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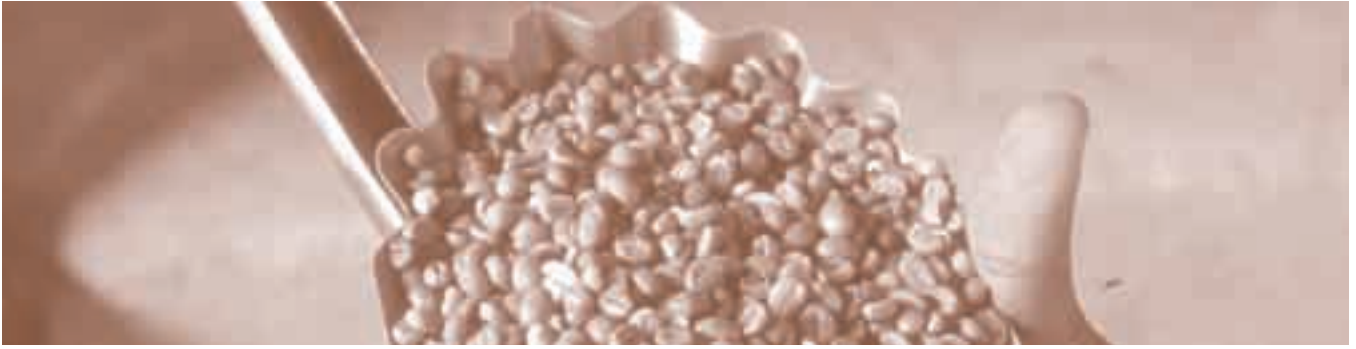
Robbing Coffee's Cradle – GM coffee and its threat to poor farmers

An ActionAid
Briefing



Photo: Jenny Mathews/Panos Pictures

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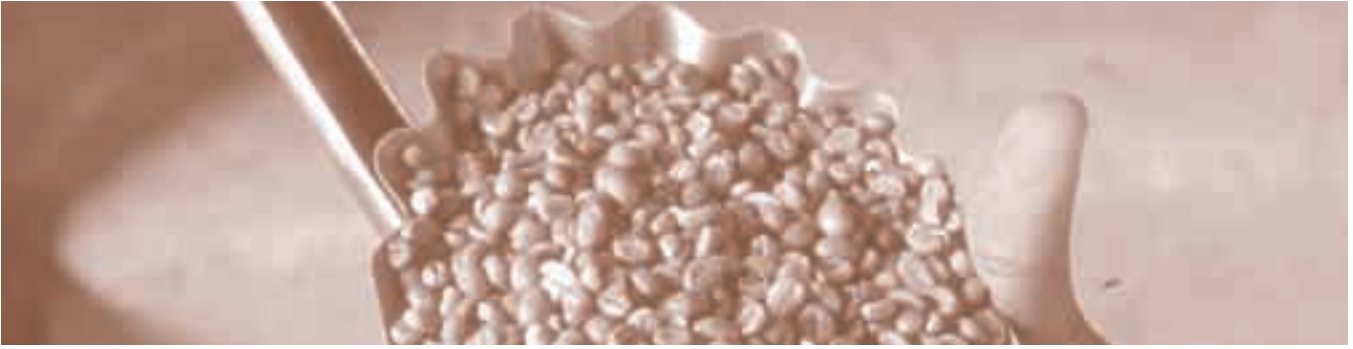
Robbing Coffee's Cradle – GM coffee and its threat to poor farmers

The coffee crop relied upon by more than 60 million people for all or part of their livelihood is under threat.¹ The market for this most valuable agricultural commodity has been volatile and fragile for decades, overproduction is crippling the coffee market and driving prices to all-time lows. Now industrial applications of GM coffee are poised to fundamentally change coffee production at the risk of putting millions of smallholder growers out of business.

