Tara Foundation

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Inside:

Editorial

The 'preferred route' for the M3 Motorway, far from being the most advantageous in the State's opinion, is rather the principal justification for its construction. The State has never made a convincing case for a motorway-grade route beside the Hill of Tara, because such a case is by definition impossible. As a result, the public-relations terms which have characterised every reference to the issue have invariably polarised it about a matched pair of themes: the fine balance that the State must strike, and indeed triumphantly strikes with every project it undertakes, between 'progress' and 'heritage'.

'Progress' is typically defined as whatever contributes to the accomplishment of an important State aim. Driving a motorway through one of the world's richest heritage landscapes, for instance, is one of these things. This project is unjustifiable when considered by the relevant criteria, namely the provision of useful infrastructure that is

cost effective. Therefore, the task of the mainstream media is, first of all, to provide rationale for this and similar policies. From news and current affairs to light entertainment, the PR device of the 'economy' is used to dissuade opposition to such measures. Despite the necessary difference in techniques and themes, there are also similarities to be observed. Both rely on decontexualised assertion and the manipulation of deceptive imagery, methods that are more usually associated with cinema.

Using these methods, the 'economy' is equated with the construction of large numbers of houses on rezoned agricultural land without services or infrastructure, and on the purchase of large numbers of cars. The absence of urban development policy and of public transport are not treated as problematic. Instead, they are explained away with bogus sociological generalisations, such as, for instance, the paradoxes of development and economic progress. The air of unreality created by cinematic methods enables the mirror-imaging of facts. Massive debt created by high property prices and the high cost of living becomes vast personal wealth.

Since 'progress' and the 'economy' (and those conditions defined as inseparable from both) are doctrines that the media are incapable of questioning, the facts which contradict them are either never mentioned, else mentioned in passing, minimalised and decontextualised The real issues, consequently, tend to be passed over in favour of pre-defined agendas.

Secondly, obstacles to State policy, if persistent, must be criminalised. On the one hand, as a correlative to the obedient reporting of announcements made by Government, any fact which tends to threaten a State policy is habitually minimised. One example concerns the architectural discoveries made on the route of the M3 Motorway. The typical approach is that, if they cannot be seen via a cursory glance, they are not there and thus are of destroyable insignificance. (It is of no small importance that the stated policy of the NRA with respect to archaeology follows a similar rationale.) On the other hand, if the irritant does not vanish, denigration comes into play. Because not vanishing in the face of misrepresentation is tantamount to a crime, the irritant thus becomes an enemy. Against such an enemy, no weapon is ruled out: distortion is commonplace, outright lying, where the target is weak, is not unheard of. The objective, of course, is to intimidate into silence and to faciliate the accomplishment of the policy.

At times, skepticism with regard to State policy can appear. However, this skepticism is invariably historical. Particularly egregious policies may be submitted to examination, but only if they are the policies of past administrations, and only if by doing so present State interests are not threatened. Even so, the impact of these occasional glimpses into the past is lessened by their infrequency, and the fact that they are not pursued with any consistency. A popular response to such issues is to say that such things are done with and 'in the past'; because the present is by definition better than the past and in a condition of perpetual progress, it is time to 'move on', a euphemism which means that parallels that have the potential to cause dissonance are best forgotten. Also, the media's own role in shoring up and defending the historical policy under concern is

never mentioned: the media is, by definition, neutral and concerned only with objective truth. Anything which might cast doubt on this is ignored.

These, in microcosm, are the reasons that the State has been so successful in forestalling popular opposition to outrageous policies. Rather than implementing a quality road infrastructure integrated with *comprehensive alternatives to road transport*, the State has, with complete success, held Irish citizens to ransom. Because of the absence of coordinated and coherent opposition, Ireland must accept a motorway programme that somehow manages to be the most cost-ineffective in the world. Ireland must pay for these motorways despite the fact that no research has been carried out as to whether they are actually needed. A viable and well-integrated alternative to motorways would of course weaken the case for endless cost inflation in the roads programme. But there is apparently no public demand for such alternatives. It is very far from being the case that people 'do not have the time' to think about such things. It is that people have been conditioned into not wanting to think at all. The unwelcome consequences of dissent are relayed by news and entertainment on a daily basis.

Propaganda and State Policy: Part 2

By Andrew McGrath

In the first part of this series (March 2007), we identified three layers of discourse in policy formation and propagation. The first is the policy layer, which is to be seen as retaining an intimate association with the sphere of public relations. The second layer may be referred to as the media layer; by this is to be understood the transmission of policy agendas in mainstream journalism, whether in printed form, through broadcast, or electronically. The third layer identifies an informal level of discourse; while seemingly less systematic or stringent in its approach than journalism per se, it still employs public relations and propaganda techniques in the transmission, or insinuation, of state policy, examples being weblogging, advertising, email, and even apparently informal conversation. While all three layers have in common a) the propagation of official policy, b) the employment of a wide array of persuasive techniques, and c) the appearance of presenting factual information while concealing, with varying degrees of success, their underlying agenda, each layer plays different roles and is aimed at different audience categories, and so will inevitably involve methods unique to each category, which may have a lesser role to play, or may not apply at all, in the others.

This can be established by examining the first level, that of state policy itself, and the methods by which it is issued for consumption by the major media. Policy transmission involves giving subtle hints to the media as to which aspect of the particular policy must be emphasized to give it credibility, while downplaying, or concealing altogether, its serious implications for pre-existing rights and/or political obligations. So it is important that there is an intimate connection between policy makers, namely the ministers in whose name policies are drafted, and policy shapers, that is, those who write

the scripts for the ministers themselves, in other words public relations managers. So close is this dependency that there is no question of a policy maker issuing a public statement on policy that has not been carefully drafted and prepared to ensure it corresponds with public relations requirements. As the policies themselves are invariably transmitted in the language of public relations, it is necessary to become fluent in this language; to adopt its terms and where necessary bring in the background assumptions which are implied whenever these terms are used. The media managers, having become conversant with the consensus, likewise gain the ability to anticipate its requirements, and thus to condition those who consume their products toward the need for particular policies. Depending on the degree of their editorially-defined sympathy with the aims reflected in policy, they serve to propagate it further, and even to give it an application which is broader than the terms of the mere policies themselves.

We can, for convenience, refer to these background assumptions collectively as the 'consensus'.

As it happens, the term ‘consensus’ also features prominently in much media discussion of policy, but most often where potentially contentious policies are concerned. But, in this quite distinct use, it functions as a PR term, intended to prevent reflection on the policy being adopted, and, by extension, criticism of those who support it. ‘Consensus’, in this usage, simply signifies lack of dissent on policy, an agreement among those designated as ‘experts’, regardless of whether there is a sound evidentiary basis for such agreement; indeed, the ‘consensus’ is particularly important precisely when there is no such basis. This PR meaning, then, is primarily a policing tool, conveying to the victims of policy that no further discussion is permitted.

Besides this, the PR term conceals the background assumptions it depends on, by insisting on the fact of agreement as being the deciding factor; the reasons for the agreement, policy victims are to understand, are wholly irrelevant. Another popular means of stating this among politicians is that such-and-such policy maker ‘has no ideology’. On the contrary, the ideology is all-important, but must under no circumstances be acknowledged or subjected to debate. This impenetrable, mystical quality is an essential element of propaganda; through the use of such terms, questionable decisions, measures for example involving huge expenditure for little apparent benefit to the public, are transformed into irrevocable, inevitable facts, as though they were natural laws.

It is necessary to offer a preliminary definition of our special meaning of ‘consensus’, to better grasp how it defines and limits discussion of state policy. The consensus consists of a number of basic assumptions, each of which has associated with it a series of words and phrases which, when used, invoke them as a final response, a dogmatic utterance that by definition cannot be questioned. So language and thought, in this sense, are effectively replaced by a nuanced system of stimulus and response, an engine whose well-oiled parts are designed to drive one another.

1. The first of these assumptions is that of Prosperity and Wellbeing. By definition,

these are qualities which are enjoyed by 'the majority' at all times, irrespective of actual data. Those who do not enjoy them, or rather in the parlance enjoy them to a lesser degree, constitute an invisible minority. The ‘invisible minority,’ by virtue of its invisibility, works to confirm the existing policies, which are aimed by definition at producing Prosperity and Wellbeing, and regardless of countervailing evidence are found to do so.

2. The second cardinal assumption is that Peace and Order are invariably aims of state policy. These two terms are never separated in the discourse, and indeed are almost interchangeable in meaning. Even the most oppressive legislation and aggressive political measures are justified by reference to Peace and Order, even when their opposite is the result.
3. The third assumption is that people, in other words the mass of the population, are by definition incapable of perceiving their own Best Interests. The corollary of this is that people must be forced by a wide range of policy measures to behave in accordance with what is decided by state power. Therefore, all policy, particularly if it is harmful in one or more ways, is advertised as being in the best interests of all.
4. The fourth assumption is that the wealth, harmony and success of 'the majority' can only be secured by close and relentless Monitoring. Because it is necessary for securing the life enjoyed by 'the majority', surveillance is not in fact devoted to limiting patterns of behaviour or actions, which aim in fact is, contrary to policy PR, incidental. In fact surveillance is aimed overwhelmingly at inhibiting the expression, in speech or writing, of opinions that might tend to question or undermine the basic assumptions. By this process, the aim is to inhibit individuals from entertaining such opinions altogether.
5. The fifth assumption is that of Progress. It is a given that all policies implemented by government, no matter how wasteful or destructive at the level of mere facts, represent advancement, a 'moving on' from a retrograde past that no sane, rational, 'right-thinking' person would consider a model for present conduct. But it is a past that is *contantly* being made obsolete, perpetually being left behind, while *always* remaining to be dangled as a spectre whenever there is a danger that doubt may be cast on policy direction.

These five major constituents of the consensus share a common mechanism, one which drives them and relates them to each other. This mechanism is that of the mirror image, the representation of what is the exact reverse of reality as being that reality. The degree of success of a policy may be measured by the success of the state's propaganda apparatus in effecting this mirroring.

The technique of creating nuances within this consensus, so as to create the appearance of debate, the ideological structure of opposition and proponent, has met with such success that it pervades public discourse, dominating its structures in all three levels. It functions so effectively that even those who do not themselves serve as state spokespersons in the official sense, are invariably co-opted and their contributions angled to serve the required policy ends, thus removing the possibility of introducing dissonance within, or even distraction from, policy aims: both of which would be equally damaging,

considering the absence of independent evidential support for the stated aims of these policies, and the constant maintenance that is required to sustain them.

