



**RECORD HARVEST**  
**RECORD HUNGER**

starving in GE Argentina



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**GREENPEACE**

# Record Harvest – Record Hunger

## Summary and recommendations

One of the great promises made for genetically engineered (GE) crops by the GE industry is that they will help feed the world. But the case of Argentina points to exactly the opposite conclusion. GE technologies have actually increased poverty and hunger.

Argentina has adopted GE crops more enthusiastically than any country other than the United States. Since their introduction in 1996, the area under soya cultivation has more than doubled. But during the same period food insecurity has greatly increased. Half the population – 18 million out of 37 million – are now on the breadline. Set aside export led growth and models of globalisation. The reality in Argentina is that hundreds of thousands of children are malnourished or at risk of being. Millions of people go to bed hungry.

GE crops are not the only cause of hunger and poverty in Argentina. There are many other factors in the current economic crisis. But not only has it done nothing to improve the situation; the spread of GE crops in Argentina has undermined the resilience and capacity of people to look after themselves when the state fails.

GE crops lock Argentina into the wrong kind of trade: a model of export-oriented agriculture that serves a privileged few but undermines the food security of ordinary people at home. A large part of Argentina's GE soya crop is turned into fodder for livestock. The production methods employed – dependent on heavy use of chemicals – are destructive of local environments as well as local communities.

There are other false claims associated with GE. Genetically engineered crops are no more productive than other varieties. Gains in production that can be identified simply come from turning more land over to agriculture, not productivity improvements. GE soya production poses a further threat to Argentina's most precious rainforest areas.

There is abundant evidence that GE-free, patents-free and chemical-free farming already works well in many parts of the world and has tremendous potential to provide livelihoods and food security to millions more in Argentina and around the world (see [www.farmingsolutions.org](http://www.farmingsolutions.org)).

### ***Greenpeace therefore calls for concrete measures:***

- to ban the release of GE crops and genetically modified organisms (GMOs)
- to enhance food sovereignty and security within the next decade by giving priority to sustainable agricultural practices that respect traditional knowledge and the environment
- to ratify immediately both the International Treaty on Plant Genetic Resources for Food and Agriculture, and the Cartagena Protocol on Biosafety
- to recognise and implement the sovereign right of countries to prohibit imports of genetically modified organisms and to protect national genetic resources from contamination by GE, especially in centres of biodiversity
- to stop patenting life forms and to ban any 'genetic use restriction technologies', in particular 'terminator' technologies, as well as to maintain and increase public control of agricultural biodiversity
- to eliminate environmentally destructive government subsidies in the agricultural sector

## Foreword

### God is Argentinian

Argentina is the Barn of the World: it is the country of good beef. A land blessed by nature with outstanding geographic and climatic conditions, it is by any reckoning one of the last places on earth for people to be hungry. It is also a country free of conflict – there has not been a war in continental Argentina since the late 1880s, and the most recent armed conflict was in 1982. It lasted just over two months against Britain over a territorial claim to the Malvinas/Falkland Islands in the far South Atlantic ocean.

The flat and fertile *pampa húmeda* (wet pampa) enjoys abundant rainfall. The great diversity of climate – ranging from alpine Patagonia to the tropical north west and north east, through dry areas to the west – means virtually anything can be produced in Argentina. As well as its main export crops (soybeans, corn, sunflower and wheat) Argentina also produces meat, cotton, sugar, rice, tobacco, oranges, lemon, potatoes, apples, pears, peaches, olives, and, of course, wine.

Argentinian farmers are well trained and many have been on the land for generations. Infrastructure is good, with roads and railways connecting the fields with the main ports and cities.

Agriculture is what keeps our country going, is what our lives eventually depend on. “We just need one good harvest to get out of this one” we tend to say at times of crisis, or “At least in Argentina we won’t starve.” Agriculture has kept the cash flowing: more than 60% of all our exports depend on our land. Production, distribution and transport of agricultural produce, as well as related products and services mean 34.1% of all jobs flow from local production.<sup>1</sup>

Beyond its economic implications, agriculture is an almost sacred activity in the country. At the main arena of the Argentinian Rural Society in the heart of Buenos Aires a big sign puts it clearly “To cultivate the land is to serve our homeland” (“Cultivar el suelo es servir a la patria”).

In times of the most recent extreme weather events – the floods of the early 1980s as well as 2001, the country never stopped exporting crops, meat or fish, nor was there a significant fall in the average amount of food per capita.

Even the recent catastrophic economic crisis, the worst in a hundred years according to experts, has not yet had a drastic impact on the level of crops harvested from Argentinian fields recently.

To sum up, it is hard to believe that God is not Argentinian. Blessed with productive agriculture, a small and compact population, abundant resources and good weather and an absence of conflict, why then are almost 50% of the people in this very rich country poor, many of them facing starvation?

