



Girona 25, pral., Barcelona E-08010, Spain
Tel: +34 933 011 381
Fax: +34 933 011 627
Email: seedling@grain.org
Web: www.grain.org

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Seedling

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Contents

Editorial

- 1 **Seeds, land and water**
Silvia Ribeiro

Articles

- 3 **Plantations, GM trees and indigenous rights**
Anne Petermann and Orin Langelle
- 13 **Voices in the green desert**
Silvia Ribeiro
- 18 **Fairtrade and global justice**
James O'Nions
- 24 **Bird flu crisis: small farms are the solution not the problem**
GRAIN
- 29 **Fishing profits, farming disaster: the cost of liberalising Asia's fisheries**
GRAIN

Sprouting Up

- 12 **Sharing diversities, ploughing possibilities**
- 16 **Seed battles intensify in Europe**
- 34 **Towards the adoption of a national framework for biosafety in Senegal**

Interviews

- 22 **Joseph Keve**
- 36 **Laxmamma**

Front cover picture: *Seed saving in Bangladesh (UBINIG) – each bottle contains a different variety of rice. Photo by GRAIN*

Back cover picture: *Tilapia fish. Photo by Niall Crotty*
http://commons.wikimedia.org/wiki/Image:Fresh_tilapia.jpg

Seeds, land and water the ides of March

SILVIA RIBEIRO

During the month of March 2006, southern Brazil, the cradle of many strong social movements, was the scene of a confrontation between peasant movements and transnational companies against a backdrop of a series of UN meetings. Between the 5 and 31 March Brazil hosted the United Nations Conference on Agrarian Reform and Local Development, the Third Meeting of the Parties to the Cartagena Protocol on Biosafety and the Eighth Conference of the Parties to the Convention on Biological Diversity. At the same time, the Fourth World Water Forum met in Mexico. At stake: who controls seeds, land and water – all indispensable for peasants' livelihoods.

Without asking permission, the 'wretched of the earth', through the voices of thousands of Brazilian peasants, landless rural workers, people displaced

by dams, those affected by timber and GM soybean plantations took to the stage at UN conferences held in Porto Alegre and Curitiba. At the same time tens of thousands marched in Mexico to call for their right to access to water and stop its privatisation. With the calm and the strength of the rightful, armed with seeds, maize, banners and songs, these people astounded the diplomats of the world, reminding them that there is a real world out there beyond the negotiating tables, and enraged the directors and lobbyists of transnational corporations.

During the final demonstration called by Via Campesina on 31 March outside the Curitiba convention centre, over 5,000 peasants and members of the Landless Workers' Movement (MST) held up a huge sign that summarised what is at stake: "Nature and biodiversity belong to the people, not to governments or transnationals."



In Brazil, Via Campesina staked out the battle field from the beginning. On 8 March 2006, women from the movement occupied a laboratory and a eucalyptus cloning nursery run by the Aracruz company, to protest against the “green desert” and the aggressive tactics used against indigenous peoples and peasants (see also the article “Plantations, GM Trees and Indigenous Rights” in this issue of *Seedling*). Next they marched and closed off access to the Porto Alegre Agrarian Reform conference for four hours. Two days later, they had their declaration from the parallel Land, Territory and Dignity forum included as an official document at the UN Conference on Agrarian Reform and Rural Development.

Just a week later, the Biosafety Protocol meeting began with demonstrations and MST and Via Campesina took over a farm where Syngenta was illegally planting GM maize and soybeans, in the Iguacu National Park buffer zone, home to the famous waterfalls of the same name. They are still occupying the farm.


The following week, in a resounding victory for international civil society, the Convention on Biological Diversity (CBD) maintained and reaffirmed its moratorium on the use of the GM Terminator technology to make sterile seeds. The moratorium has held within the CBD since 2000, but it had been seriously threatened by the efforts of biotech companies, who two months earlier had succeeded in passing a resolution to undermine it, at a CBD preparatory meeting in Granada, Spain.

Officials of transnational corporations had landed in Brazil with smiles on their faces, and global directors from Monsanto, Syngenta and Delta & Pine shamelessly strutted the halls as leaders in the GM seed market and holders of the majority of the world’s Terminator patents. Their victory in Granada and their feeling of total sway over government bureaucrats – whom they are used to “instructing” through bribes or other means – had left them riding high.

They received a slap in the face. The rainbow of daily protests by Via Campesina at the entrance to the convention centre, the simultaneous events in Brazil and other countries by hundreds of civil society organisations coordinated by the international Ban Terminator Campaign, the speeches by youth and indigenous leaders (including delegates sent by the Huichol people of Mexico and the Guambiano people of Colombia specifically to speak on the issue), the parallel side-events held by the Brazilian NGO and Social Movements’ Forum, all together

finally overturned the texts agreed in Granada, to the despair of the transnational corporations and the countries committed to ending the moratorium, the US, Canada, Australia and New Zealand. Mexico’s delegates worked to the last moment to convince other governments to lift the moratorium, consistent with their behaviour at the other March gatherings, where they invariably took on the defence of the transnational corporations.

The strongest and most symbolic moment during the entire CBD meeting was the entry of the Via Campesina women into the plenary hall. Wearing Via Campesina’s green scarves and carrying candles, they raised dozens of signs in several languages in front of the official delegations, demanding a ban on Terminator technology. The chairman announced that this “statement” would also be taken into account, and to the great frustration of a Delta & Pine employee who had called in security guards to intervene, the vast majority of the plenary session rose and applauded.

Maintaining the Terminator moratorium is an important achievement, relevant to millions of peasant and indigenous farmers, and enabling us all – rather than the transnationals – to choose what we eat. But, perhaps the most important message, not written in papers, yet irrefutable, was that the ‘wretched of the earth’ do not accept their damnation and reject their oppressors and those who use national and international laws to legitimate the privileges of the powerful. 



This editorial is a translated and edited version of an article that appeared in La Jornada, México, 1 April 2006.

See also Silvia Ribeiro’s article on page 13.



The damaging effects of monoculture tree plantations are being resisted around the world. Timber plantations have occupied large tracts of indigenous and agricultural land and have been responsible for the loss of biodiversity and the pollution and depletion of water and soils. Such plantations are owned by large corporations with little concern for the surrounding communities or environment. Now, the addition of genetically modified (GM) tree plantations can only make the situation worse. This article argues that the development of GM trees needs to be stopped now.

Plantations, GM trees and indigenous rights

ANNE PETERMANN AND ORIN LANGELE

Around the world people are rising up in opposition to the rampant spread of industrial monoculture tree plantations. In Brazil, plantations are referred to as “green deserts”, owing to their reputation for destroying biological diversity. In South Africa they are known as “green cancer,” because of the tendency of the non-native eucalyptus trees to escape the plantations, spread wildly into other areas and wreak ecological havoc, and in Chile plantations are called “green soldiers”, because they are destructive, stand in straight lines and advance steadily forward.

In November 2005, representatives from organisations and social movements from Australia, Brazil, Chile, Ecuador, India, Indonesia, South Africa, Thailand, Uruguay, Europe and North America gathered in Vitoria, Brazil to advance the international movement against timber plantations

and to strengthen the campaign against genetically engineered trees. The four day meeting was co-sponsored by World Rainforest Movement, Global Justice Ecology Project and the Federation of Social and Educational Assistance (FASE). Issues, strategies and common experiences were discussed in depth.

A common theme that emerged from the meetings was the historical establishment and expansion of timber plantations under authoritarian regimes - for example, in Chile under Pinochet, in Brazil and Indonesia under their military dictatorships, and in South Africa under apartheid. Also common were corporate strategies to continue the expansion of plantations in the neoliberal economies that have flourished in the post-authoritarian years. In some areas, corporations have begun making “deals” with local communities and small poor rural landowners to increase the area covered by





Langelle/Global Justice Ecology Project

Newly built house with eucalyptus plantation in background. In Brazil, the state of Espírito Santo has been subjected to the unchecked expansion of eucalyptus plantations. In response, in June 2005 indigenous Tupinikim and Guarani peoples began the process of reclaiming the 11,000 hectares of land that was stolen from them under the military dictatorship and given to Aracruz Cellulose for tree plantations. In open defiance, the community cleared several hectares of the plantation where a village is now being built, using eucalyptus for the poles in their traditional frond huts. They later joined forces in 2005 to take over the nearby Aracruz Cellulose pulp mill for several days, demanding the return of their land.

plantations without having to purchase land. Because fast-growing plantations rapidly deplete soils and groundwater, this strategy enables the companies to easily abandon the land after it is no longer productive. In Ecuador this strategy has allowed foreign corporations to establish plantations in the high-altitude ecosystems that were previously inaccessible. Some communities in Ecuador have signed 25 to 99 year contracts with these companies, agreeing to forgo their rights to use their traditional lands and agreeing to tend the plantations. In exchange, they receive compensation of US\$19 per hectare per year – a price that does not even cover the labour required to work the remote plantations. Some communities in these mountainous regions have begun to rebel, breaking the contracts and burning the plantations.

Chile: Mapuche struggle for justice

Non-native tree plantations are also taking over agricultural land. In the Lumaco region of Chile, plantations are taking over former farmland in the traditional territory of the Mapuche people. Since 1988, plantations in Lumaco increased from 14% of the land to over 52% in 2002. Chile exports 98% of its forestry products to the North and to Asia.

Throughout the country over 2 million hectares of eucalyptus and pine plantations are controlled by only two companies.

As a result of this farmland conversion, Mapuche communities are being forced off of their lands. In some cases, communities are now completely surrounded by plantations. In this region, where water has traditionally been plentiful year-round, the plantations have been depleting the groundwater, leaving the communities dependent on water trucks from the end of spring until the beginning of autumn, and drying up much needed water for agriculture. The contamination of ground and surface water from the toxic pesticides and herbicides used on the plantations are causing rising levels of sickness. The heavy pollination of the pine plantations contaminates water, and causes allergies and skin problems. The rise in land occupied by plantations has also been accompanied by a rise in poverty rates among Mapuche communities. Lumaco is one of the poorest regions of Chile, with 60% of the population living under the poverty line, and including 33% in extreme poverty.

At the Vitoria meetings, Lucio Cuenca B., National Coordinator for the Observatorio Latinoamericano



Langelier/Global Justice Ecology Project



Children playing near the entrance of Galdino dos Santos, an encampment of the MST. Sign reads “Plantations of Eucalyptus are not Forests”. The Brazilian landless workers’ movement had also taken over a portion of a plantation owned by Aracruz Cellulose, removed the non-native trees and built their camp, complete with a well, a community space and a very elaborate system of non-hierarchical decision-making. The camp is named Galdino dos Santos, for an indigenous chief who had been murdered two years before in a racist attack.

de Conflictos Ambientales (OLCA) in Santiago, Chile explained the impact of the plantations on the Mapuche communities:

“The loss of territorial space, exacerbated by the strong impact and environmental degradation caused by the expansion of the plantations, have opened up a conflict between the Mapuche community, the forestry companies and the government...

“The response by the State has been to provide favourable legal and social conditions to enable the forestry companies to fulfil their production goals and continue their expansion. On the one hand, repression and criminalisation [of Mapuche resistance to plantations], on the other... rerouting subsidies formerly aimed at the large forestry companies towards small farmers and indigenous land owners...[that] oblige former farmers to convert to forestry activities. Thus the strategy for expansion becomes more complex, operating through political and economic blackmail that leaves no alternatives.”

As Mapuche people have risen up against the plantations, they have been subjected to mounting state repression, including the use of anti-terrorism

laws left over from the Pinochet Regime.

On January 16 of this year, Michelle Bachelet was elected Chile’s first female president. Her centre-left coalition mixes socialist ideology with free-market economics and Bachelet supports the highly criticised Free Trade Area of the Americas. Cuenca expects Bachelet’s government to maintain the pro-forest industry policies of the previous administration. He states, “The Bachelet government is presented as continuity of the Lagos administration, which in our opinion has been environmentally regressive. All the progress we had made with institutions, environmental awareness and citizen participation suffered an important reversal in these last six years.”

The Mapuche struggle to reclaim traditional lands from pine and eucalyptus plantations and toxic pulp mills is also heating up over a proposal by CELCO, a Chilean pulp and paper corporation, to dump their pulp mill effluent directly into the Pacific, south of Mapuche lands. The placement of this discharge pipe would contaminate the coastline with dioxins and other toxic organochlorines that result from the paper-bleaching process. Ironically, CELCO made this proposal to assuage environmental organisations who expressed outrage





Langeille/Global Justice Ecology Project

Logging truck roles over bridge near Chol Chol (Chile). Many indigenous Mapuche lands are surrounded by eucalyptus and pine plantations..

when CELCO's pulp mill discharge destroyed a nature reserve, removing an entire population of the rare black-necked swans.¹

Brazil: communities rise up against plantations

In Brazil, the state of Espírito Santo has been subjected to the unchecked expansion of eucalyptus plantations. In response, indigenous Tupinikim and Guarani peoples began the process of reclaiming the 11,000 hectares of land that was stolen from them under the military dictatorship and given to the multinational company Aracruz Cellulose for tree plantations. In open defiance, the community cleared several hectares of the plantation to build a village, using eucalyptus for the poles in their traditional frond huts. In 2005 the indigenous people took over the nearby Aracruz Cellulose pulp mill for several days, demanding the return of their land. Their story has inspired movements against plantations all over the world and spurred the "Vitoria Statement" which emerged from the international plantations meetings in Brazil.

Not far away, an encampment of Brazil's landless workers' movement, the MST (Movimento dos Trabalhadores Rurais Sem Terra) has also taken over a portion of a plantation owned by Aracruz Cellulose, removed the non-native trees and built

their camp, complete with a well, a community space and a very elaborate system of non-hierarchical decision-making. The camp was named Galdino dos Santos, for an indigenous chief who had been murdered two years before in a racist attack.

On 20 January 2006, the Tupinikim and Guarani community was violently evicted from the lands they had retaken from Aracruz Cellulose. Following a ruling by a Brazilian federal judge in favour of Aracruz Cellulose on 7 December 2005, 120 federal policemen from the Command for Tactical Operations invaded the indigenous settlements, driving out the inhabitants and injuring thirteen. Police shot at indigenous people from helicopters, and used Aracruz Cellulose bulldozers to destroy the villages. Later on 20 January, the 7 December judicial decision was suspended. Residents of the community have begun the process of rebuilding.

Research into GM trees

"We have no control over the movement of insects, birds and mammals, wind and rain that carry pollen and seeds. Genetically engineered trees, with the potential to transfer pollen for hundreds of miles carrying genes for traits including insect resistance, herbicide resistance, sterility and reduced lignin, thus have the potential to wreak ecological havoc throughout the world's native forests. GE trees



1 - WWF, 2005, *Pulp mill devastates swan sanctuary in Chile*, <http://sixterts.notlong.com>

New film (DVD) about GM trees

A Silent Forest: The Growing Threat, Genetically Engineered Trees, Narrated by David Suzuki

"As a geneticist, I believe there are far too many unknowns and unanswered questions to be growing genetically engineered plants – food crops or trees – in open fields. GE trees should not be released into the environment in commercial plantations and any outdoor test plots or existing plantations should be removed. The rush to apply the ideas of genetic engineering is absolutely dangerous because we don't have a clue what the long-term impact of our manipulations is going to be." David Suzuki

This documentary, which is eloquently presented by David Suzuki, looks at various aspects of the research and growing of GM trees. The film is able to communicate effectively what is a fairly complicated message by interviewing a variety of people and providing an easy-to-understand overview of the subject. And at only 45 minutes it is able to do this relatively quickly, so is perfect for showing to others.