The production of the coffee we all drink is at a crossroads: it can either continue to be grown the traditional way, producing high quality coffee that supports millions of families and provides developing countries with large amounts of desperately needed income, or it can be developed in ways that are designed to help huge industrial plantations increase their profits and drive smallholder coffee farmers out of business with no significant benefits for coffee drinkers. Neither option is a foregone conclusion. We consumers who buy and drink coffee have a simple choice that can affect millions of lives.

In a world of increasingly industrial agriculture, corporate control over the food chain and unfair international trade rules, the GM coffee examined below is an unnecessary technology with a sting in its tail. While many GM companies insist that GM is an important part of feeding a growing world, the example of GM coffee shows that the irresponsible and unaccountable introduction of such technology can actually drive people further into poverty and hunger. The motives behind GM coffee are not altruistic.

This report outlines the problems already faced by smallholder coffee farmers, why GM coffee is being developed and how it can be stopped with your help.



How coffee is grown

Coffee has been grown for centuries in traditional plots mixed with food by smallholder farmers and their families. These farmers still produce 70 per cent of the world's coffee and contribute to safeguarding biodiversity of coffee and other plants. More recently, however, huge plantations have begun to produce coffee in some countries using industrial, usually chemically intensive, methods growing only a single type of coffee in direct competition with smallholders.

Coffee grows in around 80 tropical countries. Three quarters of all beans are exported, mostly to Western countries.

Around 70 per cent of all coffee is grown by around seven million poor farmers in plots ranging from small back yards to five-hectare farms.ⁱⁱ For many smallholder farmers it is their sole source of income. Trees are carefully tended and maintained in intricate integrated environments used for many purposes. Smallholder coffee is generally 'intercropped' (grown on the same land) with food crops. Coffee trees are often shaded by larger trees, which improves the quality of the crop. In Brazil and Cote d'Ivoire, for example, coffee trees grow in forested areas with shade from 50 other trees providing cover. In countries such as Tanzania, Kenya and Uganda, coffee and bananas grow in the same plot. In Cameroon, coffee grows alongside bush mango, which is important to local economies, medicine and is also reported to help restore soil fertility.^{iii iv} In other environments, coffee trees provide shade for food crops, helping to ensure food security for the farmer's family. Many smallholders – 90 per cent in the case of Ethiopia – grow coffee without

chemical fertilisers or pesticides.

Intercropping and use of green mulches help to control pests and disease and to retain moisture around the stems of coffee trees in dry weather.

Thirty per cent of the world's coffee grows on larger farms and monocrop (single crop) plantations ranging from 5 to over 5000 hectares. Many plantations are owned by huge Transnational Corporations (TNCs) and are significant employers of local labour. In Brazil, the world's largest coffee producer, the average sized plantation is 1000 hectares. Most research and development into coffee growing aims to increase the competitiveness of these plantations.^v

Coffee berries, known as cherries, containing the beans, grow on trees that range from small shrubs to a height of 10 metres. Coffee cherries grow in tight clusters on the trees and ripen at different times. This makes harvesting a labour intensive process. The cherries must be picked by hand as they ripen, usually over 3 to 4 months. After harvesting their cherries, farmers usually wash, pulp and dry them before selling.

Mechanized strip harvesting technology has been introduced on larger farms and plantations to reduce labour costs, but picking all the cherries at the same time, whether ripe or unripe, lowers the quality of the crop. Attempts have been made to force the ripening of coffee cherries by using the chemical ethylene, a plant hormone. Such forced ripening again lowers quality.

Three quarters of commercial coffee is Arabica, which is indigenous to the highlands of Ethiopia and the Boma plateau in Sudan. It appears to have been cultivated first in Arabia in the 14th century before spreading to other