The reasons are many, some embedded deeply in history. However, seven years ago companies like Monsanto, along with local agronomists and politicians promised that embracing Genetic Engineering would boost the economy, make our fields healthier and feed the people.

This reports shows the clear impact of embracing GE crops: they were planted with greater enthusiasm than anywhere else in the developing world, but their ‘success’ in Argentina has not contributed at all to the real causes of hunger. It has been all about money so far.

Emiliano Ezcurra, Greenpeace, Buenos Aires.

## Record harvest – record exports

Every year for the last ten years the harvests of Argentina's four biggest cash crops – soybeans, wheat, sunflower and maize – have set new records.

Argentina has been one of the most enthusiastic adopters of genetically engineered (GE) crops in the world, and is now the second biggest producer of Roundup Ready (RR) soya in the world. Since RR soya was introduced in 1996 the size of the crop has almost doubled to nearly 27 million metric tonnes.

RR soy produced in Argentina has been destined overwhelmingly for export. And the headline figures look good. Monsanto estimates that in the three years to 2001 the crop generated US\$3 billion (3000 million) in foreign exchange for the country.<sup>2</sup>

## Record concentration

But these superficially impressive figures have come at an enormous price in livelihoods and now in hunger. Land ownership and agricultural production has concentrated massively in fewer hands while the number of people employed in agriculture has fallen sharply.

Soy products are now Argentina's two biggest agricultural export earners by value and second biggest by volume but they are 11th out of 14 food sectors by the numbers of jobs they generate within Argentina.<sup>3</sup>

Record crops are linked to strong land concentration. Small and medium size farms in Argentina have disappeared in record numbers over the last decade, falling by more than 30% between 1992 and 1999. In 1992 there were 170000 small and medium sized farms in Argentina. As a corollary, average farm size has increased sharply as the sector is increasingly dominated by big agri-business concerns. In 1999 there were 116000. Average farm size has increased from 243ha to 357ha.<sup>4</sup> At the same time, an increasing proportion of soya exports are controlled by just five companies.<sup>5</sup>

## Record poverty and hunger

In spite of record-breaking harvests nearly half of Argentineans are living in poverty. As of May 2002, 18 million people almost 50% out of a population of approximately 37 million cannot afford to meet their basic needs.

In a country where the whole economy is in crisis and the state does not protect its people the consequences are obvious. Infants are malnourished and at risk of brain damage and do not thrive. Older children are so hungry that they cannot concentrate at school or even enjoy playing with their friends. Many adults regularly go hungry, with all the misery that implies. In some places, people are starving to death.

The chief of Argentina's national statistics institute, Juan Carlos Del Bello, explains why. "The dramatic increase in the number of people living in poverty is due to the 35.3% increase in basic food product prices since last December [2001]."<sup>7</sup> Food now accounts for nearly half the total income of families below the poverty line. The price of bread rose by 30% in the first five months of 2002 – by 10% in one week of May alone. The price of cooking oil has doubled.

Prices have risen further and faster for food than for any other section of household expenditure. At the same time, government and business have continued to promote export-oriented agriculture. The food security of Argentinians has not been a priority of the authorities when setting goals for the nation's agriculture.

## False promises

Despite biotech industry claims, GE crops are not the solution to world hunger

*“With transgenic crops science makes a decisive contribution to win the war against hunger.”*  
Carlos Saúl Menem, Former President of Argentina.<sup>8</sup>

*“The day you look into the eyes of a starving person, your opinion over transgenic crops changes... Today, 24,000 people a day die because of malnutrition. So when the North, Europe, decides not to use this technology, this is morally unacceptable.”*

Dr Clive James, biotech specialist at International Service for the Acquisition of Agri-Biotech Applications (ISAAA).<sup>9</sup>

*“Biotech will bring better quality harvest, better yield ... sustainability in agriculture producing more food, of better quality and protecting the environment.”*

William Kosinsky, Biotech Educator of Monsanto.<sup>10</sup>

The main argument championed by the GE lobby ever since 1996, the year that RR soy was approved in Argentina, has been that GE crops will make a substantial contribution to food security. Such claims have become the daily diet of Argentinian newspapers and magazines. But not a single extra stomach has been filled as result of introducing RR soy in the country. On the contrary, there is solid evidence that nutrition levels for many Argentinians have declined.<sup>11</sup>

### GE soybeans for the poor?

GE lobbyists in Argentina have recently gathered official and private support for a programme to deliver GE soy food products to the needy on a large scale. They have set up teams to train housewives to prepare different dishes using soy as the main ingredient.

