

# The Ecologist

Vol 20 No 6 November/December 1990

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## GATT FOCUS

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- The Uruguay Round and the Third World
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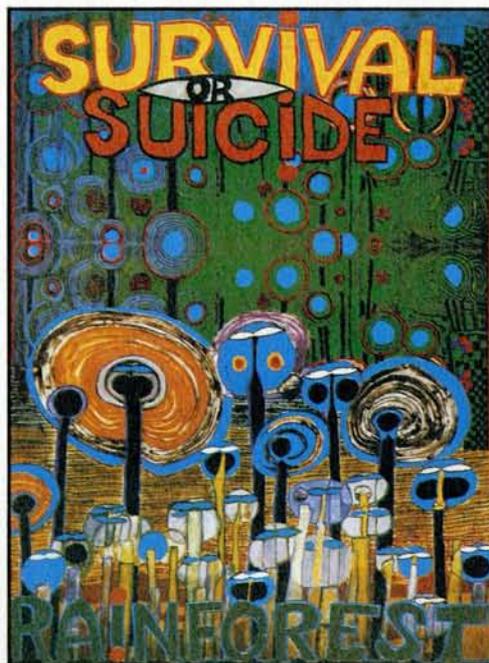
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# The Ecologist

Vol. 20, No. 6, November/December 1990

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Cover: An engagement in the First Opium War. Unknown Chinese artist c.1840. With generous permission from the Martyn Gregory Gallery.

# The Uruguay Round: Gunboat Diplomacy by Another Name

**"We must find new lands from which we can easily obtain raw materials and at the same time exploit the cheap slave labour that is available from the natives of the colonies. The colonies would also provide a dumping ground for the surplus goods produced in our factories."**

Cecil Rhodes,  
Founder of Rhodesia.

**"The colonial question is, for countries like ours which are, by the very character of their industry, tied to large exports, vital to the question of markets . . . From this point of view . . . the foundation of a colony is the creation of a market . . ."**

Jules Ferry,  
Speech to the French House of Deputies, July 1885.

**"We have spoken already of the vital necessity of new markets for the old world. It is, therefore, to our very obvious advantage to teach the millions of Africa the wants of civilization, so that whilst supplying them, we may receive in return the products of their country and the labour of their hands."**

Lord Lugard,  
British Governor of Nigeria.

**"The most useful function which colonies perform . . . is to supply the mother country's trade with a ready-made market to get its industry going and maintain it, and to supply the inhabitants of the mother country — whether as industrialists, workers or consumers — with increased profits, wages or commodities."**

Paul Leroy-Beaulieu,  
*De la Colonisation chez les Peuples Modernes*, 1874.

"History", wrote the french philosopher Voltaire, "is a fable upon which we are all agreed". So far as the colonial period goes, the fable would have us believe that the colonial powers were primarily motivated by a desire to bring "progress" and "civilization" to their colonies. Whilst this may indeed have been true of the missionaries who trail-blazed Europe's colonial expansion, it was far from the minds of the main architects of colonial rule. Contemporary writings, such as those quoted above, make it clear that for the governments of the day, the principle justification for colonialism was unashamedly economic. Colonies provided the means by which the metropolitan powers could secure access to cheap food, cheap raw materials and labour, new markets for manufactured goods and new investment opportunities. It was as simple as that.

Where economic penetration could be achieved through trade, the European powers had no need to annex countries outright. But many indigenous regimes were rightly suspicious of the overtures of Western governments, fearing the far-reaching social and economic implications of entering into extensive trading relations with the West. Indeed, from the very beginning of the colonial era, one finds example after example of indigenous regimes deliberately seeking to avoid entering into trading partnerships with the European powers — and of the West seeking to impose its will either through punitive military expedi-

tions, through trade treaties, or, as a last resort, through direct political rule.

## The Opium Trade

The history of Western relations with China is illustrative. The Imperial court's low regard for Western civilization and its lack of interest in the acquisition of Western manufactured goods could not be better illustrated than by a letter sent to King George III by the Emperor Ch'ien Lung in response to a British request to establish diplomatic links with China:

"Your entreaty to send one of your nationals to be accredited to my Celestial Court and to be in control of your country's trade with China, . . . is contrary to all usage of my Dynasty and cannot possibly be entertained . . . If you assert that your reverence for Our Celestial Dynasty fills you with a desire to acquire our civilization, our ceremonies and code of laws differ so completely from your own that, even if your Envoy were able to acquire the rudiments of our civilization, you could not possibly transplant our manners and customs to your alien soil. Therefore, however adept the Envoy might become, nothing would be gained thereby.

"Swaying the wide world, I have but one aim in view, namely, to maintain a perfect governance and to fulfil the duties of the State. Strange and costly objects do not interest me. . . . As your Ambassador can see for himself, we possess all things. I set no value on objects strange or ingenious, and have no use for your country's manufactures."<sup>1</sup>

Until 1842, the Chinese would allow only one port, Canton, to trade with the West and even then trade could only be conducted via an official merchant guild, the Cohong. Until 1833, the East India Company held a monopoly on trade with China, but when the monopoly came to an end, the British government came under strong pressure from Lancashire manufacturers, ship-owners and other commercial interests to force the Chinese to extend trading concessions.

The differences with China came to a head over the opium trade. British merchants had a ready market in Britain for Chinese goods, in particular tea, but they had nothing to sell the Chinese in return. Consequently British ships had to sail empty to China and pay for the goods they bought with silver.<sup>2</sup> It would clearly have been far more economic for them to arrive in China with wares which could be exchanged for goods that they purchased.

One commodity that British merchants sought to sell was opium but there were laws in China restricting its sale. The British wanted exemption from these laws. In March 1839, the Chinese Imperial Commissioner ordered that all stocks of opium held by British merchants be handed over to the authorities. British ships were seized, the tension mounted, and eventually Chinese war junks fired on two British naval vessels, which responded by sinking four of the Chinese fleet.

War broke out, with the British, not surprisingly, gaining the upper hand. At the treaty of Nanking in 1842, the Chinese had to pay a large indemnity and agree to more trade concessions. Five ports were opened up and British Consuls were appointed to each.

Hong Kong was ceded in perpetuity, as a trading post. A further treaty in 1843 regulated trade and reduced import duties to a maximum of five per cent.

Even these concessions, however, were not judged sufficient, and, in 1856, the British found an excuse for again entering into hostilities with the Chinese, this time aided by the French. Once again the Europeans got the better of the Chinese and yet further treaties were signed at Tientsin in 1858, leading to further liberalization of the Chinese market. Eleven further ports were opened to foreign trade, as was the Yangtze River and permission was granted for a permanent diplomatic mission in Peking. Before the treaty was even ratified, however, the Anglo-French forces occupied Peking and forced further concessions from the Chinese, including opening up Tientsin to foreign trade.

To open up the Japanese market did not require a war. In February 1854 Commodore Matthew Perry of the U.S. Navy appeared in Japan with a powerful squadron of warships. Being thereby in a strong negotiating position, he was able to force the Japanese, who until then had followed a policy of strict seclusion from the Western world, to open up two ports, Shimoda and Hakodate, to trade with the US, and to provide for American consular representation in Japan. In this way, Japan was slowly brought within the orbit of world trade.<sup>3</sup>

## The Development Era

If colonialism and gunboat diplomacy were the means initially employed by the metropolitan powers to open up world markets, the era that followed the Bretton Woods Conference in 1944 saw the process broadened and accelerated in the name of "development". At that conference, the representatives of 44 of the world's most industrialized countries met to plan world economic policies for the post-war period. Their main preoccupation was to reduce the possibility of another 1929 slump. The best means of achieving this, it was decided, was to bring the colonies further into the orbit of the Western Industrial system so as to provide a continuously expanding market for western manufacturers, whilst maintaining the supply of cheap food and raw materials. To achieve that end would require increasing the purchasing power of consumers in the colonies and their capacity to produce the commodities required by the North — which in turn would require building up the physical infrastructure of Third World countries: roads, railways, power stations, port facilities and so on.

Three key institutions were set up to implement the policy: the International Monetary Fund (IMF), the World Bank (IBRD) and four years later, the General Agreement on Tariffs and Trade (GATT). Together these agencies formed a single integrated structure, dominated by US interests and effectively in control of the world economy.

The original role of the IMF was to make sure that member nations pegged their currency to the US dollar or to gold, of which 72 per cent of world supplies were in the possession of the US. This expedient was intended, among other things, to make it difficult for countries which had got into debt to get out of their financial obligations to the Western banking system by manipulating their currencies.

The World Bank, whose first function was to reconstruct Europe's shattered economy after the Second World War, soon turned its attention towards the Third World, its main aim, for a long time, being to build the infrastructure required for making possible the import of manufactured products and the export of raw materials and agricultural produce.

The role of GATT was to liberalize trade, one aim being to prevent Third World countries from manufacturing goods locally which they could buy from western countries. In this respect, the IMF has complemented the work of GATT. Loans, either from the IMF itself or from the World Bank have only been provided to governments that have undertaken to observe IMF "conditional-

ties". In the main, these conditionalities have involved countries having to:

- Scrap import quotas and reduce import tariffs to a minimum, thereby preventing Third World countries from protecting their own fledgling industries against competition from the established and highly-capitalized enterprises of the industrial world.
- Devalue their currencies to make exports more attractive to the North — which has also meant that Third World countries must pay more for their imports.
- Cut expenditure on social welfare, in particular on food subsidies which are often critical to protecting the mass of the population from the disruptive effects that rapid socio-economic change inevitably brings about. Such expenditure, according to the IMF, is better spent on western imports or on building up a country's industrial infrastructure.
- Undertake to mechanize agriculture, thus providing an important market for northern agricultural machinery and agro-chemicals.

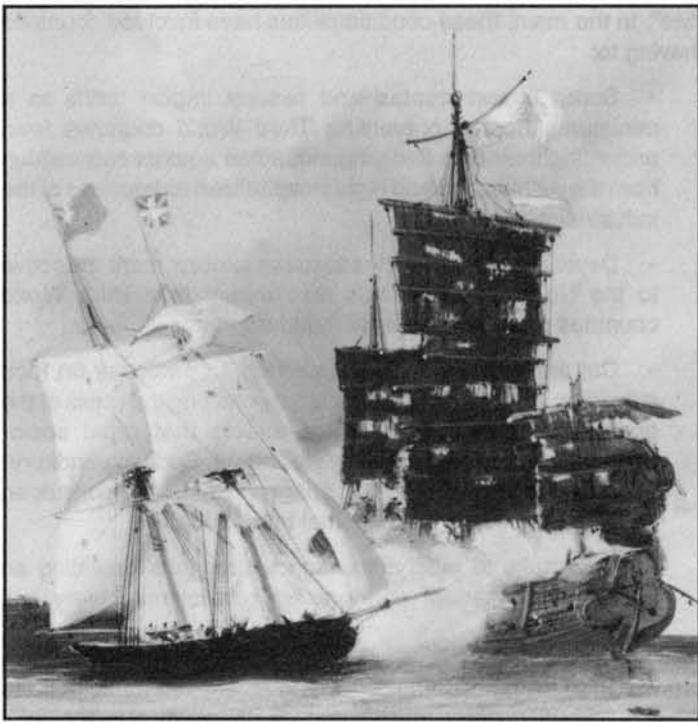
Those Third World countries which have resisted these policies have quickly discovered that the gunboat mentality of the colonial era is far from dead. Witness Chile, Nicaragua, Brazil in the mid-1960s and numerous other countries.

## The New Agenda

But, despite all the measures taken over the last 40 years to open up markets in the Third World to transnational corporations (TNCs); despite the fact that TNCs already control between 80 to 90 per cent of the trade in tea, coffee, cocoa, cotton, forest products, tobacco, and jute, copper, iron ore and bauxite; the TNCs still insist that they do not have sufficient "access" to world markets and are seeking still further concessions. In particular,



*Chinese opium smokers. The British twice went to war with China in order to open up the market to the opium trade. Until the advent of the British, the sale of opium in China had been strictly controlled. (Picture by kind permission of the Martyn Gregory Gallery)*



Military force was the standard colonial response to indigenous regimes which opposed European merchants. Today, regimes which resist western interests are subject to destabilization and trade retaliation. (Picture by kind permission of the Martyn Gregory Gallery).

they are seeking to extend GATT so that it encompasses services such as advertising, stockbroking and banking — services which at present are excluded from the terms of GATT. They want the few remaining restrictions on investments to be removed, so that they have total freedom to invest how they want and where they want. To quote Chakravarthi Raghavan:

"Today the TNCs (which have now become giant conglomerates linking industry, trade, capital and finance, technology and other services) find themselves constrained by the existing order and its relations and are demanding lebensraum. They are demanding new rules and international regimes guaranteeing them the freedom to expand, maximise their profits and enhance their global capital accumulation process. The push on new issues is thus part of a grand design. Even the push for 'free trade' in agriculture is related, at least partly, to the fact that the major actors now (in the US) in international trade in agriculture are a few TNCs."<sup>4</sup>

If implemented the new rules would have far-reaching implications. Among other things, it would become "GATT-illegal":

- To regulate the investments and operations of foreign companies, if the regulations could be deemed a barrier to trade. Logging companies, toxic waste companies, mining companies, and so on would effectively have a free hand to act as they liked within Third World countries:
- To restrict in any way the import of cheap agricultural produce. The raising of import controls on food would drastically undermine the livelihoods of local farmers in many Third World countries, where indigenous agriculture cannot compete with imports from the US and elsewhere.
- To take vulnerable and eroding land out of agricultural production.
- To take any measures to protect scarce resources if such measures are judged in restraint of trade.
- And for one country to impose stricter pollution controls than those in force elsewhere if those controls interfere with trade. Under the new GATT proposals, pollution controls will be ironed out, with environmental and food safety standards

being reduced to their lowest common denominator (see Mark Ritchie, *this issue*).

The recently signed Canada-US Free Trade Agreement provides a foretaste of what lies in store. Already, on the basis of the Free Trade Agreement, the Canadians have been forced to abandon measures to protect the threatened Pacific salmon. Canada is also prevented from restricting the sale of its water resources to the USA even in times of local water scarcity. Moreover, the Canadians have been forced to bring their pesticide regulations in line with far laxer US standards. Canada's ban on the sale of irradiated food has also been judged illegal, as have Canadian proposals to reduce emissions from lead, zinc and copper smelters.

Those countries that refuse to knuckle under to the new GATT regime will be subject to trade retaliation, not only with regard to the commodity or service in dispute but right across the board (see Martin Khor, *this issue*). The Third World, however, is in a weak position to resist the new rules (see Chakravarthi Raghavan, *this issue*), since it is poorly organized as a lobby group within GATT.

Of course, all the TNCs are asking for is a "free market". But what is really meant by "freedom" in this context? It is freedom for TNCs to do exactly what they like, subject to no social, ecological, climatic, moral or spiritual constraints of any kind. To quote Bill Hall:

"Freedom of investment — freedom to expatriate profits, to manipulate local politics, to pay workers slave wages, to block social programmes, to spoil the environment unhindered by regulation — has been the true meaning of the word 'free' in 'free market'. It involves stealing away national sovereignty, repressing labour organizing and political parties, destroying self-sufficiency in food and basic goods (and imposing food and basic goods import dependency), keeping wages and the standard of living low, and broadening the gap between rich and poor."<sup>5</sup>

Do we really want companies to enjoy that sort of freedom? Can we afford to let them enjoy it? The truth is that we cannot. If we allow the new GATT proposals to be adopted, then the entire world will effectively be transformed into a vast "Free Trade Zone", within which human, social and environmental imperatives will be ruthlessly and systematically subordinated to the purely selfish, short-term financial interests of a few transnational corporations. The unprecedented biological, ecological and social devastation that has been caused in the pursuit of such "freedom" over the past 40 years — the period in which the development process really got under way in the Third World — cannot be repeated without much of the planet being rendered unfit for human habitation.

Indeed, the need is not to increase the freedom of commercial concerns but, on the contrary, to bring those concerns back under control — to limit the size of markets, rather than expand them; to give local people control of their resources, not to hand them over to the transnationals. Such goals are the antithesis of the proposals being put forward within GATT.

Edward Goldsmith

## References

1. Whyte, A.F., *China and Foreign Powers*, Milford, London, 1927. Quoted by A. Toynbee, *A Study of History*, Vol. 1, Oxford University Press, 1934.
2. Fieldhouse, D.K., *Economics and Empire 1830-1914*, Macmillan, London, 1973.
3. Sanson, G., *A History of Japan 1615-1867*, Vol. 3, The Cresset Press, London, 1964.
4. Raghavan, C., *Recolonisation: GATT, the Uruguay Round and the Third World*, Third World Network, Penang, 1990.
5. Hall, B., *Who Owns Whom*, Winter 1986.

# Recolonization: GATT in its Historical Context

by  
Chakravarthi Raghavan

*The chief priority of the industrialized countries in the Uruguay Round is to extend their control over the global economy. In the past this was achieved through a mixture of colonialism and threats of military intervention. Today it is hoped that GATT and the threat of trade retaliation will serve the same purpose.*

In the 17th and 18th centuries, the rights due to foreigners in the areas of trading, investment and property evolved from European practices and treaties, and were accepted by the US after its independence.<sup>1</sup> But these norms were imposed on the Third World without any pretence at reciprocity and were enforced through naked power and colonialism — with Britain and other Europeans flaunting racial superiority and asserting that “rights” evolved in Europe could not be applied to the colonized peoples. According to K.M. Panikkar:

“... the principle that the doctrines of international law did not apply outside Europe, that what would be barbarism in London or Paris is civilized conduct in Peking (for example, the burning of the Summer Palace) and that European nations had no moral obligations in dealing with Asian peoples (as for example when the British insisted on the opium trade against the laws of China, though opium smoking was prohibited by law in England itself) was part of the accepted creed of Europe’s relations with Asia. As late as 1870 the President of the Hong Kong Chamber of Commerce declared: ‘China can in no sense be considered a country entitled to all the same rights and privileges as civilized nations which are bound by international law’.”<sup>2</sup>

From the early part of the 19th century, when Britain was the dominant capital

exporting country, up until the First World War, these principles went virtually unchallenged. But, from 1918, and, more especially after the Second World War, there has been a steady erosion of the 19th century regime on international property rights. Through successive resolutions and declarations in the UN General Assembly, starting with the 1952 resolution on Permanent Sovereignty over Natural Resources and culminating in the 1974 Charter of Economic Rights and Duties of States, the supra-national rights of foreigners have had to give way to an assertion of national sovereignty and domestic law.<sup>3</sup>

Over the last two or three decades, the nature of interference with the property rights of foreign investors has changed — from simple expropriation to a variety of regulatory measures on investment, business, imports and exports. These have made the old norms irrelevant. The gun-boat diplomacy of the 19th and early 20th centuries was replaced for a time by covert operations, such as those against the Mossadeq government in Iran and the coup against Allende in Chile. But even these have become increasingly difficult. The US and other capital-exporting industrial countries are thus trying to create new definitions of property, and create a new international regime which the Third World countries will subscribe to and which will use the threat of trade retaliation, rather than overt or covert use of force, to enforce compliance.

## GATT Myths

One of the myths surrounding GATT is that its earlier seven trade rounds brought about the expansion of the world economy since 1945. It is perhaps more correct to say that the expansion of trade was

merely an effect of the post-War expansion of the world economy which was the result of a number of macro-economic processes including the application of Keynesian economics and state interventions to promote expansion. The GATT rounds and processes merely accommodated the TNCs’ demands for greater freedom for their operations around the world, dealing essentially with issues of “market access.”<sup>4</sup> Third World countries did not benefit, by and large, from the tariff reductions or other trade liberalization measures. Side by side with these tendencies for trade liberalizations there were also contrary protectionist trends — resulting first in the “temporary” short-term, and then the long-term agreement in cotton textiles, followed by the Multi-Fibre Arrangement and its successive protocols of extension — all contrary to theories of free trade and comparative advantage (the lack of liberalization and the growth of protectionism in the textiles and clothing sector is largely due to the fact that TNCs are not a major force in this sector<sup>5</sup>).

Until the mid-1970s, the major effort of the countries of the South within the international system was to seek benefits through minor reforms of the structures which regulated economic relations, and through obtaining special treatment and exceptions in their favour. But this “reformist approach” gave way to the restructuring phase when the countries of the South realized that however hard they strove, and whatever the “special treatment” given to them in principle, they could not develop without changing the asymmetry in international economic relations. This led to the New International Economic Order declarations, and the North-South dialogue in various UN fora. By the end of the 1970s, however, the Third World still had nothing to show

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for its efforts which were then greatly setback by the OECD policies of monetarism, high interest rates and the policy-induced recession, all of which greatly exacerbated the Third World debt crisis.

However, from the point of view of the US and other leading industrialized countries, checkmating the South over the New International Economic Order and maintaining the status quo were not

enough. In the economic arena, after the "adjustment" forced on the Third World via the IMF and World Bank, the US sought to restructure international economic relations on the basis of a US agenda. While there may be some conflicts of interest between the US, Europe and Japan, they have a shared interest in achieving changes to the trading system to stem rising competition from the Third

World. The US agenda in the Uruguay Round should also be seen against the background of the present state of the world economy and the predicament of the US which, after being in a position of dominance for well over four decades, now feels its hegemony threatened.

## Double Standards

It is important to understand that not all economic sectors share the same view of liberalization in the US or other industrialized countries. The manufacturing sector, and particularly those older industries which are not involved in the new high technologies, has been suffering from rising competition from the Third World. Thus, industrial capital engaged in traditional sectors wants to draw up protectionist walls around its countries, but finance capital wants to expand by breaking down walls in other countries. This conflict is reflected in the approach to new themes and traditional ones: "free trade" in the new areas and "managed trade" in the traditional sectors.<sup>6</sup>

GATT was not chosen for this purpose by accident. Third World countries are weak inside GATT, where they only have a tenuous informal group of "less developed contracting parties" which meets from time to time to exchange information, and occasionally presents a joint paper or statement. This is in contrast with the major trading nations who, despite their mutual differences and trade quarrels, have always been aware of their general common interest against the South. The US, EC, Japan and Canada meet regularly to discuss trade issues at so-called quadrilateral meetings and industrialized countries as a whole co-ordinate their positions at the OECD.

With very rare exceptions for ceremonial purposes, all GATT meetings are behind closed doors, hidden away from the obtrusive presence of the media or consumer organizations and other public interest groups. However, major TNCs and their lobbying organizations often attend such meetings as "advisors" to their delegations.

In theory, all contracting parties to GATT are equal, and GATT's consensus decision-making process appears to be democratic. But in practice when the weaker trading countries have tried to assert themselves, they have been ignored or told that the countries with the largest share of world trade have more at stake in the trading system and its rules, and so their views should prevail.

