by the experience of Nepal, and secondly, of my intention in writing this article.

The Foucauldian approach does not depict knowledge as power in the flat sense that Mr Messerschmidt seems to understand it. Power and knowledge are intimately connected; modern forms of power have a synergistic relationship with knowledge through the operation of large institutions such as those of international development. The centres of power and the centres of knowledge are identical — and that is what is most problematic about them. Knowledge/power has not been given to nor taken from the local people in Nepal. Rather, a certain type of knowledge has been very useful in catering for various vested interests. The validation of local farmers' preferences and knowledge has led to improvements in forestry work in recent years, but such improvement can take root only if changes in power relations happen simultaneously.

My intention in writing the article was not to put down community forestry — I acknowledge the progress made over the last two decades. It is not my concern to give an unfair account of what is happening in handing over control of local forests to local users, but to point out that this process is not unproblematic. I am warning of simplistic and naive enthusiasm about the nature and state of this process. The very fact that control over the local forests was transferred from local to national level was one of the main factors leading to their depletion. The attempt to devolve control to the local level, for example, through the user groups formed on the initiative of the forest department, has, in many places, complicated matters. As Bob Fisher writes in the Forest, Trees and People Newsletter (No.22, 1993, p.4), "the effectiveness of indigenous systems in Nepal in the past has been very much constrained by the existence of laws which made most utilization, however well-managed, illegal unless approved by the Forest Department. While promising recent legislation is intended to free up this process and to transfer control to local user groups, transfer on any significant scale has barely begun."

Mr Messerschmidt asks for the "people's voice" in my article. The approach of discourse analysis looks at what has been written by experts over the years, how the discourse evolved, what was in it, what was not, and which interests the discourse catered for. Farmers' voices have entered this discourse only to a very limited extent — which is precisely the point I am making. Without knowing the discrepancy between the discourse and the situation at the local level, I could not have written the article.

The article attempted to provide a different angle on the familiar problems associated with implementing community forestry as conceived mainly by Western experts. On the one hand, I wanted to trace the roots of the concept of community forestry — "Forestry for People" — and its inherent assumptions. On the other, I wanted to show that especially expatriate forestry experts play an ambiguous role in community forestry schemes if they try to do a good technical job while ignoring the political, economic and social aspects that have led to deforestation. Logically these need to be tackled for effective strategies to curb it — hence, their role as political agents.

I strongly disagree, however, with Mr Messerschmidt's perception of the circumstances that have led to the change to a multi-party system in Nepal. Preced-

ing the movement, considerable unrest had been mounting because the King and his government had failed to respond adequately to the trade embargo imposed on Nepal by India for several months which had led to severe shortages in basic necessities, skyrocketing prices and resulting hardships for many Nepalis. The Nepali experience with decentralization since 1982 had, to my mind, been a rather limited one. As power had been devolved down to district and local levels, many hopes were raised; the failure to provide for the promised goods at the local level, and the growing networks of power between local elites and district personnel in reaping benefits had, in my view, created considerable dissatisfaction among local people. The explanation for the fast mobilization of dissent at the local level must be sought in these coinciding events.

Villagers did not have to be re-introduced or "familiarized" with democratic processes. Locally intact forest management systems have shown time and again that people had been using their forests within traditional democratic arrangements prior to the introduction of government-sponsored schemes. The problem was much more an undemocratic form of national government with rampant nepotism and corruption, supported by high levels of foreign aid.

As to Mr Messerschmidt's criticism of my remark that community forestry is commercial monocrop plantation writ small, this is what the cited FAO source is, in effect, saying. In general, the logic of the concept of community forestry and the way it is implemented in many countries remains rooted in the framework of commercial forestry, implemented by administrative procedures of a forest department which is often badly-equipped and trained, which is reluctant and/or unable to respond to local needs. I have no problems with commercially viable, privately owned plantations managed by local farmers.

A final word concerning Mr Messerschmidt's last remarks. I am not entirely sure about Brian Carson's professional background, but whether he is a soil scientist or not, his point is still valid for my argument. I should probably have worded my description of the recent political changes in Nepal more carefully. The King's de facto, autocratic rule within the "party-less panchayat system" was overthrown when mounting political unrest forced him to agree to the introduction of a multi-party system. But is pointing to these two minor issues enough reason to doubt the integrity of the whole article?

Classified

DIARY DATES

April 11-14, 1994: WETLANDS NATURE CONSERVATION AND ARCHAEOLOGY. International Conference at University of Bristol. For more information, contact: Rosalind Ladd, Gifford & Partners, Carlton House, Ringwood Road, Woodlands, Southampton SO4 2HT, UK. Tel: 0703 813461; Fax: 0703 813462.

April 23, 1994: A Day for Edward Thompson, NEW AGENDAS FOR PEACE AND JUSTICE. Ruskin College Oxford. £5 waged, £2.50 unwaged/students. Contact R. Bulkeley, 38 Lonsdale Rd. Oxford OX2 7EW, UK. Tel: 0865 56069.

