



a handful of diversity

farmers and biodiversity in latin america



**Friends of
the Earth**
International

a handful of diversity

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cultivating changes | part one

"For rural workers, the creation of biodiversity is the result of an interaction between human beings and nature. People are part of nature"

Alicia Paz, Via Campesina/ANUC-UR, Colombia, at the Biodiversity Seminar at the 2003 World Social Forum in Porto Alegre, Brazil.

When Felix Diaz Alvarado and his family arrived at their property in the community of Castelmare de Saino de Pital in Costa Rica, they found the area practically denuded from its original vegetation. Today, after 18 years dedicated to the ecological restoration of their land, more than 137 different species of trees can be found there, including 9 species that are threatened with extinction in Costa Rica. Their technology of forest regeneration has not only proven valuable from an environmental perspective,

but the parcel also provides the family with an additional income through the sale of timber.

Meanwhile, some 6000 kilometres to the South, Bernardo Vergopolen successfully produces yerba mate (a tea-like crop) in the shade of the old trees in the Brazilian Atlantic forest in Parana State. With support from the Brazilian organization AS-PTA, Bernardo also co-manages a community nursery in his village, where he and his colleagues grow medicinal plants and teach local people how to use them.

In the Laguna-Siberia Indigenous reserve in Colombia, Soweida Quilindo and her Indigenous community have been rehabilitating their degraded territorial lands since the 1960s, despite severe political opposition by the government. Within their autonomous territories they practice traditional technologies that build upon the relationship between traditional knowledge, communal territory and self-sustenance: local production for local consumption.

Down in Paraguay, Miriam Gomez, a farmer's daughter from the community of Tovati, is assisting farmers in her region with the management of their forests and watersheds. Her main objective is to recuperate the traditional knowledge about ecological forest and watershed management and medicinal plants that exists within these communities.

Felix, Bernardo, Soweida, Miriam, and other Indigenous and non-Indigenous farmers came together with representatives of environmental and social organizations at a day-long seminar on 25 January 2003 at the World Social Forum in Porto Alegre,

Brazil'. The objective of the seminar was to share experiences about the initiatives Latin American farmers, often in cooperation with Non-Governmental Organizations (NGOs), have taken to protect, restore and develop the biological diversity on and around their lands. Their activities range from forest restoration to the conservation of traditional seeds and medicinal plants.

What these farmers have in common is a deep respect for the value of biodiversity and the function it has in keeping their lands fertile and prosperous. The seminar also showed how NGOs have actively supported these initiatives through projects like "Cultivating Biodiversity", an initiative by GRAIN and other groups to support the biodiversity projects of farmers in over 37 different countries.

"We protect our seeds like our children."

Sofia Ganaria, a traditional seed saver from Chile, at the Biodiversity Seminar.

The aim of this report is to give an insight into some inspiring examples of small farmers who have decided to foster, protect and develop the biodiversity that

forms the basis of their livelihoods. In particular, it will elaborate on three local projects that are being implemented by farmers groups in Costa Rica, Paraguay and Uruguay, in cooperation with national member groups of Friends of the Earth International and other social movements. However, this report will also give insight into some of the direct and underlying causes of biodiversity loss, particularly as they relate to unsustainable agriculture and the promotion of monocultures like monoculture tree plantations.

Most of the information in this report was presented during the above-mentioned seminar on Indigenous' and Farmers' Biodiversity, and a small workshop on farmers and forests that took place on 24 January 2003 at the World Social Forum.



from pineapples to forest | part two

From the beginning of the 1980's, Costa Rica established a system of subsidies for forest conservation and reforestation which was meant to address the dramatic deforestation that had been taking place in this Central American country from the 1960s onwards. Regretfully, a substantial part of the payments ended up in the hands of large landholders who established monoculture tree plantations. In terms of biodiversity, the overall impact of these plantations was negative: in some cases they substituted the last primary forests that still remained in the area, others replaced paddocks that, though often

degraded, still contained remnants of tree species from the forests that existed there, and were valuable from a biodiversity perspective. Nowadays, monoculture tree plantations cover between 121,000 and 147,000 hectares, making them more widespread than coffee plantations (108,000 hectares), banana plantations (49,000 hectares) or sugar cane plantations (47,000 hectares).