## GATT: A Brief History

On September 20, 1986, at the Uruguayan seaside resort of Punta del Este, ministers of contracting parties to the General Agreement on Tariffs and Trade (GATT) launched the Uruguay Round of Multilateral Trade Negotiations (MTNs), the eighth under GATT auspices.

GATT originally came into being as a temporary arrangement in 1948, largely on the initiative of the US which saw "free trade" as one of the pillars of the post-War order. The US envisaged the establishment of an International Trade Organization (ITO) within the UN system as a logical complement to the International Monetary Fund and the World Bank which were set up after the 1944 Bretton Woods conference. The ITO would have responsibility for applying "free trade" principles, laying down rules and arbitrating trade disputes. The "Havana Charter", drawn up at an international conference on Trade and Employment held on the instigation of the UN Economic and Social Council in Havana from November 1947 to March 1948, would have set up the ITO. But although signed by 56 countries, the Charter was never ratified. The US Congress saw the scope of the Havana Charter, which included provisions for the regulation of all restrictive trading practices, trade in staple commodities and the movement of capital, as infringing the rights of the US Government to decide US trade policy. Without the support of the US the Charter was still-born.

While the final form of the Havana Charter was still being discussed, a group of 23 countries met in Geneva at the Preparatory Commission of the UN Conference on Trade and Employment.<sup>1</sup> Following an initiative from the US, the 23 countries extracted the part of the Charter which provided for the establishment of the ITO which was rewritten to become the General Agreement on Tariffs and Trade. Today only GATT survives from these tortuous

trade negotiations. Recognized de facto as an independent body within the UN, GATT has remained for 40 years a provisional treaty — a contract among governments acceding to it, but not a definitive treaty with its own institutional arrangements. The 98 member countries ("contracting parties") of GATT control 90 per cent of the world's \$3 trillion annual trade.

The seven completed "rounds" of multilateral trade negotiations have had as their main objective "the substantial reduction of tariffs and other barriers to trade", one of the principle aims laid down in the General Agreement. The Uruguay Round negotiations, however, are much more ambitious than the previous rounds and encompass many issues beyond the traditional ones dealing with duties and tariffs. It involves renegotiating the rules and principles governing international production and trade, and includes the movement of capital, the rights of foreign investors, the development of technologies, and the trade in and production of services.

One hundred and five countries (including observers) have participated in the Uruguay Round negotiations, and 1,500 negotiation propositions and working documents have been presented. The Round will close with a ministerial conference to be held in Brussels from the 3rd to 7th December, 1990.

Patrick McCully

1. Australia, Belgium, Burma, Canada, Chili, China, Cuba, Czechoslovakia, France, India, Lebanon, Luxembourg, the Netherlands, New Zealand, Norway, Pakistan, South Africa, Sri Lanka, the United Kingdom, the United States and Syria.

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## Transnationalization

Through the Uruguay Round, the US is attempting to incorporate into the GATT framework intellectual property rights, services and investments — areas of economic activity and relations that are not strictly “trade” issues and whose legitimacy for inclusion in GATT has been sought by prefixing the words “trade”, “trade in” or “trade-related” before them. If the US-led effort succeeds, Third World countries may find themselves obliged to reduce or eliminate conditions regulating the investments and operations of foreign companies on their territories — in mining, manufacturing, and services such as banking, insurance, transport, wholesale and retail trade and professional services like accounting, advertising and legal practices. Under penalty of retaliatory measures against their exports, Third World countries would also be obliged to introduce laws protecting and enhancing patents and other industrial property rights. As a result, Third World consumers could find themselves paying higher prices for products such as essential drugs.<sup>7</sup> Even the traditional rights of their farmers to store seed from their harvest for the next season or to breed cattle could be in jeopardy.<sup>8</sup>

The Uruguay Round could advance the process of the transnationalization of the world economy to an extent where it

**“In economic and social terms, Third World countries and their peoples could be said to be on the point of being rolled back to the colonial era.”**

would not be easily reversible. It could divide the world between the “knowledge-rich” and “knowledge-poor”, with the latter permanently blocked from acquiring the knowledge and capacity to be rich. In economic and social terms, Third World countries and their peoples could be said to be on the point of being rolled back to the colonial era. Third World governments would not only be unable to act to advance the economic well-being of their peoples, but would be obliged to protect the interests of TNCs and foreign enterprises and foreign nationals against their own peoples. Governments of independent countries in the Third World would thus be left doing what the metropolitan powers did during the colonial days.

These far-reaching effects may not come about. Much still depends on how the Third World countries act in the remaining period of the negotiations, individually and collectively. But time is running out on them.

## References

1. For further analysis, see Lipson, C., *Standing Guard*, University of California Press, 1985.
2. Panikkar, K.M., *Asia and Western Dominance*, George Allen and Unwin, 1953, pp.42-43.
3. UN General Assembly Resolution 3281 (XXIX), 12 December 1974, A/9631, pp.50-55; Sauvart, K., *Collected Documents of The Group of 77, Vol. V*, Oceana Publications, pp.567-572.
4. See Kelkar, V., ‘On the Reforms of the International Trading System’, UNCTAD mimeo, 1986, paras 28-30.
5. *Ibid*, paras 27-29.
6. ‘Limit Free Trade with Japan, US is Advised’, *International Herald Tribune*, 25 Feb., 1989; ‘US May Reverse Free Trade for Japan’, *International Herald Tribune*, 3 Mar., 1989. The managed trade approach in economic relations with Japan has been advocated in the US by the high-level private sector business advisory group, headed by the chairman of American Express Company, James D. Robinson III, who is spearheading the drive for free trade in services.
7. The abuse of process and product monopolies in the area of drugs was brought out in the UK in an inquiry by the Monopolies Commission. Until the early 1970s, Italy provided no protection for drug patents, with the result that drug prices in Italy were lower than in the UK. The inquiry found that the British National Health Service was being charged about 40 times the prices at which alternatives could be bought in Italy for ingredients used in two commonly used tranquilizers, Librium and Valium. On the recommendation of the Monopolies Commission, the UK government ordered Roche Products, a British subsidiary of Hoffman La-Roche AG of Basel, to cut its selling prices by 60 to 75 per cent and refund \$27.5 million to the National Health Service for overcharging. (Cited in Patel, S.J., ‘Indian Patent’s Act: Implications of Controversy’, *Mainstream*, 18 February, 1989, pp.12-13).
8. Mooney, P.R., ‘Biotechnology and the North-South Conflict’, in *Biotechnology Revolution and the Third World*, Research and Information System for the Non-Aligned and other Developing Countries (RIS), New Delhi, 1988, pp.268-269.

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# The Uruguay Round and the Third World

by  
Martin Khor Kok Peng

*Future relations between the North and the South will depend critically on the outcome of the Uruguay Round. Through GATT, the industrialized countries are attempting to extend and tighten their control over the national economies of Third World countries. By including services, investments and intellectual property rights under the umbrella of GATT, transnational companies will have a free rein to invest and set up in Third World countries, and to be treated like locally-owned companies. This "freedom" will be granted not only in manufacturing and agriculture, but also in the service sectors such as banking, insurance, transport, communications, media and professional services.*

Despite all the fine-sounding rhetoric about "free trade", the industrialized countries are using the Uruguay Round to extend the powers of GATT, transforming its role into that of a "world economic policeman" whose job is to give transnational corporations unfettered freedom in their operations. In many areas of negotiations, the industrialized countries are seeking to downgrade or remove entirely the "development principle" which hitherto had been accepted within GATT rules. According to this principle, developing countries can be given exemptions or privileges (such as a longer time frame) in complying with certain GATT obligations, in recognition of the handicap they face by being less economically developed than the industrial countries. In the current Uruguay Round negotiations, this principle is being increasingly ignored by the major industrial countries which insist that the Third World countries be treated no differently from themselves. At the same time, the industrial countries are showing an ever greater resistance to giving Third World countries access to their markets, and they refuse to reduce the tariffs they impose on products imported from the Third World.

Present restrictions or obligations imposed by Third World governments on foreign companies seeking to set up in their countries, are being portrayed as being a restraint on "free trade". As a strong and well-organized lobby (see Box, p.209), transnational companies (TNCs) have enlisted their governments to make use of the Uruguay Round to extend the "free trade" principle from the traditional GATT area of manufactured goods to embrace whole new areas such as trade in agricultural produce and to the "new themes" of services, investments and intellectual property rights.

## New Themes: Mechanisms to Pry Open the Third World

Through the incorporation of services and investments into GATT-like regimes, transnational corporations will be able to penetrate sectors and areas in the Third World in which presently the locally-owned small and medium-sized firms (or the family-owned so-called "informal sector") predominate. It

needs little imagination to foresee that these smaller local economic units will be swallowed up rapidly as TNCs gain an increasing hold on the market. And by instituting intellectual property rights laws protecting the monopoly position of TNCs, the national companies of the Third World will be prevented from developing their own technologies and therefore from constituting a future threat to the existing TNCs. The outcome which the industrialized countries seek from the Uruguay Round would be ever expanding monopoly powers over ever extending geographical areas in more and more economic sectors controlled by fewer and fewer mega-companies.

### Services

In most Third World countries, the service sectors are the last remaining areas still under local control, since the import of manufactured products has increasingly taken over the market of locally-made goods. Many Third World countries, to protect domestic services, have laws restricting the entry or the operations of foreign service enterprises in areas like finance, media and communications, transport and professional and business services.

Services are the fastest-growing sector of the developed economies, having overtaken manufacturing. The service companies want access to the relatively protected Third World market and thus want the barriers to be broken down. The US has proposed that services be included in the discussions on the reform of GATT but due to objections from many Third World countries the services discussion is being conducted separately from other GATT issues with the aim of formulating the framework of a "General Agreement on Trade in Services" (GATS). Nevertheless it is part and parcel of the Uruguay Round talks and the US has proposed that the GATT secretariat should also be the secretariat for GATS. The arguments used by the US and other industrial countries in the negotiations on services, and the mechanisms they suggest to open up the Third World's services market are as follows:

- Free trade in goods (the traditional area of GATT's jurisdiction) is by itself inadequate since services are now so important. So we must extend the free trade concept from goods to include services;
- But unlike goods one cannot export a service to another country unless the service provider (person or firm) is itself present in the importing country. Thus to facilitate

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## Transnational Corporations: The Interests Behind GATT

The United States administration, which is the main proponent of the "new themes", has been working closely with US companies. In 1982 the US first expressed the need to apply GATT principles to trade in services. It was motivated by the desire of US service companies to expand their markets and operations and thus to break down barriers, especially in the Third World, that hinder such expansion. Representatives of TNCs regularly conduct lobbying activities in Geneva during the negotiation periods.

In May 1990, leading US companies and business organizations announced the formation of a high-powered "Multilateral Trade Negotiations (MTN) Coalition". Chaired by the former US Trade Representative, William Brock, who is now in private business, the group includes American Express, General Motors, IBM, General Electric, Cargill, Citicorp, Procter and Gamble and other companies, as well as the US Council for International Business, the American Business Conference, the National Association of Manufacturers, the Coalition of Service Industries, the International Investment Alliance and the Intellec-

tual Property Committee. The Coalition describes its aims as follows:

"The MTN Coalition is a broad alliance of American private sector interests committed to a strengthened and more effective multilateral trading system. The Coalition includes an array of business, farm, consumer and trade associations who have joined with many leading US corporations in an education and mobilization campaign in support of comprehensive multilateral trade agreements in the current negotiating round of GATT... The MTN Coalition will build public support for Congressional implementing legislation if the agreement is satisfactory."

At the July 1990 Houston Summit of the leaders of the Group of Seven (G7) industrial countries, the MTN Coalition organized a high-powered press briefing and released a summary report of an "Emergent Persons Group on World Trade". Brock said he found it "incredible" that the G7 countries were unable to negotiate seriously, especially on agriculture (see T. Clunies-Ross, *this issue*), whilst the stakes in the Uruguay Round were so high. Although the Summit's focus was on farm reforms, "agriculture is not the issue

... rather it is the linchpin to agreement on issues of greater magnitude, issues that really matter, like intellectual property protection, services, investment and subsidies". This clearly indicates that to the business sector, the "new themes" were the real agenda in the Uruguay Round. The President of the American Business Conference, Barry Rogstad, said US businessmen saw a strengthened GATT as the "single best way to create an environment to expand their international success".

The business lobby's effectiveness, at least in the US, was shown by the top priority that President Bush gave to the Uruguay Round at the G7 Summit. The US Agriculture Secretary Clayton Yeutter, stressed that "a successful end to the Uruguay Round negotiations is ten times more important to the US than good relations with the Soviet Union". In the Summit's final communique, the G7 leaders described the Uruguay Round as having "the highest priority on the international economic agenda" and they pledged "a high level of personal involvement to exercise the political leadership necessary" to ensure the Round's success.

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free trade in services, we have to have freedom not only in trade but also in allowing freedom of investment or the *right of establishment* of service companies in other countries. In other words, if a bank or legal firm wants to set up a branch in a Third World country, that country's government must grant it the right to do so;

- However, if the foreign company is discriminated against *vis-à-vis* local companies, that is said to be a distortion of the free play of market forces. So the Third World government must grant *national treatment* to foreign firms, that is they must apply the same terms and conditions to them as they would to local companies.
- If a country violates the above principles, for example by not allowing an American bank to open, then the country of the offended company (in this case the US) can *retaliate* by forbidding the offending country's banks from opening in its country.
- But that is not all. If services are eventually incorporated into GATT in a "super" trade regime or organization, then the violating country could face *cross-retaliation actions*. This means that the offended country can retaliate not only against the offending country's banks but also against its products. For instance an offending country's rubber or copper or textiles may face increased import duties or even a ban. This will of course be a more potent threat than merely retaliating against a Third World country's banks or other service companies which have very little business in the industrial countries and

would thus not be significantly affected by any retaliatory moves. It is this possibility of cross retaliation (to link action in one area of trade or business to retaliation in another category of product, service or business altogether) that invests the GATT framework with so much power.

If the above principles and mechanisms are pushed through, then it is only a matter of time before the TNCs assume control over the wide range of service activities in Third World countries. Some countries (especially India and Brazil) have been resisting the industrial countries' proposals. Regional groups of Latin American and Caribbean, African and Asian countries, have put forward their own proposals for a service agreement that would balance the liberalization of their service sectors with their own priorities and perceived development needs. In general, the Third World position rules out the right of foreign direct investment or "permanent establishment" and links the level of liberalization to the state and rate of development of its domestic service sector. Any services agreement should have its own "institution" outside of GATT, preventing the threat of cross-retaliation between services and goods. Third World countries would retain the right to strengthen their own domestic service sectors, and thus "national treatment" would not automatically be given to foreign firms.

### Trade-Related Investment Measures

In an important area of Uruguay Round negotiations, the developed countries have been advocating that rules regulating



Fast food restaurant in Beijing. If the new themes are incorporated into GATT, countries will be unable to prevent the establishment of foreign companies in their territories and will have little regulatory control once businesses are set up. (Photo: Reuter)

"Trade-related investment measures" (TRIMs) be introduced into GATT. At present most Third World governments impose certain conditions on foreign corporations which wish to set up in their countries. Among these "investment measures" are *local content requirements* (the foreign company must use a specified minimum proportion of local materials in its production); *export requirements* (obliging an investor to export a fixed percentage of its production); *trade-balancing requirements* (limiting an investor's imports to a specific proportion of its exports); *local equity requirements* (specifying that a certain percentage of the company's equity be held by local investors); *limits on the remittances of profits abroad* and other foreign exchange restrictions; and *manufacturing limitations* (reserving certain markets to local firms to protect them from being eliminated by foreign competition). Third World governments argue that these measures are needed to protect their countries' balance of payments position, to prevent unethical TNC practices such as transfer pricing or monopolistic market allocation and to put a limit to TNC ownership of key sectors of national economies. Such conditions are imposed not to restrict "trade" as such, but to ensure the survival of local industries and to ensure a certain degree of economic sovereignty.

The developed countries, however, want the Third World to remove most existing TRIMs. They argue that these TRIMs distort free trade because they have an influence over conditions of production and thus over costs and prices. They also insist on "national treatment" — that foreign investors be treated the same as local investors. The rights of the foreign investor are also to be safeguarded by assuring that the government of the investor's home country can take up the purported violation with the host government. Failing a satisfactory outcome, the company's government can retaliate against the trade and property of the host country. The European Community and Nordic countries take the argument a step further, proposing that the removal of restrictions under GATT be applied not only to foreign but also to domestic investments, on the grounds that any investment measure could have a trade-distorting effect. A foreign government would therefore be able to intervene on behalf of a local company against its own government if the company were to raise a complaint about being affected by a TRIM.

Not surprisingly, Third World countries are fighting against the industrialized countries' position on TRIMs. In March

1990, a group of 14 countries including India and Brazil submitted their own proposals, opposing the use of the Uruguay Round to create rights for investors or to prohibit investment measures and advocating that the negotiations should be confined to tackling the adverse trade effects of investment measures within the existing GATT framework. They argued that investment measures were used by governments to fulfil social and development objectives and to counter corporate behaviour that threatened these objectives. Thus, the Uruguay Round should not lead to the abolition of TRIMs as such, though if in certain circumstances a particular investment measure did have a direct and significant adverse effect on trade, appropriate ways would have to be found to deal with the demonstrated adverse effects, but not with the investment measure itself.

Although the Third World views were submitted to the chairman of the TRIMs negotiating group at his request, Third World delegates were greatly disappointed when in May 1990 he presented a draft text of an agreement on an international investment regime that reflected the viewpoints of the US, Japan and the EC, whilst completely ignoring the viewpoints and official submissions of the Third World countries.

### *Trade-Related Intellectual Property Rights*

On the insistence of the industrial countries, "Trade-related intellectual property rights" (TRIPs) have also been included as a "new theme" in the Uruguay Round. "Intellectual property" refers to a design, technology or product invented by a person or corporation and "rights" refer to a recognition that the inventor should be granted a reward such as the exclusive right to use it or to earn royalties by renting out its use. Such "rights" are conferred by awarding patents, copyright or trademarks to the "owner" or investor. The industrial countries argue that such rights and rewards must be conferred to provide incentives for research, development and innovation. Through the Uruguay Round they want all countries to adopt intellectual property laws like their own, thereby having one standard set of such laws, to be administered and enforced by GATT.

Although there are other fora such as the World Intellectual Property Organization (WIPO) and the UN Conference on Trade and Development (UNCTAD) that have for many years dealt with the subject, the industrial countries insist that the issue be dealt with under GATT, because of its enforcement mechanism of cross retaliation. Among the elements of the industrial countries' proposals on intellectual property rights are the following:

- Intellectual property rights laws should be *uniform* for all countries and the present laws in the industrial countries should be taken as the standard;
- These rights would be *enhanced* in the majority of Third World countries which at present confer less rights than do the industrial countries;
- The enhanced rights for intellectual property owners need not be counterbalanced by *obligations* imposed on them by society or governments;
- On patents, the US position is that these rights should apply to all products without exception; whilst the EC would allow exclusions for inventions contrary to morality or public order, for plant and animal varieties, and for biological processes for plant and animal production; and Japan would allow exclusion for inventions contrary to public morality, order or health and those manufactured through nuclear technology (see Box, p.211);

- The rights should be granted for relatively *longer periods* than now prevailing in most Third World countries. The US proposal is that copyright protection be for at least 50 years and patents for at least 20 years;
- Intellectual property rights fall under *GATT jurisdiction* because they have an effect on trade. Thus GATT is a competent body to administer them;
- Once TRIPs fall within the GATT umbrella, countries allegedly not following the provisions face *retaliation and cross-retaliation*.

The position of the Third World countries is that the recognition given to an inventor is more of a "privilege" than a "right". The benefits given to the individual or company for the invention must be balanced by the public's right to benefit from technological innovation or knowledge. Without such a counter-balance, the intellectual property privileges granted to the inventor would become purely monopoly rights to collect rentier income (income earned solely because of ownership). In effect, they constitute a form of protectionism, the protection of the inventor's benefits, which curbs the diffusion of technology or knowledge and thus prevents technological development. This protectionism runs directly counter to the principle of liberalization that the industrial countries are advocating so piously in other areas of GATT negotiations. Thus there are double standards in the industrial world's approach; liberalization if it suits us, protectionism too if that suits us — *the real underlying principle is pure self-interest*.

The kind of intellectual property regime proposed in TRIPs would effectively prevent the diffusion of technology to the Third World, and would also tremendously increase the royalties paid to the TNCs whilst curbing the potential development of local Third World technology. At present only one per cent of patents worldwide are owned by Third World persons or companies. In the 1970s, only 200,000 patents (out of 3.5 million worldwide) were granted by Third World countries and 84 per cent of these were owned by foreigners. Yet less than five per cent of these foreign-owned patents were used in production processes in the Third World. The TNCs often register patents in the Third World, not so as to use them in local production processes, but to prevent others (especially locals) from copying or using their technology, thereby inhibiting local competition to their exports. Patent protection is thus used as an important means of perpetuating and even enhancing the monopoly position of TNCs by preventing others from emerging as contenders. Indeed when the industrial countries themselves were developing their economies, they had weak patent laws, thus favouring their own local technological growth. Now that they have attained high levels of technological development they impose strict

patent regimes and want the Third World to do likewise. Being already in an extremely dependent position technologically, the Third World will become totally marginalized if the industrial countries' TRIPs proposals prevail.

## The Third World TRIPs Proposals

In May 1990, an informal grouping of 14 Third World countries presented a draft agreement on TRIPs at the Uruguay Round negotiations which is fundamentally opposed to the industrial countries' proposals. The essential elements of their position are as follows:

- Recognition of the sovereignty and autonomy of countries to determine what can be patented and the period and conditions of patent protection;
- A government's right to grant compulsory licenses should be specifically recognized. Compulsory licensing allows the government to force a patent or copyright holder to forego its monopoly and allow the government or others to use the invention. This can be done on the grounds of public interest or in the event of a holder abusing a patent;

## Property Rights Over Life

Corporations engaged in biotechnology have been lobbying hard to extend the industrial patent system to living products and processes. Yet the industrialized countries are deeply divided on the issue and to date, in no OECD country is this matter settled. The United States is currently studying a bill in Congress to enforce a moratorium on animal patenting, while the EC is debating a controversial directive which would make virtually all forms of life patentable.

Within GATT, the US, playing the hard line, is pushing for "no exclusions" whatsoever from patent protection under the GATT negotiations. The EC, bound to its member states' commitments in the European Patent Convention, proposes that parties to the TRIPs agreement "may exclude plant or animal varieties" from patenting, but "shall provide for the protection of varieties by patents and/or by an effective *sui generis* system". This means that if a country adhering to a TRIPs agreement does not allow patent protection for plants, it must provide protection for plant breeders' rights. The Scandinavians maintain that plant or animal varieties should be omitted from the patent system, and they also expressly exclude human beings. Canada, for its part, holds that "National laws may provide that multicellular life forms are not patentable."