Such an approach goes against the best advice of medical experts and nutritionists, who recommend a diverse diet, not one based on a single crop. What in practical terms means a temporary relief and charity is presented again with the publicity of *the* only solution, the magic bullet.

Meanwhile, the Argentinian government continues to deny people the right to know what they are eating by blocking all measures to label GE foods. Those who are desperate for a square meal will not be allowed to know – officially – where it comes from, although they may be painfully aware that thousands of hectares given over to massive agri-business concerns. Unemployed, dependent on hand outs and with their dignity taken away, they are denied access and training so that they might work the land and choose what to grow for themselves.

But there are alternatives. Community training programmes such as the Pro-Huerta Programme from the National Institute for Agricultural Technology help around three million people every year to improve productivity on diversely cropped family farms, thereby increasing their independence and food security. These programmes should be enhanced towards staple crops. This is the only way to bring a safe and diverse diet to millions. This way there is also the dignity of employment, of working the land. These solutions are cost effective, dignifying and technologically proven.

More than twenty years ago, the Nobel Laureate economist Amartya Sen demonstrated that hunger and famine can and often do occur in situations where there is no overall shortage of food. Sen explained that when, even in situations of overall food abundance, a household's 'entitlement' (that is, its ability to acquire food through legal means) is eroded because of a fall in ownership of assets (crops, livestock, property, jobs and so on), households will face hunger and starvation, unless there is some form of social security to protect them.

*"Let's stop pretending we face food shortages. There is hunger, but not food shortages. GM food is for the rich world. The money from GE is in developed countries."*

Sergey Vasnetsov, Chemist Industry analyst for Lehman Brothers<sup>12</sup>

The Argentinian economic crisis has come at a time when large numbers of people have been displaced from rural livelihoods. People have moved to the cities where there are precious few economic opportunities. 'Entitlement' for millions in city and countryside are disappearing. The state does not provide for the poor but continues to support export-oriented agro-industry.

## GE does not increase yields, protect biodiversity or slow deforestation

*"Either we plant GE crops or we clear cut the Amazon, there is nowhere else to grow crops."*

Prof. Lino Baranao, University of Buenos Aires<sup>13</sup>

Industry representatives and their allies have consistently argued that GE crops will help protect the environment by increasing yields on land that is already cultivated, and so reduce the need to clear forest or other precious habitats for agriculture. This misrepresents the truth. The experience in Argentina has shown the opposite is true.

Roundup Ready Soy has not improved yields in either the US or Argentina, countries where most of the world's GE soy is grown.<sup>14</sup> The huge increase in Argentinian soy production – from around 10 million tonnes in 1991 to nearly 27 million tonnes in 2001 – is a result of increasing acreage, not increasing yields.

The increase in acreage has come about both through the replacement of other crops – not least on what were once small and medium sized family farm growing food for local and national consumption – and by deforestation. Greenpeace has studied in detail how GE soy has contributed to accelerated destruction of one of Argentina's most precious and biodiverse ecosystems, the Yungas Forest (*see box GE Soy and Deforestation*).

## GE soy and Deforestation

The northern province of Salta is one of the economically poorest but biologically richest in Argentina. Here lies the Yungas mountain rainforest, or 'cloudforest', probably the most biodiverse area of Argentina. The forest can be divided into four zones according to altitude, which ranges from 300m (950ft) to more than 4000m (14,000ft).

The first zone, the *Selva Pedemontana* (forest at the foot of the mountain), is the most threatened. This zone harbours 30% of all biodiversity of this valuable ecosystem. But less than 20% of the Yungas remains in good condition for either conservation or sustainable development activities. The Selva Pedemontana is the zone at highest risk and has traditionally suffered conversion to sugar cane and orange plantations. More recently, beans and tobacco monocultures have contributed even further to forest destruction. But now Roundup Ready Soy threatens to strike the final blow to this unique and wonderful ecosystem.

"At this pace we can forget about the Selva Pedemontana in 5 years" says Dr Alejandro Brown, founder of the Ecological Research Yungas Laboratory at the National University of Tucumán.

RR Soy plantations contribute to deforestation. According to Dr Brown's report, 1000ha (2500 acres) a year of Selva Pedemontana are transformed to GE Soy in the areas of Orán and Tartagal in the province of Salta.<sup>15</sup>

## Conclusion and recommendations

GE crops have delivered record agricultural exports but the environmental and social price is both unacceptable and unsustainable. Livelihoods have been destroyed, hunger has increased and the environment is being badly damaged.

### ***Greenpeace therefore calls for concrete measures:***

- to ban the release of GE crops and genetically modified organisms
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- to eliminate environmentally destructive government subsidies in the agricultural sector

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photos: above and cover (top), harvesting GE soya, Argentina (Gustavo Gilabert), cover (below), poverty in rural Argentina (Gustavo Tarchini)