The documentary is available in DVD format on the internet from: <http://www.customflix.com/207574> or else contact Global Justice Ecology Project: PO Box 412, Hinesburg, VT 05461, USA, +1 802 482 2689, info@globaljusticeecology.org

A Silent Forest

THE GROWING THREAT,
GENETICALLY ENGINEERED TREES



Narrated by Dr. David Suzuki, an award-winning scientist and environmentalist, and host of *The Nature of Things*, *A Silent Forest* exposes the threats posed by the introduction of genetically engineered trees into our environment. The film breaks down complex scientific concepts while detailing the dangerous impacts genetically engineered trees will have on human health, native forests, forest-dwelling indigenous peoples, and wildlife.

could also impact wildlife as well as rural and indigenous communities that depend on intact forests for their food, shelter, water, livelihood and cultural practices.”

David Suzuki, The Suzuki Foundation

Building on the experiences of movements against genetic engineering and monoculture tree plantations, non-governmental organisations, social movements, scientists, indigenous groups, farmers, foresters and others are raising the call for a global ban on the commercial release of GM trees into the environment. Such a release is predicted inevitably and irreversibly to contaminate native forest ecosystems, which would themselves become contaminants in an endless cycle. The potential effects of the commercial release of GM trees include the destruction of biodiversity and wildlife, loss of fresh water, desertification of soils, collapse of native forest ecosystems, major changes to ecosystem patterns and a severe impact on human health. Despite all of these predictably disastrous consequences, thorough risk assessments of GM tree release have not been done.

China is the only country so far with plantations of GM trees. Here there are widespread and undocumented plantations of GM poplar engineered to produce the bacterial toxin *Bacillus thuringiensis* (Bt) which have been planted in close

proximity to conventional poplar plantations. They have been planted because the conventional poplar plantations they planted as part of a massive reforestation programme became infested with insects (being particularly prone as monocultures often are), so rather than take a new direction by planting a mixture of species, they took the advice of the FAO and the money of the UNDP and engineered insect-resistant Bt poplars that have been widely planted throughout 10 provinces. So widely planted, in fact, that no one knows where they are. Experiments carried out by the Nanjing Institute of Environmental Science found contamination of conventional poplars with the Bt gene already occurring.²

Elsewhere, GM tree research, which includes growing GM trees in test plots outside, is moving rapidly forward particularly in Brazil and Chile. The technology is also being developed in India, South Africa, Indonesia, the US and several countries in Europe.

In Chile, research is being carried out to engineer *Radiata* pine (*Pinus radiata*) for insect resistance by inserting the gene for Bt toxin production. Pine plantations currently comprise 80% of Chile's plantations. Industry is also looking at transforming eucalyptus to be cold-tolerant. This would greatly expand the range of future eucalyptus plantations,

² - Chris Lang, China: Genetically modified madness, *WRM Bulletin* 85, August 2004, grain.org/research/?id=175





Langeille/Global Justice Ecology Project

Mapuche community member holding eucalyptus seedling recently dusted with pesticide near Chol Chol (Chile).

currently confined to warmer climates. Chile hopes to become the world's leading exporter of GM tree seedlings for plantations around the world.

In Brazil, Aracruz Cellulose, Suzano, International Paper and Arborgen are all involved in research into genetically engineered trees. Suzano, which manages over 3,000 square kilometers of timberland in Brazil, is partnered with Israel-based CBD (Cellulose Binding Domain) Technologies on a project to increase the growth rate of eucalyptus trees. "Regular eucalyptus trees are usually cut down after seven years, during which they grow to a height of 20 metres. [Our] trees ... can reach that height in 3 years or less", stated Dr Seymour Hirsch, CEO of CBD Technologies. The company also insists its fast-growing trees will help stop global warming. In a confusing assertion, Dr Hirsch states, "A one hectare forest consumes 10 tons of carbon annually from the CO₂ that the trees breathe. Clearly a forest that grows twice as fast consumes twice as much and contributes to the shrinking of the hole in the ozone."

Arborgen is the world's leading GM tree corporation and has partnered Rubicon (New Zealand), MeadWestvaco (US) and International Paper (US). Arborgen, itself from the US, is focusing much of its attention on Eucalyptus in Brazil, which Arborgen considers to be its "most

important geography". Arborgen has established a Brazilian office and previously projected that they would have full field-testing in place in Brazil by 2005 on customer land. However, the current status of these test plots is not known.

Arborgen is working to develop "improved pulping" (i.e. low-lignin) eucalyptus as well as cold-tolerant eucalyptus. Recently, Arborgen announced that it was shifting its focus from research and development to the marketplace and planned to hire engineers and production workers to design and run machinery capable of producing larger quantities of the engineered seedlings they have developed.

Rubicon CEO Luke Moriarity in his July 2005 address to shareholders emphasised the critical role Brazil plays in Arborgen's commercialisation of GM trees and the economic potential of establishing GM low-lignin eucalyptus plantations there.

"...by reducing the amount of lignin actually produced by the tree itself, a huge reduction in the total cost of wood-pulping can be achieved. Pulp operators can be expected to pay a significant premium for successful low-lignin treestocks... when you begin to look at the possibilities more closely you can see that the value potential is actually huge. Rather like human health, although



The Vitoria Declaration

In support of the struggles of local peoples against large-scale tree plantations

A statement was issued on 24 November 2005 in Vitoria, Espírito Santo, Brazil at an international meeting on building support for local communities against large-scale tree plantations and GM trees. This meeting was co-sponsored by World Rainforest Movement, FASE-ES and Global Justice Ecology Project.

You can read the statement online at <http://www.globaljusticeecology.org/?name=getrees&ID=370>. Also read the article "Voices in the green desert" on page xx, which provides more information about Via Campesina's struggle against corporate eucalyptus plantations.

much lower profile, the annual unit sales of forestry seedlings are well into the billions, recur every year, and span the globe. And unlike human health, where competition is intense, there are no global competitors to Arborgen in this space."

GM trees and human health

The potential impact of GM trees on human health is virtually unstudied. It is only possible to get an idea, therefore, by looking at studies of GM agricultural crops.

Pollen

Dr Terje Traavik of The Norwegian Institute of Gene Ecology reported on findings in 2004 that an entire village in the Philippines living adjacent to genetically engineered Bt maize fields showed symptoms of "respiratory, intestinal and skin reactions and fever," during the time that the maize plants were pollinating. He found, "Antibodies in the human blood show that these people have been exposed to Bt toxin during the last few months."³ Since this information was released there have been a further five unexplained deaths. A final report from Traavik is still to be published.

Numerous other studies have also raised the alarm about the potential impacts of Bt toxin on human health. Some studies found that Bt toxin has an amino acid sequence that is significantly similar to known allergens.⁴ Other studies found that Bt causes an immune response in the body and that ingestion of Bt is capable of changing the permeability of the intestines.⁵ Because the immune response from inhaling the Bt toxin has been found to be greater than when it is ingested, engineering trees to produce Bt toxin could be very dangerous. Pines are known for the large amounts of pollen they produce, spreading pollen for hundreds of kilometres. Plantations of pines that produce Bt pollen could potentially lead to widespread health problems.

Glyphosate

Trees are engineered to resist glyphosate-based herbicides (such as Monsanto's RoundUp) which allows for competing weeds amongst the trees to be sprayed liberally. Glyphosate is known to persist for a long time and is commonly found as a contaminant in rivers. Charles Benbrook, formerly of the National Academy of Sciences, found use of glyphosate-resistant crops resulted in 300–600% increase in the use of the herbicide. Other studies have found that glyphosate exposure significantly increased the risk of late term spontaneous abortions and have also found an association between glyphosate use and the cancers non-Hodgkins lymphoma and multiple myeloma.⁶

Like Bt, glyphosate has also been found to be much more dangerous when inhaled than when orally ingested. This is important since glyphosate is commonly sprayed from the air, where it can drift onto nearby communities.

GM trees and the environment

Due to the universally accepted problems of cross contamination with wild species, industry claims that GM trees will be engineered to be sterile. Therefore, it is claimed, trees engineered for insect resistance, glyphosate tolerance, reduced lignin, and faster growth will not be able to spread these traits into native forests. However, it is generally accepted that 100% guaranteed sterility in trees is impossible due to the complexity of reproductive systems. This unreliability in the sterility technology could even possibly lead to the cross-contamination of sterile traits to native trees with potentially appalling consequences for the environment. Sterile trees provide no fruit, seeds, nuts, nectar or food for wildlife or communities. In reality, sterility is a lose-lose scenario – if trees engineered for sterility are released, the consequences of cross-contamination from trees in which the sterility fails, however few, could have devastating consequences, and if trees are not sterile, cross contamination of the original

3 - Traavik T, *Bt-Maize During Pollination May Trigger Disease in People Living Near the Cornfield*, Norwegian Institute of Gene Ecology, 2004, terjet@genok.org <http://nazareso.notlong.com>

4 - See for example: Bernstein et al, Immune responses in farm workers after exposure to *Bacillus thuringiensis* pesticides, *Environmental Health Perspectives*, 1999, 107(7): 575-582

5 - See for example: Vazquez-Padron, R I et al, Cry1Ac protoxin from *Bacillus thuringiensis* sp. kurstaki HD73 binds to surface proteins in the mouse small intestine, *Biochemical and Biophysical Research Communications*, 2000, 271, pp 54-58

6 - See for example: De Roos AJ et al, Cancer incidence among glyphosate-exposed pesticide applicators in the agricultural health study, *Environ Health Perspect*, 2005, 113, 49-54 and Savitz D A, Arbuckle, Kaczor D, Curtis K M, Male Pesticide Exposure and Pregnancy Outcome, *Am. J. Epidemiol*, 2000, 146, pp 1025-36.



Petermann/Global Justice Ecology Project



Via Campesina and the MST demonstrate to delegates arriving by bus at the Convention on Biological Diversity in Curitiba, Brazil in March 2006. The demonstrators were protesting the possibility of lifting the ban on “terminator technology”. At this meeting industry and many governments were using genetically engineered trees as an excuse to lift the ban on “terminator technology.” They failed and the ban is still in effect.

GM traits would spread quickly. In addition, some studies have found that the sterility technology itself causes serious unintended side effects such as mutations and genome scrambling.⁷

The potential impact of these escaped GM tree traits into native forests include:

- contamination with the insect resistance gene, which would disrupt forest ecosystems for which insects are an integral component;
- contamination with the low-lignin gene resulting in forest trees that cannot resist insects, disease or environmental stresses like wind;
- escape of the gene for faster growth leading to GM trees out-competing native trees and plants for light, water and nutrients and leading to soil depletion.

In 1993 the *New Physiologist* published a report entitled, “Pollen-Rain from Vegetation of Northwest India”,⁸ that had found pine pollen in northern India more than 600 km from the nearest pine trees. Pollen models created in late 2004 by Duke University researchers⁹ demonstrate pollen from native forests in North Carolina in the US travelling in air currents more than 1,400 km north into eastern Canada. The potential for widespread transboundary contamination by genetically engineered tree plantations is high, requiring that GM tree release be prevented at the international level.

Even the United Nations seems to concur with this assessment. In July 2005 the United Nations

Food and Agriculture Organization (FAO) published a report entitled “Preliminary Review of Biotechnology in Forestry Including Genetic Modification”.¹⁰ In it, over half of GM tree researchers surveyed reported the environmental threat of escape of GM pollen or plants into native ecosystems and forests and their impacts on non-target species as a major concern. The FAO’s report concludes:

“New biotechnologies, in particular genetic modification, raise concerns. Admittedly, many questions remain unanswered for both agricultural crops and trees, and in particular those related to the impact of GM crops on the environment. Given that genetic modification in trees is already entering the commercial phase with GM populus in China, it is very important that environmental risk assessment studies are conducted with protocols and methodologies agreed upon at a national level and an international level. It is also important that the results of such studies are made widely available.”

International agreement in Curitiba

Over 20–31 March 2006 during the United Nations Convention on Biological Diversity’s Eighth Conference of the Parties (COP-8) in Curitiba, Brazil, Global Justice Ecology Project, the STOP GE Trees Campaign and EcoNexus worked with Global Forest Coalition, World Rainforest Movement, Friends of the Earth International, and a host of other NGOs in pursuit of a CBD moratorium on the release of genetically engineered

7 - See for example: Wilson A, Latham J, Steinbrecher R, *Genome Scrambling - Myth or Reality? Transformation-induced mutations in transgenic crop plants*, Technical report, EcoNexus, 2004, <http://www.econexus.org>

8 - Singh G et al, Pollen-rain from vegetation of Northwest India, *New Physiologist*, 1993, 72: 191-206.

9 - Katul G, *Spatial Modeling of Transgenic Conifer Pollen*, a presentation at *Landscapes, Genomics and Transgenic Conifer Forests*, The Nicholas School of the Environment and Earth Sciences, Duke University, November 2004, dukenov2004.notlong.com

10 - FAO, Preliminary review of biotechnology in forestry, including genetic modification, *Forest Resources Development Service Working Paper FGR/59E*, 2004, <http://rewerlie.notlong.com>



Going further:

Global Justice Ecology Project provides information on plantations and GM trees including actions being taken by indigenous communities. <http://www.globaljusticeecology.org>

Latin American Network against Monoculture Tree Plantations provides links to the many active national organisations fighting monoculture tree plantations. <http://www.wrm.org.uy/plantations/RECOMA.html>

Chris Lang website <http://chrislang.blogspot.com> closely linked to the World Rainforest Movement

The Chris Lang website brings together a number of articles on monoculture plantations and GM trees, with several articles from Asia

(GE) trees and a global review of their risks.

As a result of this effort, on 22 March 2006, during the opening round of discussion of the CBD's Forest Biological Diversity Working Group, delegates from ten countries raised the call for a global moratorium on the release of GE trees. Several others called for a global risk assessment. Only Canada and Australia called instead for a compilation of existing information on the technology.

Efforts ultimately paid off with a CBD declaration which states, in part:

“The Conference of the Parties, Recognising the uncertainties related to the potential environmental and socio-economic impacts, including long-term and trans-boundary impacts, of genetically modified trees on global forest biological diversity, as well as on the livelihoods of indigenous and local communities, and given the absence of reliable data and of capacity in some countries to undertake risk assessments and to evaluate those potential impacts, recommends parties to take a precautionary approach when addressing the issue of genetically modified trees.”

This is a significant accomplishment in the campaign to stop GM trees. When the CBD recommends parties take a precautionary approach, this is a direct reference to the Precautionary Principle, which is enshrined in the CBD. If followed, this recommendation acts as a de facto moratorium against GM trees since the precautionary principle demands proof of both a need for GM trees and their safety, before they are released. There exists neither. Therefore the above mandate by the CBD provides a powerful political position from which to oppose the release of GM trees around the world. While the US is not a party to the CBD, this mandate will provide important leverage for the “STOP GE Trees Campaign” in the US to oppose GM trees there.