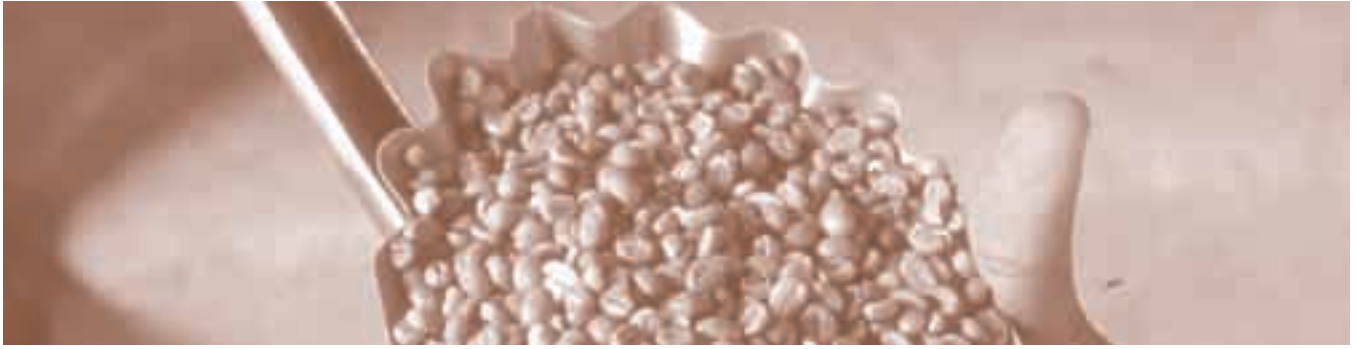
regions in the 17th century.^{vi} Noted for its aroma, taste and quality, Arabica coffee had become a popular drink in the UK by 1650 and is now grown throughout Latin America, in east and central Africa and India. Brazil and Colombia account for almost half the world's Arabica production and exports. Robusta coffee grows at lower altitudes, chiefly in Vietnam, the largest producer, West Africa and Indonesia. Used for blended and instant coffees, Robustas fetch approximately half the price of Arabicas on world markets.

Trading coffee – the first in line gets the least

With international trade rules stacked against them, smallholder coffee farmers are caught in an elaborate trading system where they do not hold power and are often exploited by others operating in a volatile market.

Before the price collapse in 2000, coffee was the world's largest traded primary commodity after oil. The world's coffee supply is controlled by four TNCs: Procter and Gamble, Kraft/Phillip Morris, Sarah Lee and Nestlé.^{vii} The drop in prices by half – down from 126 cents a pound to 65 cents a pound for Arabica coffee – was a severe blow both to people who grow coffee and to countries dependent on it for most of their foreign exchange. In Ethiopia, for example, a quarter of the population depend on coffee and the crop provides the majority of the country's earnings.

The world coffee price, and likewise the price the grower receives, has a history of being highly volatile. Cherries used to be purchased by coffee marketing boards in many countries. While the inefficiency of these boards often meant



that growers received only a small proportion of the world price and had to wait for payment, at least they all received the same price and a guaranteed market outlet. In the 1980s International Monetary Fund (IMF)/World Bank structural adjustment programmes abolished most of these boards, so growers now have to sell to private traders.

Photo: John Maudsley



Traders are in a position to offer growers a higher proportion of the world price, yet many take advantage of farmers' lack of knowledge. Support for farmers is unreliable. 'Our farmers are aware of the world price, it's announced daily on the radio and all the farmers make a relationship between the world price and the price they expect to receive,' says Honduran Minister of Agriculture Guillermo Downing.^{viii} A spokesperson for the Ethiopia Coffee and Tea Authority claims, 'Coffee growers in Ethiopia receive about 75 per cent of the world coffee price.'^{ix} Yet farmers report a much different situation.