The patenting of life forms carries

profound ethical, economic and social implications that outstrip mere considerations of industrial competitiveness or technology transfer. Developing countries provide most of the biological diversity to the world economy under the current regime of "free access" to genetic resources. Those resources serve the basis of the biotechnology industry. Their "privatization" by the North through TRIPs would strip Third World countries of national sovereignty over their natural resources and oblige them to pay royalties on products derived from them. The patenting of life forms would most directly affect the agricultural sector, the very backbone of most developing countries. It would result in higher prices for seeds and an increased use of agro-chemicals, thus draining foreign cash reserves, and would accelerate genetic uniformity in the field. It would also place global food security in the hands of a few transnational corporations who could then "own" the genes and species upon which the world food system is based.

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# Free Trade and Ill Health:

## How the US is Using GATT to Promote Cigarettes

The international tobacco trade is dominated by six transnational tobacco companies; four of these are American-based, two are British. Over the past five years, the US Government has used bilateral trade agreements with the threat of trade sanctions to coerce Taiwan, South Korea and Japan into opening their markets to foreign cigarettes. Now, under pressure from health groups worldwide, the US has referred a cigarette export dispute with Thailand to the GATT council. A three-person GATT panel received submissions from the two countries in July 1990, and its recommendations will either be adopted or rejected by the GATT council in early November. While the dispute before the council is specific to Thailand, its implications are critical for the future of the tobacco trade worldwide.

In April 1989, the US tobacco giants, R.J. Reynolds, Philip Morris, and Brown and Williams, a subsidiary of British America Tobacco (BAT), asked the US Government to impose trade sanctions against Thailand because of what it claimed were unfair trade practices in the sale of cigarettes. Foreign cigarettes cannot be legally imported and sold in Thailand, except on the very restricted duty-free market. However, the country does have a state tobacco enterprise, the Thailand Tobacco Monopoly, which produces and sells cigarettes.

### Window of Opportunity

The US tobacco lobby has made six complaints to the US Trade Representative Carla Hills; the import ban, higher taxes on imported goods, restricted marketing, pricing, distribution and promotion policies. The first two complaints were referred to the GATT council. Hills will reach her verdict in late November 1990 on all six complaints, presumably taking into account the GATT decision. If she finds in favour of the cigarette exporters, the US Government will proceed with the threatened trade sanctions, dealing a heavy blow to the fragile Thai economy. The Thai Government would almost certainly open its market to foreign cigarettes well before any sanctions take effect. As far as the tobacco companies are concerned,

the referral to GATT is, as Dr John Seffrin, chairperson of the American Cancer Society, describes it, "a window of opportunity".

In Japan, South Korea and Taiwan, heartening declines in the rate of cigarette consumption were reversed or halted when US pressure forced open their cigarette markets to imports. Tobacco consumption in Taiwan, for example, grew by 4.3 per cent in 1987, the first year of unrestricted foreign cigarette sales. By the end of that year, US cigarettes held 17 per cent of the market. In South Korea, the outcome was similar, and Japan saw a much greater number of women adopting the smoking habit.

### Reversing Public Health Gains

One of the more offensive details of the tobacco lobby's complaint is its insistence that the current cigarette advertising ban in Thailand be lifted. Their argument is that because of the long-standing monopoly enjoyed by Thailand's national tobacco company, imported products would face an unacceptable disadvantage. Thai health groups fought a long battle for the advertising ban and are justly proud of the anti-smoking policy now supported by the government. It includes health warnings on all cigarette packets, a ban on cigarette production and investment in tobacco cultivation in neighbouring Indo-Chinese countries, and a scaling-down of their own tobacco industry. Dr Prakrit Vateesatokit, chairperson of the Thai Anti-Smoking Campaign, explained to a US House of Representatives' committee in May 1990: "I feel I can save more Thai lives when I battle the Thailand Tobacco Monopoly alone; battling a spectrum of cigarette products with advertisements is hopeless."

Even if the advertising ban remains intact, the Thai health groups are not confident that the tobacco companies would abide by it. Their history of "dirty tactics" in Thailand to date lend weight to this fear. The foreign tobacco companies successfully and ruthlessly used loopholes in the original advertising ban agreement, since revised, to advertise their products widely. Their primary target groups were women and young people, the former because Asian women are considered a major untapped market and the latter because nicotine addiction is most "successfully" achieved in adoles-

cence. It is strongly asserted by international anti-smoking authorities that the tobacco companies are behind the steady "illegal" supply of smuggled cigarettes across the border from Malaysia, a tactic which proved successful in Latin America in the 1960s. Thai health groups have also heard of journalists being "bought off" during the recent media debate on the issue. The experience in Japan, South Korea and Taiwan indicates that the advertising ban would, at the very least, be modified and weakened.

### Blatant Hypocrisy

The GATT charter allows trade restrictions to be imposed for public health reasons as long as these restrictions are not discriminatory and are not a disguised restriction on trade. The interpretation of this clause will probably decide the issue. The US lobby are adamant that the dispute relates solely to trade relations and that public health considerations are secondary. The Thai representatives argue that the two cannot be so readily divorced. They also point to the blatant hypocrisy and double standards of a nation that protects its own citizens from an obvious health hazard with rigorous advertising restrictions and anti-smoking programmes, while promoting the same hazardous product in developing countries.

The Thai groups are not optimistic. Dr Prakrit, who has strongly defended the Thai position at the GATT panel meetings, believes that the US government are merely passing the responsibility for an unpopular decision to another, seemingly "neutral" organization. In his words: "They just want to use someone else's hand."

*Pam Simmons*

*With thanks to Sarah Sexton in Bangkok for help given in researching this piece.*

*Pam Simmons worked for several years with the Co-ordinating Committee for Primary Health of Thai NGOs in Bangkok.*

- Patent holders should have obligations as well as rights. Such rights should include: the prevention of others working the patented product or process; the assigning of patents and the conclusion of license contracts; and the receipt of "reasonable remuneration" if a government uses the patent or grants a compulsory license. The obligations of a patent holder should include: the disclosure of the nature of the invention in a clear and complete manner; the giving of information concerning corresponding foreign applications and grants; the working of the patent invention in the country where the patent is granted within fixed time limits; in respect of license contracts, refraining from abusive or anti-competitive practices adversely affecting technology transfer;
- In the event of the non-fulfillment of obligations, national laws can provide for remedies against the patent holder. These include the granting of a compulsory license in case the patent holder does not work the patent or in case of abusive or anti-competitive practices on the part of the holder; cancellation of registration if a trademark is not effectively used; annulment of contract in case a holder engages in practices that violate regulations on competition and technology transfer.
- The following areas can be excluded from patent protection: inventions whose use would be contrary to public order, morality and health; plant and animal varieties or biological processes for producing plants or animals; discoveries and materials already existing in nature; medical treatment for humans and animals; and nuclear and fissionable material.

Besides the above points in the the Third World group's draft agreement, several Third World delegations also made clear that no TRIPs accord should be located in GATT or be linked to the GATT system of rights and obligations.<sup>1</sup>

Predictably, when the Third World group put forward their proposals to GATT, the industrial countries rejected them. "With varying nuances, they made clear that they would not even consider [the draft agreement] as a basis for negotiations and indirectly warned that unless Third World countries agreed to accept enhanced GATT standards and rules, unilateral retaliation against their trade would follow."<sup>2</sup>

## Contradictory Trends

There are now two major but contradictory social and economic trends. On the one hand there is a rapidly increasing realization amongst both citizens and governments that the uncontrolled operations of companies and the economy have catastrophic consequences for the environment and human health. As a result, there is a growing trend for legislatures and governments to attempt to control the operations of companies, economic projects and industrial plants. This trend extends beyond national boundaries, to the regional and global levels. On the other hand, however, there is a powerful contrary trend which advocates the granting of untrammelled freedom for "market forces" to dominate economic and other spheres of life. The ideology behind the industrial countries position at the Uruguay Round negotiations is that which sees human interests as best served by the "free market", "free trade", "deregulation", "privatization" and "liberalization". It is an ideology which believes in maximizing the freedoms and resources to be given to companies to operate, whilst minimizing the role of governments either to participate in economic

activity or to regulate the behaviour and effects of the companies.

Between two equal partners or contenders, free trade may bring mutually satisfying, fair and equitable benefits. But if one party is far stronger than the other, the benefits are likely to be unequally shared; indeed, the weak party may suffer losses. In the case of international trade in goods, services and investments, it could well be that "free trade" will lead to the TNCs taking control over many sectors of Third World economies whilst the locally-owned industries, trades and services of the Third World will be increasingly marginalized. In an analogy from sports, putting the Third World and the industrial countries on an equal footing in "free trade" would be like pitting an undernourished African child against the Olympic sprinter Carl Lewis in a 100 metre race. The rules are the same for both: they can start only when the gun is fired, they both have to run 100 metres, and the first person to reach the tape wins. This would be a "free" race in that the rules are similar for every participant but it certainly would not be considered a "fair" race since the contenders are not of equal capacity to begin with. Similarly, to insist that Third World and industrial countries alike be subjected to the same rules hindering foreign investments in goods and services, might be defined as "free trade" but would not constitute "fair trade".

## Free Trade and Fair Trade

What the Third World should be fighting for is fair trade, not free trade. What it desperately needs is an international economic order that recognizes and caters to its needs — the need to produce to satisfy the basic and human requirements of its people, the need for greater social equity, and ecologically harmonious forms of development. That is why Third World countries consider the "development principle" such a crucial concept to adhere to at the Uruguay Round negotiations, as this recognizes that being in a weaker position (due to historical reasons) the countries of the South are entitled to consider their needs as top priority when negotiating the terms of agreement in various areas of the Round. If the industrial countries succeed in downgrading or scraping the "development principle", the Third World will have almost nothing left with which to defend itself in the vicious terrain of the international economic arena.

The Uruguay Round can be seen as the TNC Empire's grand way of striking back at global demands for legislation to tackle ecological concerns and at the Third World's demands for global economic justice. With the present balance of forces, the advocates of the liberalization trend appear far more powerful and they may succeed in pulling off a coup through the Uruguay Round, going over the heads of national legislatures to secure greater freedoms and powers for themselves in international laws. On the other hand, the advocates for a future that is environmentally sound and that allocates a fair share of global resources to the Third World, are growing in influence as more and more people realize the vital nature of their struggle. How the battle is resolved may well determine the shape of the whole global economy for many decades to come.

## References

1. *South-North Development Monitor*, 7 April, 1990.
2. Raghavan, C., *South-North Development Monitor*, 18 May, 1990.

# GATT, Agriculture and the Environment:

## The US Double Zero Plan

by

Mark Ritchie

*The US Government, backed up by corporate interests, is using the GATT Uruguay Round to push through a drastic series of measures to deregulate global trade in agricultural and related products. The US proposals would devastate small farmers around the world and massively increase the control of big business over the production of and trade in food and other natural products. The right of national and regional legislatures to implement environmental and health protection regulations would also be seriously compromised.*

In October 1989, the Bush Administration presented to all GATT member nations the final version of their comprehensive agricultural proposal, the so-called "double zero" plan.<sup>1</sup> Although there are over a dozen major areas under negotiation at GATT which have serious implications for the environment, the agricultural talks in general, and the US plans for "global deregulation" in particular, are the most far-reaching. If accepted, the US proposal would alter the rules governing world trade in food, natural fibres, fish and forestry products and would seriously limit the right of GATT member nations to implement a wide range of natural resource protection laws at local, provincial and national levels.<sup>2</sup>

### Agricultural Programmes

One of the main objectives of the "double zero" plan is to force a sharp reduction in, or the elimination of, domestic farm support programmes around the world. Grain traders and agrochemical firms see these programmes as impediments to their ability to maximize profits on a global basis, and have worked hard to convince President Bush to use GATT as a way of attacking these programmes.

The reduction or elimination of all farm programmes could put an end to a wide variety of government-paid environmental protection and conservation programmes, reforestation efforts and measures which provide assistance to farmers making the transition to more environmentally-sustainable methods of produc-

tion. The damage which this would do to small and medium-sized family farmers could have a number of major environmental consequences:

- *Increase in land under cultivation.*

Current farm policy in the US, Europe and elsewhere has allowed many farmers to leave unproductive more than 100 million acres over the past few years, both to control production and to protect the environment. If farm programmes are phased out under the US proposal, much of this now idle land could go back into production.

- *Farm and pasture land would be managed much more intensively, primarily through the use of more chemicals and fertilizers.*

In the words of the head of the US-based Fertilizer Institute, the reductions of farm prices, which would occur under the US GATT proposal, "will provide incentives for farmers to improve their productive efficiency". In other words, price cuts will force farmers to buy and use more chemicals in the hope of boosting production enough to make up for the fall in prices.

- *Falling farm prices will leave small and medium-sized family farmers with less income.*

If the GATT talks result in the elimination of farm programmes, most family farmers will end up with less income. This will make it financially difficult or impossible for them to take the risks necessary to make the conversion to more sustainable practices and less able to invest in vital soil and water conservation improvements.

- *Conservation-orientated farm programmes could be eliminated.*

A number of farm programmes are combined or linked with conservation efforts, such as wetlands and wildlife habitat protection schemes. Operation of these may become difficult or impossible without subsidies.

- *Families farming the land could be replaced by absentee landlords and corporations.*

Under the US GATT proposal, it is likely that a large number of farm families and peasants around the world will be forced out of business, even if they cut corners and intensify production to their maximum ability. Some of these producers will be replaced by absentee or corporate owners who have the capital necessary to increase fertilizer and chemical use enough to survive.

- *Diversified livestock producers will be replaced by large-scale feedlots and confinement operations.*

The reduction in feed prices anticipated under the US plan will put large livestock producers at an enormous competitive advantage over smaller, diversified family operations who grow their own feed. Not only will this squeeze out smaller producers, it will also mean even greater environmental problems caused by manure run-off from these huge operations. The concentration of livestock into large units brings additional problems with diseases leading to an increased reliance on antibiotics and the use of nuclear irradiation to

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control threats to human health. Large-scale producers are also the major advocates of the legalization of growth hormones and stimulants.

- *Small producers who have survived by growing specialty crops will be pushed out by large producers entering their markets.*

Global deregulation of agriculture would allow some large-scale producers to shift their production into new, specialty crops, now grown mostly by smaller, more environmentally-sound farms. This could result in a collapse of market prices for these specialty crops, driving the smaller producers out of business.

- *Conversion of farmland into industrial and commercial uses.*

The displacement of family farmers and peasants under the double zero plan could lead to an acceleration in the conversion of greenbelts and farms into factories, roads, shopping malls, housing, landfills and other commercial developments.

## Import Controls on Raw Materials

One of the most important features of the US GATT proposal is the demand that nations could no longer limit the volume of agricultural or other raw material products which they import. All existing import quotas would be subjected to a process termed "tariffication", where they are converted into import taxes, called tariffs, and then phased down or out within 5-10 years.

Many poor countries now use import controls, often in the form of quotas, to protect their local agriculture and fisheries from being wiped out by cheap imports from industrialized countries like Australia, Canada, the US or Europe. If these countries are prohibited from imposing import quotas, local farmers will be forced to use ever more intensive and environmentally damaging methods of production in an attempt to survive. Those farmers who are not able to intensify will be eventually pushed off their land, leading to the consolidation of smallholdings into huge corporate-style farms.

Prohibiting import controls in the North would also have social and environmental consequences. For example, environmental organizations which are



*Under the US GATT proposal, it is likely that a large number of family farms will be forced out of business, even if they cut corners and intensify production. It is likely that they will be bought-up by large corporate landowners or paved over.*

calling for a ban on the import of tropical hardwoods are concerned that the US proposal to eliminate quantitative import controls is an attempt to insure that GATT rules will prevent a tropical timber ban from ever being adopted in the US or elsewhere.

Fast food hamburger restaurants in the United States are pushing to use GATT to overturn existing US beef import controls, which now strictly limit the amount of beef allowed into the country. If they are successful, there will be a sharp rise in imports into the US, much of which will be produced on pastures cleared from rainforests in Central and South America, by taking over land which is now used by small farmers. Similarly, confectionery and soft drink companies, like Coca-Cola, Pepsi and Mars, are pushing to open US borders to unlimited imports of sugar. Contrary to the claims by these corporations that ending sugar import controls would help poor people in the Third World, the majority of the sugar imported into the US comes from huge plantations which are often on land that was formerly used by small farmers to grow food for their families. The sugar workers are often treated like little more than slaves. More sugar imports will only lead to more and more land being seized from peasants, and will therefore create more hunger and poverty and environmental destruction.

## Export Controls on Natural Resources

Article XI of the current GATT treaty gives all countries the right to impose

export restrictions on food and other critical resources in times of shortage. This is designed to prevent corporations from exporting desperately-needed food in order to sell it for a higher price somewhere else. The Bush Administration is proposing that this provision of GATT be abolished to ensure that US corporations, no matter where they are operating in the world, have unrestricted access to all the raw materials they need or want.

Ironically, many citizens in the United States, especially in the Pacific northwest states of Washington and Oregon, have come out in strong opposition to this proposal. Legislatures in both states have passed outright bans on the exports of raw logs, both for ecological reasons and to protect jobs in local sawmills. Japanese importing corporations, who have come to be dependent on raw log exports from this region, have bitterly objected, claiming that this violates the US "free trade" position at GATT. The Bush Administration is hoping that the GATT talks can give them the power they need to preempt and overturn these state laws.

## Weakening Environmental and Health Safety Standards

Few issues have caused as much conflict in this round of agricultural trade talks as the wide differences between each nation's food safety and environmental standards.<sup>2</sup> Corporations are lobbying for new GATT rules which could both limit the right of nations to set stricter standards and allow federal governments to preempt state pesticide and food safety legislation. The "double zero" plan will

## Undermining Public Health

### How the *Codex Alimentarius* will increase exposure to pesticides in food

*The Rome-based Codex Alimentarius Commission is administered by the UN Food and Agriculture Organization and co-financed by the World Health Organization. It aims at developing the harmonization of regulations and measures concerning the quality of animals, vegetables and food products on the basis of norms established in collaboration with relevant international organizations including the International Office of Epizootics and the International Plant Protection Convention. Some examples of Codex pesticide residue levels on foods which are higher than US Environmental Protection Agency tolerances are given below.*

Crop	Pesticide	Increase
Carrots	Benomyl	25.0 x
Apples	Permethrin	40.0 x
Broccoli	Permethrin	2.0 x
Strawberries	Lindane	3.0 x
Potatoes	Diazinon	5.0 x
Bananas	Aldicarb	1.6 x
Bananas	Diazinon	2.5 x

*Some examples of Codex pesticide residue levels on foods which are higher than US Food and Drug Administration action thresholds include:*

Crop	Pesticide	Increase
Broccoli	Heptachlor	5.0 x
Broccoli	DDT	33.0 x
Broccoli	Aldrin	3.3 x
Carrots	Heptachlor	20.0 x
Carrots	DDT	10.0 x
Grapes	DDT	20.0 x
Lettuce	Heptachlor	5.0 x
Lettuce	DDT	33.0x
Lettuce	Aldrin	3.3 x
Potatoes	Heptachlor	5.0 x
Potatoes	DDT	10.0 x
Milk	Endrin	3.0 x
Apples	DDT	10.0 x
Apples	Aldrin	1.7 x
Bananas	DDT	50.0 x
Bananas	Aldrin	2.5 x
Peaches	DDT	50.0 x
Peaches	Aldrin	2.5 x
Pineapple	DDT	33.0 x
Pineapple	Aldrin	1.7 x
Strawberries	DDT	20.0 x

limit the right of nations to impose environmental and consumer protection regulations on imported foods by imposing the following procedures:

- "Scientific evidence" would be the only consideration in human health and environmental regulations applied to imports. No social, economic, religious or cultural concerns could be considered, no matter how important.

- The Rome-based UN agency Codex Alimentarius (*see* Box), made up of government officials with the active participation of executives from chemical and food companies, would be the major source of "acceptable" scientific evidence.

If harmonization is accepted by GATT, attempts to enforce domestic standards stricter than those recommended by Codex on pesticide residues in imported

food could result in GATT-sanctioned retaliation or in the demand for compensation to exporting countries. For example, a food item imported into the United States is banned under current legislation if it is found to have DDT residues above extremely low "background" levels. However, since Codex has set Maximum Residue Levels (MRLs) for DDT many times higher than the US, disputes may arise between nations exporting foods with Codex-permitted DDT residues and the US. The exporting nation could take this issue to a GATT dispute panel, who would compare US limits to Codex. The stricter US standards could be ruled "illegal", leading to possible trade retaliation.

This option has been referred to by some as "greenmail", where countries demand "compensation" in return for promising not to export goods with pesticide residues above domestic tolerance levels. If Codex standards become a "ceiling" on the regulations that can be enforced on imported goods, farmers in countries with stricter standards will find themselves competing with imported foods produced under much less strict environmental regulations. If this situation begins to threaten their economic survival, they may feel compelled to lobby for lower standards to create a "level playing field", causing a serious conflict of interest between farmers and environmentalists. Not only could this conflict result in an expensive and time-consuming battle, but it may destroy the small, but growing, alliance between farmers, consumers and environmentalists. In the end, harmonization may result in the lowering of safety standards on both imported and domestically produced foods.

### Undermining Local, State and National Authority

Since Codex is presided over by a White House appointee from the US Department of Agriculture, Dr Lester Crawford, many public health advocates around the world fear that the Bush Administration may be trying to use GATT-enforced harmonization as an instrument with which to overturn or weaken various pesticide regulations and food safety laws in the United States and elsewhere. Indeed, in a recent interview, US Agriculture Secretary Clayton Yeutter expressed his belief that he can eventually use GATT to do just this:

"If the rest of the world can agree on what the standard ought to be on a given product, maybe the US or EC will have to admit they are wrong when their standards differ."<sup>3</sup>

Under legislation now being considered by the US Congress, dangerous pesticides banned in the US could no longer be shipped abroad — where they are often used on crops which are then exported to the United States, creating the so-called "circle of poison". Since Codex does not ban a number of chemicals prohibited in the US, it could be against GATT rules for Congress to prohibit the export of those products, or the re-import of foods with residues of these banned products. John Wessel, director of the US Food and Drug Administration's Contaminants Policy Staff and spokesperson for the Bush Administration on this issue, has strongly condemned congressional attempts to pass "circle of poison" legislation, arguing that the proposed laws would:

"have the potential of bringing international food trade to a halt. If there is a need for providing a level playing field for farmers, then it should be the responsibility of the Codex Committee on Pesticide Residues rather than an individual country."<sup>4</sup>

Harmonization is also clearly designed to restrict the ability of local and regional governments to set environmental and consumer protection standards. For example, even if the citizens of California vote overwhelmingly to prohibit the use of any carcinogenic pesticides on foods grown or sold in the state, under harmonization this law could not be enforced on foods imported from overseas without the possibility of trade retaliation. Clayton Yeutter has stated publicly that one of his main goals at GATT is to use it to overturn the strict local and state food safety regulations that have been passed in recent years. He fears that if state governments can implement their own regulations, it could set a precedent for more strict federal legislation.