The primary instance of carefully maintained 'debate' within the policy sphere is of course the structure of political life itself. The party structure is built on the consensus, and the discourse of policies never strays beyond agreed boundaries. Criticism from parties in the role of official opposition does not serve to undermine the policies; it reinforces them, by highlighting carefully chosen discrepancies, always with reference to the background assumptions which all major parties share. Because the parties represent key interest groups in the society, their survival lies on keeping within the terms of the consensus, regardless of how this diverges from experience and unbiased data, and adjusting all evidence that is allowed to inform policy making, so that it reliably confirms the predictions of the consensus. So criticism of policy will typically focus on the inefficiency with which a proposed policy will meet a certain objective, while approving of the objective itself by taking it for granted. The absence of opposition to these objectives of course ensures that they are perpetuated. But it also serves the dual purpose of excluding alternatives from the agenda, and of portraying these alternatives, on the rare occasion when they are given expression (typically by isolated representatives), as being irrational and unsupported by data (*regardless of how much evidence is presented to support them, and the quality of that evidence*).

The suggestion that policy makers might themselves be deluded by the propaganda terms in which their policies are framed, and in which policy debate exclusively takes place, is frivolous. It is only true in the sense that a policy maker will wish to justify even the most aggressive and destructive policies as befitting the duties of his or her office. There is no possibility of delusion at the point where actual policy decisions are made, because, public relations aside, every policy aims to achieve a definite end employing definite means. It is essential that these are never in doubt, if an effective interplay between policy objectives and public relations is to be maintained.

The framing of the consensus in appropriate public relations terms is by no means an obvious or inevitable process; the elaborate and varied nature of the propaganda apparatus alone testifies to this. Every statement that gives effect to policy, and every statement regarding policy in the media whether in approval or in criticism, must be carefully calculated and monitored, must be reinforced with suitably chosen evidence. The question of plausibility is, of course, the issue that must be addressed when it comes to presenting a persuasive picture, and this will be dealt with when we come to examine the role of the media. The role of the ‘expert’ in creating a plausible appearance is a dual one: to intimidate opposition into silence by means of an authoritative tone and bearing, and to present apparently credible supporting evidence, highlighting elements which support the case to be established and ignoring elements which tend to show the contrary, or weaken the case. Reliance on apparently technical and credible witness is a reliable method of forcing consent; it assumes that most of the target audience lacks the necessary knowledge or wherewithal to verify the expert’s case. The media plays an essential role, not only in conveying, without much in the way of informed criticism, the force of the expert’s case, but also in cultivating an overall culture which discourages informed and rational questioning. Here, of course, it becomes obvious that the media does not exist

outside the policy sphere as a detached observer, but instead is an integral part of the process. Its role in fact is to perpetuate the process. The use of PR technique both in policy formation and its transmission is to distort the real nature of policy, to direct actions taken in response to it, and to prepare the ground for policies of a similar nature.

The techniques employed at the policy level to conceal, or rather transmute, the noxious aspects of policy are less varied, more specified, than those employed by the media. This is because policy PR is aimed primarily at the media themselves, intended as raw material to be processed and refined. Reporting decisions, because conditioned by the needs of policy, tend naturally to be oriented in line with policy needs, and are then processed to meet the requirements of the intended audience. Reporters themselves are trained to be sensitive to PR phraseology, and thus to reproduce its terms in their own analyses, according to the dictates of their particular agendas (at whatever point of the policy spectrum). At the policy level, no such audience refinements are needed; the media outlets themselves exist in a similar arrangement to that enjoyed by the party system, covering topics according to their respective spheres of interest, and disregarding those which fall outside them. Policy language concentrates on providing the keys which the media are to employ in their coverage of policy, in other words, the signals that orient the permissible range of reporting. Because all permissible objections have already been exhausted at the policy level, there is little danger that the reporting of policy will extend beyond this footprint, even in cases where there is a significant negative media reaction to certain policies. Generally, where a policy has the support of powerful interest groups, the negative input which is required to 'balance' the picture will be offset by, if not outright praise of the given policy measure, then, at least, thoughtful reflections on the imperfection of the world and the need to reconcile legitimate but competing interests.

In short, the 'consensus' is not open to question, because it defines and delimits the bounds of allowable debate.

Part 3 of Propaganda and State Policy will appear in the June / July Edition.

The Mineral Resources of Ireland: Part 1

The earliest evidence of metal mining in Ireland is provided by Bronze Age copper workings at Ross Island, Co. Kerry in southwest Ireland. These copper workings, dated at between 2,400 and 2,000 BC (O'Brien, 1996) constitute the oldest recognised in northwest Europe.

In Bronze Age Ireland, alluvial gold was also worked for the production of gold artifacts. Texts attest to iron working at Avoca (Co. Wicklow) in the 2nd century, to iron and copper mines in the 9th century, alum mining in the 12th century and lead-silver workings and copper mining around 1500.

Iron was worked from the eastern half of Ireland during the 16th and 17th centuries. During this period, almost every county had at least one metal mine producing copper and lead-silver amongst other minerals.

Mining production in Ireland expanded in the late 18th and 19th centuries, triggered by the needs of the Industrial Revolution in Britain. Copper mining developed in southwest Ireland, especially at Allihies, and there was significant exploitation of lead, copper (e.g. Avoca) silver, coal, barite, manganese and slate elsewhere.
[1]
Other industrial minerals previously extracted in Ireland include ***barite, dimension stone, phosphate, silica sand and slate***.

Both gypsum and brick shale are currently worked from open pit operations in Co. Cavan, whilst dolomite and fireclay are exploited from two sites in Co. Kilkenny. During the early 1980s, the Ballynoe barite deposit ***was among the top 5 producers in the world***. Coal was worked in Ireland as recently as the early 1990s, although it was most extensively worked in the 19th century.
Today crushed rock, sand and gravel are exploited from in excess of 400 quarry sites across Ireland.
[2]
Ireland was a leading European producer of zinc by 2001, and an important producer of lead, alumina, and, of course, peat. Mineral production by 2001 included zinc at 225,136 tonnes, compared to 262,877 in 2000 and 180,951 in 1998; lead at 44.5 million tonnes compared to 67 in 1996, 36.5 in 1998, and 57.8 in 2000; and alumina, at 1.2 million tonnes.

Other commercially exploited minerals were ***silver, barite, hydraulic cement, clays for cement, fire clay, granite, gypsum, lime, limestone, marble, sand and gravel, rock sand, silica rock, shales, slate, dolomite, diatomite, building stone, and aggregate building materials***.
In one example of on-site exploration, Cambridge Mineral Resources PLC undertook diamond and sapphire exploration work in Ireland, identifying numerous diamond indicator minerals and recovering significant quantities of ruby and sapphire. Gold was discovered in County Mayo in 1989, with an estimated 498,000 tons of ore at 1.5 grams per ton of gold.

In fact, there was a marked increase in mining exploration beginning in the early 1960s, resulting in Ireland becoming a significant source of base metals.
[3]
Tara mines started production in 1977 and is the largest Zinc mine in Europe. Galmoy and Lisheen started production more recently in 1997 and 1998 respectively.

Ireland currently has three underground zinc-lead mines in production and is the largest producer of lead concentrates. Over the last 40 years a string of significant base metal discoveries have been made, including the giant ore deposit at Navan, that is, **Tara Mines**.
Zinc-lead ores are also currently exploited from two other underground operations in south-central Ireland: **Lisheen** and **Galmoy**. Ireland now ranks as the seventh largest producer of zinc concentrates in the world, and the twelfth largest producer of lead concentrates.

The combined output from these mines, three of Europe's most modern and developed mines, make ***Ireland the largest zinc producer in Europe and the second largest producer of lead***.

A. Tara Mines

Tara lead and zinc mine is located at Navan, County Meath, 50km northwest of Dublin. The mine opened in 1977, and was acquired by Outokumpu (a Finnish State corporation) in 1986. In January 2004 it was transferred to New Boliden (a Swedish mining corporation), as part of an asset exchange between the two Nordic companies. Placed on care-and-maintenance in 2001 on account of high zinc production costs, Tara was restarted in 2003 and produced 2.55Mt (million tonnes) of ore, the highest tonnage since 1995. Some of the output is delivered to Boliden's Odda and Kokkola zinc refineries, both formerly owned by Outokumpu, and the remainder goes to various European customers.

Tara is the largest zinc mine in Europe and the fifth largest in the world. The mine currently employs 700 people.
Some 2.6 million tonnes of ore are mined annually, which yield zinc and lead concentrates containing 200,000 tonnes of zinc concentrate and 40,000 tonnes of lead concentrate.

Broken ore from both production and development at Tara is delivered to one of five underground crushers and reduced in size to less than 150mm before being carried by conveyor to a 3,600t capacity storage bin of at the base of the production shaft. Skip loading and hoisting are automatic, and ore is supplied, at an hourly rate of 570 tonnes, to the surface coarse ore storage building, with a 30,000t capacity, known as the Tepee.

B. Galmoy

The Galmoy mine is located in the southern Midlands, on the boundary with Laois and Kilkenny, 110 km from Dublin. Arcon International Resources Plc, an Irish registered mining and minerals exploration company, has developed Ireland's latest (and smallest) lead zinc mine. Arcon's Galmoy Mine began production in 1997, and has an estimated life of 15 years. The total resources of Galmoy have been estimated at 10 Mt, grading at 11.8% zinc and 1.3% lead. Subsequent exploration drilling led to the discovery of the G satellite orebodies and the K and CW South orebodies. Following submission of a second planning application and environmental impact statement, approval was granted to mine these additional reserves in 2002. The R zone was discovered in the second half of 2002 and a third planning application and mine license submission to mine the R zone was made in 2003.
[4]
The Galmoy Mine produces 650,000 tons of ore per year at target grades of 11.3% zinc and 1% lead.