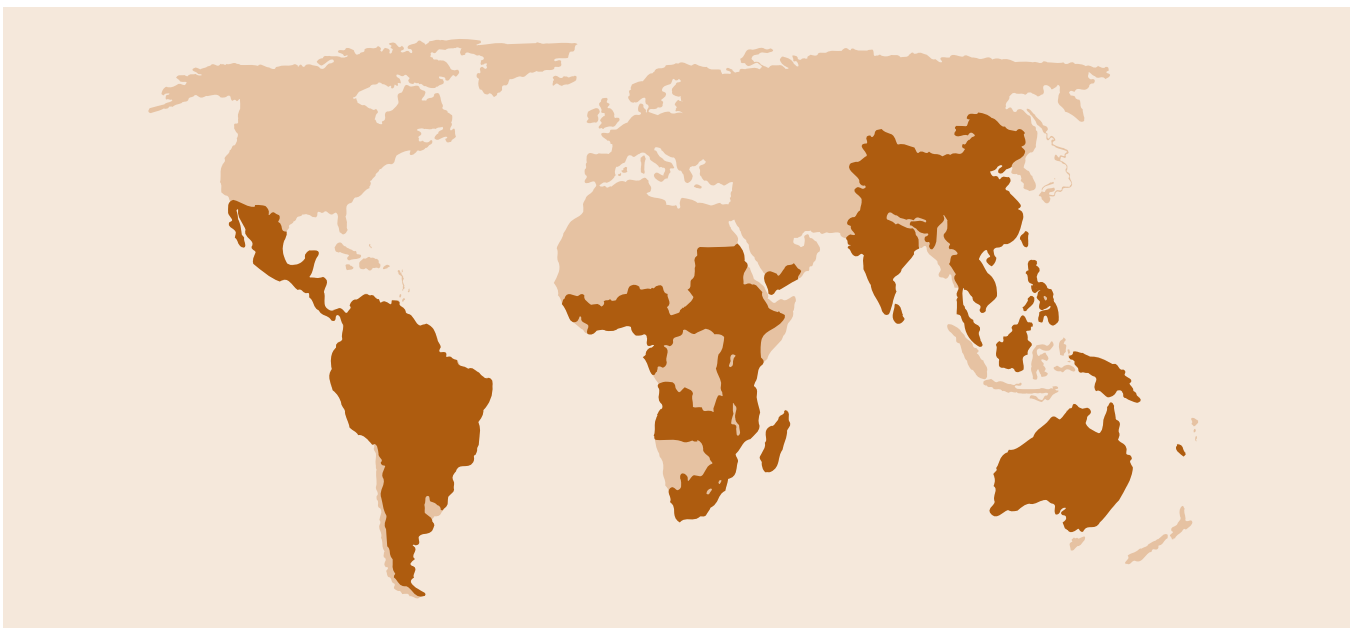
The world price of coffee is broadcast daily in Ethiopia on the radio, but only in the national Amharic language, which many coffee growers do not speak. Even growers who speak Amharic are unlikely to know the price, as probably less than 10 per cent of coffee growers in Ethiopia have radios. Better-off growers can afford to store

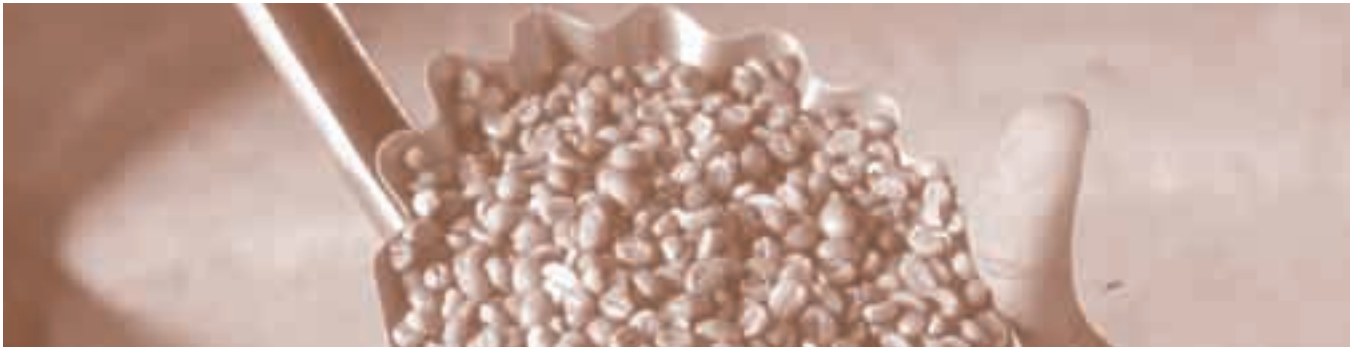
their cherries for several months and choose when to sell. Poorer farmers, desperate for cash, often have to sell as soon as the cherries are harvested. In a weak bargaining position, they often receive much less than other growers.^x Ethiopian grower Purch Awsato (pictured) is one of them. He sold his 2000 crop for less than 13 cents per pound, less than a quarter of the world price, 'unwashed for a quick sale... I needed the money'.^{xi} Another Ethiopian grower said: 'The traders come and tell me the price is low, and what can I do? I think I'm being exploited by them, but have no means of checking. I have to accept their price.'^{xii} In practice he received only half the world price for his 2000 crop.