May 6-8, 1994: PACIFIC NETWORKING CONFERENCE. Sovereignty and Sustainable Land Use Issues in the 1990s. For more information and a registration form, contact South Pacific Peoples Foundation of Canada, 415-620 View Street, Victoria, BC, V8W 1J6, CANADA. Tel: +1 (604) 381 4131.

May 19-25, 1994: THE FUTURE OF NORTHERN FORESTS: Cultural and Biological Effects of the Consumption of Boreal Forest Products, to be held in Athabasca, Alberta, Canada. For information, contact: Sarah Winterson, Earthroots, 251-401 Richmond St. West, Toronto, Ontario M5R 3A8, CANADA. Tel: +1 (416) 599 0152; Fax: +1 (416) 340 2429.

June 13-14, 1994: AT 2000: ALTERNATIVE TECHNOLOGY FOR THE 21ST CENTURY at the Open University. Conference fee £45 per head. Assisted places available. For further details and registration form, contact: Horace Herring, EERU, Open University, Milton Keynes MK7 6AA, UK. Tel: 0908 654634/653335; Fax: 0908 653744.

June 24-26, 1994: ANIMAL WELFARE RETREAT, Working for Peace with Our Fellow Creatures. Maryvale Pastoral Centre, Snowdenham Lane, Bramley, Guildford, Surrey GU5 0DB, UK. £65 per person (full board, lodging and speakers). For brochures and application forms, contact: Mrs Brenda Perridge, 8 Dukes Close, North Weald, Epping, Essex CM16 6DA, UK. Tel: 0992 522534.

June 25-26, 1994: 10th International Conference on LOW LEVEL RADIATION AND HEALTH, City Chambers, Glasgow. Conference aimed at environmental campaigners, local authorities, health workers and interested members of the public. For further information, contact: Margaret Crankshaw, 3 North Neuk, Barassie, Troon, Ayrshire KA10 6TT. Tel: 0292 316008.

July 4-8, 1994: International Symposium on COMMUNITY BASED SUSTAINABLE DEVELOPMENT, to be held at the University of Sussex, UK, hosted by the International Institute for Environment & Development. For details, contact: IIED, 3 Endsleigh St. London WC1H 0DD, UK. Tel: +44 (071) 388 2117; Fax: +44 (071) 388 2826.

July 13-16, 1994: ASIAN STUDIES ASSOCIATION OF AUSTRALIA Biennial Conference. Registration enquiries: Conference Organizer, Asia Research Centre, Murdoch University, Murdoch, WA 6150, AUSTRALIA. Fax: +61 (9) 310 4944.

August 22-26, 1994: ENVIRONMENT and QUALITY OF LIFE IN CENTRAL EUROPE:

Problems of Transition. An interdisciplinary conference. For more information, contact: International Geographical Union Regional Conference 1994, Albertov 6, 128 43 Praha 2, CZECH REPUBLIC. Tel: +42 (2) 249 12060; Fax: +42 (2) 249 15817.

COURSES

Réserve Naturelle de Nohèdes, a small village in the eastern Pyrenees, is holding a variety of **ecological courses on geology, botany and zoology.** Contact: Maison de la Réserve, 66500 Nohèdes, FRANCE. Tel: +33 (6805) 3046.

South-North Newtork Cultures and Development is holding a wide variety of workshops, courses and seminars throughout 1994. For programme, contact: Thierry Verhelst, 174 rue Joseph II, B-1040 Brussels, BELGIUM. Tel: +32 (3) 230 4637; Fax: +32 (2) 231 1413.

Centre for Environmental Management and Planning is holding a variety of seminars and courses in Scotland, Algeria, Brazil, Hungary, Iceland and Kuwait, an a programme in Portugal throughout the year. For details, contact: Brian D Clark, CEMP, Auris Business Centre, 23 St Macher Drive, Old Aberdeen AB2 1RY, Scotland, UK. Tel: 0224 272483; Fax: 0224 487658.

A programme of **Permaculture and sustainability courses and workshops** is being run at Keveral organic farm, run by a community co-op, from April to July. For more information, contact: Bryn or Mel, Keveral Farm, St. Martins-By-Looe, Cornwall PL13 1PA, UK. Tel: 05035 215.

MISCELLANEOUS

Aveyron, FRANCE. 18th century house in medieval village. Sleeps five. Total peace and quiet. Mid-April — end June. £150 weekly. B&B July — mid-September £18 per night. Tel: 081-864 9424 (UK) or +33 (6564) 4091.

Centre for Sustainable Living. Committed people with property or capital wanted to form ecological housing association in the Yorkshire Dales. Separate dwellings within one farmstead are planned. Members must closely identify with the objectives of promoting a sustainable society. Contact John Fleetwood, 8 Ambrose Street, York YO1 4DR, UK. Tel: 0904 646965.

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