The parcel of Felix Diaz Alvarado and his family forms a small island of biodiversity in a sea of teak and gmelina plantations in the North of Costa Rica. When they arrived in the area they found their land



area. It was then that they decided to start with their forest restoration initiative, despite opposition by the plantation companies that wanted to take over their land.

The family continued to visit their parcel at least twice a week, facilitating natural

With support from the NGO Coecoceiba/Friends of the Earth Costa Rica, Felix is now travelling around the country to present his experience to other farmers and train them in ecological forest restoration. This year he became a member of the Executive Committee of



covered with paddocks. Of the forest only a small strip at the edge of a cliff remained. First they decided to grow pineapples, but due to problems with transport and commercialisation, they decided to start a process of forest restoration, while continuing with some of the pineapple production.

In the early eighties, the plantations around their parcel expanded rapidly. The result was that land was concentrated in a few hands, small farmers left the area, and the nearby village was depopulated. The family was forced to move to a larger village 9 kilometres away, as there were no schools, markets or transport left in their

regeneration and complementing it with seedlings of native timber trees mixed with fruit trees and medicinal plants. Today, the forest of the Diaz Alvarado family contains a biological diversity that is a little larger than other secondary forests of the same age in Northern Costa Rica. Furthermore it still produces some pineapples as well as good quality timber, fruits like guave, and medicinal plants for family use. Thanks to a few small biological corridors with similar natural areas, other forest species have returned to the area too, including at least three species of monkey.

the National Forest Office of Costa Rica, where he advocates for the reform of the eco-services law so that it finances forest restoration instead of plantation establishment.

"There are 300 native tree species with commercial value in Costa Rica, but consultants only promote the use of 9 exotic species. Consultants claim that plantations contribute to forest conservation, but these plantations are highly destructive for biodiversity",

Felix Diaz Alvarado at the Biodiversity Seminar.



a living pharmacy | part three

Paraguay is one of the countries in Latin America in which knowledge of medicinal plants and their applications is still very important. The different Indigenous cultures that coexist on Paraguayan territory maintain and still practice their knowledge of traditional medicine.

Non-Indigenous rural communities, and even urban people - the majority of whom are migrants from the countryside - have adopted important elements of Guaraní Indigenous culture. The use of traditional Indigenous medicinal plants as well as medicinal plants originating from Europe - especially Spain - forms an important element of contemporary

Paraguayan culture. Native edible plants are also an important element of the diet of rural communities. They contribute to a major extent to the food security of rural families, especially families with limited resources.

With the arrival and growing dependency upon conventional medicines, many of the customs, traditions and usages of medicinal plants have been lost.

Sobrevivencia/Friends of the Earth Paraguay began with its work in the Los Altos hills in the centre of the country in 1986. The group founded two experimental sustainable production farms where programmes to recuperate



traditional knowledge and to train people in sustainable agrarian production methods are being implemented. Activities include a capacity-building programme in sustainable production methods for young local farmers. Some of them are being trained as socio-environmental guides. Sobrevivencia also implements joint programmes with community organizations and educational institutions in the Los Altos region on the topics of sustainable community-based forest management and watershed management through the sustainable management of surrounding territories.

The recuperation of traditional knowledge about medicinal plants forms an increasingly important element of this work. A medicinal garden has been established at the Yvaporuvu farm in the Itaguazu community. The plants that are used as medicines by the community can be found in this "living pharmacy", which was made possible through the joint efforts of the socio-environmental guides and the families within the Itaguazu community itself. Nowadays, the "living pharmacy" includes 51 species, and this number is growing as the community continues to add to the garden. The garden has become a source of

knowledge exchange through the means of plants, and in this way traditional knowledge is kept alive through daily practice.



protecting local varieties for family farms | part four

In Uruguay, the neoliberal economic policies of the last decades promoted an agricultural model that depreciated national production for the internal market, the final objective of small-scale family production, and favoured food imports. These policies had devastating impacts for family farms. The result has been a significant decline in small and medium-scale production, the concentration of land in the hands of large enterprises, a dramatic loss of rural employment, rural emigration and a food crisis of proportions previously unknown in Uruguay, affecting mainly children. This model also led to a severe loss of cultivated biodiversity.