The private trader system has also led to long dealer chains. Coffee is traded up a line of dealers before it is exported – in some cases it can change hands as many as 150 times – and each raises the price of sale to the next up the line.^{xiii}

Coffee producing regions of the world

Fairtrade Foundation





This is one way the prices on supermarket shelves become so far removed from the tiny prices growers earn.

Yet even if this trading system was improved, the rules of international trade ensure that farmers and countries who grow coffee for export can never make the most of their crop.

Developed countries use escalating tariff structures, that is systems whereby import duties increase as a product is refined or manufactured. These prevent coffee exporting countries from developing their coffee industries to the full. The same applies to other important crops. For example, import tariffs on raw cocoa are set at one level by importing countries, but import tariffs on processed cocoa powder are set higher, and chocolate higher still. In effect this means it isn't worthwhile for cocoa-producing countries to add value to their crop by turning it into chocolate; even though they can sell chocolate at a higher price than raw cocoa, the tariffs cancel out any financial gain. In some developed countries these tariffs can reach peaks of 350 per cent or more.

The same dilemma applies to coffee producing countries. It is no accident that while import duties on unprocessed coffee are low and those on processed coffee are considerably higher, the largest and most profitable coffee roasting and processing industries are in the developed world. This system helps prevent developing countries from building up value-added industries and thereby increasing their export earnings. In the run-up to the 1999 World Trade Organisation Ministerial meeting in Seattle, ActionAid stated, 'It is clear that tariff escalation is being used to protect jobs and the economies of

The 'top ten' coffee-producing countries

Country	Coffee predominantly produced	Crop year commencing		
		1997 Thousand bags*	1998 Thousand bags*	1999 Thousand bags*
Brazil	Arabica, Robusta	22 756	34 547	27 170
Columbia	Arabica	12 211	11 088	9 300
Vietnam	Robusta	6 915	6 947	7 500
Indonesia	Robusta, Arabica	7 758	8 415	6 186
Mexico	Arabica	5 045	5 051	6 193
India	Arabica, Robusta	4 735	4 372	4 700
Guatemala	Arabica, Robusta	4 218	4 892	4 500
Côte d'Ivoire	Robusta	3 682	2 406	4 167
Uganda	Robusta, Arabica	2 552	3 298	4 000
Ethiopia	Arabica	2 916	2 745	3 833

*1 bag = 60kg Source: International Coffee Organisation data (www.ico.org)

[The figures for 1999 in Vietnam are not straightforward. The figure above is from the ICO – but they believe it is an under-estimate. The ACPC trade figures have an estimate of over 9 million bags, and the FT (2000) say that the figure is 11.25 million for 1999, and estimated at over 12 million for 2000. An anonymous source at the ICO said 'it is quite possible that the government is playing down the figures so as to help support the price.' The ICO's figure (of 7.5 million) comes from Vietnam government agency.]