C. Lisheen Mines

The Lisheen Mine is located in Co. Tipperary. The first ore was mined in 1999, and commercial production began in 2001. The initial plan was to produce 160,000 tons per year of zinc concentrate, to be increased to 330,000 tons per year of zinc concentrate and 40,000 tons per year of lead in concentrate at full production. Lisheen is expected to produce approximately 4.83 million dry metric tonnes of zinc and lead concentrates over the estimated 14-year lifespan of the mine.
Both the Lisheen and Galmoy mines are located on the Rathdowney Trend mineralized belt, southwest of Dublin. It comprises sedimentary rocks, mainly limestone, formed approximately 320 million years ago.
[5]

Ireland's role as a major lead and zinc producer is expected to increase as the combined Lisheen, Tara and Galmoy operations begin full production. Ireland is now Europe's largest producer of lead and zinc and now produces 3% of the world's zinc and 2% of the world's lead each year. The Exploration and Mining Division of the Department of Communications, Marine and Natural Resources state:
"In terms of tonnes of zinc discovered per sq km, Ireland ranks 1st in the world."
[6]
This could only increase if the expected potential of the midlands deposits is realized. Several new projects were expected to be developed soon, but the declining prices of zinc and lead have forced several of these projects to be cancelled, at least for the time being.

The Department of Communications, Marine and Natural Resources provides direct technical assistance to exploration and mining
companies in Ireland. The Geological Survey of Ireland (GSI) is the national earth science agency and is responsible for providing geological
advice and information and for the acquisition of data for this purpose. The GSI has conducted many projects of direct interest to the mineral industry.
The GSI functions as a line division of the Department of
Communications, Marine and Natural Resources. [7]

The conditions of mineral resource exploration and development are laid out in the successive Minerals Development Acts, namely the Minerals Development Acts 1940-1999. This legislation, which is considered as a unit, comprises the Minerals Development Act 1940, Petroleum and Other Minerals Development Act 1960, and the Minerals Development Acts 1979, 1995, and 1999. However, the actual terms under which minerals are explored and exploited are set down in the Finance Acts 1922 and 1999 (and the Taxes Consolidation Act 1997 as amended by the latter), and various legislative provisions.
The Finance Act 1999 was noteworthy for the introduction of a sliding scale for corporation tax. The Act mandated a 4% cut every year from 1998 to 2003, in other words, an overall cut from 32% to 12.5%. Interestingly, there is no provision for a review of this low rate, for instance after a prescribed term of years: the Act states that the rate is to remain at 12.5% for 'each subsequent financial year'. This suggests a determination in

state policy to retain this rate of tax for future years, regardless of the economic conditions.
In the 1999 Act there is a separate section covering the taxation rate for both oil and gas and mineral resources. The tax rate is set at 25%. Where oil and gas production is concerned, the state is entitled to no royalties, and allows a 100% write-off of operating expenses against tax.

The situation regarding minerals is different. There are no state mining companies. Minerals are developed by private enterprise, by means of a license issued under the Minerals Development Acts 1940-1999. These licenses are legally-binding contracts.

According to the Department for Communications, Marine and Natural Resources, there is 'wide discretion' regarding the type of payment or royalty on a mine. Mining rights can be given free of charge if the Minister deems this to be 'in the public interest.' The criteria the Department employs to decide on payments to the state by private mining concerns are as follows:

- The likely return on a company's investment.
- International royalty rates (no definition of what constitutes 'international' is provided; neither are any comparative data).
- The 'need to continue to attract international exploration funding'.
- The 'expectations of the State as the mineral owners and the developer's achieving a fair return', having regard to economic conditions, and 'recognizing the need to allow for the many exploration failures.'

These criteria seem less about achieving a fair return to the taxpayer for the profits gained by mining companies from low-cost resources, than a public relations defence of the low terms that are routinely granted. For example, what would constitute a 'fair return' is not defined. From the few examples that are given, it seems fair to assume that, in fact, 'economic conditions' are not a factor, and that the main consideration is conceding terms that are overwhelmingly to the advantage of mining companies.

The compensation payable to the state consists of 'Dead Rent', a yearly payment decoupled from production volume, and royalties on the sale price of the extracted ore. The company's transport costs are deducted from this compensation. The 'commonest system' for industrial minerals, according to the Department, is based on royalty payments per tonnage extracted. Rates are 'likely' to be *25c to 50c per tonne.*

Galmoy is licensed for 21 years. Dead rent for the first year is €63,486 ($55,500 for US companies), the same for the second year, €126,973 ($111,000) for the third and subsequent years, and €25,394 ($22,000) after closure. Royalties are payable at 1.5% for the first three years, 2.5% for the fourth, and 3% for the fifth and subsequent years. The terms for Lisheen are almost identical, except that for the third year on, dead rent is €380,921 ($333,000), and royalties for the sixth and subsequent years is 4.5%.

In addition to these terms, a raft of tax concessions is available to mining companies. The following are the most significant of these.

- Allowances may be claimed for exploration expenditure, including abortive exploration dating back 10 years. **An allowance of up to 120% is available.**

- Development allowances can be claimed, equal to the difference between expenditure on working the mine, and **the entire worth of the mine's assets**.

- Expenditure on plant and machinery qualifies for an immediate 20% allowance, wear and tear allowances of 32.5% for the first year, and 12% for up to eight years. This allows companies to claim a **total allowance for plant and machinery of up to 120%.**

- There are allowances for industrial buildings (4% per annum), and compensation in the event that the sale value of buildings is less than their value on paper. There are also allowances for the cost of acquiring mineral assets.

- Expenditure after closure of the mine, including rehabilitation, can be **written off** against profits from previous years. If a separate fund is established to provide for closure costs and rehabilitation, the contributions to the fund can be written off over the mine's lifetime. Withdrawals from the fund are taxable, but **expenditures may be offset against them.** [8]

The Exploration and Mining Division (EMD), is a 'line division' of the Department of Communications, Energy and Natural Resources, like its counterpart the Petroleum Affairs Division, (PAD), [responsible for the exploration and development of oil and gas resources in onshore and offshore Ireland] of the Department, EMD is ***the*** reference point for the exploration and mining industry, and is available for advice and assistance ***'from arrival in Ireland through to the opening of a mine.'***

EMD comprises both administrative and technical staff, and its functions incorporate the following.

- Exploration and mining in Ireland: the regulation and permitting of exploration for and extraction of minerals (excluding petroleum, stone, sand, gravel and clay).

- Promoting inward investment in minerals exploration.

- Policy development in the area of minerals exploration and extraction.

- 60% of all minerals in the State, and the exclusive right to work these minerals, are vested in the Minister [9].

According to the Department, Ireland is ***'internationally renowned***' as a ***'major zinc-lead mining province.'*** This suggests that the Department does not see its role as

securing the best possible return for the people of Ireland on what are, after all, their resources. Instead, Ireland is a 'province', with no inherent claim to whatever minerals happen to be found there. The resources of Ireland are, according to the legislation, the 'property of the Minister'. Therefore it is fitting that as few obstacles as possible are put in the way of the exploitation of this 'province' by private mining enterprises. [10]

Part II of the Mineral Resources of Ireland is found in the June/July Edition.

Footnotes and References:

[1] http://www.minex.ie/Mining/Historical.htm

[2] http://www.dcmnr.gov.ie/Natural/Exploration+and+0Mining+Division/Mining/

[3] http://nationsencyclopedia.com/Europe/Ireland-MINING.html

[4] http://www.mbendi.co.za/indy/ming/ldzc/eu/ir/p0005.htm
http://www.lundinmining.com/galmoy/index.php

[5] http://www.lisheenmine.ie/index.html

[6] http://www.minex.ie/

[7] http://209.85.135.104/search?q=cache:kJNhzbdZWZsJ:minerals.usgs.gov/minerals/pubs/country/2004/eimyb04.pdf+The+GSI+functions+as+a+line+division+of+the+Department+of&hl=en&ct=clnk&cd=8&gl=ie&client=firefox-a

[8] (www.minex.ie/Regulatory/Mining.htm : fiscal_0304.pdf.webloc)

[9] http://www.dcmnr.gov.ie/Natural/Exploration+and+Mining+Division/

[10] http://www.dcmnr.gov.ie/Natural/Exploration+and+Mining+Division/Mining/

Total War in Burma – Part 5

Singapore's economic connection with Burma is one of the most vital factors for the survival of Burma's military regime," says Professor Mya Maung, a Burmese economist based in Boston. This link, he continued, is also central to ***"the expansion of***

the heroin trade." Singapore has achieved the distinction of being the Burmese junta's number one business partner: both its largest trading partner and largest foreign investor. More than half these investments, totaling upwards of $1.3 billion, are in partnership with Burma's notorious heroin kingpin Lo Hsing Han, who now controls a substantial portion of the world's opium trade.

The close political, economic, and military relationship between the two countries directly facilitates the weaving of millions of narco-dollars into the world economy. The Burmese military dictatorship now depends on the resources of Burma's drug barons for its financial survival. Since it seized power in 1988, opium production has doubled, equalling all legal exports and making the country one of the world's biggest heroin suppliers. Burma now supplies the US with 60 percent of its heroin imports and has recently become a major regional producer of methamphetamines. With 50 percent of the economy unaccounted for, drug traffickers, businessmen and government officials are able to integrate spectacular profits throughout Burma's permanent economy. [1]

Meanwhile Singapore is now Burma's second-largest trading partner. Analysts in Rangoon said many businessmen from the tiny island have established a strong and friendly relationship with Burma's leaders and the business community. Burma's current military leaders are reportedly impressed with the model of Singapore's economic growth under hardline rule. [2]

Singapore's leaders were seemingly unconcerned about the fact that the Burmese government had closed almost all of Burma's colleges and universities following student protests in December 1996 and initially imprisoned hundreds of students. In contrast, at a ceremony of the Singapore Association in Burma, the Ambassador to Singapore presented a large cheque to General Khin Nyunt - who was also Chairman of the Burmese Government's Education Committee - for the "Myanmar education development fund." While depriving young Burmese of higher education, the junta's "Secretary 1" Khin Nyunt responded that "Uplifting the educational standards of our people is one of the social objectives of our Government." He then went on at length to extol the "firm foundation of growing economic and trade ties" between Singapore and Burma.

The Burmese government has kept computers and communication technology away from students and others in opposition to the regime. All computers, software, e-mail services and other telecommunication devices (which few can afford in any case) must be licensed by the state, but these licences are almost impossible to obtain. In fact, Singapore has made the best computer technology available to the [Burmese] ruling elite and their business partners. Singapore Telecom, is the largest mobile network operator in the Asia Pacific outside of the People's Republic of China., was the first to provide Burmese businesses and government offices with the ability to set up inter- and intra-corporate communications in more than 90 countries.