The conservation and reintroduction of local varieties of food crops like butter beans can play an important role in promoting food autonomy for rural families. To halt the loss of local varieties that form the basis of small-scale production, the Association of Organic Producers in Uruguay, the Agricultural Faculty of the Republic's University and the environmental organization REDES/Friends of the Earth-Uruguay initiated a project to identify and multiply local varieties that are normally used by small-scale producers and to reintroduce local varieties that have not been used widely for a long time. The objective is to ensure the availability of these species for family farm production.

The initiative also aims to raise consumer awareness about the ecological, economic and social importance of local varieties. Mutual agreements between the producers and consumers of local varieties are developed so that producers are ensured of a market and consumers of good quality local produce. The project partners also work with neighbourhood organizations that are developing community gardens in which local varieties are reproduced.

"In countries like Ecuador, forests were seen as an obstacle to development, just like small farmers were seen as an obstacle to development. This has led to serious degradation of forests and livelihoods. We are part of nature, we should respect the nature that is in our hands if we want to survive. Without the forest we also lose our identity. My community was called Selva Madre (Forest of the Mother), but that forest has now completely disappeared, just like some 70% of the Ecuadorian forest has disappeared."

Johana Mayorca, Via Campesina, at the Biodiversity Seminar.

los manos santos² versus monsanto | part five



Seminar participants did not only discuss successful examples of the management of agricultural and forest biodiversity by farmers and Indigenous Peoples. Like the small parcel of land recovered by Felix Diaz' family, many of these projects are islands within an ocean of ever-expanding large-scale monocultures of eucalyptus, soy, corn and other agro-industrial products. The expansion of large-scale agriculture has also been by far the number one cause of global biodiversity loss, especially through forest conservation. In 1995, the FAO estimated that unsustainable agriculture was responsible for 80% of the total loss of forests, home to at least half of all species.

"The Brazilian Atlantic Forest, a biologically unique forest, once covered almost the entire Brazilian East coast, but it has been reduced to less than 8% of its original size. More than anything, it was the expansion of the European model of agriculture, brought to Brazil by European migrants that had little knowledge of Brazil's ecosystems, that has been the main factor in the destruction of the Atlantic Forest."

Kathia Vasconcellos Monteiro, FoE Brazil, at a workshop on forests and farmers on 24 January 2003 at the World Social Forum.



Such monocultures include more than simply agricultural crops. Monoculture tree plantations increasingly form a major threat to forests and other ecosystems, as well as to local communities. As they provide up to 800 times less employment per hectare of land in comparison with small-scale agriculture, they are a major cause of rural unemployment, landlessness, depopulation of some areas and forced migration of small farmers to forests and other remote areas.

"In the Brazilian State of Espirito Santo, people call these monoculture tree plantations "dead forests, that kill everything". Under the dictatorship and thereafter, large areas of Espirito Santo were covered with monoculture tree plantations, despite the resistance of the local Tupinikim and Guarani Indigenous Peoples. Plantations tend to form the last step in the deforestation process. The Indigenous Peoples in Sarawak (Malaysia) say that plantation companies are even worse than logging companies. The reason is that the loggers come, cut the best trees and leave, while plantation companies come, cut all the trees, plant their own trees

and stay! They not only destroy all the biodiversity but on top of that they appropriate the land local people depend on. Moreover, as foresters consider people a threat to plantations, their first step tends to be to evict the local people",

Ricardo Carrere, World Rainforest Movement, at the Biodiversity Seminar.

Unsustainable agriculture, which is accompanied by the extensive use of pesticides, also forms a major threat to aquatic and marine biodiversity. But the Green Revolution model has led to an even more devastating loss of biodiversity within the farmer's fields. As German Velez of GRAIN highlighted

at the Biodiversity Seminar, the Green Revolution model has led to pesticides, mega-projects, markets and health programs that fail to value biodiversity, and a general lack of political will to address genetic erosion.