Yeutter also sees ways to use harmonization to lower standards in other countries. Government and food industry officials in the US have been very active in support of harmonization partially because they believe it can be used to lower the standards they must meet when they export their produce. A good example is the proposed EC ban on the genetically-engineered cattle growth hormone, bovine somatotropin (BST). In a letter to

## The Domination of Corporate Interests

*The composition of the US delegation to Codex Alimentarius shows the prominent role given by the US to corporate representatives in setting the standards to regulate their own industries. It is notable that there are no representatives from consumer or environmental organizations or any other citizens-groups. The full list of US delegates is:*

- Dr Lester Crawford  
Administrator  
Food Safety and Inspection Service  
US Dept. of Agriculture
- Dr Douglas L. Archer  
Director, Division of Microbiology  
Center for Food Safety and Applied Nutrition  
US Food and Drug Administration
- Dr Brian Bagnall  
Director, Public Affairs  
Smithkline Beckman Corp.
- James R. Brooker  
National Marine Fisheries Service
- Franta Broulik  
Director, Regulatory Affairs and Information Services  
McNeil Specialty Products Company
- Dr Wm. J. Cook  
Director, Corporate Quality Assurance  
Hershey Foods Corporation
- Charles W. Cooper  
Assistant Director  
Center for Food Safety and Applied Nutrition
- John W. Farquhar  
Vice President  
Research and Technical Services  
Food Marketing Institute
- Charles Feldberg  
Vice President, CPC International Inc
- Sherwin Gardner  
Vice President Science and Technology  
Grocery Manufacturers of America
- Gerald B. Guest  
Director, Center for Veterinary Medicine  
Food and Drug Administration
- J. Harty  
Director, International Affairs Staff  
Food and Drug Administration
- Thomas B. House  
President, American Frozen Food Institute
- Julia Howell  
Manager Regulatory Submissions  
The Coca-Cola Company
- Maureen Kapustynski  
Manager, External Affairs  
Pepsi Co. Inc.
- Dr Thad M. Jackson  
Nestlé Enterprises
- Eddie Kimbrell  
Consultant, Holland and Knight
- Bruce A. Lister  
Vice President, Corporate Affairs  
Nestlé Foods Inc.
- Marshall Marcus  
Director, Regulatory and Trade Affairs  
Protein Technologies International
- Dr Allen Matthys  
Director, Regulatory Affairs  
National Food Processors Association
- B. McMillan  
McMillan and Farrell Associates
- Rhonda Nally  
Executive Officer for Codex  
Food Safety and Inspection Service  
US Department of Agriculture
- James Serafino  
Director, Regulatory Affairs  
Associate General Counsel  
Nestlé Foods Inc.
- Dr Fred R. Shank  
Acting Director  
Center for Food Safety and Applied Nutrition  
US Food and Drug Administration
- S.N. Tanner  
Assistant to the Administrator  
Federal Grain Inspection Service
- Raymond Tarleton  
Executive Vice President  
American Association of Cereal Chemists
- Ellen Thomas  
Manager  
Regulatory Industry Relations  
Compliance  
Kraft, Inc.
- Roberta Van Haefen  
Attaché for Food and Agricultural Affairs  
FODAG, American Embassy, Rome.

FDA Action Thresholds from *Federal Register* Vol. 55, No. 74, April 17, 1990. FDA docket No. 89D-0368, 'Action Levels for Residues of Certain Pesticides in Foods'.  
EPA Tolerances from *Code of Federal Regulations* Vol. 40, Parts 150-189, July 1, 1988. Codex information from, 'Guide to Codex Maximum Limits for Pesticide Residues, Part 2', Doc. No. CAC/PR2, 1989. Issued April 8, 1989 by the Netherlands.

Europe's Agriculture Commissioner, Ray MacSharry, Secretary Yeutter objected to this proposed ban, using GATT as his main justification. Yeutter believes that a moratorium on the use of BST would both disrupt the GATT talks and might encourage consumer demands for similar regulations in the US. He fears that an EC ban on BST would:

"contravene our mutual objective of achieving international harmonization in this sensitive area of food safety. It would also add fuel to the fires for those who wish to have public policy decisions made on the basis of emotion and political pressure."<sup>5</sup>

In the same speech he went on to say:

"Arguments about the synthetic hormone's impact on production also should not be used as a basis for FDA consideration. I don't want to see government agencies decide on the basis of alleged economic grounds what should or should not enter the American market. Let's let the marketplace provide that determination."<sup>6</sup>

### Preventing the Adoption of the "Fourth Criterion"

Over the last 100 years, three criteria for evaluating new chemical additives to food have evolved; safety, quality and

**"The US proposal to eliminate quantitative import controls could prevent a tropical timber ban from ever being adopted in the US or elsewhere."**

efficacy. A number of consumer and environmental organizations are working to establish social and economic values as the "fourth criterion". Many chemical, pharmaceutical and food companies fear that if this "fourth criterion" becomes generally accepted it will lead to tougher laws and regulations.

Recent examples of the "fourth criterion" in practice are the bans on the commercial use of BST, recently passed by a number of US states. Generally, these have been based on the argument that the use of this drug would bankrupt thousands of dairy farmers. Another example is the beef hormone ban imposed in Europe in 1989, imposed on the basis of consumer demands, and not strictly on "scientific evidence". Under harmonization, these laws could not be applied to imported goods without running the risk of retaliatory action. In a recent official GATT report, the US representative argued that:

"The basis for authorizing products should be a thorough scientific appraisal against the three traditional criteria of safety, quality and efficacy. The EC was now considering whether . . . BST should also be reviewed on the basis of social and economic implications. According to the United States, such a political criterion could set a very dangerous precedent and would be contrary to the standstill commitment."<sup>7</sup>

### Opposition to the US GATT Proposals

A large number of environmental, farm, church and consumer organizations have spoken out about their concerns over the environmental implications of GATT. A coalition of US environmental and natural resource conservation organizations, called the Working Group on Trade and Environmentally Sustainable Development, has called on Congress to reject any GATT treaty that contains anything like the harmonization proposal. In addition

they have raised questions about the implications of GATT on issues such as genetic diversity and the protection of old-growth forests.

One of the most important concerns being raised is whether GATT will be used to undermine the democratic institutions of the US. Lynn Greenwalt, vice-president for international affairs at the National Wildlife Federation, summarized this concern at a recent press conference on GATT and the environment:

"We have come together today to note, and perhaps prevent, the passing of an era. An era when local communities had a say in how their natural resources were used. An era when the state and federal governments could take steps to stop the destruction of our environment. These basic rights may be sacrificed by US negotiators in the name of free trade."<sup>8</sup>

The US professional journal, *Nutrition Week*, has expressed its fears about the same issues:

"The role of science in the regulatory process is advisory. Health and safety rules are decided by the elected representatives of the people — that is by those who are accountable to the citizens of the Republic. Rules and regulations are developed with the advice of scientists, subject to comment and review by those affected by the proposed rule or regulation and approved by an individual appointed by the President — the chief executive officer. The executive branch is accountable to the Congress, and the actions of the executive are subject to judicial review.

"The US trade proposal would change all of that. A scientific court would be accountable only to those individuals or interests that appoint the members of the court. The decisions of the scientific court would not be reviewable. The function of the court, although scientific in appearance, would be framed always in economic goals and objectives. Science would no longer be an advisor, but would determine what is best for the economic future of the people of the world."<sup>9</sup>

Many non-governmental organizations in the US have had a number of bad experiences with faulty or dishonest science, ranging from the thalidomide scandal to promises of "risk-free" nuclear power. The prospect of seeing democracy undermined by a global "science court" is truly alarming.

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Pesticide use in the Third World is growing and many crops are heavily contaminated. Under legislation now being considered by the US Congress, dangerous pesticides banned in the US could no longer be shipped abroad — where they are often used on crops which are then exported to the United States, creating the so-called “circle of poison”. The new GATT rules would make a number of such export bans illegal. Controls on the re-import of contaminated foods could also be illegal.

## Intense Lobbying

Correctly anticipating a tough fight against their GATT proposals, officials in the Bush Administration are working hard to reverse the mounting opposition. To farm groups, they promise that GATT is the best way to overturn domestic pesticide and food safety laws and that it will be possible to use GATT dispute panels to open foreign markets. A recent report put out by the California World Trade Commission, *International Standards and Agricultural Trade*, summarizes the arguments:

“Uniform national standards are essential to successful negotiations and implementation of current GATT talks to harmonize health and safety rules.

“California, in its zeal to lead the world in regulating chemical use, may become so out of step with the competition that it will put its \$17 billion agriculture industry out of our business.

“The Uruguay Round talks on harmonizing plant and animal health restrictions are becoming increasingly important to California as food safety and environmental concerns grow.”<sup>10</sup>

A former member of Yeutter’s GATT team in Geneva, C. Ford Runge, who now works for the Center for International Food and Agricultural Policy, an institute

funded by the Cargill Grain corporation devotes much of his time to convincing farm groups that GATT can be used to “keep stricter environmental standards from adversely affecting their cost of production.” According to Runge: “Farmers will have to turn to international organizations, to help them confront the issues of environmental standards.”<sup>11</sup>

In addition to attempting to win the support of farm groups, Administration officials have met with representatives of several environmental and consumer organizations, arguing that “free trade” as an ideological position should have the support of consumer groups. Although a few non-governmental organizations, like Resources for the Future, support the US GATT proposal, an overwhelming majority have come out strongly against.<sup>12</sup>

## Pressure from GATT and Codex Staffs

Although it is expected that the staffs of international agencies should remain strictly neutral in these negotiations, in reality they play a powerful role in determining the direction and parameters of the discussions. In this regard, both Codex and GATT staff have expressed very strong support for harmonization on a number of occasions.

A recent meeting of senior GATT staff with a delegation of consumer, environmental, church, farm and trade union representatives from the US, Europe and Japan was summarized by *Nutrition Week*:

“New terms being hammered out here (Geneva) to guide world trade during the . . . 1990s will eliminate or weaken health and safety rules and regulations for food, drugs and the environment . . . The immediate target is the Delaney clause of the Food, Drug and Cosmetic Act that prohibits in the US the use of food additives that cause cancer in humans or test animals. The Delaney clause is the only food safety law that sets a zero tolerance for chemicals and other substances used as food additives.

“‘World trade cannot survive with a zero tolerance’, said Jean Marc Luc, Director of the Agricultural Division of the GATT. Luc will draft the final proposal in the current negotiations to set new rules for trade in agricultural products.”<sup>13</sup>

In his opening speech to the July 1989 session of the Codex Commission, the Codex chairman was quite explicit about his excitement over what is being called the “international harmonization project”:

“The current developments underway within the Uruguay Round of



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Multilateral Trade Negotiations offer the exciting prospect of the Codex standards being used as the basis for the harmonization of national regulations as a long-term objective under GATT."<sup>14</sup>

## Moving Towards a Positive Solution

A number of GATT member nations have begun to recognize the need for GATT to address environmental issues. For example, the European Community's GATT proposal states:

"Countries which have achieved a high health status will find it difficult to systematically relinquish their national standards in favour of lower, albeit 'international' standards. It will, therefore, be necessary to provide for countries to continue to apply more stringent standards, where appropriate."<sup>15</sup>

Various resolutions being considered by the US Congress address the need for a special process within GATT to begin incorporating ecological concerns. A resolution by Congressman James Scheuer calls on Congress to reject the final GATT agreement if it does not adequately address environmental protection. Included in his resolution is the threat that the agreement reached in the Uruguay Round will not be enacted unless there is:

"Agreement among contracting parties to initiate special consultations (which shall include non-governmental organizations and parliamentarians from member countries as full participants) to discuss environmental issues by April 1, 1991, which consultations must address, among other relevant issues:

a) the steps that can be taken to ensure that the implementation of GATT does not undermine national environmental protection measures and health and safety standards, and the promotion of sustainable development;

b) means by which GATT can be used to enhance environmental protection and the promotion of sustainable development, and;

c) mechanisms by which public access to information regarding, and public participation in, the GATT process can be encouraged."<sup>16</sup>

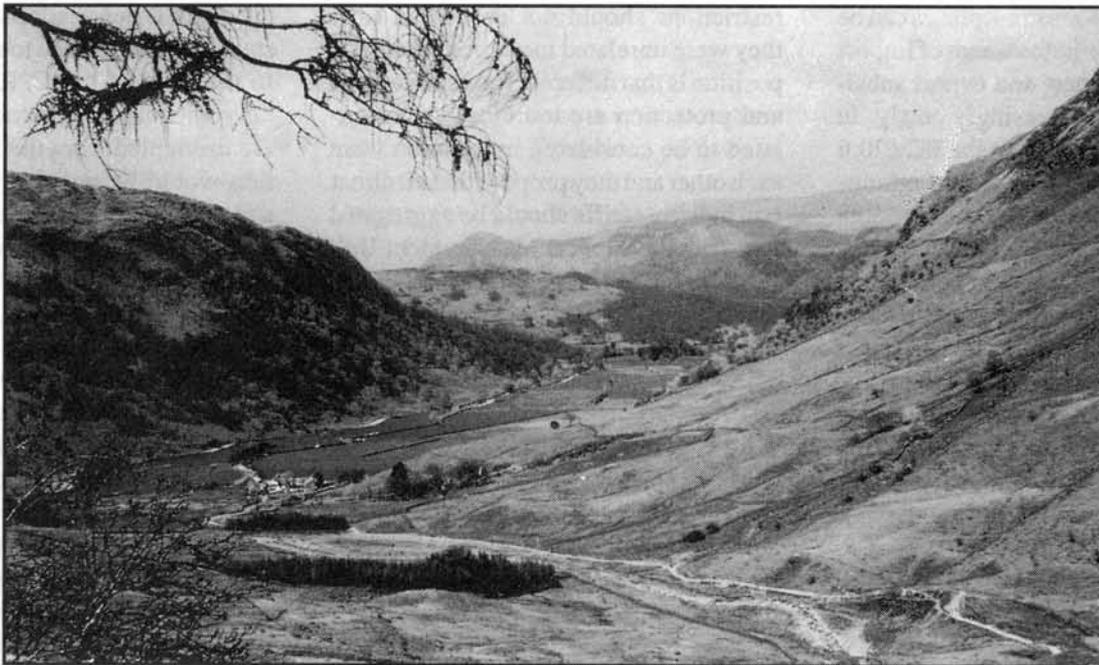
## Conclusion

During the last decade there have been two key breakthroughs in our understanding of environmental issues. The first is the inseparable connection between ecology and economy. Close co-ordination between economic policy and environmental policy is a fundamental requirement for sustainability, both ecological and financial. The second is the acknowledgement that most ecological issues are global, they know no boundaries. International co-ordination and co-operation in addressing ecological dangers is becoming an absolute necessity for human survival.

GATT is the one place where policies can be co-ordinated at the global level, based on mutually agreed upon rules and a transparent dispute settlement process. Unfortunately, it totally fails to integrate ecological concerns into its economic function.

## References

1. United States Trade Representatives Office, 'Submission of the United States on Comprehensive Long-Term Agricultural Reform', October, 1989.
2. For a complete review of all ecological concerns related to GATT, see Shrybman, S., 'International Trade and the Environment', *The Ecologist*, Vol. 20, No. 1, January/February, 1990; Ritchie, M., *Environmental Implications of GATT*, Institute for Agriculture and Trade Policy, ???, 1990.
3. 'Washington', *Farm Journal*, May, 1989, p.10.
4. *Food Chemical News*, 2 April, 1990, pp.7-9.
5. Clayton Yeutter, US Secretary of Agriculture, letter to Ray MacSharry, EC Agriculture Commissioner, 8 July, 1989.
6. Van Beek, L., 'Yeutter Asks for International BGH Policy', *Wisconsin Agri-News*, October, 1989.
7. 'News of the Uruguay Round', GATT Secretariat, Geneva, April, 1990.
8. Lynn Greenwalt, National Wildlife Federation Press Statement, Washington DC, 24 May, 1990.
9. Leonard, R., 'Science, Economics Role to be Redefined in the 1990s', *Nutrition Week*, 3 May, 1990, p.4.
10. *International Standards and Agricultural Trade: A California Perspective*, California State World Trade Commission, Sacramento CA., 3 April, 1990.
11. Taylor, R., 'Relationship between environment, trade policy important to region's future', *Minnesota Wheat*, January, 1990.
12. For example, see *Agriculture in the Uruguay Round of the GATT*, Resources for the Future, Washington DC, August, 1988.
13. Leonard, R., 'New World Trade Rules to Replace Health, Safety Standards', *Nutrition Week*, 1 March, 1990, p.1.
14. Report on the 18th Session of Codex Alimentarius Commission, July, 1989.
15. Submission of the European Communities on Sanitary and Phytosanitary Regulations and Measures, 1989, p.2.
16. House Resolution 336, 24 May, 1990.



A valley in the Lake District of northwest England. Farming would simply not be profitable on upland areas such as this if the European Community accepts the US proposal for a rapid phase out of agricultural subsidies. Communities would be shattered in marginal farming areas across Europe.

## European Agriculture and the Uruguay Round

by  
Tracey Clunies-Ross

*The US proposals to cut agricultural subsidies drastically are totally at odds with the agricultural policy of the European Community. European agriculture is highly protected and it is feared that the removal of farm support measures could result in the abandonment of large areas of European farmland. The EC and the US are now attempting to negotiate a compromise to avert the threat of a trans-Atlantic trade war.*

In the early rounds of GATT, agricultural products were treated as a special case which did not have to comply with the normal regulations against subsidies and other protectionist measures. The moves to protect agriculture were led by the US which let it be known that it would refuse to ratify any international agreement which threatened its farm support system. Ironically, it is now US pressure in the Uruguay Round to reverse agriculture's special situation, that has led to extreme concern within Europe over the future of its farm policy.

During the last two decades, the Common Agricultural Policy (CAP) has en-

abled European farmers to enjoy high and stable prices not experienced elsewhere; within Europe, prices for many commodities are 20 to 50 per cent higher than on the world market. Under the CAP, if the internal EC price for a certain commodity falls below a certain point, the price is supported by buying surplus stocks into "intervention" stores. Prices are also set for imported goods, and variable duties and levies are set to make sure that goods do not fall below these prices.

Originally, it was envisaged that the produce bought into intervention in times of surplus would be released back onto the market in times of shortage. However, the policy of stimulating increased production has been so successful within Europe that surpluses have grown year by year, and the opportunities for releasing produce back onto the internal market

have virtually disappeared. In Britain, the volume of agricultural production rose between the mid-1970s and the mid-1980s by over 20 per cent, despite a 10 per cent reduction in the workforce and a 2 per cent reduction in the area being farmed. By the mid-1980s, the EC was producing significant surpluses of cereals, dairy produce, wine, sugar and beef. Britain alone had made the transition from being a net importer of cereals, to being the sixth largest exporter of cereals in the world.

In recent years, the surpluses generated within the EC have been too great to be held in intervention stores and they have been released onto the world market. Because the price support programme makes EC prices significantly higher than world market prices for most commodities, large export subsidies have to

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be paid before European surpluses can be sold abroad. The whole system of import control, price support and export subsidies has become increasingly costly. In 1988, the CAP was costing the EC £20.6 billion a year; 73 per cent of the Community budget. The changing position of the EC, from being a net importer of many agricultural commodities to being a net exporter, and its policy of dumping surpluses on the world market, has had a significant effect on the policies and prospects of other countries which are reliant on exporting agricultural commodities.

## Tensions between the EC and the US

The US's "double zero" proposal to phase out all agricultural support has, not surprisingly, been strongly resisted by the EC. A rapid phasing out of all forms of agricultural support, and a drop in EC prices to world market levels, would have a particularly profound effect on small farmers and those in marginal areas. Under conditions of falling prices, it is likely that farmers who could not improve their "efficiency" through increased mechanization, reduced costs and increased yields, would be forced out of production. If payments such as those made to farmers in marginal and upland areas had to be abandoned, farming might become an unprofitable activity on large tracts of land in the poorer agricultural areas of Europe with enormous social and environmental costs.

Despite its rejection of the US's zero option proposals, the EC has acknowledged that agricultural support policies have had some negative effects, including burgeoning surpluses, excessive protectionism and the insulation of domestic producers from the world market. It has therefore conceded the need to reduce support to remove some of these negative effects. In its counter proposals, the EC has maintained that there would be little merit in eliminating all external protection for producers, thereby extending the instability on world markets into internal markets. It has shown a preference for market-sharing agreements and the raising of world prices through market intervention, rather than the abolition of all forms of support and the lowering of prices. Moreover, if support levels are to be reduced, as has been agreed in principle, the EC is adamant that export subsidies, internal price support and import

restrictions should not be treated as if they were unrelated measures. The EC's position is that different forms of support and protection are too closely inter-related to be considered in isolation from each other and they propose that all direct and indirect tariffs should be aggregated to produce a Support Measurement Unit (SMU). This aggregate measure should then be used to negotiate overall reductions in support.

## The Cairns Group

The complexity of the discussions about agriculture within GATT is compounded by the position adopted by a group of fourteen nations calling themselves the Cairns Group.<sup>1</sup> This group cuts across the traditional North/South divide and is composed mainly of nations that are major exporters of one or more agricultural commodities. The Cairns Group supports the US position on free trade, though it advocates a slower process of transition with an intermediate reform programme operating over a ten-year period. Both the Cairns Group and the US believe in an end to export dumping and the eventual elimination of income support.

A major element within both the proposals of the US and the Cairns Group is that there should be a rigorous theoretical separation between subsidies related to production and those "decoupled" from production. Unfortunately, the definition of decoupled payments has not been easy to achieve, as virtually no measures can be defined as being totally unrelated to output. In the US framework paper, "market price supports" (such as import quotas, levies, export subsidies, credits, marketing board activities, interest subsidies and government stabilization funds), "income support" (including deficiency, storage, headage and acreage payments) and advisory, research and other infrastructural supports are all defined as being related to output. It would seem that "decoupled" payments incorporate only *ad hoc* emergency payments and foreign and domestic aid programmes.

This confusion about the exact form that decoupled payments could take makes it difficult to assess what impact the US and Cairns proposals would have on European farmers if they were to be implemented. Interestingly, the Council for the Protection of Rural England (CPRE) has criticized the EC stance in

the GATT negotiations believing it to stem from reluctance to reform the CAP. In the view of the CPRE, environmentally-friendly farm income supports that are decoupled from the level of production would be popular with consumers and conservationists. The CPRE's argument is that high prices encourage farmers to produce more, both by increasing the area under cultivation, by draining wetlands, ploughing up moorlands, and so on, and by using higher levels of inputs such as fertilizers and pesticides to boost crop yields. Conversely, lower farm prices would lead to more extensive land use and the CPRE believes that this should be coupled with payments to farmers to encourage them to concentrate on countryside protection and the production of food that emphasizes food quality and hygiene. In this way the emphasis within agriculture could be changed from concentrating on higher output, to ensuring sustainability.