Furthermore, Singapore has become Washington's forward partner in the unfolding era of East-West trade. Ambassador Green called Singapore ***"a major entry port and a natural gateway to Asia for American firms."***

US companies exported $16 billion worth of goods to Singapore in 1996 and more than 1,300 US firms now operate in the country. Singapore's strategic and economic importance to the US cannot be overstated. The two nations reached an agreement allowing the US Navy to use a Singapore base even though the deal violates ASEAN's 1997 nuclear weapons-free zone agreement.
The US has loudly condemned the Burmese junta's record of human rights abuses and support for the drugs trade, but has ***pointedly turned a blind eye when it comes to Singapore's undisguised dealings with the regime***. Although President Clinton imposed economic sanctions on Burma partly for its role in providing pure and cheap heroin to America's youth, he did not comment on Singapore's trade with and support for one of the world's biggest heroin traffickers. In 1997, the US ambassador to Singapore informed the US Congress that the United States "has an important role in working with the Singapore government to deal with illegal drug and weapons proliferation issues," but most US officials have remained silent about Singapore's investments with Burma's narco-dictatorship. Singapore will probably continue to expand its investments in Burma. ***"Our two economies are complementary and although we can derive satisfaction from the progress made, I believe that there still remains a great potential that is yet to be exploited,"*** said General Khin Nyunt. While Singapore continues to pour money into drug-connected companies based in Burma and thereby help them to expand into foreign markets, an abundance of the world's finest heroin continues to plague the citizens of Singapore.
[3]

Nevertheless, Burma is fully engaged in full-scale anti-drug operations ***inside*** Burma. In Afghanistan and Burma, the two largest opium producers in the world, under intensive international pressure, local authorities are implementing bans on the cultivation of poppy, with production reportedly declining in Burma. This reduction in opium cultivation, however, has been accompanied by significant increases in the production and trafficking of more advanced synthetic drugs, threatening to turn the Golden Triangle into an "Ice Triangle." Burma now plays a leading role in the regional traffic of amphetamine-type stimulants (ATS).

On 26 June 2005, on the International Day against Drug Abuse and Illicit Drug Trafficking, the opium ban came into force in the Wa region in northern Burma. No poppy planting was permitted after this date. Opium growing regions in Burma have entered into a downward spiral of poverty because of the ban. The reversed sequencing of first forcing farmers out of poppy cultivation before ensuring other income opportunities is responsible. According to the World Bank, "there is a moral, political and economic case for having alternative livelihoods programs in place before commencing eradication". If they are not even accompanied by significant aid, the reductions will simply not be sustainable. [4]

The increasingly aggressive drug control efforts against farmers and small-scale opium traders, and forced eradication operations in particular, also have a negative impact on future prospects for peace and democracy in both countries.

There has been comparatively little attention paid to these so-called drug interdiction operations in Burma. It seems to be primarily used as yet another pretext for sustaining the war against the population. As in Columbia, chemical warfare is being used as part of this war as a weapon against indigenous peoples in Burma.
An active programme of chemical spraying was begun in 1974 with the active assistance of the US Government under the auspices of the "war on drugs". The project continued until 1988 when US aid was suspended after the suppression of the pro-democracy movement. The herbicide used was 2,4,-D (2,4, dichlorophenoxyacetic acid), half of the compound for the controversial Agent Orange defoliant widely used during the Vietnam War. The Burmese military called the spraying program ***Operation Taung Yan Shin*** (Destroy Mountain Enemy). Over this ***14-year period***, the US provided the Burmese Government with 28 Bell helicopters, six fixed wing aircraft mostly for transport, and five Ayres S-2R Turbo-Thrush crop-duster planes, one of which crashed on operation duty. Training was provided for pilots and ground crew, and thirty-two Burmese counter-narcotics personnel were trained in the US. From 1996 to 1998, the US government funded a project called "Old Soldier," which was managed by the OSS-101 War Veterans Association in the northern Shan State area of Kutkai, an area formerly targeted by aerial spraying. This project provided crop replacement programs, mostly corn, for 25 villages in the area at a cost of US $530,000. This programme was halted by the junta in 1998 due to deteriorating bilateral relations with the US government.
The Drug Enforcement Agency (DEA) provided logistics and intelligence support to the Burmese police force for drug suppression operations and has conducted annual Joint Opium Surveys with the ruling junta since 1993.
[5]

Opium was traditionally a British currency, used to finance the war against imperial China from its colonial base in India. The East India Company then introduced the drug to Burma, establishing a flourishing and active business. [6]

US counter-insurgency operations during the Vietnam War in Laos and Vietnam helped to cement and expand the opium trade throughout Southeast Asia.
France was also actively involved in this business in the ***"Golden Triangle,"*** which helped to fund its weapons industry in the region. [7]

In a similar fashion to the Columbian army, there is evidence that the Burmese military are simultaneously profiting from the drugs trade they are fighting against on an official level. In fact, the Burmese military are often directly involved with drug production in the remote areas of Burma. Government troops offer protection to the heroin and amphetamine refineries in the area in exchange for payoffs and gifts, such as jeeps, pistols and army uniforms. The only access to the refineries is through permits issued by Burmese military intelligence - without this, the heavily guarded areas surrounding the refineries are too dangerous to approach. The military is also involved in protecting the transport of narcotics throughout the region, which the authorities have sealed off from the outside world.

"There are persistent and reliable reports that officials, particularly army personnel posted in outlying areas, are involved in the drug business," confirms the March 1998 US government narcotics report. ***"Army personnel wield considerable political clout locally, and their involvement in trafficking is a significant problem."***
Intelligence sources, working for ethnic leaders combating both the drug trade and the military dictatorship, have reported that the pattern of government involvement extends all the way to the top. The central government in Rangoon demands funds on a regular basis from regional commanders who, in turn, can expect payoffs from the rank and file. The soldiers get the money any way they can-through smuggling, gambling or selling jade-with drugs; the most accessible source of revenue in Shan State. The officers in the field also "tax" refineries, drug transporters, and opium farmers.
[8]

In this context, the Burmese military's "anti-drug" measures are nothing more than ruthless counter-insurgency operations, designed to facilitate land clearance against the indigenous population for the benefit of global agri-business. In Burma and Columbia, the public relations phrase 'war on drugs' remains a convenient cloak for this process, with palm oil groves now replacing rainforest and the land of subsistence farmers.
[9]

Singapore has been more than willing to share its expertise in arms manufacturing and intelligence operations with its Burmese counterparts. The Singapore-Myanmar Ministerial-Level Work Committee was set up in 1993 in Rangoon to "forge mutual benefits in investment, trade and economic sectors." The committee includes intelligence chief Lt. Gen. Khin Nyunt, other top Burmese ministers, and high level Singapore officials. At the December 23 meeting, Khin Nyunt urged his ministers to give priority to projects arranged by the Singaporean government. ***"Pilot projects are being implemented to transfer know-how to Myanmar,"*** said Khin Nyunt in his address.

One such project is a state-of-the-art cyber-war center in Rangoon. Burma's military leaders can now intercept a range of incoming communications-including telephone calls, faxes, e-mails and computer data transmissions-from 20 other countries. This high-tech center was built by Singapore Technologies, the city-state's largest industrial and technology conglomerate, comprising more than 100 companies. This government-owned company also provides on-site training at Burma's Defense Ministry complex, and reportedly passes on its "sophisticated capability" to hundreds of Burmese "secret police" at an institution inside Singapore. [10]

Singaporean companies have also helped suppress dissent in Burma by supplying the military with arms for direct use against the Burmese people. The first shipment of guns and ammunition was rushed to Burma on October 6th, 1988. Throughout that month, hundreds of boxes of mortars, ammunition, and other supplies marked "Allied Ordnance, Singapore" were unloaded from vessels in Rangoon. Allied Ordnance is a subsidiary of Chartered Industries of Singapore, the arms branch of Singapore Technologies - the same government-owned company which built the cyber-war center.

The shipments also included rockets made by Chartered Industries of Singapore under license from a Swedish company and sold in violation of an agreement with Sweden which requires authorization for re-exports.
These shipments from Singapore arrived only ***weeks after the September 1988 military takeover in Rangoon***, in which the new leaders of the new SLORC [now SPDC] state council massacred hundreds of peaceful, pro-democracy demonstrators in the streets. These killings followed another wave of government massacres earlier that summer, when longtime dictator Ne Win struggled to keep power in the face of nationwide strikes and demonstrations for democracy. Ne Win eventually stepped down but, operating behind the scenes, installed the puppet structure of the SLORC. As the killings continued, thousands of civilians fled the country fearing for their lives. When numerous countries responded by suspending aid and Burma's traditional suppliers cut shipments, the Burmese military became desperate. Singapore was the first country to come to its rescue.

Singapore companies have continued to supply Burma's military, sometimes ***acting as middlemen for arms from other countries***. In 1989, Israel and Belgium delivered grenade launchers and anti-tank guns via Singapore. In 1992, Singapore violated the official European Commission arms embargo against the Burmese regime by acting as a broker and arranging for a $1.5 million shipment of mortars from Portugal. ***"It is highly unlikely that any of these shipments to Burma could have been made without the knowledge and support of the Singapore Government,"*** wrote William Ashton in Jane's Intelligence Review. ***"By assisting with weapons sales, defense technology transfers, military training and intelligence cooperation, Singapore has been able to win a sympathetic hearing at the very heart of Burma's official councils."*** [11]

Burma's dissidents believe that this growing foreign investment in the country has encouraged the junta leaders to stay in power. "They have money, power and guns so they can do whatever they want," said Aung Saw Oo, an exiled former member of the opposition National League for Democracy (NLD).

Burma is one of the world's poorest countries yet it has an army four times larger than that fielded by Britain, one of the world's richest countries. Shouldering all those rifles and manning armored vehicles are at least 400,000 Burmese troops, double the size of neighboring Thailand's army. Burma's military, the Tatmadaw, is now actively recruiting for a force of 500,000 troops.
The Burmese armed forces have doubled in size, making them the second largest in Southeast Asia and, by some calculations, the 15th largest in the world. The Burmese military is now engaged in an extensive re-armament programme required to bring the Tatmadaw up to 21st century standards. This modernisation process would not be possible without extensive outside assistence, in particular from Singapore, India and China. At the heart of this process is a sophisticated armaments manufacturing system that has been quietly developed since the 1950s.
New command and control structures have been put in place, and capabilities in key support areas like intelligence, communications and logistics have been substantially upgraded.