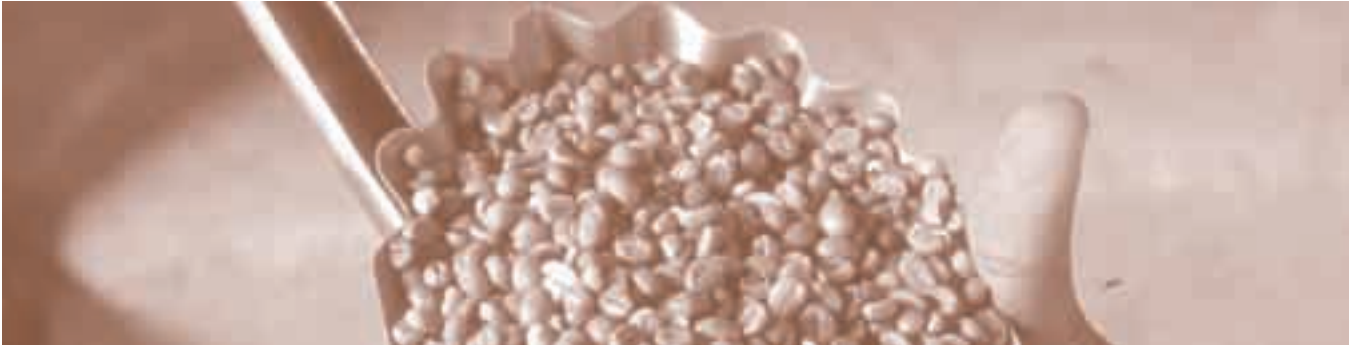
richer countries to the detriment of development elsewhere.' It isn't fair and it should be stopped.

Farmers face crisis in a plummeting international market

Coffee is a key commodity crop that supports the majority of many developing countries' income. However when the bottom fell out in 2000 many smallholder farmers were sent to the wall amid mounting pressure from plantations.

In late February 2001 the world price of Arabica coffee fell to below 60 cents a pound for the first time for nine years, and that followed on the collapse by 50 per cent of prices in 2000.

According to the International Coffee Organisation (ICO) estimates the average price of producing coffee – based on a survey of 19 countries – is 65 cents a pound. By Spring of 2001, most smallholder coffee growers were desperately hanging on, hoping the world price would rise sharply, as it did in 1993 after 1992 lows, and begin



to provide them a reasonable income again. Many growers have given up in the face of world coffee prices less than a quarter of their 1970 levels in real terms. Their crop is becoming uneconomic to tend; maintenance costs are higher than their return. Mexico, which harvested 6.3 million 60 kg bags in 2000, is expected to produce only 3.5 million bags in 2001. Clearly farmers who cannot even recoup their production costs are hard-pressed to provide for their families, let alone continue growing.

Hopes had been pinned on a plan by the Association of Coffee Producing Countries (ACPC) to hold back a fifth of all exports in an attempt to drive prices up. Retention began in October 2000, but eight months later prices are still critically low and supply is still outpacing demand.^{xiv} Coffee production in 2000-1 will be 112.9 million 60 kg bags, and consumption just over 102 million bags. Nearly 11 million bags will therefore cause a surplus glut this year alone.^{xv} Despite lowered production by some countries, overproduction by others means there is simply too much coffee on the market to support decent prices.

By April 2001 coffee farmers were burning their unsold coffee as fuel, and in Kenya farmers are stockpiling coffee in a high-risk gamble that the price will rise.^{xvi}

Despite this crisis, there are pressures on some farmers to move to a more intensive form of production to increase yields. Between 1978 and 1996, at least eight US Agency for International Development (USAID) projects, totalling \$81 million, tried to persuade coffee farmers in Latin America to use high-yielding varieties, increase chemical use and remove shade trees – that is, to move from intercropping

GM ripening-control coffee is an example of a genetic use restriction technology, known as GURTs – a type of genetic modification used to control a plant's normal traits, or functions, such as sprouting, flowering and ripening. GURT plants have a normal trait switched off and require the application of a chemical to trigger a genetic 'on' switch to make the function appear again. Without the chemical the trait does not appear.

The potential of these technologies is vast and serious, yet such research is all but unregulated. Canada-based Rural Advancement Foundation International (RAFI) have even found several patents for genetic switches that actually *weaken* plants' natural resistance to pests and diseases – chemicals need to be applied to turn the plants' natural resistance back on.^{xix} The implications for such capability, and potential abuse of it, are ominous.