Too many unknowns

The release of GM trees in large plantations around the world brings up far too many unanswered questions. People simply do not understand the long term implications of planting GM trees. Already indigenous communities, environmentalists and many others have rejected the planting of large monoculture timber plantations. The rush to plant GM trees, led purely by profit, is a very dangerous step which will certainly need to be stopped.



Anne Petermann



is the Co-Director Global Justice Ecology Project and Steering Committee Member Stop GE Trees Campaign, which she co-founded in September 2003. She is the Steering Committee Chair for the Stop GE Trees Campaign.

Petermann has presented the dangers of GE trees at United Nations meetings around the world, including the UN Forum on Forests, the UN Framework Convention on Climate Change and the UN Convention on Biological Diversity.

Orin Langelle



is the Coordinator of the STOP GE Trees Campaign and Co-Director of Global Justice Ecology Project.

He founded ACERCA (Action for Community & Ecology in the Regions of Central America) in 1998. A delegation he led to southeast Mexico in April 1999 uncovered what were believed to be genetically engineered tree test plots. Langelle helped launch a campaign on the issue and wrote a chapter on GE trees for the book *Redesigning Life*.



Sprouting Up...

Sharing diversities, ploughing possibilities



From Old English comes an agricultural term – the ploughshare. From the Indian subcontinent, which has a history longer than its colonial English past, there is much to share about both agriculture and culture. The nascent wave of colonialisation of the food and farm challenges peoples without borders to revisit their cultures.

Thus it was at the World Social Forum in the southern city of Karachi on the 24–29 March 2006, a rich cultural sharing in what is otherwise regarded the poorest province of Pakistan – Sindh. This province primarily grows wheat, cotton and rice, and, like its neighbours in India, is poised on the brink of a “gene revolution” after suffering the “green revolution”.

So there was sharing about the struggles of landless peasants, tenant farmers and share croppers. In practice even today there exists a feudal serfdom where the poor have neither the option to leave the land (being bonded or at risk of being evicted where they are not wanted) nor the freedom to determine their private lives as they deem fit.

From another part of Asia, in the Dong culture, it is said that “as rice is food to the body, so songs are food to the soul”; but if only our songs could feed and free us! And not surprisingly even the cultural aspect of life is not untouched by issues of shared community creations versus copyright hassles; the Langas and Manganiars, traditional folk musicians found in India and Pakistan, who performed at the WSF, have their compositions lifted by the movie & music industry without any due acknowledgment. (photograph)

Meanwhile the 2006 World Economic Forum’s (WEF) annual meeting held earlier in Davos, Switzerland, closed with participants detailing new projects particularly in disaster relief, financing for development with a renewed emphasis on public-private partnerships. The WSF is

envisaged to be a counterpoint to the WEF. Indeed at the WSF the Pakistan earthquake of October 2005 remained a constant reference point, not only since it led to the re-scheduling of the WSF from January to March, but also that several groups working at the grassroots chose to give their limited resources to relief and rehabilitation work. But there are many more partnerships yet to be designed, as the sharing amidst peoples continues the importance of ploughing on to bring peoples’ together cannot be over-emphasised.

There is a word, that is well understood in both northern India and Pakistan – “sanjha”; it does not have an equivalent term in English but essentially means common as to imply shared with others. As the WSF song translated into Urdu aptly conveyed, our crops are shared, our cultures are shared.

So yes there are possibilities, and whilst we celebrate our diversities there is much to do to build another world.

A world in which there is space enough for the small.



A traditional chef now selling sandwiches



Traditional Manganiar musician from India; they share much music and culture with their Pakistani counterparts.



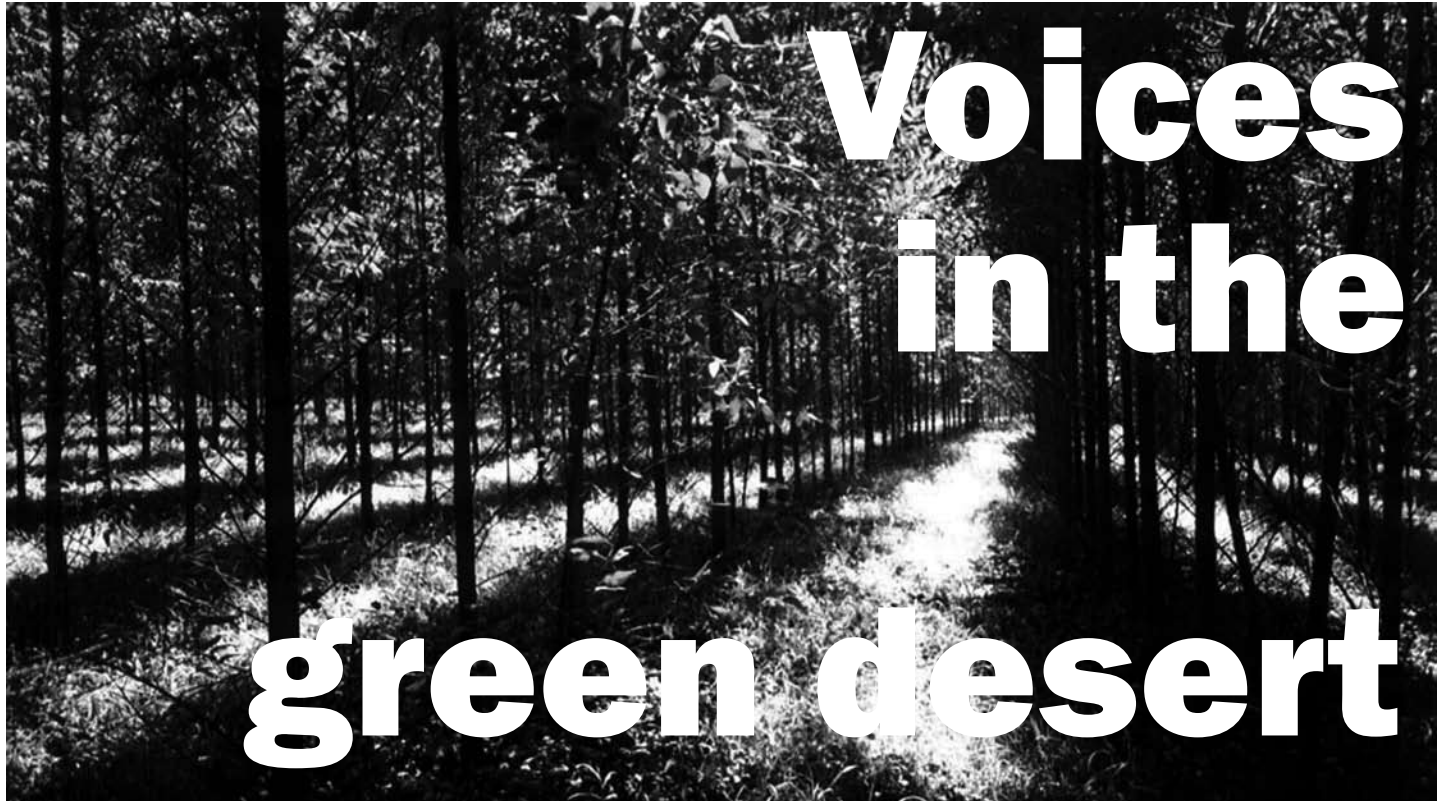
The traditional ice lolly – kulfi, common to the Indian sub-continent – slowly melts away as food chains and brand names take over.



Is there space in the world for the small seller? A vendor trying to sell pappads – flatbread snacks – might soon get outlawed with food laws leaving little room for the informal food economy to go on.



In March 2006 women entered the tree nursery at the Aracruz Celulosa pulp mill in Rio Grande do Sul, Brazil, and destroyed a million eucalyptus seedlings and its laboratory. This was a protest against the serious social and environmental impact caused by the expansion of the “green desert” – the vast eucalyptus monocultures that are spreading across southern Brazil.



SILVIA RIBEIRO

On 8 March 2006, some 2,000 women from Via Campesina entered the tree nursery at the Aracruz Celulosa pulp mill in Rio Grande do Sul, Brazil, and destroyed, according to the company, a million eucalyptus seedlings and its laboratory. According to Via Campesina, this International Women’s Day action was a protest against the serious social and environmental impact caused by the expansion of the “green desert,” as they call the vast expanses of eucalyptus monocultures that are expanding over several parts of the planet and that now invade southern Brazil.

The local press and some of the national newspapers launched a vicious campaign accusing the women of vandalism and immorality, of opposing progress and of promoting foreign intervention (due to the presumed presence of overseas members of the international Via Campesina peasants’ movement). One reporter from the huge media conglomerate ‘O Globo’ went

so far as to create his own (false) “news”, calling the police to a Via Campesina press conference to turn in some of the alleged participants in the actions, whom he had actually just met moments before at the press conference. The State police, even so, did a brutal sweep of the offices of the Movimento de Mulheres Campesinas, the Brazilian peasant women’s movement.

The media that relentlessly attacked the Via Campesina’s action do not notice the vandalism of Aracruz, the world’s biggest producer of bleached eucalyptus pulp, with its own history of devastation and destruction of land, biodiversity and watersheds in the north of Brazil. Nor that the company provoked the displacement of thousands of inhabitants of black quilombos (runaway rebellious slave communities) and indigenous communities. Nor did the media mention that Aracruz bought its plantation land under the dictatorship from land grabbers who had taken over the ancestral lands of Tupinikim and Guarany



indigenous peoples, or that the huge profits Aracruz makes from destroying the environment, peasants and communities are subsidised by publicly backed loans from the World Bank and Brazil's own National Economic and Social Development Bank (BNDES).


Much less did the media recall that, only weeks before the women acted in Rio Grande do Sul, in January 2006, the same Aracruz corporation, with the support of the Federal Police sent in by the Lula government, had bulldozed Tupinikim and Guarani indigenous villages in the state of Espírito Santo, leaving many victims injured and a hundred families homeless, apparently just to give a 'practical' response to the suit filed against it by those local indigenous communities.

Plantations of eucalyptus and other fast-growing trees are just another World Bank policy in developing countries, promoted and subsidised with public funds to benefit a few global transnational corporations. These huge monocultures rapidly degrade the soil, water and biodiversity, as the eucalyptus grows to commercial cutting size in approximately seven years. Generally a plantation can be replanted and cut three times before the soil is exhausted to the point of becoming a useless, barren desert of stumps. The plantations demand therefore more and more land and increasing amounts of chemical fertilisers and pesticides to fight the pests that thrive on uniform ecosystems. Eucalyptus trees also generate toxic substances to repel other species, a "natural" way of defending their own growth.

Quilombo and indigenous communities in Espírito Santo report that they have been driven not only off the plantations but also off neighbouring lands as well. Rivers and creeks dry up, the water and soil are polluted, native food plants and animals are exterminated and they cannot grow their own crops because of chemicals in the environment.

As the World Rainforest Movement has said, an industrial plantation is like an industrial army of trees that wipe out life all around them.

The "logical" extensions of such plantations are pulp mills, which in turn bring new and dangerous environmental impacts. Neither process creates many jobs, and the work is high-risk, heavy, unhealthy and poorly paid. The major market for this process is industrial paper production. This is not, however, paper for cultural or educational purposes, but rather for advertising and packaging in the huge supermarket chains that have replaced local markets. Only 15% of the paper produced in such pulp mills and plantations is used directly by final consumers. All in all, an average US resident consumes 27 times more paper – directly or indirectly – than does a consumer in southern countries.

So much useless paper, violence and media noise intend to hide the real and proven acts of vandalism. Meanwhile, 37 women and men from Via Campesina are being prosecuted for the action against the Aracruz tree nursery, and may be imprisoned for breaking the silence of the green desert. Many social movements are organising a petition in solidarity with the defendants, which we reproduce here. 

Going further

You can sign on in support of the Via Campesina women at

<http://www.sof.org.br/solidariedadeCampesina/form.php>

or send a protest email to

- Mr. Germano Rigoto (Governor of Rio Grande do Sul): at agenda@gg.rs.gov.br

with copies to

- Claudia Avila (Attorney of Via Campesina Women): claudiamavila@via-rs.net
- Daniel Cassol (Journalist from the Solidarity Committee in Rio Grande do Sul- Brazil): dbcassol@yahoo.com.br
- Women's World March (which is Coordinating the National Campaign): sof@sof.org.br



Silvia Ribeiro is a Mexico-based researcher and programme manager for ETC group (<http://www.etcgroup.org>), and a member of GRAIN's board. She has a background as a publisher, journalist and environmental campaigner in Uruguay, Brazil and Sweden. Silvia has extensive experience in social and environmental advocacy. As a civil society representative, she has attended and followed the negotiations of several United Nations environmental treaties. She has been invited to speak at many events around the world on biopiracy, transgenics, intellectual property, corporate control, and indigenous/farmers' rights.

Silvia has produced a number of articles related to biodiversity, genetic resources, intellectual property and biopiracy, among other issues. Silvia can be contacted at silvia@etcgroup.org.

THE SEEDLINGS BROKE THE SILENCE

(Manifesto in support of Via Campesina women)

There was a sepulchral silence

over the eighteen thousand hectares stolen
from the tupi-guarani indigenous people
over ten thousand quilombola families
evicted from their territories
over millions of litres of herbicides
poured in the plantations

there was a promiscuous silence

over the chlorine used
for whitening paper
producing carcinogenic toxins which affect
plants, animals and people.

over the disappearance
of more than four hundred bird species
and forty mammals
in the north of Espírito Santo

There was an insurmountable silence

about the nature of a plant
that consumes thirty litres of water/day
and does not give flowers or seeds
about a plantation that produced billions
and more billions of dollars
for just a half a dozen gentlemen

There was a thick silence

over thousands of hectares accumulated
in Espírito Santo, Minas, Bahia
and Rio Grande do Sul

There was an accomplice silence

over the destruction of the Atlantic Forest and the
pampas
due to the homogeneous cultivation of a single tree:
eucalyptus

There was a bought silence

over the voluptuousness for profit
Yes, there was a global silence
over Swedish capital
over Norwegian companies
over large national stalls

Finally,
there was an immense green desert
in concert with silence

II

Suddenly,
thousands of women got together
and destroyed seedlings
the oppression and lie

The seedlings shouted
all of a sudden
and no less than suddenly
the smile of bourgeoisies became amazement
became a grimace, disorientation

III

The order raised incredulous
crying out progress and science
imprecating in vulgar terms
obscenity and bad language

Newspapers, radios, magazines,
the Internet and TV,
and advertisers
well-spoken businessmen
crawling advisers
clever technicians
reluctant governments
the yelling right
and all the centre extremists
in chorus, echo,
assemblies and declarations
to defend capital:

“They cannot break the silence!”
And cried for beheading!

IV

Suddenly
no less than suddenly
thousands of women
destroyed the silence

On that day
on the so-called Aracruz land
the women from Via Campesina
were our gesture
were our voice.



Sprouting Up...

Seed battles intensify in Europe

Activists, farmers' groups, political parties and others are edging up the fight for more sustainable food systems in Europe based on GM-free and farmer-bred seeds.