The Burmese airforce, up to recently greatly outdated, is being rapidly upgraded with Indian and Chinese technological assistence.
In terms of the Burmese Army's infantry capabilities, some commentators have characterised the Myanmar Army as ***'the toughest, most effective light infantry jungle force now operating in Southeast Asia'***. The Thai military, not known to praise the Burmese lightly, have described the Myanmar Army as ***'skilled in the art of jungle warfare'***. [12]

Before 1988, the standard Myanmar infantry weapon was the 7.62mm BA63 assault rifle, a locally - produced version of the German Heckler & Koch G3. Myanmar also produced a shorter, lighter carbine version of the same rifle under the designation BA72, known simply as the G2. A third version of the G3, known as the BA1000, was more accurate and reliable, but was primarily used as a sniper's weapon. Many soldiers, mainly officers and NCOs, still carried 0.30 calibre M1 and M2 carbines provided by the US under the 1950s Military Assistance Programme (MAP). These world war two vintage carbines are ideal for jungle warfare.

From the beginning of 2002, 7.62 mm BA series rifles have been gradually replaced by 5.56 mm MA series automatic assault rifles in Myanmar Army's frontline units. Burma's MA series assault rifles are similar to the Israeli GALI rifle and fire standard 5.56 mm NATO rounds. [13]

The Tatmadaw's modernization closely follows in the footsteps of China, evolving from a peasant army to a heavy conventional force. ***"After decades of being essentially a small, lightly-armed infantry force geared to regime protection and counter-insurgency, the Tatmadaw is gradually becoming an integrated force capable of more conventional, large-scale territorial defense operations,"*** wrote Andrew Selth, one of a few analysts closely watching the Burmese military, in a research paper.

One estimate is that about 35 percent of the government budget, mostly raised from trade taxes and printing money, goes to the Tatmadaw, or about $240 million in 2005 based on a Central Intelligence Agency government expenditure estimate of $716.6 million. However that is only half the picture because the military trades on its own account through firms such as the Union of Myanmar Economic Corporation and the Myanmar Economic Corporation.

"These function in some ways like the Indonesian military corporates in adding to 'defense' resources. So however it's measured, Burma's defense spending will likely always be grossly understated," says Sean Turnell, a Macquarrie University economist studying Burma. [14]

Part VI of Total War in Burma appears in the June/July Edition.

Footnotes and References:

[1]
http://www.thirdworldtraveler.com/Global_Secrets_Lies/BurmaSingapore_Drugs.html

[2]
http://www.thirdworldtraveler.com/Global_Secrets_Lies/BurmaSingapore_Drugs.html

[3]
http://www.thirdworldtraveler.com/Global_Secrets_Lies/BurmaSingapore_Drugs.html
http://en.wikipedia.org/wiki/Singapore_Telecommunications

[4] http://www.tni.org/detail_page.phtml?page=reports_drugs_debate12
http://www.shaps.hawaii.edu/drugs/incsr2005/incsr_2005_burma.html
http://www.burmanet.org/news/2007/03/02/irrawaddy-poppy-cultivation-declines-meth-production-increases-lalit-k-jha/

[5] http://www.irrawaddy.org/article.php?art_id=3303

[6] http://newsmine.org/archive/coldwar-imperialism/east-india-company/opium-throughout-history.txt http://www.american.edu/ted/opium.htm
http://www.cpamedia.com/politics/burma_poppy_trail/
http://web.jjay.cuny.edu/~jobrien/reference/ob36.html

[7] http://www.drugtext.org/library/books/McCoy/book/57.htm
http://www.time.com/time/magazine/article/0,9171,910390-6,00.html

[8]
http://www.burmalibrary.org/show.php?cat=38
http://www.huumeboikotti.org/en/humanrights.html
http://www.thirdworldtraveler.com/Global_Secrets_Lies/BurmaSingapore_Drugs.html
http://www.thirdworldtraveler.com/Latin_America/StopWarColombia.html
http://www.tni.org/detail_page.phtml?&act_id=4421&menu=11d
http://www.commondreams.org/views/083100-103.htm

[9] http://www.guardian.co.uk/international/story/0,,2095338,00.html
http://www.ibiblio.org/obl/docs/NN2002-08-13.htm
http://www.wrm.org.uy/plantations/material/oilpalm4.html#Asia
http://www.burmanet.org/news/2007/05/14/the-irrawaddy-christian-aid-warns-of-further-displacement-in-burma-aung-lwin-oo/

[10] http://www.thirdworldtraveler.com/Global_Secrets_Lies/BurmaSingapore_Drugs.html

[11] http://www.thirdworldtraveler.com/Global_Secrets_Lies/BurmaSingapore_Drugs.html

[12] http://en.wikipedia.org/wiki/Myanmar_Army
http://www.asiasentinel.com/index.php?option=com_content&task=view&id=309&Itemid=31
http://www.burmanet.org/news/2004/07/15/irrawaddy-the-arms-keep-coming-but-who-pays-william-ashton/

[13] http://en.wikipedia.org/wiki/Myanmar_Army

[14] http://www.asiasentinel.com/index.php?option=com_content&task=view&id=309&Itemid=31

Plan Columbia – the New Monroe Doctrine

Part 3: Plan Columbia and Monsanto

"We were sitting chatting outside our home when two small planes flew over very low. We went down to our fields to see what was happening. My husband said, "Look, they're dropping poison on our land." It went all over the food crops - the cassava, banana, beans, rice - and the pasture. We lost everything. And the poison went on us too. I had no coat on, so it went all over my arms. It was like cooking oil. Sticky, just like oil. I washed it off as soon as I could, but even so it made my skin itch. For several days we all felt ill. We had fevers and eye infections. My youngest child hasn't been well since."

This is the testimony of Graciela, a 36-year-old peasant woman living in the troubled province of Putumayo in the south of Colombia. For over five years, US planes have been spraying a powerful chemical defoliant on peasant holdings as part of **Plan Colombia**, the US initiated and funded plan to eradicate coca, the raw material from which cocaine is extracted. Thousands of peasant families have been to local hospitals to complain of eye infections, diarrhoea, vomiting and other illnesses. It is strongly reminiscent of the Vietnam War, when US pilots doused land controlled by the Vietcong with a powerful defoliant, known as Agent Orange, to destroy 'cover for enemy forces.'

Many of the families inside Putumayo are anxious for the government to carry out a through investigation of the impact of this ***'fumigatin'*** (fumigation), * on their lives. But Colombia is engaged in a bloody internal conflict, with the Putumayo region one of the main battlefields of the war between the Colombian armed forces and the left-wing

guerrillas, the FARC. Both sides - but particularly the rightwing paramilitaries who work closely with the armed forces - routinely violate basic human rights. The families are frightened that if they complain too loudly, the '***paracos***,' (paramilitaries), as they call them, will pick them off. Even Columbian doctors are fearful of protesting. [1]

In the neighbouring country of Ecuador, a few miles from the border post on the San Miguel river,
Dr Adolfo Maldonado, a Spanish specialist in tropical diseases, works in a clinic in the small town of General Farfn. Colombians are flooding southwards, he said, to escape the spraying.

As a researcher on health and environmental issues with the Ecuadorean environmental group, Accin Ecolgica, he decided to examine and interview forty-seven women living on both sides of the border. He chose women because they, unlike their husbands, do not habitually handle the agricultural chemicals used in the fields so it is easier to rule out other sources of contamination.

Twenty-two of the women (10 in Ecuador and 12 in Colombia) reported spraying on their land. The women living in Colombia had been affected directly. The women in Ecuador - all of whom lived within three kilometres of the border - had noted chemicals drifting over their land. The remaining 25 women, all Ecuadoreans, lived about 80 kilometres from the border and had not suffered from the spraying. They were the control group.

Maldonado took blood samples from all the women and gave them to Dr Csar Paz y Mio, at the Pontifical Catholic University of Ecuador (PUCE) in Quito, to carry out so-called 'comet tests' to see if the women's chromosomes had been damaged.

It is normal for about four per cent of a person's cells to register some form of damage and the 25 Ecuadorean women in the control group were found to have cell damage close to this level (6.93 per cent). But the 22 women, both Colombian and Ecuadorean, who had been affected by the sprayings, were found to have suffered ***much greater genetic damage***: over one third (36.45 per cent) of their cells had been harmed. The woman who had been most affected - a 23-year-old Colombian - had **85.3 per cent** of her cells damaged, 21 times the normal level.

Dr Maldonado's findings have raised some disturbing questions. Why are these women suffering such high levels of genetic damage? Could the defoliant be responsible? What is the exact formula of the chemical being sprayed on their land?'
[2]
The U.S. has been involved in spraying herbicides on drug crops for nearly a decade in Colombia, but since 1995 coca production has doubled, and in a country known for its extreme violence and appalling human rights record has seen both escalate to even higher levels, this implies that the U.S. efforts thus far have had no discernable success.

The principal method used to eradicate the illegal crops in Columbia up to the present time is Glyphosate, (marketed as "***Roundup"*** by Monsanto, the US multinational), ** the chemical herbicide being used in the aerial sprayings. Monsanto, which has received $25 million from Plan Colombia to provide the defoliant, the company has nevertheless kept a very low profile in Colombia. Monsanto, so ready in many other countries to publicise its products, refuses even to disclose the actual chemical formula of the chemicals it is spraying on Columbian land. All the company will say is that its basic ingredient is Roundup.

Roundup (like all other pesticides and herbicides) has two kinds of ingredients - active and inert. The active ingredients are those designed to kill the targeted pest or plant, and the inert ingredients are added to the product either to make the active ingredients easier to apply or to increase their toxic powers. The active ingredient in Roundup is ***glyphosate***, which was long assumed to be relatively harmless. [3]

In fact, Glyphosate is a Class III toxin which requires caution in handling as improper handling of the substance can result in gastrointestinal problems, vomiting, enlargement of lungs, pneumonia, mental confusion, and destruction of red corpuscles in the mucus membrane: ("Cross-border impact"). Just five years ago, U.S. labels on glyphosate products read: "safe, nontoxic, harmless, and free of risk."

When the US Environmental Protection Agency (EPA) approved glyphosate for general use, it reproduced Monsanto's claim that Roundup was ***'less toxic than common salt, aspirin, caffeine, nicotine and even Vitamin A,'*** a statement reproduced in a fact sheet on the aerial eradication programme published on the Colombian Embassy's website. In fact, in 1996 the Attorney General of New York State won an injunction against Monsanto for falsely claiming that Roundup was ***'as safe as table salt.'***

Following a 1996 lawsuit in New York, Monsanto was forced to make the labels more factual. They now warn users to "avoid direct application to any body of water", "not [to] apply this product in a way that will contact workers or other persons, either directly or through drift," and "only protected handlers may be in area during application." Monsanto no longer claims that their glyphosate product is free of risk and has advertised the dangers involved in using it.