Whether the CPRE's interpretation of decoupled payments would fall within the US definition is not clear. Moreover, the GATT negotiations on agriculture do not contain an environmental element. Without environmental safeguards, the adoption of the US free-market proposals, with the consequent lowering of commodity prices, would put more pressure on farmers, both in Europe and elsewhere, to intensify production and consequently cause more damage to the environment.

## Notes and Bibliography

1. The Cairns Group comprises Argentina, Australia, Brazil, Canada, Chile, Colombia, Fiji, Hungary, Indonesia, Malaysia, New Zealand, the Philippines, Thailand and Uruguay.

This article is based on material from the following sources:

Catholic Institute for International Relations, *CAP Briefing: Agriculture and Farm Trade in the GATT*, CIIR, London, March 1989.

'Farm Trade in GATT', *Food Matters Worldwide* 5, March 1990.

Council for the Protection of Rural England, *How Europe's Farm Policies are Destroying the Countryside*, CPRE, March 1990.

*GATT: Latest Developments. The De Zeeuw Paper and GATT and EC Agriculture, Recent Gatt Developments*, NFU Papers, National Farmers Union, 1990.

*Agriculture and the GATT Round*, MAFF, 1990.



Workers in Rio Branco in the Brazilian state of Acre, load Brazil nuts onto a barge for export. Making rainforest inhabitants dependent on the fickle tastes of First World consumers could be a double-edged sword. (Photo: Kit Miller)

## Indigenous Peoples and the Marketing of the Rainforest

by  
Andrew Gray

*The marketing of "sustainably-produced" rainforest products is being touted by environment and development organizations as a key to saving the rainforests. However, as so often in the past, there is a danger that the opinions of the indigenous inhabitants of the forests will be ignored. If these people do not have control over the marketing of rainforest products, they will become dependent on outside forces over which they have no control; outside forces which will inevitably lead to the destruction both of the indigenous societies and the rainforests.*

The idea of marketing rainforest products gathered by the forest's inhabitants initially appears as an ingenious blending of conservation and development. On the one hand, the forest is protected by extractive or indigenous reserves, while on the other, forest peoples can produce a sustainable income to ensure their subsistence needs and long-term survival.

The argument for encouraging marketing is as follows: Indigenous peoples are in trouble; they need cash resources to defend their lives and futures; this money can come from marketing their forest products which have been extracted sustainably from their lands. This argument emphasizes the urgency of the case. People who disagree are often termed "romantics" who want to keep indigenous peoples in some time-warped protected reserve under the supervision of paternalistic do-gooders. However those who make such accusations ignore years of experience, years of discussions on development questions and, above all, the voice of indigenous

peoples themselves. This article concentrates on the concerns of the indigenous peoples of Amazonia, but many of the same issues apply to the other forest-dwelling peoples around the world.

### Traditional Patterns of Trade

Indigenous peoples have been trading and bartering for centuries. The exchange of extracted forest resources over long distances is nothing new. The history of the Amazon has shown that chains of exchange are the most usual routes for the introduction of exotic goods. Inca-style axes in the Peruvian Madre de Dios demonstrate the likelihood of such trading taking place in Inca times when metal axes were exchanged for forest products.<sup>1</sup> Archaeological finds in Bolivia also show that, long before the Spanish conquest, highland peoples received medicinal plants from rainforest peoples.

Evidence from different parts of the Amazon shows indigenous peoples still looking for goods from outside. In the northwest Amazon, indigenous peoples receive trade goods by

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***“A common assumption is that the market is a changeless phenomenon. Indigenous peoples are presented as a unified standard community-based entity which, when plugged together with the international economy, switch on a cash flow like switching on a light.”***

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barter which are exchanged within and between communities.<sup>2</sup> A detailed study of the spread of colonialism among indigenous peoples by Eric Wolf demonstrates clearly the inter-relationship between internal and external trading practices and how these were bound up with the spread of the colonizing frontier throughout the world.<sup>3</sup>

## **Indigenous Priorities**

There are hardly any indigenous peoples in the Amazon who are completely isolated from the market economy and who would not like to take advantage of its resources. But rainforest marketing is a double-edged sword. As history shows, industrial society has taken forest products to make healthy profits and in return has contributed generously to the devastation and destruction of indigenous peoples throughout the world.

In spite of the importance attached to marketing rainforest products by companies in industrial societies, many indigenous peoples do not share this priority. The Co-ordinadora of the Amazon Basin (COICA), the indigenous international organization for the South American rainforest, gives priority to issues other than encouraging marketing:

“The best defence of the Amazonian biosphere is the defence of the territories recognized as homelands by indigenous peoples, and the promotion of our models for living within that biosphere and for managing its resources.”<sup>4</sup>

The priority for indigenous peoples is to gain a secure land and resource base and to ensure that all marketing and recognition of intellectual property rights should be firmly under their control and implemented according to their ways of life.

## **Control of Resources**

The territories of indigenous peoples are constantly under the threat of invasion. Throughout the Amazon, less than 30 per cent of the lands belonging to the nearly 500 indigenous nations are “titled”, while the rainforest surrounding them is being destroyed at a rate of some 142,000 km<sup>2</sup> a year.<sup>5</sup> The primary problem for indigenous peoples is the securing and defence of their land base, without which they cannot carry out their sustainable mixed economy of hunting, gathering, fishing, horticulture and other activities.

However, land in itself is not the answer. Nation states which recognize areas that are too small to provide a sustainable resource base produce pockets of poverty, like the “homelands” of South Africa, which leave indigenous peoples as a surplus pool of labour. Alternatively, dividing up territories into individual plots leads to land mortgages, debt and the destruction of culture and community, as has been clearly shown in the allotment system in the United States, in the Bolivian agrarian reform programme and in Chile under Pinochet.

Until indigenous peoples obtain recognition of their inalienable rights to their territories, any form of survival will remain precarious, and the production of surplus commodities will be unstable because of the threat of invasion, deforestation and resource depletion. Thus, to discuss marketing without discussing the control of the resources which will provide that market with goods is an inversion of sound economics. “Control” here means that indigenous peoples must be able to make free and informed decisions for themselves and also to receive the backing and technical support to create and strengthen their own indigenous organizations.

A common assumption of those who see indigenous peoples and the rainforest being saved through the market economy, is that the market is a changeless phenomenon. Indigenous peoples are presented as a unified standard community-based entity which, when plugged together with the international economy, switch on a cash flow like switching on a light. But marketing is a part of exchange activities between and within communities. It has several aspects, often co-existing, based on the extent to which the community is independent of, or integrated into, the broader industrial market economy.<sup>6</sup> These features include:

- Exchange between communities of goods, such as resources found in specific areas, trade goods obtained from outside the area or other commodities;
- Local markets existing in the form of trading posts, or nearby towns, where indigenous and other forest peoples can bring their produce to a central place and sell or exchange it for other goods;
- Chains of exchange which link the indigenous community to the national and international economy. Here goods which are found naturally in the forest — such as rubber, gold, wood or other products — are sold or exchanged to middlemen or merchants who sell them to outsiders, usually at considerable profit.

When the marketing of rainforest products is discussed, it usually concerns this third aspect of the market economy. Indigenous peoples provide markets with three potential products: the surplus of their subsistence economy; products which they discover are valuable (such as gold or rubber); or their labour.<sup>7</sup> In the models of marketing extractive resources, indigenous peoples provide a mixture of their labour time, subsistence goods and new products for the market.<sup>8</sup>

The following examples show the range of effects the market economy can have on indigenous peoples in the Amazon from the genocidal and ethnocidal to the less disruptive and potentially beneficial.

The most bitter example of the impact of the market on the Amazonian peoples came during the rubber boom of 1894 to 1914, particularly in the Upper Amazon. In order to meet the increasing demand for rubber to provide tyres for bicycles and motor vehicles, indigenous peoples were forced into slavery or debt-bondage. The most notorious and well documented ex-

ample was in the Putumayo region, now in Colombia, where the Casa Arana (a Peruvian concern which later became established as the British-based Peruvian Amazon Company) was condemned internationally for its maltreatment of the Indians.<sup>9</sup> Considering the scale of the work, the environmental destruction wrought by the rubber boom was not as severe as the appalling effect on the indigenous peoples of the area, many of whom lost up to 90 per cent of their population through displacement, disease and murder.

Less intense, but by no means less destructive, has been the impact on Indians of being brought into contact with the market economy by development projects. The effects of highways in Brazil have been particularly damaging. A report referring to the Parakanan Indians, for example, states: "Since the pacification and resettlement team reported, these Indians had sold their cultural possessions to outsiders in exchange for guns and ammunition and were living off the dole of highway workers along the Trans-Amazon Highway."<sup>10</sup> This episode is typical of many cases in Brazil and elsewhere in the Amazon.

There are examples, however, of Amazonian peoples who have managed to deal with the market economy on their own terms. According to Paul Henly, the Panare who have refused to replace their subsistence economy with cash-cropping, and instead exchange handicrafts with the local Criollos, are still able to continue with their subsistence economy.<sup>11</sup> In Peru, the Amarakaeri have developed their gold economy on a sustainable basis. By controlling their territories with recognized land titles and emphasizing their subsistence economy, they have largely escaped the devastating impact of the market economy.<sup>12</sup> However there have been some difficulties: the effect of buying commodities, particularly alcohol, has affected the traditional activities and prestige of the Amarakaeri women. Even where marketing appears not to be so destructive, the introduction of the cash economy can severely disrupt the community.

Examples of indigenous peoples controlling their own marketing are hard to find. In the Pichis of Peru and the Rio Negro of Brazil, indigenous peoples are looking at marketing as a process rather than as the selling of produce. They are trying to gain control of transportation, thereby cutting out the middlemen who gain so much profit. COICA believes that it is vital to establish community control of both marketing channels and transport systems. These are ideals towards which indigenous peoples are moving, but unless they have the time and space to develop these mechanisms at their own rhythm, they will be drawn into a system which will control them.

## Dependency: The Root of Destruction

Markets need not necessarily destroy indigenous cultures, but they can and do. When indigenous peoples do not control the market process, they become dependent on outside bodies and lose the ability to control their own lives and futures. No matter whether their dependency is upon unscrupulous middlemen or well-meaning NGOs, the end result is the same — the destruction of indigenous cultures and society. Indeed, as one commentator has recently said: "The solution must surely lie not in surrendering further to the lure of the market, but in systematically disentangling ourselves from its clutches."<sup>13</sup> This need not mean that indigenous peoples should avoid the market for ever, but rather that they should control and determine their relationship with it.

Indigenous economies are renowned for being based on the



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*Indians enslaved on a Putomayo rubber estate in the early twentieth century. Tens of thousands of the indigenous inhabitants of the Upper Amazon were enslaved, tortured and murdered during the rubber boom before 1914.*

principles of reciprocity and redistribution which are firmly embedded in the social and cultural relations of the people concerned.<sup>14</sup> Production and consumption are therefore under their control.<sup>15</sup> However, when indigenous peoples enter the market economy their subsistence orientation encounters other needs — the demands of outside interests. The effect is to take the economy out of the social control of the indigenous peoples and so greatly to transform their society.<sup>16</sup>

“Sustainability” controlled by consumer demand contains a fundamental contradiction between limiting and increasing demand. Who will have the upper hand in this conflict of interests — the consumers or the producers? Anthropological work in Africa has demonstrated that domestic production can supply social and economic subsistence needs but, as demands for profit increase, the needs of consumers lead to increasing control over indigenous labour. The resulting dependency threatens the very domestic production unit which supports the labour.<sup>17</sup>

### Control of the Market Process

Clearly, marketing among indigenous peoples is not an easy matter. The Union of Indigenous Nations in Brazil have outlined the areas over which indigenous peoples must have control if they are to avoid dependency.<sup>18</sup> They include:

- Control over the processing of products before they go to the market;
- Control over the transportation of commodities to market;
- The use of their own contacts through their national and international organizations to gain marketing outlets.

In addition to these conditions, some mention must be made of the importance of indigenous peoples’ intellectual property rights. This issue, raised particularly by Darrell Posey, is becoming increasingly important as indigenous peoples lose control of their knowledge to unscrupulous business interests who market their ideas for medicines and products for an

annual turnover of as much as \$43 billion a year.<sup>19</sup>

If indigenous peoples do not have control over these aspects of the marketing process, they will speedily find themselves dependent on the outside whims of the international market. Merchants and middlemen will syphon off the profits. Middlemen do not have to be local traders — multinational middlemen touting for trade have been a feature of oil, rubber and coca booms.

The relationships of dependency described here are directly analogous to those between the countries of the North and the South. The situation of indigenous peoples presents a microcosm of the inequalities and exploitation which takes place between nation states. Thus indigenous peoples stand to lose not only as members of nation states of the South, but also as exploited enclaves within those states.

### Utilizing Resources

One of the main themes of the ‘Biodiversity Conservation Strategy’ of the World Resources Institute (WRI), and the strategies advocated by other mainstream conservation organizations, is that the resources of threatened areas should be utilized and thus given an economic value:

“Many actions that can be taken to stem the loss of biodiversity do provide short term economic benefits — say, maintaining natural forests so that wild species can be harvested for food, medicines, and industrial products or establishing protected areas so that tourists will visit.”<sup>20</sup>

However, “giving a value” to the environment is not only extremely difficult, but it actively encourages new speculation in products which can be extracted from the rainforest. The Biodiversity Conservation Strategy, for example, presents the peoples of the rainforest as passive recipients of the benefits of “green capitalism”. However, there are no guidelines to provide locally controlled production methods and marketing. On the contrary, the approach is based on the needs of Northern consumers, who once again will dictate their demands and desires to the local producers. After initially taking advantage of a few limited benefits, these producers will, as in the past, find themselves dependent on the development models of outsiders.

The WRI hopes to wed “development” to biological diversity conservation. Economic utilization of biological diversity will be able to contribute to national development goals. Development is largely seen as a question of cash flows which automatically solve the problems facing indigenous peoples.

This conventional approach ignores two factors which are possibly even more important than economic questions.<sup>21</sup> The first is that “sustainable development” in itself is not necessarily culturally appropriate. Prohibitions, social production patterns and cosmological questions could all affect how a community reacts to being persuaded to sell rainforest produce. Here, the experience of a community of Ashaninka rice growers in the rainforest of Peru is instructive. Part of the community decided to increase production and develop sales nationally and internationally, and they therefore turned themselves over exclusively to rice growing. This was an “economic” success, but it was achieved at the expense of community harmony and their respect for their traditions. After several major conflicts, the community threw the rice mill into the river,

**"The peoples of the rainforest are presented as passive recipients of the benefits of 'green capitalism'. Once again, it will be Northern consumers who dictate the terms."**

curtailed their profits and returned to making subsistence agriculture their priority.<sup>22</sup>

The second element is the "political dimension of development". It is mistakenly believed that indigenous peoples organized in communities naturally tend to form co-operatives. Over the past ten years of working gold, the Amarakaeri of south-eastern Peru have worked as communities, as clans, as extended families and even individually, choosing whatever strategy suits them best at any one time. The imposition of co-operatives from outside could be disastrous to the unity of the community, which is frequently kept together by respecting internal divisions. The other aspect of the "political dimension" is the top-down approach to development, where sustainability is but a cloak for encouraging the integration of indigenous peoples into the market economy, aided and abetted by the general public and unwitting companies.

### Commercial Side-Show?

As the Yanomami die of malaria in Roraima, Brazil, the Ashaninka of Peru are emerging from years of slavery. In Venezuela, pollution of the rainforest, and in Paraguay, encroachment on indigenous lands, all show that for many of the indigenous peoples of the Amazon, marketing is not their top priority. We must not force our priorities onto them. The days when indigenous peoples' problems are solved paternalistically should be over. They are capable of facing these difficulties themselves and we should be listening to their voices. If we do not, we will turn the marketing of rainforest products into a commercial side-show as we witness the destruction of the rainforest and the extinction and assimilation of the indigenous and forest peoples who have been custodians of the diversity of species there for thousands of years.

An indigenous leader once told the story of an elephant and a duck who was sitting on her eggs. He likened the elephant to environmentalists (in this case, "green capitalists") and the duck to indigenous peoples. The duck was killed by an encroaching colonist, leaving her eggs unattended. The kind-hearted elephant decided to do his friend the duck a favour. He sat on the eggs.<sup>23</sup>

This is an edited version of a paper written for Friends of the Earth UK's 'Rainforest Harvest' conference. The conference proceedings are to be published by FoE early next year. It was written with the support of WWF UK and the Rainforest Peoples' Fund. I am grateful to them, the Gaia Foundation, the International World Group for Indigenous Affairs, Survival International and the World Rainforest Movement for providing many useful documents. However the opinions expressed here do not necessarily reflect those of the organizations concerned. The text is an extended version of the third chapter of a forthcoming report on the relationship between indigenous peoples and biodiversity. It concentrates on the impact of the World Resources Institute's Biodiversity Conservation Strategy and its impact on indigenous peoples.

### References

1. Aikman, S.H., 'Informe preliminar sobre hallazgos del Rio Karene (Rio Colorado), Madre de Dios', *Amazonia Peruana* 3, 6, Lima, 1982.
2. Hugh-Jones, S., 'Yesterday's Luxuries, Tomorrow's Necessities: Business and Barter in the North West Amazon', ms., 1987.
3. Wolf, E., *Europe and the People without History*, University of California Press, 1982.
4. COICA, 'To the Community of Concerned Environmentalists', ms., Lima, 1989, p.4.
5. Myers, N., *Deforestation Rates in Tropical Forests and their Climatic Implications*, Friends of the Earth, London, 1989.
6. Belshaw, C., *Traditional Exchange and Modern Markets*, Prentice Hall, Englewood Cliffs, 1965; Hodges, R., *Primitive and Peasant Markets*, Blackwells, Oxford, 1988, pp.4-6.
7. See Colchester, M., 'Indian Development in Amazonia: Risks and Strategies', *The Ecologist* 19, 6, 1989, pp.249-254.
8. Baker, L., 'Cultural Survival Imports: Marketing the Rainforest', *Cultural Survival Quarterly* 13, 3, 1989, pp.64-5.
9. Gray, A., 'The Putumayo Atrocities Revisited', paper presented at Oxford University seminar on the State, Boundaries and Indians, 1990.
10. Davis, S., *Victims of the Miracle: Development and the Indians of Brazil*, Cambridge University Press, 1977, p.68.
11. Henley, P., *The Panare: Tradition and Change on the Amazonian Frontier*, Yale University Press, 1982, p.224.
12. Gray, A., 'And After the Gold Rush . . . ? Human Rights and Self-Development in S.E. Peru', IWGIA Document 55, Copenhagen, 1986.
13. Hildyard, N., 'Adios Amazonia: A Report from the Altamira Gathering', *The Ecologist* 19, 2, 1989, p.62.
14. Dalton, G., 'Primitive, Archaic and Modern Economics: Karl Polanyi's Contribution to Economic Anthropology and Comparative Economy', in *Essays in Economic Anthropology*, American Ethnological Society, Seattle, 1965, p.14.
15. Sahlins, M., *Stone Age Economics*, Tavistock, London, 1974, p.76.
16. Polanyi, K., *The Great Transformation*, Rinehart, New York, 1944.
17. Meillassoux, C., *Maidens, Meat and Money: Capitalism and the Domestic Community*, Cambridge University Press, 1981, conclusion.
18. Hosken, L. and Steranka, K. (eds.), *A Tribute to the Forest Peoples of Brazil*, The Gaia Foundation, London, 1990, pp.30-31, 65.
19. Posey, D., 'Intellectual Property Rights and Just Compensation for Indigenous Knowledge: Challenges to Science, Business and International Law', paper presented to the Association for Applied Anthropology, York, 1990.
20. Reid, W. and Miller, K., *Keeping Options Alive: the Scientific Basis for Conserving Biodiversity*, WRI, Washington, 1989; McNeely, J., Miller, K., Reid, W., Mittermeier, R. and Werner, T., *Conserving the World's Biodiversity*, IUCN, WRI, CI, WWF-USA and the World Bank, 1990.
21. Henriksen, G., 'Introduction to Indigenous Self-Development in the Americas', *IWGIA Document* 63, Copenhagen, 1989.
22. Segundo Macuyama, pers. comm.
23. IWGIA, 'Sri Lanka: World Council Statement to UN on Vedda', *IWGIA Newsletter* 43 & 44, Copenhagen, 1985, pp.291-293.

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# The Politics of Poisoning: The Camelford Aluminium Sulphate Scandal

by  
Douglas Cross

*The accidental contamination of a Cornish town's water supplies with aluminium sulphate has highlighted the health risks of using aluminium in the purification of public water supplies. The public authorities claim that the health problems suffered by the local community have been caused by anxiety whipped up by the media, and they have obstructed independent attempts to investigate the effects of the accident. But it appears that the health risks of aluminium have been covered-up in order to save the industry the huge costs of investing in alternative treatment methods. Such investment would have threatened the British Government's flagship policy of selling the publicly-owned water industry of England and Wales to the private sector.*

In July 1988, the public water supply to the town of Camelford, in the county of Cornwall in southwest England, was seriously contaminated with aluminium sulphate solution. The solution, used in the purification of drinking water, was accidentally discharged into the treated water tank at the Lowermoor Water Treatment Works, which supplies over 7,000 properties and at least 20,000 local residents and tourists. Despite repeated reassurances from politicians, health authorities and the water industry that aluminium in drinking water poses no health hazards, many people suffered persistent medical problems after the incident, some of which are still so severe that the victims are no longer able to lead a normal life, or operate their businesses.

The events which led up to the accident have been documented thoroughly.<sup>1</sup> The role of the then publicly-owned South West Water Authority (it is now a private company) cannot however be discussed in this article as the Water Authority Residuary Body is currently facing charges in the High Court, which puts its part in the incident beyond public discussion due to the laws of *sub judice*.

## Levels of Contamination

The initial discharge at the Lowermoor Works involved 20 tonnes of a 27.8 per cent aqueous solution of aluminium sulphate, which ran into a holding tank

containing approximately 1300 cubic metres of treated water. The solution was probably well-mixed with the treated water, then ran through the gravity-fed mains distribution system during the late evening. Emergency flushing by the Water Authority during the night eliminated a great part of this heavily contaminated water from the system. However, some households received water containing up to 620 milligrams per litre (mg/l) of aluminium at a pH of as low as 3.3 (neutral pH is 7: the lower the pH, the higher the acidity). Although, most householders were exposed to such levels for less than 48 hours, some isolated consumers received highly contaminated water for up to a week.