On 8 February 2006, 26 European groups went to Brussels for a day to meet with the Green Group in the European Parliament (Green/EFA Alliance). The meeting focused on political strategy to support farmers' seeds systems in Europe. On the table were two major battle lines: the movement to legalise farmers' seeds and the movement to ban GMOs from European farming.

Liberating farmers' seeds

On farmers' seeds, the long-standing problem in Europe, since the 1970s, is that the EU's seed marketing regulations require that plant varieties are registered according to industrial criteria (genetic stability and uniformity) in order to be sold. This means that traditional materials and farmers' seeds cannot be marketed. Worse, the rules were updated in the 1990s to further stipulate that "marketing" includes non-monetary seed exchange. Some countries like France implement this ban on farmers' seeds more fanatically than others, but the legal reality is there: farmers, gardeners, hobbyists, breeders, associations and so on cannot exchange or sell any seed that is not on the official EU Common Catalogue – what GRAIN described as "agricultural apartheid" in an editorial last year.

In 1998, however, after years of political work from the Greens, the EU did adopt a directive opening up the possibility of legalising farmers seeds through a separate list or system for what the member states call "conservation varieties". The directive (98/95/EC) essentially says that the EU agrees to look into opening up a separate set of rules for the commercialisation of traditional varieties, an activity that is currently against the law.

The groups in Brussels took stock of the situation. The common assessment is that the Directive is not being implemented because of political opposition within the member states, based on strong pressure from the seed industry associations. This is despite concrete proposals from various farmers' seed networks on how best the Directive could be enforced to support the needs and objectives of the sustainable agriculture movement in Europe. The stakes are also growing higher: the EU is expanding, with new member states still rich in genetic diversity coming in; intellectual property rules that prevent farmers from saving seeds in Europe are growing harsher (e.g. France has just ratified UPOV 1991); and the pressure to allow GM seeds keeps growing (e.g. the WTO dispute panel has found the EU guilty of illegally banning GM in European agriculture).

The groups agreed to demand collectively that Directive 98/95/

EC on conservation varieties

- be made obligatory in all member states;
- recognise the existence of collective rights over traditional seeds as a buffer against privatisation and monopoly rights;
- follow the technical proposals drawn up by various seed savers' networks in Europe.

In essence, the Greens/EFA were requested to carry this platform through at the political level within the European Parliament, while the civil society groups will collaborate even more strongly on this issue through their movements and networks at the grassroots level. Of course, the ongoing legal "black-out" on the right of farmers to exchange and sell non-industrial seeds doesn't stop them from doing so. But the political opening that the EU agreed to make back in 1998 has to be pushed into reality.

The GM struggle intensifies

Seed diversity is dwindling under not only the effects of the Common Catalogue, the plant breeders' rights system, patenting and industrialisation, but also the potential onslaught of GM contamination from genetically engineered seeds, which could be the last straw. The fight against GM is the flip side of the fight for farmers' seeds and more localised, diversified and region-based agriculture and food systems in Europe.

While the EU upheld a sort of de facto moratorium against the planting and importation of GM seeds in Europe until last year, this has all been very fragile. There is no EU-wide ban on GM in Europe. Member states are free to accept GM seeds – if they are approved by the EU – for commercialisation and planting, as Spain has done for many years. They are also free to legislate their own "co-existence" policies to accommodate conventional, GM and organic farming. They are required to label GM seeds and foods, although the debate on thresholds (what % composition triggers the need for a label) has made many people unhappy with these laws.

From the side of the social movements, the political struggle has involved different strategies: focused on direct action to stop GM field trials and plantings, cautious support (by some) for strong co-existence laws at the local and national levels, and active engagement (by some) in the development and autonomous declaration of GM-free regions, etc. In the early months of this year, there were several meetings – the major ones being in Berlin, Brussels and Vienna – that allowed groups to take stock of the political strategy movement to block GM from penetrating Europe.





Global 2000

What emerges more and more is that social groups are

- against co-existence altogether as it makes contamination inevitable
- dissatisfied with the movement for GM-free regions in Europe, as in some cases or regions it has resulted in very top-down initiatives and it is not necessarily building a GM-free Europe
- finding that the lack of democratic space in Europe to choose food and farming systems is not improving

There have been some encouraging moves lately. The EU has responded to the WTO dispute panel report essentially saying that it will ignore it. And Poland has recently amended its seed law to ban the importation and planting of GM seeds altogether.

But the need for a strong European political campaign to assert a GM-free Europe at the European level is felt more greatly than ever. Groups are now considering an EU referendum to call for a ban on GM as a matter of self-determination.



GMO free Europe: Detail from a poster produced by Friends of the Earth showing areas that have defined themselves as GMO-free – one tactic to fight the establishment of coexistence legislation.

Going further

- Second European GMO-free Regions Conference, Berlin, 14–15 January 2006. <http://www.gmo-free-regions.org>
- BEDE, RSP and Crocevia, “Strategic meeting on seeds, food and GMO-free regions”, 8 February 2006, European Parliament, Brussels, 5 pages, in English, French and Spanish. <http://www.bede-assoc.org>
- Friends of the Earth, “EU ‘Coexistence’ conference: Freedom of choice for whom? Friends of the Earth condemns Commission contamination policy”, press release, 3 April 2006. http://www.gmo-free-regions.org/Downloads/FOE_PR_Vienna_030406.pdf
- “Vienna Declaration for a GMO-free Europe”, issued by the March for a GMO-Free Europe, Vienna, 5 April 2006. <http://www.gmo-free-regions.org/fileadmin/files/ViennaDeclaration050406.pdf>
- Greenpeace, “Polish GE seed ban big step towards sustainable agriculture”, 18 May 2006. <http://www.greenpeace.org/international/press/releases/polish-ge-seed-ban>
- Greens/European Free Alliance biodiversity campaign: <http://www.eat-better.org>



Until very recently, 'fairly traded' goods were only available at shops run by development charities like Oxfam, and church bazaars. The range was small, and awareness of the fair trade concept limited. Yet recently fair trade – or Fairtrade, as it has branded itself – has become big business. You can choose Fairtrade coffee in mainstream outlets like Starbucks across the global North, and in the UK, more than 1,000 products are now certified as Fairtrade with awareness of what the mark means now at 50% of the population according to a recent poll. On an international level, the industry estimates it benefits five million producers worldwide. Yet with multinationals moving to cash in, and supermarkets approaching Fairtrade as just another niche market, can it avoid being co-opted by the market system it was set up to challenge?

Fairtrade and global justice

JAMES O'NIONS

The idea of fair trade has been around since at least the 1950s. Originally called 'alternative trade', and dealing not in foodstuffs but in crafts, it was pioneered by Mennonites in North America and Oxfam in Britain. The first certification label, Max Havelaar, was launched in the Netherlands in 1988; and, since 1997, the Fairtrade Labelling Organisations International has sought to establish common guarantees of 'fairness'.

For instance, in the case of products from small farmers, importers must agree to trade directly with producers' co-operatives, cutting out middlemen. They must also demonstrate a long-term commitment to the producers and guarantee a minimum price no matter the fluctuations of the market. This price must allow the producers to cover their costs and meet their daily needs. The producers' co-operatives themselves must also demonstrate that they are democratically managed

and their agriculture is sustainable. Finally a Premium is paid on the produce which goes towards local projects such as a school. Only if all these conditions are satisfied is a product permitted to carry the Fairtrade mark.

The aftermath of the December 1999 Seattle protests against the WTO saw Fairtrade coffee consumption skyrocket in the US. Yet this was not the 'hidden hand of the market' at work, with demand for Fairtrade products leading smoothly to an increased supply. In fact, it was mainly down to the direct intervention of activists, specifically San Francisco-based Global Exchange, which launched a campaign to persuade Starbucks to offer Fairtrade coffee at all of its 2,300 US outlets.

With peaceful protests for Fairtrade outside its stores to add to the public relations catastrophe it had suffered as the bogeyman of the anti-capitalist movement, Starbucks soon capitulated. Since then, big food corporations have started to see



Fairtrade Nestlé ??!

In October 2005, Nestlé launched its first Fairtrade certified product, an instant coffee called 'Nescafé Partners Blend'. Many activists objected to any Nestlé product being given Fairtrade certification in the first place. Here are some reasons why.

- Since 1977, Nestlé has been subject to a worldwide boycott of all its products because it insists on promoting its baby milk formula as a better alternative to breastfeeding in countries without access to safe drinking water. According to the World Health Organisation, 1.5 million infants continue to die from diarrhoea every year as a result of consuming unclean water. Many of the boycott's supporters in the UK, which include development charities, unions and the Womens' Institute, see the Partners Blend as a cynical ploy to overcome the negative publicity Nestlé has sustained over the last 29 years.
- Nestlé, which has a turnover of £38 billion, also produced around 8,500 other products in addition to Partners Blend, none of which would qualify for Fairtrade certification. In fact, the destruction of indigenous industries is a familiar tale once Nestlé enters the scene. In Sri Lanka for instance, Nestlé undercut domestic producers initially with imported processed milk, only to hike up prices once they'd put local farmers out of business.
- According to a report by Oxfam, by 2002 the price of coffee had reached a 30-year low, falling by 50% in three years and resulting in desperate poverty for the world's 25 million coffee producers. Yet Nestlé, which along with Kraft, Procter & Gamble, and Sara Lee dominates the world coffee industry, makes a 26% profit margin on its instant coffees. By insisting on the lowest prices they can get, the coffee giants often force poor farmers to sell their beans below the cost of production. For Nestlé to market a premium priced Fairtrade coffee as a solution to a problem they are responsible for is ironic to say the least.
- In Colombia in 2003 Nestlé sacked its unionised workers and employed new staff on much lower wages. Union leaders publicly denounced by Nestlé have subsequently been threatened and even murdered by right-wing paramilitaries. In the Philippines its behaviour is equally abusive of workers' rights, and strike leader Diosdado Fortuna was suspiciously murdered there in September last year. Colombian Food Workers' Union Sintrainal have described Nestlé's Fairtrade certification as a joke.
- Whilst the Fairtrade Foundation in the UK was enthusiastic about Nestlé's new product, other members of the Fairtrade Labelling Organisations International were less pleased. Transfair in Italy said that whilst it was happy to work with multinationals, it is opposed to certifying a single product with no reference to a company's wider behaviour.

limited forays into Fairtrade as a useful PR move, similar to what environmentalists call "greenwash". McDonalds recently announced it would serve Fairtrade coffee in 650 of its US east coast stores; and Nestlé, which for years has derided Fairtrade for violating "free-trade principles", launched its own "Partners' Blend" last October.

The Nestlé decision caused an understandable furore, with critics arguing that Nestlé's application should have been turned down to prevent the false impression that the widely boycotted company was now an ethical choice. As one of the world's largest coffee retailers, Nestlé has been directly responsible for paying the kind of low prices that make Fairtrade such a necessity. The World Development Movement, which helped set up the Fairtrade Foundation, was more than a little concerned, saying: "If Nestlé really believes in Fairtrade coffee, it will alter its business practices and lobbying strategies and radically overhaul its business to ensure that all coffee farmers get a fair return for their efforts. Until then Nestlé will remain part of the problem, not the solution."

Yet for Harriet Lamb, of the Fairtrade Foundation, the decision is a "turning point". "Here is a major multinational listening to people and giving them what they want – a Fairtrade product," she says. Justifying the Nestlé decision, the Foundation refers to the recent slump in prices on the world coffee market, which has led to undoubted hardship, but suggests that "the market" is a natural phenomenon over which major multinationals such as Nestlé have no power.

For many of the originators of Fairtrade, the aim was not just to create a successful niche market but to lay the basis for an alternative system of trade altogether. While some of these "alternative trading organisations" are little different from conventional companies, others, such as Equal Exchange in the US, reflect this more radical aspiration in their own structures by being workers' co-operatives.

Yet all of them at least apply fair trade principles across all their activities, unlike the multinationals who are now entering the market. That's why the International Fair Trade Association has launched





Marks and Spencers Fairtrade label for a t-shirt: Good for the cotton growers, though no guarantee for those who make the t-shirt. Fairtrade have said that they are “currently exploring whether and how we can develop a standard which would extend the benefits of Fairtrade further along the supply chain to those involved in cotton garment and textile manufacturing. However, this work is complex and time-consuming and in the meantime there is an urgent need to tackle the injustices affecting cotton farmers”. http://www.fairtrade.org.uk/downloads/pdf/cotton_qanda.pdf

Cynical marketing exercise? A coffee that helps a few hundred farmers, but ignores the other 3 million (or more) farmers that deal with Nestlé – with 26% of the price from a jar of non-Fairtrade Nescafé going to Nestlé in profits, farmers are often unable to meet the costs of production. This is the only Fairtrade product from Nestlé from a total of around 8,500 products.



a ‘Fair Trade Organisation’ label that certifies the company rather than the product, and is therefore a much more reliable indicator for those seeking to buy ethically. These organisations face difficult decisions when it comes to distributing their products, as supermarkets become increasingly hard to avoid. Tesco, the leading supermarket in the UK, now takes one pound in every eight spent by UK consumers and other chains are doing everything they can to catch up; pushing down prices by squeezing producers and buying up local competition in the grocery market. Even the most political of fair trade organisations have turned to supermarkets to maximise the good that selling their product is doing. Yet by courting the supermarkets, they are strengthening the very companies that are undermining the bargaining power of producers.

This is not the only dilemma that the Fairtrade label throws up. Traditionally Fairtrade certification of products such as coffee have required democratic producers’ co-operatives which bring together small farms in a geographical area and decide how to spend the Fairtrade Premium. More recently, traditional plantations have been allowed to qualify for certification if they meet minimum standards of pay and conditions. And while trade unions must be allowed under these Fairtrade rules, they are not required. Some do have strong unions, and the Fairtrade Foundation highlights the instance of two Kenyan rose farms, where certification was followed by recognition of the Kenya Plantation and Agricultural Workers’ Union. On the other hand, the central American banana workers’ federation COLSIBA has levelled accusations of the “systematic violation of workers’ and union rights”

by plantation owners who benefit from Fairtrade. While Northern trade unions have been generally supportive of Fairtrade, they have also pointed out that trade union organisation can be a better guarantee of workers’ rights.

Nevertheless, when plans emerged last year to certify a plantation supplying Chiquita Brands International, one of Latin America’s big banana companies, they were supported by COLSIBA’s Honduran affiliate, largely because Chiquita is the only fruit multinational operating in the area to allow trade union organisation on even some of its farms. In the end the plantation in question was destroyed in Hurricane Wilma in late 2005 and Chiquita closed it down, but the question of certifying the plantations of multinationals will surely come up again. Whilst local trade unions considered it helpful to their struggles in this case, it may not be so helpful to the overall direction of Fairtrade, or to other producers.

Chiquita Brands is the successor company to the notorious United Fruit International which is heavily associated with colonialism generally and CIA operations such as that in Guatemala in the 1950s in particular. Despite its limited engagement with trade unions, two of its plantations in Costa Rica were the subject of Urgent Actions by solidarity organisations in February 2006 because of harassment and sackings of trade union organisers. All this is a far cry from the family farms and producer co-operatives in places like the Windward Islands which have been the mainstay of the Fairtrade banana supply. If Fairtrade certification is to be awarded to a few plantations where multinationals have cleaned up their act



(regardless of what they're doing elsewhere), thus allowing them to enter the Fairtrade market and potentially undercut small producers, then the certification itself starts to become meaningless.