The application method of Roundup can also influence any possible ill effects that it might have. Glyphosate is susceptible to drift, or being carried by the wind, no matter what method is used to apply it. But studies have shown that application by airplane leads to the greatest drift and has been found up to 800m from target when this method was used. Given that this great amount of drift can occur during application, it is alarming that ***"damage due to drift is likely to be more common and more severe with glyphosate than with other herbicides."*** In addition, a study done in Canada on glyphosate determined that a buffer zone should be at least 75m to 1200m in order to prevent damage of vegetation not which is not intended to be sprayed.

The environmental effects of glyphosate have been studied, with results that clearly indicate negative effects on both plant and animal life. It was found that this herbicide has toxic effects on most plant species. It affects trees, shrubs, and crops, increasing the susceptibility of crops to disease. Endangered species present in the area being sprayed are also at risk. The chemical affects fish, birds, and small mammals as well, not only by direct contact but also as a result of the killing of plants. These dramatic changes in the plant community have a detrimental impact on the animals that depend on those plants for food and habitat. Fish are especially susceptible to suffering toxic effects, as the temperature of tropical waters is greater than in areas where tests were conducted on the effects of glyphosate on fish.
Research results also indicated that soil contamination occurs with the use of Roundup. Glyphosate kills many beneficial soil microorganisms, and because much of Colombia's soil is poor in nutrients, this effect could be more pronounced that if it occurred in a temperate forest where testing was done. This also has many serious implications for animal life as well as the peasants who rely on these lands to produce for them. [4]

There are several reasons why the application of Roundup, despite being widely regarded as relatively benign, could be having long-term environmental consequences in Colombia:

1. Roundup is not applied in Colombia under 'present and expected conditions of use', which are the conditions in which scientific appraisals are carried out. Monsanto's own label warns against applying the herbicide ***'in a way that will contact workers or other persons, either directly or through drift.'***

2. The label also calls on farmers to remove livestock prior to spraying, to wait for two to eight weeks before harvesting crops, and to avoid herbicide contact with foliage, green stems, desirable trees and plants ***'because severe injury or destruction may result.'*** As a report published by the Institute for Science and Interdisciplinary Studies (ISIS) points out, these conditions are not being met in Colombia, where airplanes apply herbicides over cultivated land with no prior warning to landowners. In the US, such failure to follow the label instructions would be a violation of federal law.

3. ***Roundup is used in much greater concentration and more frequently in Colombia than elsewhere in the world.*** Dr Eisa Nivia, the director of the Colombian branch of the Pesticide Action Network, (PAN), believes that this greatly increases the harm caused.

Using information Dr. Nivia obtained from officials participating in the eradication programme, she calculated that the spray planes regularly deposit what amounts to a 26 per cent concentration of glyphosate, compared to the one per cent that is recommended in the US for weed control in crops. Working in difficult conditions in her laboratory in the town of Mocoa in Putumayo, Dr Nivia has carried out some of the most important research into the impact of the spraying. Gathering data from many different sources, she believes that the overall impact of the chemical mixture being applied in the region could be up to ***104 times greater than that of Roundup in normal agricultural practice***.

4. Certain special ingredients are added to Roundup to make it more effective as a defoliant. Although the label for Roundup warns that 'this is an end-use product. Monsanto does not intend and has not registered it for reformulation', at least one other additive - known by the brand name **Cosmo-Flux 4HF ***** - is routinely mixed into the spraying solution. Some observers believe that this additive alone makes the herbicide ***four times more toxic*** than it is on its own.

One of Columbia's leading human rights organisations, La Corporatin Colectivo de Abogados Jos Alvear Restrepo (CCAJAR) has published numerous protests, including a booklet entitled 'Plan Colombia - No', in which it commented: ***'There is plenty of money to purchase glyphosate, to maintain the planes used in the spraying, to pay the pilots, to build bases where they can live, and to carry out operations to detect the coca crops, but there are never any resources for evaluating the damage caused by glyphosate to the health of Colombians who have been sprayed.'***

CCAJAR observed that it was perhaps not surprising that the Colombian authorities were so ineffective in protecting the local population, for the spraying was carried out by US companies, the substance they were using was manufactured by a US company, and many of the pilots were US citizens who reported to the US embassy.

Some Columbian judges have attempted to curb these abuses. In a remarkable judgement on 13th June 2003, the supreme court of Cundinamarca, a province in the centre of Colombia, ordered the spraying of chemicals to be halted. In the summary of reasons for its decision, the court referred to the study being carried out by Dr Maldonado. But the federal government, headed by President Alvaro Uribe, appealed to

the Council of State, a federal court with greater powers than the local Cundinamarca court, and won the right to ignore the ruling. [5]

The regions where these intense fumigation efforts are being deployed are rich and unique in biodiversity. These include both the Andean mountains, described as a cloud-shrouded region of waterfalls, rushing rivers, dense forests, and deep mountain gorges, and the lush Amazon Basin itself. The current measures being taken by the U.S. will only intensify the negative effects of fumigation that have already occurred over the last ten years and will directly impact the civilian population, the environment, and legitimate agriculture the most. [6]

The methods that the U.S. is using to apply glyphosate also have very serious environmental implications. Airplanes are being used to spray fields growing illegal substances. These fields are often located beside legitimate crops such as corn, yucca, banana plantations, or large dense forest areas. Given that this method results in the largest amount of drift, legitimate crops growing near coca or poppy crops are in danger. Once sprayed, all other vegetation is left to wither and die because a proper buffer zone is not enforced. As a result, many peasants are suffering because their food supply is being destroyed by the U.S. government and their water supplies are being contaminated as well. These legal crops are often part of the crop substitution programs that have been implemented by the Colombian government in an effort to move peasants away from the production of illegal crops. In addition, farm animals such as chicken and guinea pigs have died as a result of the spraying while larger animals such as cows and horses have fallen ill. Iván Alberto Chicangana, mayor of a remote Yanacona Indian village in the Andean highlands where spraying has affected the land and the people, said, “The damage done to the physical and economic well-being of this community has been serious and is going to be very difficult to overcome.”

As a result, ***"for the indigenous this is a catastrophe,"*** says a government anthropologist who requested anonymity. "Much of the land there is unfit for anything but coca. And the government is wiping out the traditional and even the nontraditional crops." The national human rights ombudsman's office has highlighted several cases involving Cofan Indians who had their food crops, medicinal plants, fish harvesting tanks and grazing fields sprayed with herbicides. An Associated Press correspondent who traveled to the Putumayo region reported that most of the fumigation he saw had hit the smallest of crops, many an acre or less. This directly contradicts the government claim to be targeting the "industrial" crops. [7]
While the controversy over fumigation continues, rumours circulate about the emergence of a ***new form of coca, known variously as supercoca, Ia millonaria and boliviana negra***. This strain, apparently, grows much taller than conventional coca, produces leaves with a higher cocaine content, and, most important of all, is ***resistant to Roundup***. Speculation is rife that a scientist from one of the biotechnology companies has developed a genetically modified strain of coca. If this is the case, then GM coca would be exactly like Monsanto's GM soya, known as Roundup Ready, in that it would have had a special gene introduced into it to make it resistant to glyphosate. The spraying of Roundup would kill all normal crops, but not this coca.

In November 2004 Joshua Davis, a US investigative journalist, travelled to La Hormiga, a town in Putumayo, to track down the supercoca. With little difficulty, he found farmers who were cultivating the strain, known in the region as boliviana negra. 'Now that we have boliviana negra, the herbicide is only affecting legal crops', a farmer confirmed. 'So the fumigation is encouraging us to plant not our old crops such as yucca, bananas and maize, but the only thing that will survive - boliviana negra.' Fabio Paz, the mayor of La Hormiga, told Davis that farmers were switching in droves to boliviana negra. 'You can give away other types of coca now,' he said, because the farmers don't want them. Davis took a sample of boliviana negra back to his hotel and carried out a simple laboratory test in his room to see if the coca contained the Roundup Ready gene. Rather to his disappointment, it did not.

However, this by no means suggests that the coca farmers are lying - or are misguided - in their insistence that boliviana negra is resistant to Roundup. The repeated application of Roundup herbicide to Roundup Ready soya in Argentina has encouraged the emergence of mutated 'superweeds', which are resistant to the glyphosate. Such a chance mutation could have occurred in Bolivia or Colombia. Coca growers could have produced seeds from this mutant strain and then distributed them among themselves.

If this is the case, as seems possible, the spraying of glyphosate will no longer poison coca and the US government will almost certainly put extra pressure on the Colombian authorities to use other means to eradicate coca, which could potentially do even more damage than glyphosate. [8]

The proposed ***Fusarium Oxysporum*** (known in Vietnam as ***Agent Green***) **** program could potentially unleash far worse consequences for Columbia.

In March 2000, Rep. Benjamin Gilman, added an amendment to the pending Plan Columbia aid bill requiring President Clinton to certify that the Colombian government "has agreed to and is implementing a strategy to eliminate Colombia's total coca and opium poppy production" using, among other means, ***"tested, environmentally safe myco-herbicides***." *****

However, the lobby in favour of biological warfare did not accept defeat and it appears that behind-the-scenes investigations into biological weapons continued. In June 2005 Dan Burton, a Republican member of Congress, issued a statement in which he said: 'We spend millions of dollars every day on counter-narcotics efforts, including crop eradication and interdiction, especially in our joint efforts in Colombia, Afghanistan and elsewhere, yet the flow of illegal and lethal narcotics continues to be a major problem in our country. The advent of myco-herbicides and other counter-narcotic alternatives offers us the possibility to cut off the source of these drugs literally at their roots.'

In March 2006, Burton along with other colleagues managed to introduce into new drug legislation going through Congress a provision that required the drawing up of a ***'plan of action to conduct controlled scientific testing of naturally existing***

mycoherbcide in a major drug producing nation' within 90 days of the enactment of the new law. Although it was not stated explicitly, it seems very likely that the nation to carry out the tests will be Colombia.