The threat to public health was compounded by the chemical activity of the "acid water" in domestic plumbing systems, stripping limescale contaminated with high levels of copper from the inside of hot water tanks and pipes. After flushing my own system, three days after the incident, the water still contained over 20mg/l of copper. Some newly installed domestic plumbing systems were severely corroded by the acid water in a few days. Many people reported that their bath water turned bright blue, a phenomenon caused by the copper in the water reacting with alkalis in soap and bath gels. It also stained hair and laundry green or blue. Another unanticipated danger was the rapid dissolution of copper and other metals from soldered joints in plumbing systems by active electrolytic corrosion. Although the initial contamination levels were reduced rapidly, pockets of aluminium-rich sludge were wide-

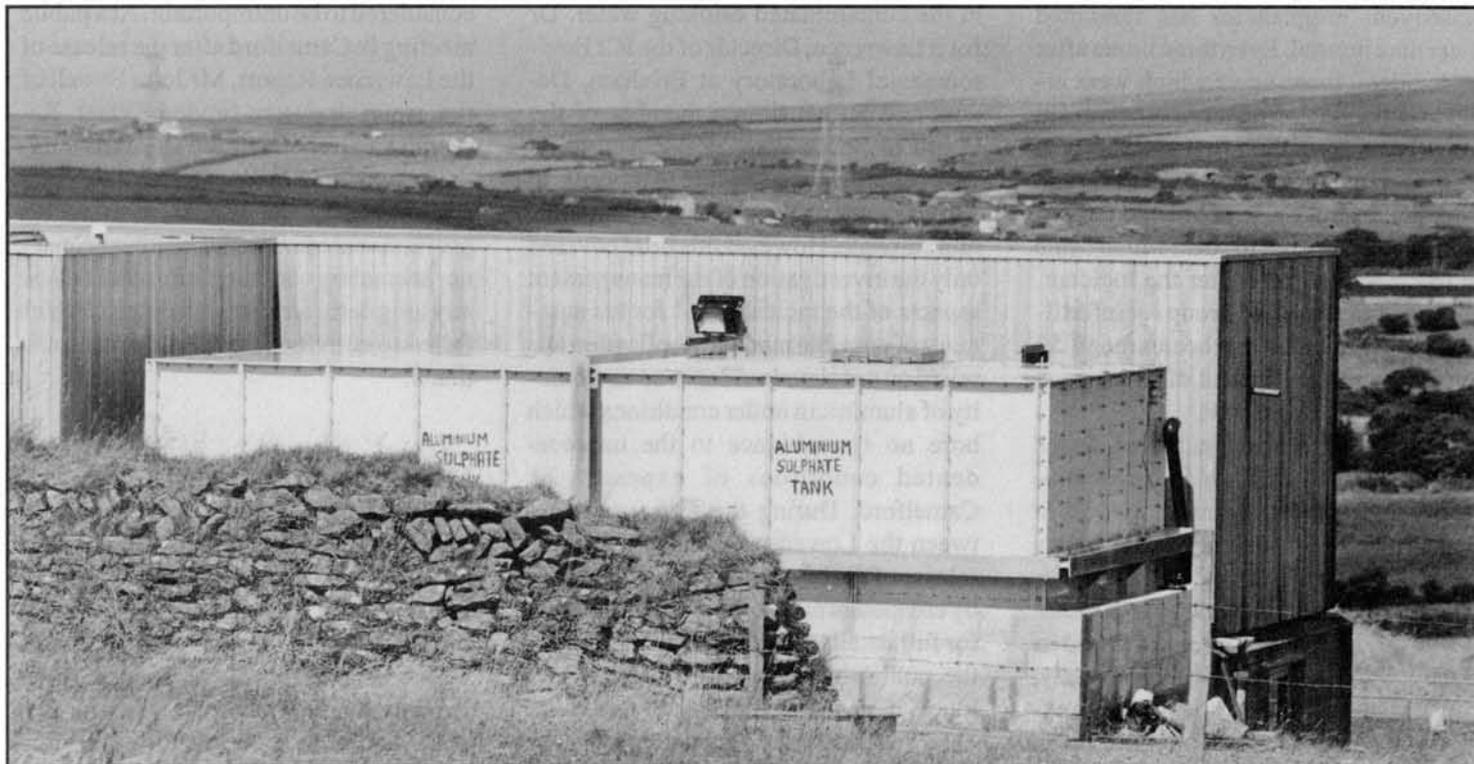
spread in the pipes until they were flushed out mechanically seven months after the incident.

## The Camelford Scientific Advisory Panel

For months, doctors in the area received no relevant guidance from the public health authorities. Instead, bland official reassurances were repeated; the Cornwall and Isles of Scilly Health Authority, for example, claimed that only traces of aluminium could be absorbed from the gut, regardless of the quantity swallowed, and even this would be rapidly removed from the body. Soon after the incident, concern among Camelford residents over the inadequate response of the public health authorities led to the setting up of the Camelford Scientific Advisory Panel (CSAP), a group of scientifically-qualified local people. The CSAP intended to provide the Town Council with interpretations of medical and scientific data from official and other sources.

Dr Richard Newman, a local doctor, and I investigated the scale of complaints amongst Camelford residents, to determine what unusual symptoms appeared immediately following the incident. The objective of this simple study was to provide the Health Authorities with evidence that there was a real need for an urgent professional epidemiological study. We found marked short-term increases in mouth ulcers, upper gastric tract complaints, diarrhoea, severe lethargy, nausea and vomiting. Mild arthritics reported substantial increases in the

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Lowermoor Water Treatment Works near Camelford, Cornwall. In July 1988, a lorry driver discharged a load of aluminium sulphate into the treated water tank at the unsupervised works. The water supply to at least 20,000 local people and tourists was contaminated with high levels of aluminium and copper, stripped from the inside of plumbing systems by the acidic water. (Photo: Rob Cousins)

pain of their condition, and there was also an increase in reports of more persistent non-arthritic bone pain and of skin rashes.<sup>2</sup> Newman commenced a programme of monitoring his own patients, sending samples of hair, urine and blood to Dr Neil Ward at Surrey University for chemical analysis.

About four months after the incident, Newman noted that a number of his patients reported memory problems and impaired concentration and judgement.<sup>3</sup> After substantial lobbying by CSAP, arrangements were made for specialists to examine a small number of victims who appeared to be particularly seriously affected. Bone biopsies of two residents showed a discrete band of aluminium deposition consistent with a single, short-lived exposure.<sup>4</sup> It was found that 21 of 31 post-incident referrals showed significantly increased blood aluminium levels up to one year later; these included those patients who also had evidence of aluminium deposition in their bone.<sup>5</sup> Cognitive impairment in a group of 11 Camelford referral patients complaining of impaired memory was found to be consistent with minor brain injury and was not attributable to emotional factors.<sup>6</sup> Three-quarters of 32 referral patients had significant memory deficits, which had severely impaired their ability to run their businesses or had adversely affected their lives.<sup>7</sup> Newman considers

that there are at least 50 additional cases which have not been examined by clinical psychologists.

### Effects on Livestock

In September 1988, Dr Maurice Allen, a veterinary specialist, was contracted by South West Water Authority to investigate the effects on livestock of elevated levels of aluminium in drinking water. He concluded that the calculated amounts in drinking water after the Lowermoor Incident were insignificant compared to the amounts of aluminium livestock would ingest from a 'normal' diet containing large amounts of soil.<sup>8</sup>

Allen's conclusions are inconsistent with my own data relating to evidence of major losses of livestock after the incident at several farms in the area. Most local farms have private water supplies, but some were dependent on the mains water from Lowermoor, and on a few of these the effects on livestock were dramatic. On a poultry unit, 1300 hens died immediately following the event, with severe intestinal ulceration. On another farm, 10 out of 40 weaner lambs, which had only tapwater to drink, died with severe mouth and throat ulceration, whilst the survivors were extremely poorly and took much longer than usual to reach marketable weight. In the next

field, where there were 200 lambs of the same batch which had springwater to drink, none died during the same period.

A breeding unit for pigs was particularly useful in supplying data, since each animal is separately monitored throughout its breeding life. I compared data from sows exposed to the contaminated water with data from sows which arrived at the unit two to four weeks after the incident. The first sign of abnormalities in the herd was that returns on service (that is, failed matings) increased by 22 per cent over a four month period in exposed sows. Their litter size decreased steadily over a five-month period (corresponding to the gestation period), from a normal average of over 11 young per litter to a low of 8.5. The reduction in pre-natal survival was greatest amongst sows exposed to the water early in their pregnancies.

Post-natal mortality in the surviving litters from exposed sows increased by 150 per cent, and the piglets showed an average reduction of 24 per cent in growth rate at the rearing unit. The growing-on unit, at a different site outside the area, reported a marked reduction in feed conversion efficiency. At three other breeding units owned by the company, and located outside the exposed area, no corresponding changes in reproduction and growth data occurred.

The fecundity of the exposed sows in

subsequent pregnancies has remained lower than normal. Even three litters after the incident, those sows which were either awaiting their first service, or were in the early stages of their first pregnancy at the time of the incident, show an average reduction in litter size of around ten per cent when compared to sows which came on to the unit shortly after the incident. Culling of the exposed group for infertility or low litter size has been around 50 per cent per year, instead of the normal annual rate of 32 per cent.

Analyses of a wide range of tissue samples made by Dr Ward of Surrey University revealed that aluminium levels in the hair, liver and bone of exposed sows increased by a factor of three to four, whilst copper levels increased by a factor of four in the hair and by around two in kidney, liver and stomach. Conversely, iron concentrations in the liver of exposed sows were less than half those in the controls.<sup>9</sup>

## Playing Down the Poisoning

Repeated efforts were made by South West Water Authority to allay the fears of consumers regarding the danger posed by the cocktail of acid and metals in solution

in the contaminated drinking water. Dr John Lawrence, Director of the ICI Environmental Laboratory at Brixham, Devon, and at that time a member of the Board of South West Water Authority, was commissioned by the Authority to write a report on the discharge of aluminium sulphate. However, his brief covered only the investigation of the management aspects of the incident, and for his summary of possible medical implications he relied on out-dated evidence on the toxicity of aluminium under conditions which bore no resemblance to the unprecedented conditions of exposure at Camelford. During the five weeks between the Lowermoor Incident and the release of the Lawrence Report, demands by competent members of the community for full details of what had contaminated the public mains supplies were totally blocked, on the grounds that "this could compromise the Lawrence Report".

The Cornwall and Isles of Scilly Health Authority was informed of the contamination shortly after the incident. Initial advice was obtained from specialists, who, according to the Lawrence Report, stated that only transient effects would result, mainly from drinking water of low pH containing copper in excess of 5mg/l. The high aluminium concentrations were

considered to be unimportant. At a public meeting in Camelford after the release of the Lawrence Report, Mr John Fawell of the water industry-funded Water Research Centre, one of the specialists initially contacted by the Health Authority and quoted in the Report, restated his professional opinion that neither primary nor secondary contamination could cause any long-term sickness, an opinion which failed to convince the CSAP or the residents.

## Obstruction Begins

Shortly after the incident, CSAP asked the Poisons Unit at Guy's Hospital in London to advise residents. Remarkably, the Unit failed to test for aluminium in a water sample sent at its request, their explanation being that "it was sent in a glass bottle, and this would have contaminated the water with aluminium, so we did not analyze it for aluminium." Yet the Water Authority samples are routinely taken in glass bottles. Dr Virginia Murray of the Unit planned to send a specialist team to Camelford, but this was blocked by the Department of Health, on the grounds that the Department was "dealing with the matter". In fact, the only action taken by the Department of Health was to appoint a medical consultant, Michael Waring, to brief the Environment Minister, Michael Howard.

On 21st December 1988, a meeting in London between Howard and a delegation from Camelford was advised by Waring that no long-term effects due to the incident were possible. Yet before the meeting, Dr Andrew Taylor, of the Robens Institute at Surrey University, had provided a Department of Health official with copies of research literature indicating that potential toxic effects could not be ruled out with any degree of certainty after the Lowermoor Incident. The Department of Health has so far refused three separate demands by Cornwall County Council for a full Public Enquiry into the Lowermoor Incident, on the grounds that there has already been a full 'independent' Inquiry — that undertaken by the then South West Water Authority Board member, Dr John Lawrence.

## The Clayton Report

Not until February 1989 did the Department of Health reluctantly set up the

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'Lowermoor Incident Health Advisory Group', chaired by Professor Dame Barbara Clayton. In the late 1970s, Professor Clayton had played a prominent part in the government's opposition to claims that lead in petrol could cause brain damage in children. According to the anti-lead campaigner Des Wilson, Clayton had "always maintained an ultracritical line on the evidence of the relationship between lead and neuropsychological dysfunction in children".<sup>10</sup> The response of Clayton and three others to US research on the effect of lead on children, "raised a very serious question as to their ability to reach objective and informed opinions on the research".<sup>11</sup>

The Lowermoor Incident Health Advisory Group flew to Camelford for one day, interviewed a dozen referral patients for around 7 to 15 minutes each, and a number of local doctors, many of whom were not convinced that the incident had had any effects whatsoever. The group returned to London the same evening. Significantly, it did not ask for the detailed animal data which was available from CSAP.

When the Clayton Report was released in July 1989, it caused outrage in Camelford and disbelief in the scientific community. It stated firmly that, in the group's expert opinion, almost all the effects reported amongst Camelford patients were due to anxiety, in great part stirred up by "alarming statements by some scientists" — later demoted to "pseudo-scientists" — and, inevitably, the media.<sup>12</sup> The Report presented a highly conservative assessment of the potential risks, which is not supported by other researchers at a number of universities and medical research institutes. A major demand from independent scientists was that a full-scale epidemiological survey should be carried out, to determine the extent of problems in the affected population. It has therefore been a matter of some concern that no discussion of this aspect of the incident with the group's epidemiological specialist, Professor G.A. Rose, Head of the Department of Epidemiology and Population Sciences at the London School of Hygiene and Tropical Medicine, has been possible. This is particularly worrying since the specialists who examined Dr Newman's patients had shown that both biochemical changes in the blood and serious long-term brain function impairment are detectable, even a year and more after the incident.

Recently, Professor James Edwardson,

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***"When the Clayton Report was released, it caused outrage in Camelford and disbelief in the scientific community. It stated firmly that, in the group's expert opinion, almost all the effects reported amongst Camelford patients were due to anxiety, in great part stirred up by 'alarming statements by some scientists'."***

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Director of the Medical Research Council Neurochemical Pathology Unit at Newcastle General Hospital, and a member of the Clayton Committee, has stated that he disagrees with the conclusion that anxiety was the major cause of complaints.<sup>13</sup> Edwardson co-authored a study published in *The Lancet* in January 1989, which showed a relationship between increased levels of Alzheimer's Disease (a form of senile dementia) and low levels of aluminium in drinking water in England and Wales.<sup>14</sup> The authors state:

"Urinary excretion of aluminium is only 0.02 to 0.05mg per day. Aluminium in drinking water is either dissolved or readily brought into solution, and its bioavailability may therefore be much higher than aluminium from other sources."

Yet it has always been a pillar of the Establishment's cause that aluminium is virtually unavailable when present in the gut. The severely damaged intestines of the chickens poisoned at Camelford suggests that such optimistic estimates of the ability of the gut to retain aluminium may be misplaced. In the Clayton Report, Edwardson reported that volunteers drinking acidic aluminium sulphate solutions showed only a transient increase in blood aluminium levels, in direct contrast to the findings of Taylor, of the Robens Institute, on Camelford patients. Clearly, there is reasonable cause to question the relevance of the experimental work quoted in the Clayton Report.<sup>15</sup> Despite these controversies, the Clayton Report has been adopted by the South West Regional Health Authority in its entirety, and the Report remains the official bastion of the Department of Health and the government against any further enquiry into the incident.

## Department of the Environment

The Department of the Environment has played a curious and shadowy part in the official attempts to prevent a full investigation of the Lowermoor Incident. Immediately after the incident, it became clear that it would not be possible to meet the EC Maximum Admissible Concentration (MAC) for aluminium in the public water supply in the affected area, because there was a great deal of aluminium-rich sludge remaining in the mains distribution system.

Under the EC Directive on Drinking Water, "Water Undertakings" can apply for derogation if they have a problem meeting one MAC. This involves applying to the Department of the Environment for temporary permission to continue the supply, in the expectation that compliance will be resumed as rapidly as possible. South West Water applied for derogation until mid-October 1988. Although they did not have any official confirmation, they assumed that it had been granted.

But the rules on derogation do not permit it to be granted for contamination caused by pollution. So under European Law, SWWA should have discontinued the supply, and provided an alternative source of water to all 20,000 people in the district — hardly a practical proposition. However, in failing to withdraw its product, SWWA rendered itself open to actions under the EC Directive on Product Liability, since it clearly had a responsibility to protect the health and welfare of the community.<sup>16</sup> Whether the Department of the Environment is also legally responsible is an interesting question for the legal profession to consider.

Instead of adhering to the rules, both organizations later claimed that derogation was not necessary in any case, on the grounds that the MAC for aluminium had been set on cosmetic, not medical standards, and there were no risks to health. But this does not stand scrutiny. MACs are specific chemical levels which may not be exceeded; they are not subject to being ignored on the pretext of medical risk, simply because they are inconvenient.

## Aluminium and Health

Even a brief excursion into the literature is sufficient to reveal that the potential toxicity of aluminium has been recog-

nized for some time. The potential health hazards of aluminium in city drinking water were first noted as far back as 1926, and its role in the development of dialysis dementia in long-term renal dialysis has long been established.<sup>17,18</sup> More recently, suspicion has grown that there may be a direct link between aluminium and Alzheimer's disease.<sup>19</sup> In New York, Dr Dan Perl of the Mount Sinai Medical School has detected large increases in alumin-

ium concentrations in brain cells that have neuritic tangles characteristic of this disease.<sup>20</sup> Professor Edwardson at Newcastle has found aluminium in the cores of neural plaques in the brain which are also associated with Alzheimer's Disease.<sup>21</sup> Aluminium is also known to be implicated in a range of other neurological diseases, including atypical motor neurone disease, Down's Syndrome and Guam Disease.<sup>22</sup>

Recently, a link between one congenital form of Alzheimer's Disease and a gene which codes for a defective form of the metal-transporting protein transferrin has been demonstrated.<sup>23</sup> In people who may be genetically disposed to Alzheimer's Disease (possibly up to three per cent of the population), the balance of excretion and accumulation of the metal in brain cells which are rich in transferrin receptors may therefore be affected, and they may be unusually susceptible to aluminium intoxication from the environment. In a population of 20,000, the probability that some are more susceptible to aluminium intoxication than others cannot be discounted. Sandra Rifat, a researcher at Toronto University, has found up to a four-fold increase in cognitive impairment, expressed as a loss in short-term memory, in miners exposed to McIntyre Powder, a form of aluminium dust used to prevent silicosis in gold and uranium mines. There is a clear dose-response effect.<sup>24</sup> The short-term memory loss is similar to that suffered by some Camelford victims.

The various biochemical pathways responsible for absorption of aluminium from the gut, its transfer through the body, and its subsequent accumulation in bone and nerve tissues have been documented in a recent review of the mechanisms of aluminium neurotoxicity.<sup>25</sup> So it is surprising that the Clayton Report's claims on aluminium toxicity failed to refer to any relevant scientific publications which have been subjected to peer review.

### Obsession With Secrecy

The most frustrating aspect of the Lowermoor Incident has been the official obsession with secrecy which has threaded its way through all the dealings between concerned local people and the 'Establishment'. At least a dozen research workers have expressed interest in examining the Camelford victims, but have suddenly called off planned visits, or have abandoned their plans to carry out related research. Some have informed members of CSAP and our colleagues "off the record" of the pressure which has been applied to them.

The literature on aluminium-related toxicity hazards indicates a probable causal link between environmental aluminium and a number of serious, irreversible neurological conditions. The weight of scientific opinion is that alu-

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minium in drinking water is far more 'bioavailable' than that in food, and that some people are less competent genetically in dealing with it when it does enter the blood. There is also evidence from Camelford that aluminium overload, even from relatively short periods of acute exposure, can lead to persistent neurological damage which can dramatically reduce the ability of individuals to cope with the problems of domestic and commercial life.

Had the neurotoxic role of aluminium been clearly exposed, the water industry would have been forced to cease using aluminium sulphate in water treatment. But to adopt a different process, it would have needed to invest many millions of pounds in new plant, and it would probably not have been possible to have floated the Water Authorities for privatization at the end of 1989, as planned by the government. The risk of multiple compensation claims for substantial personal damages would have alarmed investors, and the flotation would probably have failed.

Instead, the government embarked on a deliberate programme of deception, confusion and obstruction, buying time at the cost of widespread risks to public health. Since July 1988, there have been at least four major incidents in Britain in which aluminium has contaminated water supplies at levels similar to those widely experienced around Camelford.<sup>26</sup> At least half of the country's population is at risk, and much of the danger has nothing to do with acid rain, the favourite scapegoat. The Department of the Environment has tacitly accepted this position, by issuing derogations for aluminium in cases in which the source is excessive residues of the metal in treated water resulting from incompetent management at some treatment works, as opposed to naturally high groundwater concentrations of aluminium.

What other reason other than a deliberate cover-up can there be for the fact that, even now, there has been no competent epidemiological study of the after-effects of the Lowermoor Incident and that the two local Counselling Clinics have been closed down? And what other explanation is there for the unprecedented takeover, by the Director of Public Prosecutions, of the private action of the Anglers' Cooperative Association against South West Water Authority<sup>27</sup> — the only case which was due to be heard in the High Court before privatization?

The evidence of political obstruction and deliberate medical misdirection

which emerges from the Lowermoor Incident allows only one interpretation; in order to protect the Conservative Government's water privatization programme, pressure from very senior levels was applied to persuade or force key individuals to adhere to an official policy which dictated that the widespread use of aluminium treatment in water supply should not be publicly questioned.