Meanwhile, UK high-street chain Marks and Spencer has just launched lines of Fairtrade cotton socks and t-shirts. What most consumers probably don't realise is that it is only the cotton itself that has been certified, with no guarantees about conditions where the clothes were manufactured. These kinds of problems only serve to highlight the extent to which Fairtrade is merely fiddling at the edges of an international system that perpetuates huge inequalities of power and wealth.

More radical alternatives do exist. Coffee grown in the Zapatistas' "autonomous zones" in Chiapas, Mexico, can now be bought from activists involved in the social centre movement in Britain, while the Working World Market is offering the products of Argentina's worker-run factories to north American consumers. These initiatives stand in a tradition that saw activists in the 1980s sell Nicaraguan coffee in solidarity with the Sandinista revolution. Zaytoun, which imports Palestinian olive oil to Britain to help break the economic stranglehold of the Israeli occupation, could also be seen as part of such 'solidarity fair trade'.

Trade as solidarity is an attractive concept, but its usefulness may be limited to quite specific political situations. The Movimento Sem Terra (MST) is Latin America's largest social movement, organising landless rural workers and urban slum dwellers to occupy and cultivate unused privately owned land. Its innovative and highly effective tactics (it has settled 580,000 families) have won admirers across the world and it would surely have a ready-made market for a very political form of fair trade products. Yet its concern has always been with feeding Brazil's population, and the MST specifically rejects the export-led agribusiness model, encouraging mixed cropping rather than the monoculture required by international markets. As MST activist Marcelo João Alvares says "For the MST, feeding Brazilians is our priority, so certification has not even been discussed, not least because we see quality food not as a niche market, but as something we should provide as part of a wider strategy of food sovereignty. This requires policies that work to guarantee people freedom to produce their own quality food with respect to their own culture."

For the MST and other organisations in the global peasants' coalition, Via Campesina, this concept

of 'food sovereignty' is much more relevant than Fairtrade. The MST have recently established an Agro-Ecology school in São Paulo state and are taking sustainable agriculture very seriously. Although they aren't opposed to exports *per se*, the Food Sovereignty model fits neatly with a concern that environmentalists have with Fairtrade – that flying or even shipping food around the world instead of growing it locally is a huge contributor to climate change. Of course, the most popular Fairtrade products, including coffee, tea, cacao and bananas, can't be grown in the North anyway because of the climate, but as the number of Fairtrade products expands this issue will be of increasing concern.

The current popularity of Fairtrade is a sign of a growing understanding amongst the populations of rich countries of the fundamental unfairness of the global trade system. A relatively affluent Northern middle class is now increasingly willing to spend a little more to bring their consumption into line with their principles – organic food has grown even faster than Fairtrade in recent years. Yet Fairtrade now risks being reduced to an ethical branding exercise for multinationals – or, at best, a set of niche products that helps a small minority of producers but fails to affect either the structure of the market as a whole, or in some cases the behaviour of that multinational elsewhere.

In a sense, the fact that Fairtrade, which works within a liberalised global market, is being so widely advocated in the NGO sector, and supported from inside the UK's Department for International Development, for instance, is a sign of just how far neoliberalism has become the orthodoxy. Yet if Fairtrade is embedded in a wider critique of the market which demands that governments intervene against corporate power, and is part of a movement of real solidarity with the global South, it still holds the potential to help us move towards a fundamentally different global economy. While we might continue to buy Fairtrade products where we can, it is not as consumers that we can determine the future direction of Fairtrade, but as activists building opposition to neoliberalism and corporate control.



James O'Nions is an activist based in London who works on solidarity with social movements in the global South and on exposing multinational corporations. He is on the Management Council of UK radical anti-poverty charity War on Want (though writes here in a personal capacity).



Joseph Keve



I am a farmer by choice, not by birth. Departing from the family business, on completion of my master's degree I taught at the University of Mumbai for a while before moving

on to training bank staff and again into urban and rural development work. Finally I found what my soul was looking for: sustainable agriculture and being with nature. During the last ten years, I have focused my attention on the livelihood systems of the poor and one of its components on which I have done a lot of learning from the people and experimenting is the rearing of traditional fowls. I divide my time between working as a journalist when I am in Mumbai and looking after the farm which is located in a tribal village in Palghar Taluka of Thane district in Maharashtra.

Joseph Keve

A Farida Akhtar

The bird flu outbreak - what in your opinion actually happened?

B Benny Haerlin

What happened, how and why remains a mystery. In all probability the flu had its origin in either the feed, the weight-gain hormones or the medicines that come from outside and are used by the poultry factory. Closed, unhygienic poultry conditions and improper handling and disposal of poultry wastes like stale food, dead birds and bird excreta make these poultry factories stink. It is probably a combination of these factors that led to this outbreak and its spread.

C Carlos Correa

D David Quist

In your opinion, how did the bird flu outbreak begin in India?

E Johnson Ekpere

F Francisca Rodriguez

Commercial poultry production is seen as one more easy way to [make] quick money and huge profits. These poultry are treated as machines for eggs and meat. These are no rules or regulations in place, there are no prescribed standards for setting up and maintaining poultry farms, and there is no system for inspection and corrections. Thus it was a tragedy long waiting to happen. As soon as the reports of the flu appeared in the media, Venkateshwara Hatcheries, which claims to own the largest network of poultry factories, denied the outbreak even though information was available that thousands of birds were found dead and buried in their backyards. Neither these factory farms nor the government came out with any information about the causes of the flu or what they did to contain it.

G German Velez

H Hope Shand

I Ibrahim Ouedraogo

J Jack Kloppenburg

K Joseph Keve

How did the government and industry respond?

L Laxmanma

Both the government and the industry wanted to protect their own self-interests. The government, after initial efforts to heap the blame on the industry, ordered a clean-up operation quoting WHO stipulations, paid paltry amount as compensation to farms and farmers whose birds were culled and then went silent as though the issue was settled for ever. There has been no effort to enquire into the

real causes and deal with the culprits or to educate the public about the causes and how to be better prepared for the future. The government lost a wonderful opportunity to:

- 1) Insist on stricter standards for the poultry industry
- 2) Institute health, hygiene and environmental standards for poultry farms as well as transport-processing-sales outlets
- 3) Set up a system for regular monitoring of all these points
- 4) Examine the long term sustainability of various systems of poultry-farming.

The industry's focus was on safeguarding the present system of doing whatever they please and to protect the interests of the supply-line down to the customers so that they could continue with their lucrative business. Even though the industry had the most information, they shared the least and hid the information from both the government and the public. The National Egg Coordination Committee (NECC) placed several advertisements in the television and print medium only to exhort people to eat more eggs and chicken. They went to the extent of blackmailing the government with exaggerated claims of losses to the industry, the



food chain and to the country's economy in general.

What have been the consequences for small-scale farmers?

We live in times when there is growing disinterest in anything rural, especially agriculture and rural livelihoods. Even among the farmers, most are in it as they do not see any alternatives. There is a general disconnection with the past, with traditional knowledge, skill systems and above all with the dignity of labour. For thousands of years, the traditional birds and animals were part of the family, part of the family economy, a safety mechanism in case of emergencies, especially for the women of the family. In today's context chickens are one more source of quick income; the bigger and quicker the better. Advice of government and poultry 'experts' on the radio, television and print media further add to this fascination for quick money through new breeds which convert the bird into an egg and meat machine. Loss of traditional wisdom and fascination for the advertised breeds, feeds and medicines lead to total dependency on the outside world and the advice of experts who have no connection with and no commitment to rural realities. When the media came out with reports of the flu, there was panic among the people. When the government came out to cull their birds, they were literally lost for words. How could they resist? Many hid their birds, others took the compensation. The story ended there. There was no popular discussion and sharing in the village as was the tradition for centuries. Hardly anyone knows what happened, how, and how it can be prevented. Even where NGOs and other organisations are involved, their own staff are disconnected from the day-to-day struggles of the farmers and under the guidance of so called experts, they too are promoting the new breeds, feeds and vaccinations. Local farmers have lost even such basic knowledge as how to deal with inbreeding in local birds and animals. The result is constant impoverishment of the traditional breeds and their productivity.

What is your own experience in managing poultry disease and local knowledge?

Like life itself, agriculture and even poultry management has to be viewed and dealt with holistically. Like human beings, birds need a safe and secure environment, with adequate ventilation, good quality food including the various herbs and grasses, and plenty of clean water. Holistic food that contains proteins, vitamins, minerals and immunity-building home remedies like turmeric, onions, garlic and tamarind that enable the birds to resist most diseases. Working with and learning from farmers around India as well as Nepal, Pakistan, Bangladesh, Sri Lanka, Thailand, Philippines and Vietnam, I manage to deal with all the diseases through ordinary home remedies. If people continue to envisage poultry as mere egg and meat factories, there is no future for the industry. Adequate physical exercise is a must for any living creature. Chickens are no exception. The poultry factory farms breed unhealthy birds which in turn produce unhealthy eggs and meat.

What about local poultry diversity?

There are still about two dozen indigenous varieties of fowl in India. Varieties like the long-legged Aseel, which is generally used for cockfights, and the Kadaknath which is famous for its taste, intrinsic power to resist diseases and for its medicinal properties would compare well with the best varieties from anywhere in the world. The Kadaknath with black feathers is the most delicious of all fowl varieties. They are almost extinct today. It took me four years to locate and secure a couple of pure Kadaknaths and I have over a dozen adult birds. Fowl diversity is in constant decline. There has been so much of unplanned mixed breeding that it is already difficult to locate pure blood lines.

What is special about your farm?

After being involved with several NGOs, donor agencies and development projects for over two decades, I wanted to connect with rural reality again: the

real situation of the poor, their livelihood, and their struggle. So I bought a small piece of arid and stony land in a village called Khadkoli (about 110 kilometres from Mumbai) which in the 1990s was labelled as the most dangerous village in the district due to all the crimes and murders that took place there. I did all the ploughing, planting and nurturing of small birds and animals. They were years of lots of experiences, lessons, successes, and failures. Today it is a fully integrated farm with over 35 species of trees (fruit, fodder, timber, fuel, medicine, etc...), quite a few varieties of chickens, ducks, guinea fowls, cows, dogs, cats, turtles, snakes, frogs etc. For farmers from nearly two dozen villages around, it is a model of what is possible with low resources and lot of labour, where they can come to learn about sustainable agriculture, backyard poultry, animal husbandry and above all, planning for self-sufficiency. Every new day brings us new lessons, for ourselves and those around.

What threats and opportunities do you see today?

The fascination for a laid-back easy life is killing people's creativity, possibilities and the very idea of a sustainable future for mankind. Ideas like self-sufficiency, being connected with nature and creatures and evolving with one's environment have no followers today. The search for pleasures, easy-profits and self-glorification are leading people to unhappiness, sickness, despair, diseases and death. We need to recapture the meaning of a common sustainable future for all of humanity. For thousands of years, farming communities looked after and nurtured their back-yard poultry which in turn enabled them to survive through emergencies and difficult days. The bird flu and all the damage it did was a great opportunity to initiate a popular discourse on sustainable methods of poultry-farming, its connection with nature, livelihood, food, nutrition, health and well-being. Unfortunately we have lost that opportunity. We can wait for another calamity to strike or can proactively analyse our goals and directions.



Backyard or free-range poultry are not fuelling the current wave of bird flu outbreaks stalking large parts of the world. The deadly H5N1 strain of bird flu is essentially a problem of industrial poultry practices. Its epicentre is the factory farms of China and Southeast Asia and – while wild birds can carry the disease, at least for short distances – its main vector is the transnational poultry industry, which sends the products and waste of its farms around the world through a multitude of channels.

Yet small poultry farmers and the poultry biodiversity and local food security that they sustain are suffering badly from the fall-out. To make matters worse, governments and international agencies, following mistaken assumptions about how the disease spreads and amplifies, are pursuing measures to force poultry indoors and further industrialise the poultry sector. In practice, this means the end of the small-scale poultry farming that provides food and livelihoods to hundreds of millions of families across the world.

Bird flu crisis

Small farms

are the solution

not the problem



24

GRAIN

1 - Reuters, *Egypt advises people to get rid of dead poultry*, 18 February 2006

2 - Personal communication from Karam Saber, Land Centre for Human Rights, Cairo, 23 March 2006

3 - Khattab A, *A fowl business*, *Egypt Today*, March 2006; <http://etflu.notlong.com>; Leila R, *Poultry industry collapses*, *Al-Ahram Weekly*, 23 February 2006, <http://ahramflu.notlong.com>; Leila R, *Here to stay?*, *Al-Ahram Weekly*, 6 April 2006, <http://ahramfl1.notlong.com>

On 17 February 2006, the Egyptian government confirmed that bird flu had broken out in the nation's poultry. With the international spotlight beaming upon it, the government did not want to look unprepared or, worse, at fault. So it immediately reacted by blaming migratory birds and traditional poultry practices. "The world is moving towards big farms because they can be controlled under veterinarian supervision... The time has come to get rid of the idea of breeding chickens on the roofs of houses" said Egypt's Prime Minister Ahmed Nazif.¹

Then the Egyptian government swung into action with a military-style cleansing operation. It ordered the culling of all backyard and rooftop poultry and banned live bird markets, where 80% of the nation's poultry is sold. Farmers were promised compensation and vendors were promised refrigerators, so they could switch to selling frozen chicken, but neither materialised.² Meanwhile, the government banned the transport of live poultry and ordered that all slaughtering must take place in official slaughterhouses, leaving farmers not located near the few official slaughterhouses with no way to slaughter their chickens.³ In less than a month, the Egyptian government effectively



Highly pathogenic outbreaks of avian influenza have occurred regularly on factory farms in recent decades. Furthermore, the proportion of factory farms infected is much higher than for backyard farms.

destroyed its multi-billion dollar poultry industry, the livelihoods of millions of Egyptians and its ancient poultry practices and biodiversity.