Fusarium oxysporum, a strain of which is classified as a biological warfare agent, is a plant pathogen that causes withering, rot and death to a variety of plants. David C Sands, a plant pathologist at the University of Montana in the US, who has carried out research into fusarium oxysporum, calls it ***'an Attila the Hun disease,'*** pointing out that there are strains of fusarium for virtually every cultivated plant and many wild ones. [9]

While the concept of using herbicides against weeds and camouflaging foliage (such as Agent Orange in Vietnam) is not new, the applied use of them against crops is. Ironically, the great majority of research on Fusarium focuses on combating it as a major food-crop killer. The soil-borne mold infects crops by secreting toxins into their roots, which then putrefy and dissolve the plant's cells, often eventually killing them, or worse, poisoning humans or animals who feed on contaminated plants or plant products. The fungus can survive in soil for years.

The idea of using a fungal herbicide to kill drug plants began in the 1970s after a fungus, later identified as EN-4, began to kill off the coca at a soft drink research plantation in Kauai, Hawaii. In 1986, the US Agriculture Research Service began a full-blown research project, initially classified, to find a biological agent to kill coca. By 1991, the government had invested at least $14 million in it. Congress has now given the State Department $23 million originally slated for mycoherbicide development in the US, which they plan to pass on to the UN.

In the early 1980s, the United States Department of Agriculture (USDA) took over a legal coca plantation in Peru, previously owned by Coca Cola, and started to use it to test herbicides. In 1987 a mysterious pathogen infected the control plot, killing most of the coca plants, and the USDA contacted Sands to ask for his assistance. Sands discovered that the plants had been attacked by a naturally occurring pathogen of the fusarium oxysporum family. To the US authorities it must have seemed like manna from heaven: a native biological weapon with which to devastate the coca fields. In 1998, the US Congress approved $23 million in funding for the development of this fungus to an operational stage. Sands carried out the research in his university.

This was not the first time a fusarium had been developed to combat drugs. In 1999 the US federal government wanted to use another strain of fusarium to eradicate marihuana plantations in Florida, but the Florida state department of the Environment Protection Agency (EPA) refused to give its authorisation. ***'It is difficult, if not impossible, to control the dispersal of the fusarium species,'*** said the EPA director, explaining his decision. ‘The fungus can mutate and damage a wide variety of crops. Fusarium species are more active in warm soils and can remain active in the soil for years.' But this did not mean that fusarium was automatically ruled out for Colombia. In a letter to President Clinton on 3 August 1999, Senate Majority Leader Trent Lott and

House Speaker Dennis Hastert, both Republicans, called for 'the early deployment of mycoherbicides in guerrilla-controlled zones' in Colombia. ******

Not surprisingly, this spectre of biological warfare set alarm bells ringing. Several commentators in Colombia and abroad pointed out that the use of fusarium spores would almost certainly be a contravention of the UN Biological Weapons Convention. Ecuador and Peru immediately banned the use of myco-herbicides in their territory and Brazil lodged a complaint with the United Nations. After a high- profile public campaign, coordinated by Colombian non-governmental organisations, the United Nations advised against the use of the fungus. In August 2000, President Clinton specifically ruled out that US aid to Colombia should be made conditional on the use of the fungus. It appeared that good sense had won out and the controversy died down. [10]

This US Congressional effort mandating fungus use followed a less coercive approach to push Colombia into the role of laboratory for the first real applied testing of the toxic Fusarium oxysporum strain called EN-4. The initial approach was through a United Nations Drug Control Program-proposed project to establish a research station to conduct field trials for eventual large-scale application of the fungus. Although the UN representative in Colombia, Klaus Nyholm, said the draft agreement is ***"not what the Colombians want,"*** it certainly reflected what the US State Department wanted and sold to Congress. The proposed agreement turns over results of at least 12 years of research by the US Department of Agriculture's Agricultural Research Service (ARS) to refine the use of fungi against narcotic "weeds." The agreement openly took political cover under the umbrella of the United Nations. A May 1999 Action Request by Secretary of State Madeleine Albright pushed the UNDCP to get other countries to ante up ***"in order to avoid a perception that this is solely a (US government) initiative."***

Concerning this public relations difficulty, Nyholm stated: ***"It was an American interest, … It wasn't my idea."*** [11]

The problem is that abundant evidence indicates that the only mycoherbicide being considered for this purpose, Fusarium oxysporum, may in fact, in the level of mass application proposed for Columbia, ***pose serious dangers to the environment and human health***.

For over a decade, coca growers in Peru have accused the US of secretly applying the fungus there to attack coca plants -- in the process also harming food crops and farm animals. Since 1991, Peruvian coca growers have charged that they have seen helicopters fly over their coca fields emitting a brown or white cloud which caused their coca and food crops to die and sickened their farm animals. Many of the farmers believe these helicopters are part of an American anti-drug campaign, a claim the US has denied. Research in 1993 by a US-funded Peruvian scientist showed that many of the food crops were infected by the same fungus species that had killed the coca.

Moreover, the fungus can, under certain circumstances, cause lethal infections in humans with weakened immune systems. None of this, however, has in any way weakened US

government enthusiasm for the project -- nor that of Sands' corporation, ******* which stands to profit if the fungus is adopted for widespread use. [12]

This is no small matter in Colombia, home to the ***world's second most diverse biosystem*** -- one that is uniquely vulnerable to the potential threat posed by the massive spraying of a toxic, mutative fungus in vast swaths of jungle.

US Department of Agriculture research documents on the fungus explicitly avow that it is environmentally safe and would attack only coca. But Colombian researchers and scientists are far from convinced — especially given Fusarium's ***notorious tendency to mutate***.

Colombia is no stranger to Fusarium, a genus that includes several strains besides EN-4. "There's a group of scientists who've been working [to combat] Fusarium here for a long time," said Vice Minister Martinez. In fact a major epidemic of one Fusarium strain hit the flower growers in the plains of Bogotá a few years ago, and as a result, growers could no longer plant in the contaminated earth -- they were forced to switch to soilless hydroponics systems.

US scientists also claim that the EN-4 strain will only attack plants within the genus Erythroxylum, of which coca is one. But there are ***over 200 other plant species within that genus, many of which are found in Colombia, which EN-4 could then kill besides its intended target***. Plants of the Erythroxylum genus which are also used by indigenous populations for medicinal and religious-cultural practices would also be at risk.

In fact, a 1995 International Institute of Biological Control report on the ARS fungus program admitted that non-Erythroxylum North American plants under stress could be infected by EN-4. Surprisingly, this seems to be the ***only research testing EN-4's ability to attack other plants***. Luis Parra, an herbicide expert who oversees the glyphosate spraying of coca and opium in Colombia, says he has "a lot of doubts" about Fusarium. "I don't believe in the specificity of these organisms," he said. ***"It is very different to apply an herbicide (such as glyphosate) that has a known and predictable and undeniable risk, than to apply a microbe (such as a mycoherbicide) where the risks are still unknown."***
[13]

While the US continues to repeat its "environmentally safe" greenwash, Eduardo Posada, head of the Colombian Center for International Physics, believes that Fusarium can be devastating to people with lowered resistance due to immunological diseases or malnutrition -- common conditions among the farmers who often live near the coca fields that would be sprayed with the fungus.

"The mortality rate for people infected by Fusarium is 76 percent," wrote Posada in a letter to the minister of environment. He lists the scientific literature indicating that Fusarium toxins are ***"highly toxic"*** to animals and humans, and that the

use of ants to spread the fungus (research actually carried out by ARS scientists), could cause the ecosystem to be affected much faster than imagined.

Two Columbian biologists who made a case on national TV against the UN proposal say colleagues have told them to tone down the rhetoric. One, who asked that his name not be used, says he received telephone threats after his statements and is now watching his mouth. ***"Various times I've answered the phone and they've said ... they know where they can find me, where I teach, at what times I go out and I think that the country has enough heroes."*** [14]

However, years of US-funded aerial spraying that have already been occurring for the last ten years have so far failed to even slow Colombia's thriving industries of coca plants, which produce the raw material for cocaine, and opium poppies, which are used to make heroin. ***Columbia's cocaine and heroin production has more than doubled since 1995***.

In the first few years Plan Colombia appeared to be working, at least on its own terms. Statistics for coca cultivation are notoriously unreliable but, according to the CIA, the area under coca cultivation in Colombia fell from a high point of 169,800 hectares in 2001 to 113,850 hectares in 2003.

However, in a determined effort to protect their livelihoods the peasant coca farmers have developed new strategies. They have moved deeper into the tropical forest to avoid detection, they have started cultivating coca in nature reserves, as they know the authorities will face a barrage of criticism from environmentalists if they start spraying in these areas, and have planted larger areas with coca to compensate for the part of their crop they expect to lose from the spraying.

Other people affected are the coffee farmers who used to sell organic coffee. Columbia coffee farmers had succeeded in gaining limited access to international markets. This has now been successfully eliminated. ***"Once the coffee trees are destroyed and the land is fumigated and poisoned, it's finished. It's poisoned forever."*** [15]

In this way peasant families are surviving the onslaught: even though in 2004 more land was sprayed than ever before (136,555 hectares), the area under coca cultivation that survived the fumigation actually *increased* by a small amount, to 114,000 hectares. What this means, of course, is that Plan Colombia is a spectacular failure: not only is it decimating the environment and poisoning the local population, it is also leading to an increase in coca cultivation.

It is clear that the only groups to benefit from Plan Colombia (apart from Monsanto and the foreign contractors carrying out the spraying) are the multinational

companies that are free to exploit Colombia's natural resources, particularly its oil, now that so many peasant families have been driven off the land.

Another factor is that, with so much attention focused on Colombia, peasant families in Bolivia and Peru have been quietly increasing their coca harvests. This is an example of the so-called ***'balloon effect'***: target cultivation in one single area and it appears in another. [16]

The Plan claims, "The goal is to eliminate large-scale drug production," and yet it is targeting southern Colombia, a region where much of the coca is cultivated by campesinos on plots of land less than three hectares (7.5 acres) in size. This form of environmental interventionism is not a new development in Latin America. It began with the arrival of the Spaniards, whose initial purpose was to extract natural resources in the newly discovered regions of what is today Latin America by enslaving Indian labor to harvest the wealth for the benefit of the Spanish Crown. *******

Meanwhile, the indigenous population of the targeted southern region is already paying the price. The paramilitaries have recently expanded in that area and are challenging the FARC not only for territorial control but also for collection of the coca "tax." The Indian communities have been caught in the crossfire and have lost much of their traditional leadership in the bloodshed. The FARC has also escalated its forced recruitment of teenagers from indigenous families among other criminal acts, including the targeting of indigenous leaders in Columbia. This in turn serves as a useful pretext for the Columbian state to intensify its violence against the indigenous population. [17]

The overall consequence of Plan Columbia will be that what remains of Columbian agriculture in the future will be based on monoculture for agro-export with laboratory-produced GM seeds, owned by Monsanto and the other food multinationals. Another not unrelated factor is the extensive resources in the region: the rich coalfields to be opened for strip-mining, hydroelectric dams to flood the arable land of the indigenous indians, and the oil resources of the Putumayo Basin.