**Stop Press: On 15 October, the Government announced that it was to reopen its inquiry into the Lowermoor Incident due to the continued reports of health problems among local people. Camelford residents were dismayed, however, to hear that the inquiry will once again be headed by Professor Clayton and her team.**

### Notes and References

1. Lawrence, J., *Report of an inquiry into an incident at Lowermoor Water Treatment Works of South West Water Authority on 6th July 1988*, South West Water, Exeter, Devon, 29pp, 1988.
2. Cross, D. and Newman, R., 'The Effects of Contaminated Water on the Population of North Cornwall', Camelford Scientific Advisory Panel, Cornwall, 1988, 5pp.
3. Newman, R.J., 'Memory Survey', in *Proceedings of the Truro Conference on the Lowermoor Incident*, Cornwall and Isles of Scilly Health Authority, Truro, Cornwall, 1990, pp.47-60.
4. Freemont, A.J., 'Note on deposition of aluminium in bone in two patients from Camelford', in *Proceedings of the Truro Conference on the Lowermoor Incident*, *ibid*.
5. Taylor, A., 'Concentrations of aluminium in specimens of serum collected from individuals who were in the Camelford area', in *Proceedings of the Truro Conference on the Lowermoor Incident*, *op. cit.* 3, pp.26-46.
6. McMillan T.M., 'Preliminary neuropsychological findings from a self-selected sample following water pollution in Camelford and environs in the Lowermoor area of North Cornwall in July 1988', in *Proceedings of the Truro Conference on the Lowermoor Incident*, *op. cit.* 3, pp.61-74.
7. Wilson, A., 'Memory functioning — comparison of results of psychometric assessment of clients with their self-reports following the Lowermoor water incident July 1988', in *Proceedings of the Truro Conference on the Lowermoor Incident*, *op. cit.* 3, pp.75-93.
8. Allen, W.M., *The Possible Consequences of the Lowermoor Incident on the Health and Welfare of Livestock in the Camelford Area*, South West Water, Exeter, 1988, 16pp. According to Allen: "Grazing animals often eat soil which is a rich source of aluminium... normal cattle diets contain between 147 and 210mg Al/kg dry matter of diet... up to 3780mg/day would be normal for a cow eating 18kg of dry matter. Cows have been fed up to 1% of their diet as aluminium sulphate (equivalent to 15,500mg of Al per day) for up to five years without effect." He gives no reference for this last statement.
9. Ward, N., Data presented at TEMA 7 Conference, Dubrovnik, 21-25 May, 1989.
10. Wilson, D., *The Lead Scandal*, Heinemann Educational Books, London, 1983, pp.182.
11. *Ibid*.
12. Clayton, B., *Water pollution at Lowermoor, North Cornwall. Report of the Lowermoor Incident*

*Health Advisory Group*, Cornwall and Isles of Scilly Health Authority, Truro, Cornwall, 1989, 22pp.

13. *Minutes of the Lowermoor Incident Liaison Group*, Camelford, Cornwall, 24 Nov., 1989.

14. Martyn, C.N. et al, 'Geographical relation between Alzheimer's Disease and aluminium in drinking water', *The Lancet*, 14 Jan., 1990, pp.59-62. There has been some criticism of this paper, particularly over the reliability of data provided by the Water Authorities, and the aluminium industry does not like the findings, but in general the paper is accepted in broad terms.

15. Because Edwardson says that his volunteers did not show more than a transient change in blood aluminium levels, and none are reported as having had similar symptoms to those reported in Camelford, it is reasonable to ask whether the experiment as reported by Edwardson mimics the Camelford incident reliably. However, it is important to stress that Edwardson has not released the experimental data in any publication of which I am aware, so it is impossible to evaluate his report scientifically.

16. Cross, D., 'Plugging the Chemical Leaks', *Surveyor*, 28 Sept., 1989, pp.12-13.

17. Betts, C.T., *Aluminium Poisoning*, Research Publishing Co, Toledo, 1926.

18. For a review of this field, see Savory et al., 'Aluminium Toxicity in Chronic Renal Insufficiency', *Clinics in Endocrinol. Metab.* 14, 3, 1985, pp.681-702.

19. Flaten, T.P., *An Investigation of the Chemical Composition of Norwegian Drinking Water and its Possible Relationships with the Epidemiology of some Diseases*, Thesis No. 51, Institutt for Norganisk Kjemi, Norge Technisk Hogskole, Trondheim, 1986; Martyn et al., *op. cit.* 14.

20. Perl, D.P. and Brody, A.R., 'Alzheimer's Disease: X-Ray Spectrometric Evidence of Aluminium Accumulation in Neurofibrillary Tangle-Bearing Neurons', *Science* 208, 1980, pp.297-299.

21. Aluminium in neural plaques was first reported by Candy, J.M., Oakley, A.E., Klinowski, J., et al., 'Aluminosilicates and Senile Plaque Formation in Alzheimer's Disease', *The Lancet*, 1986, i, pp.354-357.

22. Guam disease is a peculiar form of Parkinson's disease which is restricted in location to the island of Guam. It is accompanied by dementia which appears to be related to extremely high aluminium accumulation in neuritic tangles in the brain — higher even than the levels commonly seen in Alzheimer's disease.

23. Goate, A., *The Lancet*, 1989, i, p.352; also in *New Scientist*, 4 March, 1989, p.32. Transferrin is a plasma protein which is responsible for the movement of iron around the body. In the brain, the complex formed between transferrin and iron is broken down at transferrin receptor sites, which are located in the membranes of some nerve cells. This permits the release of iron into the cells, whilst the transferrin moves back into the blood, where it can then react with more iron.

24. Rifat, S., Univ. Toronto, reported in *New Scientist* 127, 1730, 18 Aug., 1990, p.17.

25. Kruck, T.P.A. and McLachlan, D.R., 'Mechanisms of Aluminium Neurotoxicity — Relevance to Human Disease', in *Metal Loss in Biological Systems* 24; Sigel, H. and Sigel, A. (ed), *Aluminium and its Role in Biology*, Mariel Decker Inc., 1988, pp.285-315.

26. Cross, D., Something in the Water, *Green Magazine*, 16-18 July, 1990.

27. This was originally an action by the Bodmin Anglers Association for damage to their fisheries interests on the Rivers Camel and Allen, in both of which fish were wiped out when SWAA flushed the watermains, and the contaminated water ran into the rivers. The preparation of the case was well advanced when the DPP suddenly announced that it was taking over the prosecution as part of its action against SWWA. This matter is currently *subjudice*.

# Seub Nakhasathien

*How corruption and political cynicism and indifference led to the suicide of one of Thailand's most dedicated conservationists. He was well-known to the staff of The Ecologist, both through his work in opposing the Nam Choan Dam, and later through his work in fighting forest destruction.*

On Saturday 1st September 1990, Seub Nakhasathien, head of the Huai Kha Khaeng Wildlife Sanctuary in western Thailand, died by his own hand in his house at the sanctuary. He shot himself just before dawn with the pistol he carried for protection against illegal loggers who had put a price on his head. He was 40 years old.

His suicide sent shock waves through Thailand. For a week, crowds gathered every day to pay their last respects to this much-admired man. People came from all over the country. Wreaths covered the pavilion where he lay at rest in the temple. Media coverage was beyond all expectation. Over 2,000 people attended the funeral service itself. As a result, the ceremony lasted all day.

Some who came had never even met him. They knew only what he was trying to do, what he had said, what he stood for, but they mourned his loss to Thailand as much as those who knew and loved him. The King and Queen mourned with them. In an unprecedented gesture of respect for a common man he had never even met, the King sponsored the last two days of Seub's funeral rites.

The significance of this gesture was not lost on Thailand. At a time when corruption and greed hold sway in public service as never before, Seub epitomized that rare breed of honest, dedicated government officer who truly served his country and her people.

It is hard to be that way in Thailand today if you work in government service. The system itself is against you. It wears you out eventually or forces you into submission. Not Seub. He chose instead to end his life, to protect his ideals and preserve his dream. For him there was no other way.

## Seub's Dream

Nature conservation in Thailand has become a very nasty war. Guards and rangers in the frontline are the unsung soldiers and heroes who put their lives at risk for no recognition and very little reward. Worse, they are asked to fight their own people, including fellow villagers, on behalf of a government whose economic policy is largely to blame for the scale of the present-day conflict.

Seub cherished a dream to turn Huai Kha Khaeng into a well-run, well-protected wildlife sanctuary, for its own sake and to make it serve as a model for the management of other protected areas in Thailand.

The Wildlife Conservation Division of the Royal Forest Department had asked him several times to give up research for a while and help to run a wildlife sanctuary. First they mentioned Khlong Saeng, then Khao Khieo, both problem areas, both areas which Seub knew well. They needed his help. He was one of the best men they had. Few care as much as he cared, fewer still give as much as he gave. He knew the time had come to help the Division in this way. He knew it was only fair, but he asked to be given Huai Kha Khaeng. He could give up what he loved doing best for that sanctuary alone. No other sanctuary meant as much to him,

except Thung Yai, and that was already in the capable hands of his close friend and fellow crusader, Weerawat Dheeraprasat.

Huai Kha Khaeng was his destiny and he knew it.

He went to the sanctuary in December last year to accept the job from his predecessor, and came back brimming with hope, with a rare and gentle kind of joy. What had heartened him most, and given him the strongest sense of purpose and commitment, were the rangers, guards and officers he would be working with, willing, honest, dedicated men who recognized his mission, welcomed his leadership and pledged him their loyalty and effort. Men like Yongyut, Tawee, Wanchai, Khieok Mom, Sangwan, Ot, Piset and Somchai. Men he trusted and who trusted him. Men he came to love.

"I know something now", he said on his return, "I know that I can give my life to Huai Kha Khaeng and be happy to stay there forever. I don't need promotion, or a more important job. Huai Kha Khaeng is enough for me. It is the most important thing."

## His Disillusionment

Problems assailed him at once. He was well aware what a task he had taken on, but he thought he could succeed because he assumed he would get the support that he needed from on high. That was his only illusion, and it was fatal. It stemmed from his pride in being a government officer, from his belief that through hard work and persistence, honest public servants could still do some good within the government system.

In less than six months as Chief of Huai Kha Khaeng, he began to think his dedication futile. The more disillusioned he became, the less hope he had of realizing his dream. Worse, he saw the horrifying truth that even the Director-General of the Royal Forest Department is a pawn in a much, much bigger game of money, politics and power. A selfish, ruthless game of territoriality and greed in which ordinary people, wildlife and public servants like himself would only ever be the fodder upon which politicians feed.

Problems he had not foreseen began to overwhelm him. The most pressing problems — hunting, logging, illegal encroachment — originate outside the sanctuary's boundaries, beyond his formal mandate as its chief. To tackle them, he needed help from his own superiors and from senior officials in other ministries of government, from individuals whose mission did not match his own — though all professed to support him.

He tried and tried and got nowhere, or so it seemed to him. He said he felt like a rat, running from one meeting to another with officials of every kind; local government, local police, provincial government, provincial forestry, regional forestry and the army.

He was trying to stop further encroachment into the sanctuary's buffer zone, trying to get proper plans for local land settlement, trying to get help with better law enforcement, trying to navigate between the official and the unofficial systems of getting things done. He went from Uthai Thani to Chiang Mai, from Nakhon Sawan to Phitsanulok, from Lansak to Bangkok and back to his base at the sanctuary. In July he had instructions to be in three of those places at once.

Six months of talk with no results wore him down. He had given his all. What more could he do? He was only a rank six official. His vested authority was simply not enough to effect the necessary changes. The cause of his problems would stay. He could do nothing but deal with the symptoms. For Seub that was tantamount to failure.



On top of all this he had to deal with everyday problems in the sanctuary; how to repair ancient vehicles which had no spare parts; how to accommodate confiscated cattle until the judge got round to their case; how to stop the visitors who wasted time and resources on the pretext of wanting to learn; what to do about opium addiction among a few demoralized rangers.

Managing without money was the most insidious problem of all. From January to May this year, Seub did not receive his allocated budget. He could not pay wages, even of the poorest staff, buy petrol, or make repairs or improvements except on credit, which is costly, or by borrowing the money from elsewhere, which he did.

What were the sanctuary's unpaid rangers supposed to do? They had to get money from somewhere to feed themselves and their families. As in other sanctuaries beset by the same problem, many rangers took to stealing from the forest and who can blame them?

Seub didn't. He blamed politicians and the government system for their callous indifference to the plight of ordinary rural Thais. He saw this meanness as evidence of the hypocrisy of their conservation policy. It proved to him that those in power really do not care.

But he continued to care terribly for the sanctuary, for his colleagues. He continued to fight for conservation because he felt that it was right. He worked his men very hard indeed, but none as hard as himself. But for what? Seub came to ask himself.

Seub and his men once stayed up for several nights in a row to catch a group of villagers red-handed as they moved a pile of lumber from the sanctuary's buffer zone. A local policeman was one of their number. The poachers were using a ten-wheeled lorry and a government pick-up truck, but the case was thrown out of court because of insufficient evidence. The policeman was transferred.

More loggers were caught soon after, again in the buffer zone and therefore outside Seub's official remit. Nevertheless, the Minister of Agriculture was told by local employees of the former concessionaire that the timber had come from inside Huai Kha Khaeng. Was it a misunderstanding or was it a deliberate attempt to tarnish his name? Seub never knew.

He was publically summoned to Bangkok to report to the Minister in person. He took with him a dossier he had prepared for his own department on encroachment in the buffer zone. The room was full of people discussing other things. He produced his maps, gave the facts and detailed the scale of the problem. When he finished, there was silence. Curtly, he was told "You will have to work harder".

"I cannot work any harder," he retorted, incensed. Again silence. "Then tell your men to work harder," replied the Minister.

That brief, dismissive order sealed his disillusionment. "Now I know we are fighting this alone," he said on his return.

## His Fear

After that he began to fear for the life of his men. He was not afraid of dying himself; he was used to taking risks. He had often asked others to take some risk as well, but then he had thought it was worth it. Now he dreaded the threat of someone working with him in the sanctuary — someone who looked up to him, whom he cared about and trusted — being killed because they were carrying out his orders. It was no longer a question of if, but when.

Four men have already been killed in Huai Kha Khaeng, two of them only last year. Seven others were wounded in an ambush near headquarters. Two months before he died his nightmare nearly came true. His own men — those he knew best — were shot at and some nearly killed. It was the last straw. The price on Seub's head was only 6,000 baht (£150). How cheap was the life of a ranger?

While others reap the rewards, the rangers get virtually nothing. No prospects, no comfort, no security. Seub thought it unfair and indefensible.

## His Gift

For 15 years, Seub did what he could to stem the destruction of Thailand's forests. He knew he was fighting a rearguard action to defend the protected areas, but he thought the fight so important that he simply could not give up.

He was unusually determined, unusually courageous and, in the last few years, unusually outspoken. He wanted to conserve nature, not destroy it.

His suicide was not a thoughtless, selfish act or that of a coward, as some have thought. Quite the contrary. He prepared himself for days, left everything in order, caused the least inconvenience he could. His decision was calm, rational, deliberate and extraordinarily brave.

The truth is he did not merely take his life, he gave it. He gave it to the cause of conservation, to the people who will follow him, to Huai Kha Khaeng and his trusted band of men. He gave it, above all, to Thailand and her people, for whom he felt such wrenching sadness.

*The Editors*

*Seub's one great ambition before he died was to create a welfare trust for the workforce of the Thung Yai-Huai Kha Khaeng Wildlife Sanctuary. To that end, a foundation has been set up in Seub's memory to provide financial support for Thailand's underpaid rangers and other forest protection workers, with an initial donation from the King. The foundation will be administered by Seub's colleagues in the Forestry Department, environmental NGOs and university teachers. Its mandate is non-political but it will speak out, and if necessary act, to defend Thailand's national parks and wildlife sanctuaries, and the people who protect them. Cheques can be made out to the Seub Nakhasathien Foundation and sent to The Ecologist, Station Road, Sturminster Newton, Dorset, DT10 1BB, UK. We will forward them to Thailand.*

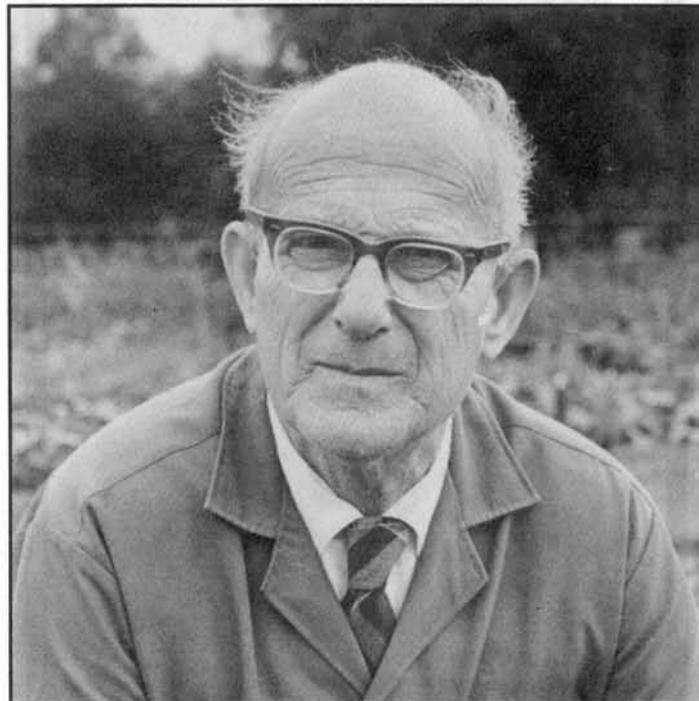
# Lawrence Hills

Organic gardening may be accepted now in our environmentally conscious age but 40 years ago it was considered cranky. That such a turn-around has occurred has a great deal to do with the efforts of one man, Lawrence Hills. For two decades he carried the torch for chemical-free gardening. His books on the subject including *Down to Earth Fruit and Vegetable Growing* (1960), *Grow Your Own Fruit and Vegetables* (1971) and *Organic Gardening* (1977) still represent the last word on organic growing for a great many people.

An undiagnosed coeliac until 1968, Lawrence spent his childhood in a wheelchair. In order to improve his health, he took up a career in horticulture and followed the time-honoured craftsman's training of apprentice, improver and journeyman in some of the country's leading nurseries. A wonderful raconteur, Lawrence's best stories arose from this period of his life.

Alpines were his speciality, providing the inspiration for his first book, *Miniature Alpine Gardening*, which appeared in 1944. He wrote three more books on Alpines including *Propagation of Alpines* (1950), which to this day remains the seminal work on the subject. As well as being a prolific author, he also found time to write gardening columns for *The Observer*, *Punch*, *The Countryman* and *Garden News*. He was an enthusiastic supporter of *The Ecologist* from its inception in 1970, regularly contributing articles in his capacity as Associate Editor under his 'Down to Earth' by-line.

The turning-point in Lawrence's career came in 1954 when he set up the Henry Doubleday Research Association, which was to provide the focus for the remainder of his life. The rationale behind HDRA was his passionate belief that ordinary people could make important contributions to science through careful observation in



their own gardens. But Lawrence also saw the HDRA as being much more than just a gardening organization. He appreciated the wider environmental significance of his work and his projects mirrored this. An early example was his campaign to bring to public attention the genetic mutation of plants arising in the late 1950s from atom-bomb testing.

In 1975, appalled at the loss of many hundreds of traditional vegetable varieties as a result of EEC legislation, he launched his most successful campaign, the protection of our genetic heritage. The setting up of the Vegetable Gene Bank at Wellesbourne was one outcome of his efforts. Another was the HDRA's own vegetable seed library scheme and the formation of Heritage Seeds, dedicated to the maintenance of heirloom variety. It is through these efforts that the world still boasts such species as the Loos Tennis Ball Lettuce, the Rousham Park Hero Onion, the Wood's Frame Radish, and the Daniel's Defiance and Brown Soldier Beans.

In 1985, at the age of 74 and with Cherry, his ailing wife, to comfort, Lawrence retired. The reins were handed over to me to carry the association through to its next exciting phase, the creation of demonstration organic gardens open to the public at new HDRA headquarters outside Coventry. Lawrence was proud of this testimony to organic growing principles. In his role as President, he was often to be seen walking the grounds at Ryton talking to visitors, all of whom took something special home with them after the encounter. It was during these final years that he found time at last for his autobiography *Fighting Like the Flowers*.

Lawrence Hills will be remembered most of all for his wisdom and enthusiasm. The many ideas which spun from him frequently bore fruit. It was entirely typical of the man that even in the final weeks of his life with failing eyesight, he was working on a project to build a scented garden for the blind. If funds permit, we hope to carry this vision through to completion as a memorial to this remarkable man.

Alan Gear

Lawrence Donegan Hills, born 2 July 1911, died 20 September 1990.

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## Books

### Glasnost, Secrecy and Incompetence

THE LEGACY OF CHERNOBYL, by Zhores A. Medvedev, Blackwell, Oxford, 1990, £19.95 (hb), 352pp.

The disaster at Chernobyl on 26 April 1986, must hold the record for the most articles, features, comment pieces and books written within five years of a single event. My immediate reaction on being asked to review another book on the subject was to wonder if anything very much could usefully be added, at least until the epidemiology is published in 25 or 30 years time. Medvedev, however, makes a key contribution to an understanding of the subject with his intimate knowledge of Soviet society, the political and technological establishments of the country, and the reactions and priorities of ordinary people.

Throughout, Medvedev corrects the impression held in the West that it was an appalling event but competently handled and, thanks to glasnost, all the details made public knowledge. There was a news blackout from Chernobyl for the first ten days after the accident and, other than the August 1986 report to the International Atomic Energy Authority (IAEA), nearly all the data remain classified. Much that was told to the IAEA was not told to the local people. Not until April 1989 — three years later — were maps published that showed contamination zones inside the USSR.

Sixteen hours after the accident, it was still not known that the reactor had been destroyed. Water continued to be pumped in, producing hydrogen and spreading contamination. When some officials went into the Unit 4 control rooms and reported graphite lying around, a minister who had recently arrived at the plant asked the

Director, "You report that the radiation is normal. What is all this graphite?" The Director replied, "We can't measure the radioactivity accurately. We had one radiometer, but it was buried somewhere..." After 20 hours, General Pikalov drove an armoured car into the reactor compound, and established that the graphite was burning and the core melting.

The central chapters deal with the aftermath in the USSR in terms of the impact on environment, agriculture and health. Here the author makes excellent use of his access to Russian language sources, not only official reports but magazine articles, letters and diaries. There are some extraordinary first hand accounts: of people in Pripyat watching the reactor burn while mothers walked their prams and school children did gym exercises outside; of soldiers in Pripyat picking up graphite by hand and putting it into buckets, with radiation tan (indicating an exposure to 400-500 rems) on their faces; of the first helicopters flying at 100 metres over the reactor without protection, throwing bags of sand out of open doors onto the fire. A doctor at the plant is quoted as saying that protective clothing for rescuers was only issued on 6 May, perhaps because foreign journalists were about to arrive.

The latter third of the book is devoted to a history of the Soviet nuclear programme (where the author makes a curious historical error in stating that a British bomb test preceded the Soviet test of September 1949) and of Soviet nuclear accidents. The extent of Chernobyl's economic impact is outlined, and the author quotes Soviet sources as putting direct costs, up to 1988, at £10 billion. The disaster is a major factor in the severe energy crisis which has beset the USSR since 1987. All RBMK reactor construction has halted and the output from existing reactors has been cut by 20 per cent. A major objective of the Soviet nuclear programme was to release oil for hard currency export, but this is falling behind; in a country of central planning and very cheap energy, efficiency measures are slow to take effect. Soviet industry consumes 40 per cent more power per unit of production than its Western European equivalent.

The final chapters in this extraordinary story will not be written for a while yet, but, in the meantime, this book adds enormously to our understanding of the event and the immediate aftermath. The publishers say that it is selling well — it deserves to.

John Valentine

John Valentine is author of *Power Corrupts* (with Hilary Bacon, 1981) and *Atomic Crossroads* (1985).