The response from the Egyptian government was not only insensitive to the importance of poultry for its people: it was misinformed. Yes, some backyard and rooftop flocks have been infected, but far more birds are dying from bird flu in factory farms. Plus, extensive testing of live migratory birds since 2004 has not produced any cases of bird flu.⁴ Although official veterinarian reports single out backyard flocks, the website of the Egyptian government lists initial outbreaks at three factory farms where nearly 70,000 birds were culled, followed by further outbreaks on large factory farms in the regions of Ashmoun, Al-Marg, Giza Badrashaan and Damietta, as well as the culling of 77,000 birds at two farms near the desert city of Belbeis and 30,000 birds in nearby New Salhia, where one of Egypt's largest poultry companies has its farms.⁵ The industry estimates that 50% of the commercial farms in the country have been infected and that over 25 million chickens have been slaughtered.⁶

The situation in Egypt is not unique. In Turkey, for instance, despite general agreement that the poultry industry had spread bird flu within the country, Health Minister Recep Akdag assured his people that: "the definite and permanent solution would be to slaughter [Turkey's 10 million backyard poultry] and halt such type of breeding for good".⁷

The response to bird flu in Thailand has also focused on the small-scale sector, where surveillance data from January 2004 showed that over 1,000 backyard poultry flocks were infected – 83% of the total number of reported cases of infection. But the same study also identified outbreaks in over 200 broiler and layer farms and concluded that the proportion of infected commercial farms was five times higher than for backyard farms.⁸

It was much more difficult to construct an argument against backyard farms in India and Nigeria where bird flu outbreaks are known to have begun on a few large-scale commercial farms and to have spread from there. India's largest poultry company was slapped with a notice under the Bombay Police Act for "causing public nuisance and threat to health" for its role in the outbreak.⁹ Meanwhile, in Indonesia, the 11 biggest poultry farms have used certain laws to block inspections of their operations. "As long as they followed **our** procedures, we always welcome them" retorted Sudirto Lim, spokesperson for Charoen Pokphand (emphasis added).¹⁰

Bird flu outbreaks on factory farms are nothing new. Highly pathogenic outbreaks of avian influenza have occurred regularly on factory farms in recent decades, in Australia (1976, 1985, 1992, 1994, 1997) USA (1983, 2002, 2004), Great Britain (1991), Mexico (1993–1995), Hong Kong (1997), Italy (1999), Chile (2002), Netherlands (2003) and Canada (2004) – just to cite some examples apart

4 - Nassar G, Flu and Mismanagement, *Al-Ahram Weekly*, 13-19 April 2006, No. 790, <http://ahramflu2.notlong.com>

5 - Government of Egypt, *Bird Flu Statistics*, <http://statsBF.notlong.com>

6 - Personal communication from the El-Banna Company, 26 March 2005.

7 - AFP, *Turks see flu secrecy*, 21 January 2006, <http://reykurat.notlong.com>; J Lubroth, Senior Officer, FAO, *Audio interview: Control campaign in Turkey [Press conference]*, Rome, January 2006: <http://faobflu.notlong.com>; Rosenthal E, UN Aide urges flu transit checks, *International Herald Tribune*, Paris, 17 January 2006, <http://iht-flu.notlong.com>

8 - Tiensin T et al, Highly pathogenic avian influenza H5N1, Thailand, 2004, *Emerging Infectious Diseases*, November 2005, <http://cdc-flu.notlong.com>

9 - *The Statesman*, *Hatcheries put on notice*, Mumbai, 21 February 2006, <http://glogygid.notlong.com>

10 - CPAS, *Indonesia to revise laws barring access to poultry farms*, *AgroIndonesia*, 25 October 2005, <http://pountudo.notlong.com>



Table: Measures to control bird flu targeting backyard poultry in a selection of countries

| Country | Measure |
|-------------|--|
| Austria | Ban on outdoor poultry from October to December. Ordinance extended indefinitely around area where H5N1-infected swans were found |
| Canada | Ban on outdoor poultry in the Province of Quebec |
| China | Anhui provincial government decrees all backyard poultry must be kept in cages. Complete ban on backyard birds in Hong Kong |
| Croatia | Ban on outdoor poultry during migration season |
| Egypt | Ban on rooftop poultry and ban on live markets |
| France | Ban on outdoor poultry, with exceptions |
| Germany | Ban on outdoor poultry |
| Italy | Free range birds have to be under wire screens |
| Netherlands | Ban on outdoor poultry, with exceptions |
| Nigeria | Backyard poultry and birds banned within the Federal Capital Territory, Abuja |
| Norway | Ban on outdoor poultry in eight southern counties |
| Slovenia | Ban on outdoor poultry |
| Sweden | Ban on outdoor poultry |
| Switzerland | Poultry must be kept within roofed enclosures |
| Thailand | Ban on free-range ducks. Ban on live poultry markets in Bangkok and slaughterhouses moved to outskirts. Forced collectivisation of small poultry flocks in central provinces |
| Ukraine | Sale of live poultry and poultry products produced by private village households prohibited in the Autonomous Region of Crimea |
| Vietnam | Ban on poultry farming in towns and cities |

11 - Harder T and Werner O, Avian Influenza, in *Influenza Report*, eds. B.S. Kamps et al, Flying Publisher, Paris, 2006; Suarez DL, et al, Recombination resulting in virulence shift in avian influenza outbreak, Chile, *Emerging Infectious Diseases*, April 2004, <http://posigles.notlong.com>; Suarez D, Evolution of avian influenza viruses, *Veterinary Microbiology*, 22 May 2000, 74(1-2):15-27; Ito T et al, Generation of a Highly Pathogenic Avian Influenza A Virus from an A-virulent Field Isolate by Passaging in Chickens, *Journal of Virology*, May 2001, 75(9): 4439-4443.

12 - See for example, Stegemen A et al, Avian influenza A virus (H7N7) epidemic in the Netherlands in 2003: Course of the epidemic and effectiveness of control measures, *Journal of Infectious Diseases*, 2004, 190:2088-2095; Thomas M E et al, Risk factors for the introduction of high pathogenicity Avian Influenza virus into poultry farms during the epidemic in the Netherlands in 2003, *Preventative Veterinary Medicine*, 2005, 69:1-11

13 - Communication from Dr. Les Sims to Martin Williams, 26 February 2006.

14 - FAO and OIE, in collaboration with WHO, *A Global Strategy for the Progressive Control of Highly Pathogenic Avian Influenza (HPAI)*, November 2005, p 17 and p 22, <http://posigPDF.notlong.com>

15 - *ibid*

16 - Songserm T et al, Domestic ducks and H5N1 influenza epidemic, Thailand, *Emerging Infectious Diseases*, April 2006, <http://tolpabob.notlong.com>

from the recent bird flu crisis. Studies indicate that highly pathogenic strains of bird flu evolve when low pathogenic strains of the virus, which circulate harmlessly among wild bird populations, are introduced into high-density poultry flocks.¹¹ Once bird flu takes hold in a factory farm, the virus amplifies and spreads beyond the farm through a multitude of channels: trade in birds and eggs, people coming in and out, the elimination of waste, the use of litter in feed, etc.¹²

Backyard poultry operations, on the other hand, are characterised by low density. The experience with H5N1 outbreaks to date suggests that the strain causes only low mortality in backyard poultry flocks and has a difficult time spreading within these flocks, let alone beyond the farm. According to one FAO veterinarian, the mortality rate among infected backyard flocks in Malaysia in 2004 was only 5%.¹³ Moreover, the Food and Agriculture Organisation (FAO) of the United Nations and the World Organisation for Animal Health (OIE) claim that there is “growing evidence that the survival of the virus in smallholder and backyard poultry is dependent on replenishment from outside sources.”¹⁴

Poultry diversity may be another factor protecting backyard flocks. While broiler chickens are highly susceptible to bird flu, the FAO and OIE report that there is evidence that H5N1 is adapting to village chicken in the same way that it has adapted to domestic ducks.¹⁵ A recent study of free-ranging ducks in Thailand found that less than 1% of birds in infected flocks were clinically affected.¹⁶ Unfortunately a lack of interest among authorities and the indiscriminate culls triggered by the detection of the virus, even among healthy birds, make it difficult to increase understanding of such dynamics between the virus and native poultry.

The emerging picture appears to be a context of endemic circulation of bird flu, causing occasional low mortality in small flocks and large outbreaks in factory farms when biosecurity measures are breached, as is inevitable under endemic conditions. Yet nearly all farm-level measures and policies for bird flu target small-scale producers of free-range poultry. They focus on locking poultry indoors, separated from infected wild birds, which are assumed to be the main vector of transmission to poultry, as seen in the Table. By and large, such laws and policies are not only ignorant of disease



dynamics within backyard flocks, they are totally impractical for small farmers. In Southeast Asia, governments, with the support of the FAO, are encouraging farmers to set up mesh screens or bamboo enclosures for their poultry. But the costs, estimated at US\$50–70, are out of reach for Asia's small-holders, who typically make less than US\$1 a day, and, in places like Thailand, where such measures have been enacted, it has immediately forced small farmers to abandon poultry.¹⁷

Moreover, the evidence of wild birds transmitting bird flu to poultry remains inconclusive.¹⁸ After testing hundreds of thousands of wild birds for the disease, scientists have only rarely identified live birds carrying bird flu in a highly pathogenic form.¹⁹ Nearly all wild birds that have tested positive for the disease were dead and, in most cases, found near to outbreaks in domestic poultry. Plus, the geographical spread of the disease does not match migratory routes and seasons.²⁰ Even with the current cases of H5N1 in wild birds in Europe, experts agree that these birds probably contracted the virus in the Black Sea region, where H5N1 is well-established in poultry, and died while heading westward to escape the unusually cold conditions in the area.

If backyard poultry and migratory birds are indeed fuelling the spread of bird flu then the disease should be raging in Laos. Not only is it surrounded by bird-flu infested neighbours, Laos is full of free-ranging chickens mixing with ducks, quail, turkeys and wild birds. These are predominantly native chickens, which account for over 90% of Laos' total poultry production. According to the US Department of Agriculture:

“The poultry industry in Laos is predominantly one of smallholders, raising free-range, local chicken breeds nearby their dwellings for meat and eggs, mostly consumed by the household or sold locally for income. An average village has around 350 chickens, ducks, turkeys and quail being raised in small flocks interspersed among village homes by about 78 families, with women primarily responsible for the flocks. Ducks, turkey, and quail are also raised, with negligible amounts of geese found scattered around the country. The few commercial operations (less than 100 total, with 89 of these located near Vientiane) in the country supply nearby metropolitan areas.”²¹

But the country's backyard farms have barely been touched. According to the same USDA report:

“A total of 45 outbreaks were confirmed, with 42 of

these occurring on commercial enterprises (broiler and layer farms), 38 of these in Vientiane, the capital and primary city of Laos ... Smallholders who found avian influenza in their flocks were located nearby commercial operations suffering the disease.”

The principal reason why Laos has not suffered widespread bird flu outbreaks like its neighbours is that there is almost no contact between its small-scale poultry farms, which produce nearly all of the domestic poultry supply, and its commercial operations, which are integrated with foreign poultry companies. Laos effectively stamped out the disease by closing the border to poultry from Thailand and culling chickens at the commercial operations. They were less concerned about the disease spreading out from the affected farms because, unlike in Thailand and Vietnam, small-scale farmers in Laos are not supplied by big companies with day-old chicks or feed and, outside of the capital, poultry is produced and consumed locally. Poultry production is also more spread out in Laos. It is less dense, less integrated and less homogeneous – all of which keeps bird flu from spreading and evolving into more pathogenic forms.

The Laos experience suggests that the key to protecting backyard poultry and people from bird flu is to protect them from industrial poultry and poultry products. It also calls into question the green revolution approach to poultry development, which encourages farmers to sell to more distant markets and to use off-farm inputs, such as feed and day-old chicks supplied by large operations. Traditional farmer knowledge and biodiversity combined with simple biosecurity measures appropriate to small farms may be all that is required to manage the disease effectively in most rural communities.

Yet the agencies that preside over the global response to bird flu, namely the World Health Organisation and the FAO, are not interested in such possibilities. Overall, there's hardly been any effort to understand the dynamics of the disease in local contexts or to work with local communities in defining strategies. So what inevitably emerge are big solutions and “global strategies” for wiping out the disease that wipe out the foundations for long term, pro-poor solutions in the process. There's no nuance, no sensitivity to people's needs and, worst of all, no appreciation of the capacity and knowledge that farmers have for managing this virus.

17 - McLeod A, Morgan N, Prakash A and Hinrichs J, Economic and Social Impacts of Avian Influenza, FAO, Rome, November 2005, <http://ulceruid.notlong.com>; Chanyapate C and Delforge I, *The politics of bird flu in Thailand*, Focus on the Global South, Bangkok, 20 April 2004, <http://fwflu.notlong.com>

18 - Melville D S and Shortridge K F, Spread of H5N1 avian influenza virus: an ecological conundrum, *Letters in Applied Microbiology*, 42 (2006) 435–437

19 - After testing more than 13,000 wild birds in marshes within bird flu infested provinces in China, scientists identified only six highly pathogenic bird flu viruses in six ducks. The overall conclusion of the study: “Transmission within poultry is the major mechanism for sustaining H5N1 virus endemicity in this region.” Chen H et al, Establishment of multiple sublineages of H5N1 influenza virus in Asia: Implications for pandemic control, PNAS early edition, *Proceedings of the National Academy of Sciences of the USA*, Washington DC, 10 February 2006, <http://wisdeful.notlong.com>; see also, FAO and OIE, in collaboration with WHO, op cit.

20 - BirdLife International, *BirdLife Statement on Avian Influenza*, Cambridge, July 2006, <http://birdlifeflu.notlong.com>

21 - USDA, *Laos: Poultry and Products - Avian Influenza*, GAIN Report, US Department of Agriculture, Washington DC, 16 March 2005.



The culling programmes advocated by the WHO and the FAO, for instance, are indiscriminate; all birds are culled in large areas surrounding cases of infection, whether they are healthy or not. In India, the government launched a surveillance campaign in the state of Maharashtra after outbreaks at several factory farms. When a small percentage of samples collected from various villages in one of the poorest districts of the state came back positive, the government imposed complete culls over an area of 1,500 square km, involving more than 300,000 birds and over 300 villages.²² The state did provide some compensation to the affected farmers, but the US\$0.88 given per bird was far below the value of a village chicken, which typically sells for three times the price of a factory chicken and produces eggs worth four times the price of industrial eggs.²³ Needless to say, the government has no plans for replenishing the invaluable poultry biodiversity that it destroyed and there is even talk of new state regulations to ban backyard poultry.²⁴


Beyond such immediate measures, the FAO and other agencies are working with governments to map out long-term plans for the “restructuring” of the poultry sector that will eliminate small-scale poultry farming. According to the FAO, a restructured poultry industry of the future in Asia will have:

- more concentrated markets, with fewer, larger producers
- poultry production zones where infrastructure can be concentrated
- compartments for exporting countries, arranged in such a way that a minor outbreak in an exporting compartment will hardly affect export
- live markets moved to the outskirts of cities, with fewer licensed traders, centralised slaughtering and

- a large number of supermarket outlets in cities
- fewer small producers
- requirements to fence and house all poultry²⁵

This would be the death of Asia’s small poultry farms. In Vietnam alone, the FAO admits that the implementation of “production zones” would result in the loss of income of potentially one million small commercial producers.²⁶ “There is concern for the future of poor backyard farmers and small commercial farmers,” said Fabio Friscia, the FAO’s bird flu programme officer in Vietnam. “A lot of them will have to leave the sector with significant economic losses. The challenge is to provide these people with alternative livelihood opportunities.”²⁷

Such thinking goes right to the very top of the organisation. Samuel Jutzi, the FAO’s Director of Animal Production and Health, told a Swiss newspaper that small farms are behind the spread of bird flu, not the large factory farms that he describes as “highly protected”. When asked if this meant the end of small-scale poultry farming, Jutzi said “this type of production will become very marginal. High quality poultry, raised in the open air and grain-fed, will become a niche product”.²⁸

The top-down global response to bird-flu may sit well with governments, many of them neglectful if not hostile towards small farmers and the biodiversity they sustain, but it is a disaster for the poor that these institutions claim to serve. It’s an old story being repeated, but this time under the guise of saving the world from a health crisis. The irony is that the solution proposed – a total shift to factory farming – takes us straight back to the source of the problem.²⁹ 

22 - Agence France-Presse, *Indian officials to slaughter more chickens after new bird flu cases*, 28 March 2006, <http://to-flu.notlong.com>

23 - Personal communication with Joseph Keve, a poultry farmer and researcher from Maharashtra, 30 March 2006.