"Plan Colombia is absurd and dangerous because it believes it can fumigate poverty," says political science professor and leader of the Citizens' Network for Peace in Colombia. ***"The coca crops are nothing but a concrete response to the ravages caused by unrestrained free-market economic policies."*** Even the coca pickers, he says, are increasingly the urban poor looking to survive. ***"If the government were serious about drugs, it would forget about the campesinos and attack the industrial and financial centers that most profit from trafficking," says Cuesta. "This wouldn't be called Plan Colombia. It would be called Plan United States."***

However, in its present form, Plan Columbia is hard to take seriously except as a useful cloak for a massive counter-insurgency campaign, yet another stage in South America's history of driving farmers off their land for the benefit of local elites with associated resource extraction by foreign investors; the latest phase of the Monroe Doctrine. [18]

Footnotes and References:

* ***'Fumigatin'*** (fumigation): is the local term for the aerial spraying.

** Roundup was first sold by Monsanto under the tradename Roundup but is no longer under patent so is now marketed under various names (for example TOP UP48 in Thailand).
http://en.wikipedia.org/wiki/Roundup

Through a confusing series of transactions, the Monsanto that existed from 1901–2000 and the current Monsanto are legally two different corporations, although they share the same name, corporate headquarters, many of the same executives and other employees, and responsibility for liabilities arising out of its former activities in the industrial chemical business.

1985: Monsanto purchases G. D. Searle & Company. In this merger, Searle's aspartame business became a separate Monsanto subsidiary, the NutraSweet Company.

1997: Monsanto spun off its industrial chemical and fiber divisions into Solutia. This transfered the financial liability related to the production and contamination with PCBs at the Illinois and Alabama plants. In January, Monsanto announced the purchase of Holden's Foundations Seeds, a privately-held seed business owned by the Holden family along with it's sister sales organization, Corn States Hybrid Service, of Williamsburg and Des Moines, Iowa, respectively. The combined purchase price totaled $925million. Also, in April, Monsanto purchases the remaining shares of Calgene.

1999: Monsanto sells Nutrasweet Co. and two other companies.

2000: Monsanto merges with Pharmacia and Upjohn. Later in the year, Pharmacia forms a new subsidiary, also named Monsanto, for the agricultural divisions, and retains the medical research divisions, which includes products such as Celebrex.

2002: Pharmacia spins off its remaining interest in Monsanto, which has since existed as a separate company: the "new Monsanto." As part of the deal, Monsanto agrees to indemnify Pharmacia against any liabilities that might be incurred from judgments against Solutia. As a result, the new Monsanto continues to be a party to numerous lawsuits that relate to operations of the old Monsanto.

http://en.wikipedia.org/wiki/Monsanto

*** Cosmoflux: The glyphosate formulation used in Colombia is combined with Cosmoflux 411 F, a surfactant (a chemical used to penetrate the waxy surface coatings of the leaves.) The Roundup/Cosmoflux mixture has never been scientifically evaluated.[4]

In absence of acute toxicological data for the glyphosate/Cosmoflux 411 F mixture, the EPA has recommended an alternative glyphosate product with lower potential for acute toxicity. http://www.nadir.org/nadir/initiativ/agp/free/colombia/plan_colombia_us.htm

**** ***Myco = fungus; herbicide = plant killer.*** As the active ingredient is a fungus, the plant is technically known as a mycoherbicide (from myco, the Greek for mushroom).

***** Agent Green:

Agent Green is the code name for a powerful herbicide and defoliant used by the U.S. military in its Herbicidal Warfare program during the Vietnam War. The name comes from the green stripe painted on the barrels to identify the contents. It was one of the so-called "rainbow herbicides" that included the more infamous Agent Orange. Agent Green was only used between 1962 and 1964, during the early "testing" stages of the spraying program.

Agent Green's only active ingredient was 2,4,5-trichlorophenoxyacetic acid (2,4,5-T), one of the common phenoxy herbicides of the era. It was later learned that a dioxin, 2,3,7,8-tetrachlorodibenzo-para-dioxin (TCDD), is produced as a side effect of the manufacture of 2,4,5-T, and was thus present in any of the herbicides that used it. Due to Agent Green consisting entirely of 2,4,5-T, along with the similar Agent Pink, it contained many times the level of dioxin found in Agent Orange. It is very dangerous to a human's health.

The fungus ***Fusarium oxysporum*** is also referred to as ***Agent Green***.

http://en.wikipedia.org/wiki/Agent_Green

The Fifteen Herbicides Used in the Vietnam War:

PURPLE: A formulation of 2,4,-D and 2,4,5,-T used between 1962 and 1964.

GREEN: Contained 2,4,5-T and was used 1962-1964.

PINK: Contained 2,4,5-T and was used 1962-1964.

ORANGE: A formulation of 2,4,-D and 2,4,5-T used between 1965 and 1970.

WHITE: A formulation of Picloram and 2,4,-D.

BLUE: Contained cacodylic acid.

ORANGE II: A formualtion of 2,4,-D and 2,4,5-T used in 1968 and 1969 (also sometimes referred to as "Super Orange")

DINOXOL: A formulation of 2,4,-D and 2,4,,5-T. Small quantities were tested in Vietnam between 1962 and 1964.

TRINOXOL: Contained 2,4,5-T. Small quantities tested in Vietnam 1962-1964.

BROMACIL
DIQUAT:
TANDEX:
MONURON:
DIURON:
DALAPON:
Small quantities of all of the above were tested in Vietnam, 1962-1964.

http://www.lewispublishing.com/herbs1.htm

****** [At the time there were several unconfirmed reports that experiments with fusarium had already been carried out. According to an article in the New Herald (a Miami newspaper) in July 2000, the US army had experimented with the fungus in an area five kilometres north of Lago Agrio in Ecuador, a claim backed by the mayor of Puerto Guzmn. According to Jeffrey St Clair, a prominent US journalist, the US ambassador to Colombia, Anne Patterson, had also testified some time earlier that she believed biological weapons had already been deployed in Colombia. She later retracted her statement, which she said had been made 'under duress' (though she did not specify what kind of duress)].

******* [David C Sands has no shortage of influential contacts. Ag/Bio Con has retained a prominent DC consulting firm to lobby on bills related to mycoherbicide development. The company's officials include a retired Air Force General with a background in research; Sands has received a Navy research award and has traveled with ranking US government personnel to a similar fungus project in Kazakhstan and Russia. Through his Congressional connections, he arranged a face-to-face meeting with President Andrés Pastrana in Washington last January.
Sands received nationwide attention for Ag/Bio Con in spring and summer of last year, when he -- along with Colonel Jim McDonough, a former top aide to US drug czar General McCaffrey who had taken a new job as Florida's top drug official -- tried a similiar spin in Florida for the use of another strain of Fusarium to control Florida's burgeoning marijuana industry. David Struhs, the head of Florida's Department of Environmental Protection, reacted with a strongly cautionary letter saying:

"Fusarium species are capable of evolving rapidly ... Mutagenicity is by far the most disturbing factor in attempting to use a Fusarium species as a bioherbicide. It is difficult, if not impossible, to control the spread of Fusarium species. The mutated fungi can cause disease in a large number of crops, including tomatoes, peppers,

flowers, corn and vines, and are normally considered a threat to farmers as a pest, rather than as a pesticide. Fusarium species are more active in warm soils and can stay resident in the soil for years. Their longevity and enhanced activity under Florida conditions are of concern, as this could lead to an increased risk of mutagenicity." **]**

******** In fact, one academic (Daniel Faber) has argued that it was ecological imperialism that created the necessary conditions for the successful Spanish colonization of Central America. It was the introduction of large-scale agricultural practices, such as cattle ranching and indigo cultivation, which led to the widespread clearing of land. For example, by 1800, 300 to 400 haciendas devoted to cattle ranching and commercial crops had destroyed 30 percent of El Salvador's forests (Ibid. 20).
http://www.macalester.edu/environmentalstudies/MacEnvReview/columbia.htm

[1] http://www.redorbit.com/news/science/453951/colombias_killing_fields/index.html

[2] http://www.redorbit.com/news/science/453951/colombias_killing_fields/index.html

[3] http://www.thenation.com/doc/20010319/cooper/2

[4] http://www.macalester.edu/environmentalstudies/MacEnvReview/columbia.htm

[5] http://www.redorbit.com/news/science/453951/colombias_killing_fields/index.html

[6] http://www.macalester.edu/environmentalstudies/MacEnvReview/columbia.htm

[7] http://www.thenation.com/doc/20010319/cooper/4

[8] http://www.redorbit.com/news/science/453951/colombias_killing_fields/index.html

[9] http://www.motherjones.com/news/feature/2000/05/coca.html

[10] http://www.redorbit.com/news/science/453951/colombias_killing_fields/index.html

[11] http://www.motherjones.com/news/feature/2000/05/coca.html
http://www.redorbit.com/news/science/453951/colombias_killing_fields/index.html
http://www.sunshine-project.org/publications/bk/bk14.html

[12] http://www.motherjones.com/news/feature/2000/05/coca.html

[13] http://www.motherjones.com/news/feature/2000/05/coca.html

[14] http://www.motherjones.com/news/feature/2000/05/coca.html

[15] http://www.redorbit.com/news/science/453951/colombias_killing_fields/index.html
(p.70, Chomsky, Noam, *Power and Terror*, Seven Stories Press, New York, 2003.).
(p.70., ibid).

[16]
http://www.redorbit.com/news/science/453951/colombias_killing_fields/index.htmlhttp://www.nadir.org/nadir/initiativ/agp/free/colombia/megaprojects/index.htm
http://www.ciponline.org/colombia/0401putu.htm

[17] http://www.thenation.com/doc/20010319/cooper/4
http://www.zmag.org/content/showarticle.cfm?ItemID=7907

[18] http://www.thenation.com/doc/20010319/cooper/4
(p.70, Chomsky, ibid).