## The Ethics of Genetics

GENETHICS: The Ethics of Engineering Life, by David Suzuki and Peter Knudtson, Unwin Paperbacks, London, 1990, £6.99.

On the principle that knowledge is power, this book attempts to empower the reader with the latest scientific theory concerning genetics and thus enable him or her to query the voice of the expert who, as the authors point out, is likely to be employed by military or business interests.

These are, of course, heady days for genetic scientists. James Watson of *Double Helix* fame sees the Human Genome Project (HGP), an international initiative to map the human genome funded by more than 2 billion dollars, as a quest "to find out what being human is". The DNA under scrutiny at such enormous expense would measure only a metre if unravelled and stretched out in molecules. Yet this molecular thread would contain an astonishing three billion base pairs. This is the microscopic terrain being eagerly mapped by scientists who hope to possess a complete record of human genetic content by the year 2000.

But could this simply result in a vast genetic library of useless tomes? As the authors of *Genethics* point out: "Once sequenced, the incredible, multidimensional complexity of genes is reduced to rows of letters — As and Ts and Cs and Gs — that could be recorded by a child armed with nothing more than paper and crayon." This divorces the genes from their role in the reproduction of life, and the coded secrets could fail to increase knowledge of how the genes actually control vital cell processes. The authors favour a less grandiose approach to genetic research.

Genetic theory does, of course, lend itself to abuse. Clear examples are the appalling Nazi attempts to obliterate 'inferior' races; and the theories of Francis Galton, cousin of Darwin and coiner of the term 'eugenics', the selective breeding of better humans.

Then there is the case of the extra hormone. In 1961 a healthy male was discovered to the astonishment of his doctors to be carrying an extra chromosome in every cell of his body, his genotype being 47 XYY. In 1965 a report in *Nature* established a higher than average (perhaps 20 times higher than normal) possession of XYY chromosomes among patients of a high-security mental hospital in Scotland. The search for a connection between chromosomal abnormality and crime gained momentum, culminating in the Boston Project to examine XYY males from the cradle onwards — which was halted, after a public outcry, in 1975. It is easy to

envisage how the XYY male could be hunted down in the womb, yet an estimated 96 per cent of XYY males lead a perfectly normal existence. Furthermore, as the authors point out, if crime-linked chromosomes are to be eradicated from the human gene pool then this is an excellent reason for getting rid of all men. It could convincingly be argued that the normal 46 XY male, in comparison with the Y-less female, has been infinitely more prone to aggression and violence throughout history, and should be finally obliterated. Who can say what genetic abnormality will come under attack when HGP has completed its findings?

One of the carrots dangled by scientists in front of governments and the public is the supposed benefits for human health to be derived from genetic engineering. Images of tragic victims of hereditary disorders can make this seem a plausible motive for research. Yet only a small fraction of human diseases can be traced to genetic abnormalities. "Of these, only about 3,000, most of them extremely rare and often affecting fewer than one in tens of thousands of births, seem to be monogenic or traceable to the activity of a single gene . . . The vast majority of human diseases — from cancers and viral infections to mental illnesses and dietary deficiencies — seem to be the result of more complex interactions involving more than one gene and a multitude of environmental factors." As removing a troublesome gene from the gene pool would involve a massive and highly expensive programme of genetic screening to benefit a tiny minority of sufferers, it is anyway highly doubtful that such a programme would ever be instituted.

And who are scientists to condemn a gene as worthless? The authors have a salutary tale to tell concerning sickle-cell anaemia. The sickle-cell trait has surprisingly beneficial results when the malarial parasites invade defective red blood cells; these blood cells collapse and are swept away by the body's immune system, taking with them millions of parasitic invaders. In the changing conditions of life on earth, might not some 'troublesome' gene enable man to survive the chemical pollution of his environment?

Suzuki and Knudtson lay down some moral principles concerning genetics, the need for genetic diversity being an important one. To illustrate the dangers of genetic uniformity, they describe the 1970 leaf blight which devastated genetically-uniform corn crops in the southern states of America: "Assuming our gene-splicing skills improve, one cannot but wonder what frightful new burden of genetic uniformity may be in store for future generations of farmers."

Less frequently discussed is the issue of genetic boundaries. Crossing genetic

boundaries is, of course, what genetic engineering is all about. Needless to say, genetic scientists are flaunting the wisdom of nature with many recombinant DNA experiments. Could these living organisms recombine yet again in the wild in a manner not at all to the advantage of mankind? Is this another instance of the short term gain/long term loss syndrome that seems to accompany most scientific innovations?

A further genetic principle involves the distinction between tinkering with the physical cells of someone's body and altering the human *germ cell* itself. Altering the genes of mice, for example, is already established. It was reported in 1989 that merely incubating mice spermatozoa with rat DNA was enough to produce a breed of supermice. In 1989, US scientists injected genes from a mouse retro-virus into a terminally-ill cancer patient; the foreign mouse DNA was merely used as a marker, however, and did not attempt to modify the patient's own genes. As long as genetic manipulation is confined to the physical body then it could be regarded as a therapeutic technique similar to transplant surgery; but once the actual genes of humans are changed then these genes could be passed on to future generations. Suzuki and Knudtson suggest the human germ cell should be sacrosanct.

The authors base the ethics of *Genethics* on humanism. Humanism, however, dismissed by J. Baird Callicott as mere 'speciesism', is surely a discredited moral theory. Humanism, which implies that humans should do and have what they want, makes environmental considerations secondary, and thus effectively dooms the human race. The authors also uncritically accept Darwinian theory, while providing much evidence which, in fact, thoroughly discredits Darwinism. "Any attempt to reconstruct the origin of genes must deal with a paradox . . . The first organism had to have some sort of genetic mechanism to ensure the continuity of its kind. Yet even the simplest genetic mechanisms found in modern organisms are fairly complex. How could heredity have been handled in early life forms during the gradual transition from nonlife to life?" To counter such a profoundly interesting question Suzuki and Knudtson come up with an implausible Darwinian solution — "the sudden appearance of a maverick self-replicating molecule."

Despite these reservations, *Genethics* is required reading for those interested in this frontline area of ecological concern.

Joe Potts

Joe Potts is a freelance writer and musician based in Blandford Forum, England.

## Pop. Up Book

THE POPULATION EXPLOSION, by Paul and Anne Ehrlich, Hutchinson, London, 1990, £16.95 (hb), 320pp.

Paul Ehrlich first set down his concerns about the ability of our species to multiply as early as 1968, with his book *The Population Bomb*. At that time, human numbers were around a billion fewer than now. Their latest volume spells out how our desire to "be fruitful and multiply" has brought us to the brink of ecological collapse. It also outlines ways out of the crisis.

This is a *tour de force* of ecological writing. There are some books — Mumford's *The City of History* is one — which seem to pack revelations and thought-provoking ideas into every sentence. *The Population Explosion* comes into that category. We are presented with a grand sweep of applied knowledge: history, geography, the sciences, economics and politics are all called upon in support of the thesis that human population growth is a major factor, probably the major factor, behind much of the world's perceived environmental and ecological malaise.

Of course, the subject of population growth exposes the raw nerves of instinctual behaviour, religious and social dogma, and personal freedom. Mention of the need to limit, let alone reduce human numbers, provokes heated accusations of eco-fascism. Any amount of time and ingenuity, it seems, may be spent explaining away and avoiding the fundamentally simple fact that population cannot increase forever. Indeed, human numbers have probably even now passed the point of

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sustainability; we are living on capital and borrowed time.

Paul and Anne Ehrlich start at this point, with a chapter headed 'Why Isn't Everyone as Scared as We Are?' The threshold of concern in most individuals is extremely limited, and people are naturally more worried about day-to-day events than long term trends. But as they point out, population growth "is essentially exponential, so we must be alert to the treacherous properties of that sort of growth. The key point to remember is that a long history of exponential growth in no way implies a long future of exponential growth. What begins in slow motion may eventually overwhelm us in a flash." They link population with the drive for greater material affluence (consumption) and the disruptiveness of the technologies of production, to produce the formula  $I = PAT$  (Environmental Impact = Population x Affluence x Technology). Whilst such a formula may not produce a precise measure of what is, in many ways, an elusive accumulation of effects, it does provide a broad indication of environmental damage.

Some countries, like China, have attempted to face up to the numbers problem, but even they are finding it difficult to maintain the momentum of population control. By and large, the Establishment in the developed world is slow to admit the implications of the issues discussed by the authors. As the agonizing over greenhouse gas emissions shows, governments are having great difficulty in coming to terms with technological impact; the problems associated with consumption are not even on the agenda. Often there is a degree of complacency in low or zero population growth rates, ignoring the fact that the population may have stabilized at well above the carrying capacity of the country concerned. Politicians are reluctant to espouse long term, complicated causes, even vitally important ones. If a week is a long time in politics, a century is beyond comprehension.

Around the central theme of the population explosion, the Ehrlich's consider all this and much more. The originality in the book is not its facts, but the way it marshals them to destroy, conclusively and relentlessly, any notion that population size is not a matter for concern; that technology, increased crop yields and that more efficient distribution can cope with unlimited human numbers.

This is a textbook, reference source and campaign manual rolled into one, wonderfully rich in its content, thorough in its analysis and carefully and fully annotated.

Alec Ponton

Alec Ponton is a lecturer and co-author of *A Green Manifesto* (Optima, 1989).

## BOOKS DIGEST

Books which are covered in the digest may be given full-length reviews in forthcoming issues.

- **CLIMATE CHANGE: *The IPCC Scientific Assessment***, edited by J.T. Houghton, G.J. Jenkins and J.J. Ephraums, Cambridge University Press, 1990, £15 (pb)/£40 (hb), 364pp. ISBN 0-521-40720-6.

The Report of Working Group 1 of the Intergovernmental Panel on Climate Change which was set up by the World Meteorological Organization and UNEP in 1988. It is the most comprehensive and authoritative report on global warming ever made by the international scientific community. It contains a policymaker's summary for the non-specialist reader and is an essential reference work for all those with a serious interest in the subject.

- **THE GREENHOUSE EFFECT: *Formulating A Convention***, by William A. Nitze, The Royal Institute of International Affairs Energy and Environmental Programme, 10 St James's Square, London SW1Y 4LE (sponsored in the US by the Environmental Law Institute, 1616 P St NW, Washington, DC 20036), 1990, £10 plus £2 p&p, 66pp. ISBN 0-905031-33-4.

Nitze, a lawyer with considerable experience of international environmental negotiations, argues for a limited greenhouse convention but one which must provide clear incentives and targets. The report "is focused neither on maximizing short-term results nor on designing ideal long-term solutions, but on creating a process that will enable the international community to minimize the risks of greenhouse warming at the lowest possible cost."

- **GLOBAL WARMING: *Are We Entering the Greenhouse Century?***, by Stephen H. Schneider, The Lutterworth Press, Cambridge, England, 1990, £13.95 (hb), 343pp. ISBN 0-7188-2815-1.

Schneider, one of the climatologists at the forefront of the greenhouse debate in the US, provides an entertaining and informative insider's account of the science, politics and personalities behind the issue.

- **THE GREENHOUSE TRAP: *What We're Doing to the Atmosphere and How We Can Slow Global Warming, A World Resources Institute Guide to the Environment***, by Francesca Lyman with Irving Mintzer, Kathleen Courier and James MacKenzie, Beacon Press, Boston, 1990, 189pp. ISBN 0-8070-8503-0.

Yet another book warning of the awful and immediate prospect of climate change and recommending energy saving measures etc., but lacking in any real political analysis about how deep the changes will have to go and who will decide and control them. We are told: "Don't make jackrabbit starts, which waste fuel", and, very sensibly, "make sure your car's front wheels are in alignment".

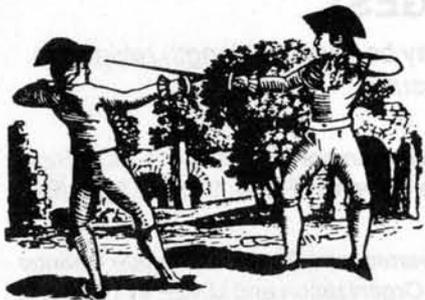
- **THE RISING SEAS**, by Martin Ince, Earthscan, London, with the cooperation of the Commonwealth Secretariat, 1990, £5.95 (pb), 152pp. ISBN 1-85383-077-1.

This book, based on research carried out for the governments of the Commonwealth describes in simple terms the consequences of a rise in sea levels of the size predicted due to global warming. Brief case studies cover the UK, the Maldives, North America, Bangladesh, Guyana, Kiribati, The Netherlands, Italy, Egypt and Australia.

- **BEYOND THE EUROPEAN LEFT: *Ideology and Political Action in the Belgian Ecology Parties***, by Herbert Kitschelt and Staf Hellemans, Duke University Press, Durham NC and London, 1990, 262pp. ISBN 0-8223-0979-3.

The authors focus on the Flemish and Walloon green parties, Agalev and Ecolo, as a case study in the dynamics of European "left-libertarian" politics. According to the dust jacket, this is "the first comprehensive survey of ecology parties in Europe which presents detailed empirical information on the careers, organizational practices, and political beliefs of the activists involved. Kitschelt and Hellemans show that European Green party activists express an egalitarian and libertarian vision of a desirable social order that builds on, but radically transforms, ideas of the traditional socialist European left."

Patrick McCully



## Letters

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### Tropical Timber Boycott

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Dear Sir,  
I needed no further convincing by the September/October issue of *The Ecologist* that the tropical timber trade is corrupt, desperate and unconcerned about conservation. However this issue did persuade me that something more drastic is needed than wailing by some and appeals to the trade's better nature by others.

What is needed, I believe, is a really serious consumer boycott campaign such as Lynx has conducted against the fur trade. It should be just as morally and socially unacceptable to have tropical hardwood windows as to wear animal fur on one's back.

The moral conversion away from real fur from threatened species extends to sustainably produced fur from farmed mink and to fake fur. In the same way, an anti-tropical hardwood conversion should extend to tropical timber from plantations and to other wood stained to resemble tropical hardwood. This is the only way to strip away all the disguises that mask the powerful trade that is destroying the forests.

*Yours faithfully,*  
**Chris Marsh**  
4 Brynford Close  
Woking  
Surrey GU21 4DW

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### Support for Chilean Environmentalists

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Dear Sir,  
The people of Chile are emerging into democracy after sixteen and a half

years of military dictatorship, to discover the extent of environmental damage their beautiful country has suffered. This ranges from destruction of native forests and species by Japanese logging interests, chronic smog in the capital Santiago, and the disappearance of once-rich marine resources as a result of pollution and overfishing, to toxic dumping by overseas companies.

The main Chilean environmental organization, CODEFF (Committee for the Defence of Fauna and Flora) has existed since 1968, but its effectiveness was limited for most of its life by lack of democratic channels and a government committed to hard-line free-market policies. Nevertheless, in 1983, CODEFF won a ban on whaling in Chilean waters, and within days of the return of elected government in March this year, achieved a decree protecting the national tree, the Araucaria (known to us as the monkey puzzle). CODEFF is now affiliated to Friends of the Earth International.

CODEFF is appealing for members, for publicity and financial support, and has asked the Chile Solidarity Campaign (tel. 071 272 4298) to assist. We will be glad to send further information on CODEFF and how you can help it to anyone interested, and to receive cheques for donations to CODEFF (payable to CSC but marked "for CODEFF").

*Yours faithfully,*  
**Quentin Given**  
Chile Solidarity Campaign  
129 Seven Sisters Road  
London N7 7QG

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### Japan's New Earth 21

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Dear Sir,  
Your editorial 'The End of Industrialism' (September/October, 1990) has been brought to my attention.

In the editorial, it is stated that "Japan's powerful Ministry of International Trade and Industry (MITI) recently proposed a long-term project called 'New Earth 21' which aims to do no more than hold emissions at present levels over the next 100 years."

However, this is not what the "New Earth" is intended to do. More specifically, it goes somewhat further, and is intended to ultimately reduce green-

house gas concentrations over the next 100 years, and restore the Earth to the green planet, that we have transformed since the Industrial Revolution.

You would also note that it calls for immediate action. This is why we are developing our domestic Action Programme to Arrest Global Warming. You would not fail to observe that our past performance on greenhouse gas emissions is very good, despite the fact that we are able to supply only 13 per cent of our electricity through hydro power, and do not have natural gas fields nearby that we can tap into. But our efforts will continue, and we will do our best, as you quote in your editorial "to achieve the stabilization of greenhouse gas emissions at their lowest level by the year 2000".

*Yours faithfully,*  
**Keiichi Yokobori**  
Deputy Director-General  
Global Environmental Affairs  
Ministry of International Trade and Industry  
Japan

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### Population Policy

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Dear Sir,  
I bought your 20th Anniversary issue (May/June, 1990) eagerly because I saw that the first heading of the first issue was on a Population Policy for Britain, and the heading to your editorial, 'The Message Remains the Same', seemed to promise reappraisal.

Yet inside, nothing at all about Britain's population, or indeed, population at all except for Sandy Irvine's mention of the book *The Population Explosion*. I am glad to see he is an Associate Editor.

I belong to the Green Party Population Working Group, which after years of hesitancy by the Party has at last been given permission to campaign "officially". It would help a lot if magazines like yours, which are so influential in the green movement, ran pieces on population, especially that of Britain. Our water supplies and dependence on oil from the Middle East are surely good pointers.

*Yours faithfully,*  
**Jo Hanson**  
71B Effra Road  
London SW2

# Classified

## CONFERENCES AND COURSES

BESHARA TRUST Autumn 1990 Seminars: ECONOMIC SUSTAINABILITY, speaker Edward Goldsmith, November 24th, 10am. For details of the above and other seminars contact The Secretary Beshara Trust, Frilford Grange, Frilford, Nr. Abingdon, Oxon OX13 5NX, Tel: 0865-391344.

THE ENERGY AND ENVIRONMENTAL CENTRE, Hannover, West Germany offers weekly and weekend seminars or workshops concerning alternative energy, ecological products, nutrition etc. Apart from the Holiday House there is an engineers department, organic garden department, a laboratory and Reed-bed Sewage system. For details contact: Energie-und Umweltzentrum, am Deister e.v., 3257 Springe - Eldagsen, West Germany (Tel: 5044-380.)

FINDING THE GREEN PATH. Innovative course of workshops for heart and mind to help change yourself and the world. Explore the Green challenge in depth, in a supportive group. London, Jan/March 1991. Facilitators: Michael Kendall, Mike Penney. Speakers: Patrick Rivers, Bernadette Valleey, Elizabeth Sidney. Details, bookings: Green Paths, 13 Croftdown Road, London NW5 1EL. Tel: 071-485 9981.

## CALL FOR PAPERS

ECO-PHILOSOPHY SYMPOSIUM in Nairobi—1991. An extraordinary congress of philosophy will take place in Nairobi, Kenya, 21-25 July 1991. The organisers have agreed to schedule a symposium on Eco-philosophy as a new Metaphysics. The coordinators of this symposium are: Henryk Skolimowski, Humanities, 130 Enging Bldg. Univ. of Michigan, Ann Arbor, Mich. 48109, USA and Hwa Yol Jung, Moravian College, Bethlehem, Penn. 18018, USA. If you

are interested, kindly send a paper up to 10 pages—original contributions to Eco-philosophy, please to: Hwa Yol Jung at the above address.

Lancaster University, Dept. of Religious Studies in association with the Centre for the Study of Cultural Values are holding a conference: RELIGION AND THE RESURGENCE OF CAPITALISM, at Lancaster University, UK, 14-17 July 1991.

The conference will have the following sectors: Religion and Capitalism—a mutual Resurgence?—Riding the Tiger?—Capitalism and Theology.—Religion and the Demise of Socialism.—World Religions and International Capitalism. An Ecological Eschaton?—Religion between Capitalism and Constraint. For details of registration or abstracts for papers contact Dr. Richard H. Roberts, M.B. Reckitt Research Fellow, Dept of Religious Studies, Furness College, Lancaster University, Lancaster LA1 4YG, U.K. (Tel: 0524 65201 Ext 2429).

## MISCELLANEOUS

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are turned into cash or goods for sale to help restore and run Britain's Inland Waterways.

## PUBLICATIONS

ECOLOGICAL RESTORATION OF NEW ZEALAND ISLANDS (Eds) D.R. Towns, C.H. Daugherty and I.A.E. Atkinson. A4 size, colour cover, 318 pages. \$35 plus \$2 p+p. Available from Science Publications, Science and Research Division, Dept of Conservation, P.O. Box 10-420, Wellington, New Zealand.

## DIARY DATES

November 15th, 1990: SOIL CONTAMINATION AND REMEDIATION. Ramada Renaissance Hotel, Manchester, presented by European Study Centre. Details from Lesley Claff. Tel: 081-878 9479, Fax: 081-392 1132.

November 19th, 1990: ENVIRONMENT WHITE PAPER CONFERENCE. Organised by Environmental Policy Consultants, speakers are leading politicians and businessmen. Venue: Park Lane Hotel, London W1. Further information. Tel: 081-678 6865.

November 20th, 1990: THE ENVIRONMENT WHITE PAPER 1990. Organised by Wildlife Link at St. William's College, York. Details from Wildlife Link, 45 Shelton Street, London WC2H 9HJ. Tel: 071-240 9284.

December 10th-14th, 1990: MANAGEMENT OF ENVIRONMENTAL CONFLICTS AND IMPACT ASSESSMENT. Bologna, Italy. This meeting is part of a three module structure with further meetings during 1991. For further information contact Secretariat L. Vincenzi, Ervat Spa, Via Morgagni 6,40122 Bologna, Italy. Tel: 051-230567, Fax: 051-222353.

December 10th/11th, 1990: ENVIRONMENTAL PROTECTION IN PRACTICE. The London Press Centre organised by Legal Studies and Services Ltd. For details. Tel: 071-236 4080.

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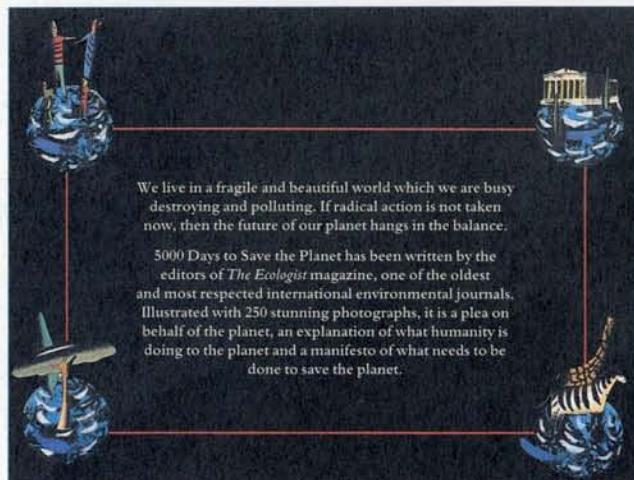
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