Teri Dunn from the Canadian National Farmers

employment and biodiversity loss. Due to a combination of agricultural trade liberalization and subsidy schemes favouring large-scale production, small farmers in developing countries have found themselves unable to compete with large agri-industrial farms in the US

90% of the transgenic seed market. These companies often sold these seeds as a package with the pesticide they were resistant to, and under strict intellectual property right clauses that prohibited farmers from using them for further plant breeding. This privatization of what used to be



Union explained at the seminar that, it is the food industry, concentrated to a large extent in the hands of a few global multinationals, which demands this uniformity. This homogeneity has led to a concentration of power and finance. The technology promoted by these companies and their allies in the government has allowed them control over all aspects of the food production chain.

The Green Revolution, which was partly financed by these multinationals, has imposed this model of intensive mass production on small and large farms all over the world. The results have been devastating, in terms of both rural

and Europe. They have been marginalized, driven off their lands, and forced to move to forests and other areas with poor soil unsatisfactory roads, schools and other infrastructure, and far-off markets .

Whereas small-scale farmers traditionally tried to mitigate the risks of pests and weather through the development and use of different crop varieties, the Green Revolution and accompanying trade liberalization forced them to use uniform, sometimes genetically modified, varieties. These varieties were sold by fewer than half a dozen giant seed multinationals, in particular Monsanto, which controls

commonly shared resource has also led to many forms of so-called biopiracy: the patenting of plant varieties that were developed and used by traditional farming communities and Indigenous Peoples.

"Land tenure is very important, but it does not give people the right to do whatever they want with the land. Too often, land reform is a process of handing over lands only. Via Campesina campaigns for a more integrated concept of land reform, which includes access to land as well as access to other means of production like water and seeds, so that people can enjoy the fruits of the land...All these resources, the soil, seeds and water



should be declared the heritage of humankind. The privatization of life has to be opposed. If life is destroyed, it is not only fauna and flora that are being destroyed, but also the human diversity that forms the basis for production."

Alicia Paz, Via
Campesina/ANUC-UR,
Colombia.

"Individuals will be able to sell communal traditional knowledge to large companies. Once patented by these companies, the community will face legal fines if it uses its own traditional knowledge"

Camilla Montecinos, GRAIN,
at the Biodiversity Seminar.

The contamination of organic fields by genetically modified seeds forms yet another threat to sustainable agriculture. Genetic contamination also threatens the centres of origin of important crops like corn. Countries like the United States deliberately use food aid to export genetically modified food and impose them upon countries that have banned these crops as they are unable to deal with the risks of this new technology. In the case of Zambia, the US sent 9200 tons of genetically modified food aid, even though there were sufficient non-genetically modified alternatives available, including in Zambia itself.

"In 2001, traces of transgenic corn were found in the corn in Indigenous areas in Mexico, despite the fact that the use of transgenic corn has been prohibited in Mexico since 1999. The contamination has probably been caused by the sowing of corn that was imported from the US as animal fodder by farmers who used to use part of their harvest for the next growing season..",

Silvia Ribeiro, Etc. Group, at
the Biodiversity Seminar.



resisting biocrats and trade liberalization | part six

Regretfully, the international community does little to promote sustainable agriculture. To the contrary, institutions like the FAO continue to promote large-scale monocultures as the solution to hunger, and as the answer to the insatiable demand of Northern wood and paper industries for timber and pulp.

"We need to tackle the technologies that are proposed by the Green Revolution model of production. We have to convince farmers that their traditional farming methods might have been very valuable from a social and ecological point of view. The UN Food and Agriculture Organization (FAO) claims these technologies will not feed the world, and they classify diversity as non-productive. But what is the value of this efficiency? We see an invasion of a new kind of culture: consumerism. Unsustainable consumption forms one of the most important underlying causes of biodiversity loss. But Northern leaders like President Bush claim their lifestyle is not up for

negotiation. International institutions support this overconsumption. The World Trade Organization is the latest and probably the most powerful of these institutions. We should not underestimate how the WTO undermines our livelihood systems. The WTO supports a system through which Northern agriculture is heavily subsidized, and these products are dumped in the South as cheap imports. Further trade liberalization will only increase this problem. It has to be demonstrated how the US and the EU are cheating and manipulating the agenda of the agriculture negotiations to continue these practices."