24 - Jamwal N, Jayan T, Gupta R and Ghosh P, *Who flew?*, *Down to Earth*, (14:20), 2006, <http://dteflu.notlong.com>

25 - McLeod A, Morgan N, Prakash A and Hinrichs J, *Economic and Social Impacts of Avian Influenza*, FAO, Rome, November 2005, <http://ulceruid.notlong.com>

26 - *ibid*

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28 - Kauffman A, *Le H5N1 favorisera les usines à poulets?* *La Presse*, 13 March 2006, <http://sylvapts.notlong.com>

29 - GRAIN, *Fowl play: The poultry industry’s central role in the bird flu crisis*, February 2006, grain.org/briefings/?id=194



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The tsunami that swept across the Indian Ocean in December 2004 devastated coastal communities in 13 countries. The damage to lives, properties and livelihoods was staggering. Among the badly hit were Indonesia, India, Thailand and Sri Lanka – countries where the liberalisation of the fishing sector has contributed to the intensification of more destructive and exploitative commercial fishing. Clearing natural coastal defences for industrial aquaculture production is a growing trend in these parts of Asia. Along with increased vulnerability of coastal and surrounding rural communities, marine biodiversity is in serious decline, and there is an escalating dispossession of the small-scale and artisanal fishing sector. GRAIN investigates.

Fishing profits, farming disaster

the cost of liberalising Asia's fisheries

GRAIN



29

The December 2004 tsunami killed more than 170,000 people and some 100,000 are still missing. In Thailand, the loss in the fishing industry alone was estimated to have totalled at least 500 million baht (US\$13m)¹ while damage to homes and lives remain beyond calculation.

Governments and aid donors were quick to say that countries affected were 'caught by nature's surprise'. However it later became clear that it was an event that could have been greatly mitigated had certain ecological functions – i.e mangrove areas that act as coastal defence – not been badly destroyed by unsustainable development initiatives like aquaculture.² In a study of satellite images

in Cuddalore, India, taken before and after the tsunami, exposed villages were completely levelled, but those behind the mangrove suffered virtually no damage. Scientists who went to Sri Lanka after the tsunami had similar findings: greater damage corresponded with greater extent of coastal development.

It seems that lessons from this are hard to learn. Industrial aquaculture continues to be pushed indiscriminately "because of massive funding and short-sighted development pressures by influentially powerful government and inter-governmental institutes like the World Bank, Asian Development Bank, USAID, and the UN's Food and Agriculture Organization (FAO)".³

1 - An internal report titled "Tsunami Impacts on Fisheries and Aquaculture in Thailand" jointly developed by staff of NACA, FAO, SEAFDEC and BOBP-IGO, January 2005, <http://strePDF.notlong.com>

2 - Mangrove Action Project, The Unnatural Natural Disaster, *Tsunami Action Alert*, undated, <http://eartsu.notlong.com>

3 - *ibid*



Niall Croty

Tilapia: a very versatile group of fish which are used a lot in aquaculture as they are omnivorous and grow quickly.

Old practice, new investments

Aquaculture is an ancient practice that dates back to 3500 BC in Ancient China. Early 'records' found in hieroglyphics indicate that the Egyptians of the Middle Kingdom (2052–1786 BC) had taken a shot at it as well as the Romans, who established the earliest form of oyster culture.⁴ Today industrial aquaculture produces one-third of all the fish and a quarter of all the shrimps eaten.

By 2020, it is expected that aquaculture will produce nearly half of all fish production and four-fifths of this will be supplied by developing countries. With declining catches from open sea, and the prospect of high foreign exchange earnings from farmed shrimp exports, more governments are turning their attention to aquaculture.

Even in a tightly controlled economy like Vietnam, aquaculture was the first economic sector to be liberalised.⁵ The country currently has over 900,000 hectares of water surface for aquaculture, of which two-thirds is devoted to shrimp production.

Elsewhere in Asia, the business sector is investing heavily in the aquaculture boom. In Thailand, at least 19 companies are involved in aquaculture production including Charoen Pokphand one of Asia's largest agri-industrial corporations.⁶ This corporation is already the world's largest supplier of Black Tiger Shrimp and farms Tilapia both in Thailand and Burma where it has 8,000 hectares of Tilapia aquaculture.

The presence of these companies in aquaculture means that small players with small capital are unable to compete or become swallowed by larger ones. For example in areas where no more land is available for aquaculture, Charoen Pokphand can simply take over smaller producers under contract farming arrangements.

Destructive enterprise

With aquaculture expansion come the growing concerns about the damage it causes. The tsunami in December 2004 highlighted the inequitable trade-off between increasing aquaculture areas and compromising the resilience of coastal communities against natural calamities. It is believed that up to half of all mangroves in the region have been lost to tourist resorts, urban expansion, and, most notably aquaculture. Over the past 20 years countries have systematically destroyed these natural barriers in the name of aquaculture development.⁷ The mangrove areas are cleared and transformed into enclosed ponds where select species – like tilapia, milkfish or shrimp – are raised in a controlled, monocultural environment.

Apart from being a natural barrier to storms and tsunamis, mangrove forests also act as a breeding ground for many types of fish. The loss of breeding ground effectively cancels out the natural reproduction cycle crucial to keeping biodiversity, and in maintaining the necessary balance of marine ecosystem.

“What has happened over the last several decades is that many mangroves have been cleared to grow shrimp ponds so that we, here in Europe, can have cheap shrimps,” said Jeff McNeely, chief scientist of the Swiss-based World Conservation Union (IUCN) commenting about the tsunami.⁸

Fisherfolk also bear the brunt of the aquaculture expansion. As more areas get devoted to aquaculture, more fisherfolk become displaced from their livelihoods either physically or economically. In the Philippines, for example, the government's drive to modernise its fisheries has become synonymous

4 - Batis, J, History of Aquaculture, *World Aquaculture*, <http://histaqu.notlong.com>

5 - Nan Dhan Newspaper, *Agro-forestry-fishery restructuring sees intensive development*, 4 January 2006, <http://agforfi.notlong.com>

6 - Companies and Information by country, Fish Information and Services (FIS), <http://utopimum.notlong.com>

7 - Smith M, The right way to rebuild asia coastal barrier, 12 January 2006, *SciDev.Net* <http://gascaded.notlong.com>

8 - The Biology Refugia, *Cheap shrimp escalates tsunami devastation*, 2 January 2005, <http://scimisee.notlong.com>

with the intensive establishment of aquaculture farms. But as it favours mostly commercial operators with large capital, many small-scale fisherfolk have been driven off their fishing areas or ended up becoming aquaculture farm workers. They are typically paid with low wages or receive a measly percentage from a sharing system that favours the owners.⁹

In Indonesia, the development of shrimp farms has been associated with human rights abuses, through land seizures, violent suppression of protests, and appalling labour conditions for shrimp farm workers.¹⁰ Yet despite this, the Indonesian government still makes a third of the remaining mangrove area available for conversion to shrimp ponds. But as the fisherfolk are displaced, so too is the knowledge on sustainable fishing practices.

High wastage culture

Aquaculture's impacts are not confined to coastal communities. As inland fresh water aquaculture also becomes popular, the priorities on resource utilisation directly impact on the agriculture sector as well. Land and water – resources that are shrinking in many agricultural areas – are being used up in fresh water aquaculture. In Thailand both these resources have been diverted in recent years to fuel the growth of the aquaculture industry. Nearly half the land now used for shrimp ponds in Thailand was formerly used for rice paddies.¹¹

Intensive aquaculture operations can also lead to water shortages. Raising one tonne of shrimp in a farm requires 50,000 – 60,000 litres of water. In some coastal areas, water diversion for shrimp ponds has lowered groundwater levels.¹² Pollution is also a serious consequence of this enterprise. Heavy concentrations of fish faeces, uneaten food, and other organic debris that are flushed into surrounding coast or river when water is replenished can lead to harmful algal blooms and oxygen depletion. In Thailand alone, shrimp ponds discharge some 1.3 billion cubic metres of effluent into coastal waters each year.¹³

At the end of the equation, what aquaculture takes in is much more than what it produces. It is estimated that roughly two kilograms of fishmeal is necessary to produce one kilogram of farmed fish or shrimp. For every kilogram of shrimp farmed in Thai shrimp ponds developed in mangroves, 400 grams of fish and shrimp are lost from wild captured fisheries. Nearly one third of the world's fish caught in the wild are transformed into fishmeal and fish oil, which are then used in

feeds for farmed fish.¹⁴

Yet despite all this, the push for aquaculture continues, and now includes the development of genetically modified (GM) fish.

Still a caged revolution?

The application of genetic engineering in aquaculture draws its inspiration largely from the Green Revolution in agriculture of the late 1960s. By creating early-maturing, disease-resistant fish species through the use of modern biotechnology, a corresponding increase in fish production will keep the world's population from hunger – a sort of 'blue revolution' in fisheries. At least this is the thinking, and probably the idea behind what the British public found out the UK government was secretly funding in 2001. Around US\$ 3.5 million of public funds were allocated by the UK government for the development of fast-growing carp and tilapia in India, Bangladesh, Vietnam, Thailand, Philippines, and some parts of Africa.¹⁵

Serious concerns were raised about the possibility of (the new species) outcompeting the wild species for food and other resources. Scientists voiced their concerns about GM traits from GM fish spreading into wild populations and how the fish could seriously harm the resilience of aquatic ecosystems. According to William Muir, a professor at Purdue University, once GM fish escaped into the open ocean, they are obviously much harder to control and can spread much faster than GM plants do on land.¹⁶ Even if GM fish are kept in safe pens, possibilities of escape due to human error or natural disasters like storms, which can destroy fish farms, are always there.

Despite these warnings, GM fish research and development has increased. At least about 30 laboratories in about ten Asian countries are actively engaged in GM fish research at the moment, a major chunk of which is on developing species for industrial aquaculture production. This involves developing character traits such as faster growth rate, disease resistance and increased environmental tolerance among common aquaculture species of carp, catfish and tilapia.

Bio-fantastic

Of the desired characteristics, fast growth seems to be an area in which scientists and researchers are making real headway. In Wuhan, China, Zuoyan Zhu of the Hydrobiology Institute of the Academia Sinica has created a fast-growing yellow river carp.

9 - Guste J, del Rosario-Malongo J, *Women in Philippine Aquaculture*, IBON Foundation, December 2004, <http://enjansky.notlong.com>

10 - Anon, *Shrimp business destroys mangroves and livelihoods*, *Down to Earth* No. 58, August 2003, <http://tipburch.notlong.com>

11 - Mock G, White R, and Wagener A, *Farming Fish: The Aquaculture Boom*, *Earth-Trends*, July 2001, <http://vulvalmy.notlong.com>

12 - *ibid*

13 - *ibid*

14 - Delgado C et al, *The Future of Fish: issues and trends to 2020*, WorldFish Center and International Food Policy Research Institute, 2003, <http://fish20.notlong.com>

15 - Various, *UK Secret GM Fish Trials "to feed the poor"*, 2 April 2001, <http://fishshh.notlong.com>

16 - Muir W, *The threats and benefits of GM fish*, *EMBO reports*, 5, 7, 654–659, 2004, <http://fishgm.notlong.com>



MANOJTV



Mangroves: The destruction of the mangroves has in part increased the destructiveness of a tsunami

Researchers in Cuba and the UK have reportedly engineered tilapia to grow up to 300% faster. And the race for speed goes on. In Korea, they were able to develop a mud-loach that grows up to 35 times faster than normal.¹⁷

With the genetic contamination concern, GM fish are being developed for the bio control of invasive species. The idea is to engineer a 'trojan gene' into GM fish and release them so that the transgene will find its way into the invading population. It has been reported that research to control introduced carp that have become a major problem in Australian rivers and lakes is close to being implemented.¹⁸

Meanwhile, GM fish are also being researched to provide medical products for humans – fish pharming. Already, a human blood-clotting factor used to treat some people with haemophilia and accident victims suffering serious bleeding has been produced using genetically modified fish.

“We have a list of 20 other human therapeutic proteins that could be produced via fish to treat lung disease, liver problems, even tumours,” says Norman Maclean of the University of Southampton in the UK.¹⁹

Not everybody's fish

But it remains unclear how the fisherfolk will gain from all these improved species. Are these fishes really being developed for their benefit?

Since 1987, there have been at least 11 applications for patents on fish by Japan, Europe and Canada, three of which have been granted already.²⁰ One is held by Nippon Suisan Kaisha & Mochida Pharmaceutical on a gene of the yellow-finned tuna for the production of an anti-hypertensive drug. Another is held by Britain and Canada, on growth hormone genes from sockeye salmon for the production of GM fish.

The future is likely to bring more improved species. Already scientists are reportedly working on genetically engineered virus-resistant shrimps for aquaculture. But we will be facing the same nagging question: whose end does it serve?

Trading people for profit

There are 40 million small-scale fisherfolk in the world who depend on the ocean's resources to feed their families. However, the trend in global trade puts their lives and livelihoods under constant threat. Under the WTO, industrialised countries



32

17 - Muir W, The threats and benefits of GM fish, EMBO reports, 5, 7, 654-659, 2004, <http://fshgm.notlong.com>

18 - *ibid*

19 - Avasthi A, GM fish produce cheap blood-clotting agent, New Scientist, 11 September 2004, <http://nsblocl.notlong.com>

20 - GeneWatch UK, Applications for patents on fish genes, (<http://patfish.notlong.com>) in: Patent applications: full list, A complete list of the applications for patents supplied to us by GeneWatch UK, *The Guardian*, 15 November 2000, <http://guafpa.notlong.com>

(like Japan, the US, and the EU whose fisheries sector enjoy domestic subsidies) could strike commercial agreements with developing countries to fish in their waters. Trade liberalisation policies such as “tariff reduction schemes” shift the incentives to commercial fishing towards foreign commercial trawlers. This has resulted in the serious depletion of marine resources and the sidelining of small-scale fisherfolk in favour of big commercial trawlers, as has been the case in the Seychelles, Indonesia and the Philippines.²¹

Since its membership of the WTO, the Philippines has liberalised its fishing industry. It has reduced tariffs for exploiting fisheries from 30% to 5%. It also issued a fisheries administrative order in 1999 which allows foreign fishing fleets to operate increasingly off the coast and bring imports in. Fisherfolk groups have legally challenged it in court, saying it would badly affect millions of small-scale fisherfolk in the country.