Meena Raman, Sahabat Alam Malaysia/Friends of the Earth-Malaysia, at the Biodiversity Seminar



Regional trade agreements form a potentially even greater threat. The draft Free Trade Agreement of the Americas, which is currently being negotiated under heavy pressure by the US, makes some of the WTO clauses look relatively innocent.

"Through the obligatory abolishment of economic or technological support measures to protect national products and producers in the international agricultural market, and the subsequent opening up to imported agricultural products, local, small-scale agriculture will be devastated. Even when small farmers survive in this market, they will have to conform to a system in which large companies can control every aspect of production, commercialization and processing, from the seed to consumption."

Camilla Montecinos, GRAIN, at the Biodiversity Seminar.

Meanwhile, the Convention on Biodiversity is of little help as far as protecting small farmers and their biodiversity is concerned.

"In 1992, the Convention on Biodiversity was signed. The positive impact of this convention was that it increased public attention for the need to conserve biodiversity, but the negative impact was that it created a new kind of species: Biocrats. These biocrats agreed that all genetic resources were accepted as property of the country where they happened to be at that moment, which means that the genetic resources in the world's large gene banks, that were mainly based in the North, were suddenly all



considered as property of the North. It also allowed countries to sell their biodiversity on the basis of bilateral agreements and simulated intellectual property rights. In short, it formed a ratification of colonial biopiracy."

Pat Mooney, ETC Group, at the Biodiversity Seminar.

The Trade Related Intellectual Property Rights agreement of the WTO forms one of the most important instruments through which strict forms of intellectual property rights like patents are being imposed on developing countries. Resistance to such patenting of life forms is growing:

"In Europe, NGOs and farmers' movements are trying to fight proposals to introduce the US system of patenting life forms in Europe. However, the European Union seems more and more inclined to adopt such systems. It has already allowed the patenting of micro-organisms",

Cedric Cebanne, Friends of the Earth France, at the Biodiversity Seminar.

Resistance is also growing amongst African countries, which have developed an alternative system for the protection of genetic resources. But as was stated by several participants at the Biodiversity Seminar, some of these systems are a trap, as they tend to become more and more restrictive, and ultimately promote the privatization and commercialization of biodiversity.

challenging a culture of consumerism | part seven



"Not only do we have to change cultivation techniques, we have to cultivate a change of culture."

Miguel Lovera, coordinator, Global Forest Coalition.

As German Velez pointed out in his presentation, the real alternatives to the agricultural model that leads to biodiversity loss include food sovereignty, empowerment of local communities and their networks, and resistance to patents and hybrid seeds. The inspiring initiatives that were presented at the seminar can lead the way to addressing the world's biodiversity crisis, but they will only survive if the underlying causes of biodiversity loss are effectively addressed.

"The local experiences form a valuable basis of work, but we have to defend them against pressures that are determined by international factors"

Angelica Celis, coordinator of the Community Biodiversity Conservation and Development project, at the Biodiversity Seminar.

In the end, this means we need to replace the culture of consumerism with a culture of respect for the world's biodiversity, which is the basis for the inspiring initiatives the Indigenous and non-indigenous farmers quoted above undertake in their daily lives.

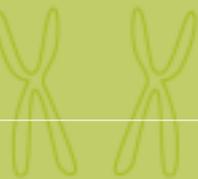
"Another world is possible, if we make it possible."

Meenakshi Raman at the Biodiversity Seminar.

1 | The Seminar on Farmer's and Indigenous Biodiversity was organized on 25 January 2003 by a unique coalition of eight social movements and Non-Governmental Organizations (NGOs): Friends of the Earth International (FoEI), Via Campesina, the Erosion, Technology and Concentration Group (ETC Group), Genetic Resources Action International (GRAIN), the Community Biodiversity Conservation and Development Project (CBDC), the Global Forest Coalition, the International Alliance of Tribal-Indigenous Peoples of the Tropical Forest, and the Brazilian Landless Rural Workers Movement (MST). The author of this report would like to thank them for their cooperation in the organization of this event. We also thank all presenters, most of whom are mentioned in this document, for their inspiring presentations.

2 | Healthy hands.

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