Already, Japanese trawlers fishing in Philippine waters have reportedly caused artisanal fish catches to shrink significantly over the years.²² Ocean resources have been depleted causing lowered productivity and consequently lowered income for fisherfolk. The Philippines’ fishing sector employs 1.6 million subsistence artisanal fisherfolk. Approximately 6 million people depend on the fishing industry for livelihood. But to date, an estimated 20% of small and medium scale fisherfolk have already lost their livelihoods.²³

The case of Indonesia is a bit different. Because of economic liberalisation, the Indonesian fishing industry has changed a good deal. In 2000 Indonesia’s wild shrimp production was third highest in the world after China and India. But since 2004, Indonesia has been flooded with shrimp imports from China and Vietnam. Low tariffs have made Indonesia vulnerable to dumping. Indonesia’s import tariffs on fish are very low – between 0% and 3% – while domestic fish are taxed at 5%. As a result, national businesses and processing industries buy cheap imported fish rather than local fish.

Trawl boats in the Indonesian island chain known as the Moluccas allegedly throw 90% of their catch back into the ocean in their search for profitable shrimp and tuna. According to SKEPHI, an Indonesian environmental NGO, the Indonesian government is merely relying on the illegal shrimp trawling industry to fulfil its high-earning export targets.²⁴

In Korea, it has been predicted that the country’s bilateral deal with the US will likely cause economic damage to the domestic fishing sector which could lose at least US\$51 million.²⁵ “With the launch of the FTA, the volume of imported fish would increase between 10–20% annually, causing deterioration in the already crowded fishery market” says Chung Myung-sang, a senior research fellow at the Korea Maritime Institute (KMI).


In India, the effect of trade liberalisation and fisheries development has had a big impact on women in the fishing communities. By modernising the sector, it has adopted technologies like trawling and purse seining, and expanded the industrial fleet. It left many without a livelihood. Traditionally fishing nets were woven locally using cotton yarn or other natural fibre. But this has been changed now. “The introduction of synthetic yarns and net-making machines has led to the displacement of thousands of people traditionally involved in these activities, many of whom were women.”²⁶ In Kanyakumari district of Tamil Nadu, India, the introduction of these machines reportedly led to the displacement of 20,000 women employed in this work.

At an International Symposium on Sustainable Fisheries and Trade in Hong Kong last year, fisherfolk groups demanded that WTO-members should ensure that liberalisation of trade should not pose any threat to the culture and traditional value of fisheries and fishing communities.²⁷ In a statement, they specified that special consideration should be given to the vulnerability of small-scale fisheries.

Tsunami debris

Looking at the post-tsunami rehabilitation in Indonesia, Thailand or Sri Lanka, one can say that the watermarks have already dried up. But the debris remains along the coasts long after everything has been cleaned up – they are the small-scale fisherfolk who are continuously being orphaned by this kind of development.

If there is one thing to be learned from this age of economic globalisation, it is that trade negotiations have left many governments deaf and blind to their own reality. Without knowing it, they are already trading their own people for profit.

Perhaps it is high time to go beyond conference statements and take other paths where fisherfolks’ voices will be much better heard. 

21 - Friends of the Earth International, *The tyranny of Free Trade: wasted natural wealth and lost livelihoods*, December 2005, pp 15-17. <http://foetrad.notlong.com>

22 - PAKISAMA, *Fishers File Case to Nullify Gov’t Order on Fish Imports*, 30 August 2004, *Pakisama Peasant Update*, <http://qumradua.notlong.com>

23 - *op cit* - Friends of the Earth International

24 - Anon, *Shrimp business destroys mangroves and livelihoods*, *Down to Earth*, No. 58, August 2003, <http://tipburch.notlong.com>

25 - Baber C, Kim M, Korea-U.S. FTA to Cost Fisheries \$51 Million, *World Knowledge Forum*, 6 March 2006 <http://rebbiral.notlong.com>

26 - Sharma C, *The Impact of Fisheries Development and Globalization Processes on Women of Fishing Communities in the Asian Region*, International Collective in Support of Fishworkers, 18 June 2003, <http://subwiron.notlong.com>

27 - Various, *Statement on Sustainable Fisheries and Trade*, a statement issued by fisherfolk groups from Iceland, Japan, Korea, Philippines, Thailand, Vietnam, and international support NGOs, 14 December 2005, <http://sttwfish.notlong.com> (.doc format)



Sprouting Up...

Towards the adoption of a national framework for biosafety in Senegal

Introduction

Senegal is a country at real risk of being invaded by GMOs (Genetically Modified Organisms), with:

- over 50% of its national cereal consumption requirements being imported,
- limited regulation of the import of plants and plant products, with a phytosanitary certification scheme,
- a lack of legislation on issues related to GMOs,
- the dependence of the country's agriculture on the major seed companies represented in Senegal,
- the political decision taken to incorporate GMOs in food self-sufficiency strategies.

These arguments were set out in more detail in the Ministry of Agriculture's Ministerial Conference of ECOWAS (Economic Community of West African States) in favour of building national capacity, the acquisition of appropriate equipment and the establishment of conditions that would enable the production of seeds and other genetically modified products, in Bamako (Mali) in June 2005.

What is the current state of affairs?

Within the framework of the implementation of the UNEP/GEF (United Nations Environment Programme/Global Environment Facility) project relating to the development of national biosafety organisations, the determining factors for the establishment of a legal framework for biosafety in Senegal are:

- the major debates on the controversial issues raised by GMOs,
- an awareness of the threats GMOs represent for stakeholders at a grass-roots level, in particular small producers and consumers,
- Senegal's obligation to honour its commitments to the international community, by transposing the provisions of the Cartagena Protocol into national legislation.

Furthermore, the country imports a large amount of maize from Argentina, one of the largest GMO-producing countries. Scientific research carried out in Senegal can claim credit for some successes classified as "clean biotechnologies", with seed potatoes and in-vitro banana plants. As far as regulation is concerned, there is a lack of legislation, and this must be rectified as a matter of urgency.

With regard to the provision of information, the members of the National Committee on Biosafety and the Senegalese public have differing levels of knowledge. The country does not have a dedicated system for communicating information on the biotechnology sector. Brochures and information leaflets have been produced in Senegal's major languages as part of the various workshops organised in the country, for widespread distribution amongst the different target audiences (consumers, farmers, the private sector and so on) to allow them to form an opinion on GMOs.

Presentation of the bill drawn up by the National Committee on Biosafety

The biosafety bill comprises six chapters and two appendices, and can be summarised as follows:

- The scope of the biosafety bill covers the use in a contained environment, deliberate release into the environment, import, export, transit and marketing of living modified organisms for pharmaceutical and veterinary use, governed by other international agreements such as those of the World Health Organization.
- In substance, the bill stipulates that the use, marketing, manipulation for research purposes, import, export and transit of genetically modified organisms within national borders should be subject to prior authorisation granted by a competent National Authority in full possession of the facts, under the responsibility of the Ministry in charge of the environment.

Anyone seeking to engage in one of these activities must submit an application to the competent National Authority, providing as much information as possible for assessment purposes and giving an undertaking as to the accuracy of the information included with the application.

The decision-making process of the competent National Authority is based on an assessment of the risks (health, environmental, socio-economic, ethical and so on) of the Living Modified Organisms (LMOs), carried out by the National Committee on Biosafety, which is made up of biosafety experts, or any other body with the appropriate expertise. This assessment must be carried out in accordance with scientifically proven methods.

In reaching its decision, the competent National Authority must also take account of the opinions of the general public, which must have been given the means to participate in the decision-making process by appropriate methods (through the media, for example). The creation of a Public Committee on Biosafety



made up of representatives from all socio-economic groups in society is provided for in the bill for this purpose.

The process was reasonably participative, although some sections of society felt that their views had been disregarded at the end of the process. This bill has been assessed by the Centre for International Sustainable Development Law based in Canada.

Some concerns

However the framework set out above is drafted in legislative terms, its effectiveness remains questionable, given the major offensive carried out by the multinationals and demonstrated by:

- the actions of bilateral cooperation agencies (such as USAID and the Catholic Relief Service) to increase the pressure on research institutes in Africa and those of multilateral cooperation agencies as methods for introducing GMOs into the continent, with food aid (FAO (Food and Agriculture Organization), WFP (World Food Programme), and so on);
- the control of national scientific research by multinational seed companies;
- the financing of trials on GMOs in Africa and/or the promise of financing for research programmes;
- the recruitment of African researchers into the companies;
- the pressure on African governments, which are increasingly adopting positions in favour of GMOs;
- the conduct of visible or hidden trials in certain countries, in the absence of appropriate regulation;
- the financing of the development of regulatory frameworks that are favourable to them, to legitimise trials that are already underway.

Conclusion

In some countries, draft regulations for the introduction of genetically modified products have been developed before a national biosafety framework has been implemented in practice. Our support for independent scientific research, which fosters the use of local biological resources and traditional, endogenous skills is therefore unwavering, in the best interests of African consumers and small farmers. Let us therefore demonstrate our opposition to any strategy that seeks to patent the living.



abeburkina.net

Biosafety legislation is needed to get Bt cotton introduced into West Africa (above), as has happened in South Africa where biosafety legislation has been very supportive of GM crops (below).



Extract from the ASDEC (Senegalese Environmental and Consumer Protection Association) submission to the Regional Seminar on capacity building in relation to food security and biotechnologies in Africa: the need for an effective regulatory framework. Organised by the African Delegation of Consumers International, 15-18 October 2005, Accra (Ghana).

Laxmamma

Ferida

Akhtar

Are farmers still using local varieties of seeds?

The government has brought to farmers many seed varieties and hybrids and aggressively promoted them. Farmers believed the government and lost their own seeds. The government brought chemicals along with seeds and said if you use the two you get good yields. After one or two harvests, the yields dropped. They also caused so many diseases such as skin rashes and gum diseases. Animals did not relish the fodder. Soils lost their fertility. Crops that grow on creepers that creep on cropland such as horsegram, cowpea did not grow along with the new seeds [In Laxmamma's region, farmers grow at least 12-15 crops at the same time on the same space]. Gradually we lost our seed varieties.

Benny Haerlin

Carlos Correa

David Quist

E Johnson Ekpere

Francoisca Rodriguez

German Velez

Hope Shand

Ibrahim Ouedraogo

People were taken in by the propaganda and became greedy. They were told that their farming system was cumbersome – “You grow so many different crops on the same land which gives small yields. Our seeds give you large yields” – and they were wasting their time growing millets.

People believed this and gradually moved away from their seeds. As the dependence on government seeds increased, our own seeds started disappearing.

What do you think of “ownership” of seeds?

Seeds should be in the hands of women. Men don't know how to deal with seeds, they don't know how to save them, preserve them and look after them. Men are attracted to money, to travel, and to buy clothes. But our concerns are more fundamental. As women we want to grow more food. If we have surplus, we buy a few more cattle, increase the capacity of our agriculture, and grow more crops, better crops. Women know which seed to plant and where to plant the seed in her farm so that she gets the maximum yield from a particular seed. She also thinks about the fodder for her animals

Jack Kloppenburg

K Joseph Eve

Laxmamma



Laxmamma is woman farmer in Humnapur village in the Deccan Plateau of South India with just 2.5 acres (1 hectare) of very poor soil. Laxmamma is a leading “Seed Keeper” making great efforts to increase the number of varieties grown by herself and many other women to stop the loss of varieties. Laxmamma and her mother expanded their collection from six to 85 crop varieties in just six years. Many women have started sowing rare crops in their fields and today they have retrieved 60 varieties that might have been lost forever. Gene banks have now been established and seeds are given out to other people in neighbouring villages. Laxmamma is also very involved with the Deccan Development Society (DDS - www.ddsindia.com), both in campaigning and in video filming.

and the health of her soil. All this is a part of a woman's thinking.

Seeds should be in the hands of farmers. Not in the hands of companies. We don't know what chemicals they use for these seeds. Our seeds stay “clean” from chemicals. Companies are profit motivated. They sell seeds. Farmers share seeds.

Farmers must own the knowledge over seeds. Our knowledge decides what we should grow, what



we should eat, what we should feed our animals with. It decides the way we save our earth and the millions of living beings on the earth. It is the way the whole of life is protected. Losing it is losing our being.

As a seed saver where does your knowledge come from?

From my grandmother and from my mother. Even as a child I used to see the way they stored and saved the seeds. I used to think that when I grow up I also should save seeds like them. I also must share it with people the way they did. I dreamt of cultivating relationships with people the way they did.

So which “technologies” do you think are most relevant for small farmers today?

We must have the seeds which are used to our soils. We don't trust external technologies. There is no transparency about them. Farmers don't participate in developing them. We don't use the same parameters as the scientific institutions for our agriculture. The two parameters don't match. We think that the institutional technologies are mostly hyped up. With our own seeds and technologies, we are not only able to feed ourselves, but are also feeding the landless and other non farming people. In any case we don't want to depend upon “outside” technologies.

What are your expectations from the government?

There are many very small farmers, those who have less than half an acre of land. There are people who have no land at all. The government must give all of them some land. The government should also provide some animals to them. On the land, and with animals, people can sustain themselves.

The government should concentrate on the kind of ecological agriculture that small farmers like us are pursuing and ensure it is in their educational goals. More universities and institutions must research our methods and popularise them.

Farming laws must be controlled by farmers. If GM seeds and other such things have to be passed [by law], it has to be first approved by farmers. Farmers trust their governments. Governments must not betray their trust. Governments must not hype up new technologies. They must also warn us about their possible negative effects.

You have been campaigning against terminator technology. Where did you first hear about “terminator” from?

In one of the meetings in DDS [Deccan Development Society] and from some farmers who had gone to Bangkok for a meeting on GM contamination.

As a farmer what concerns you most about “terminator technology”?

If I plant a harvested seed on my land, it gives no food, no fodder. It is as if the light has gone out of my farming. A complete death of my agriculture. I will have no more control over my seeds. My family and my animals will be deprived of food and fodder. My entire relationship as a Seed Keeper with my community will be in peril.

What has your experience been with the “ban terminator” campaign in your village or region?

I personally collected about 2,500 signatures from farmers, on a petition we had made against it, to the Prime Minister of India. I spoke to them about the Terminator seeds which do not germinate again and about GM rice

which might be injected with pig genes. Farmers heard me. Those who were literate read the pamphlets we had made on the Terminator seeds. They were horrified and said, “this is no good for humanity” and immediately signed the petition. I told the non literate farmers that “this primarily concerns us, the food producers. But it also concerns the ‘employed’ who don't farm but eat the food that we produce. If we don't stop the [toxic] GM seeds, it will be akin to cheating them. We should never allow the Terminator seeds into our farming”. Their response was that this is a danger to our farming and we should stop it by all means. And they signed the petition saying that this campaign was a very good effort and people should engage in this.

I also went to the village fairs where there were a large number of people, farmers, vegetable sellers, and artisans – everyone signed it. They were unanimous saying that such seeds should never be allowed into our agriculture. “Already the ‘market’ seeds have taken away agriculture from us. If these seeds come in, we will be totally drowned”.

I also sat in front of the houses of political leaders where many people visit. I explained to them about Terminator seeds and got their signatures.

We took part in a massive campaign on Terminator in the villages in our region. That was the season of religious fairs in our region. The sun scorches and the heat is unbearable. We used the opportunity to put up stalls where we served cold water free of charge. When people came to drink water, we chatted to them, explained Terminator and got them to sign the petition.

Altogether, just in our villages and the region we were able to get over 100,000 signatures on the petition. 