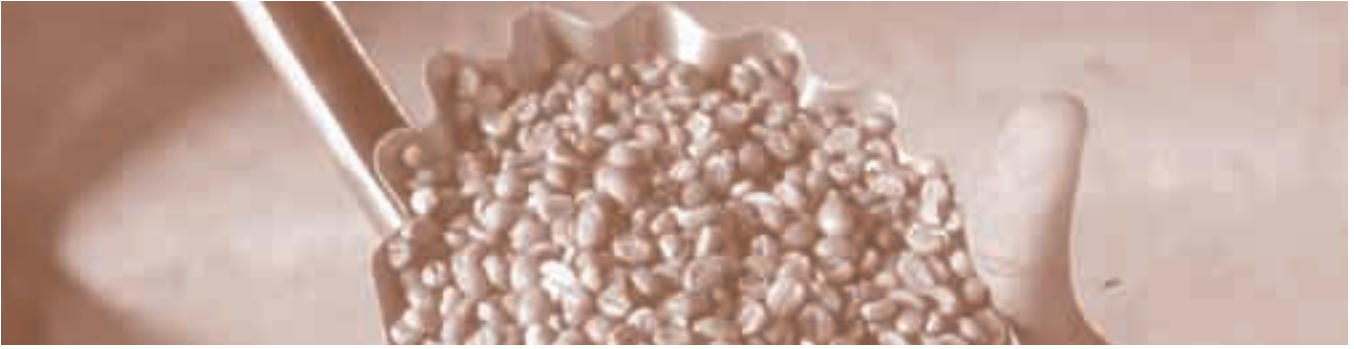
International opposition to GURTs is growing, especially 'Terminator Technology', which drives GM plants to produce seeds that will not sprout without a chemical. These so-called 'suicide' seeds prevent seed saving – a vital practice relied upon by around 1.4 billion people worldwide. Pro-Terminator advocates claim they need to 'protect' the interests of patent holders. However the GURTs threat to food security and biodiversity have led governments, the Director General of the United Nations (UN) Food and Agriculture Organisation, scientists and non-governmental organisations to call for a ban on Terminator.^{xx,xxi}

Intense pressure from industry lobbyists and the US and Canadian governments block and weaken attempts to control GURTs. For example, the May 2000 meeting of the Conference of the Parties to the UN Convention on Biological Diversity (CBD) recommended that 'such technologies should not be approved for field testing until appropriate, authorized and strictly controlled scientific assessments...[on] their ecological and socio-economic impacts and any adverse effects for biological diversity, food security and human health have been carried out in a transparent manner and the conditions for their safe and beneficial use validated.'^{xxii} The US government is expected to oppose this move even though it is not a party to the convention and refuses to become one. The US government is well known to block proposals that threaten the interests of its biotechnology industry, and that industry hopes to commercialise GURTs in signatory countries.

Campaigners call all GURTs 'Traitor Technologies'. GURTs increase the profits of big companies by making farmers dependent on buying new seed and the 'on' chemicals they sell that farmers need to harvest their crop. They remove control for farming from farmers and give it to GM seed and chemical companies.

The UN Convention on Biological Diversity agrees:

'The greatest potential risks to food security associated with the wide adoption of V-GURTs may be the increased dependence on seed production and distribution by a few commercial suppliers and the vulnerability of such supply to disruption, either civil or environmental.'^{xxiii}



to monocropping.^{xvii} Increasing yields further will only worsen the situation and drive more and more smallholder farmers out of business.

As if the situation isn't bad enough for smallholder growers, a new threat looms on the horizon. Designed to make industrialised plantations more profitable and increase the amount of coffee on the international markets even further, genetically modified coffee is coming.

Enter GM coffee – a traitor to nature

Scientists have found a way to keep plantations ahead in the receding coffee market. A GM coffee is being developed that will help them lower production costs by significantly reducing the need to hire people to pick their coffee. It will also create an absolute dependency on chemical companies for a harvest. Plantations may be in a position to survive such developments. Smallholder coffee farmers are not.

On 23rd February 1999 the University of Hawaii (UH) was granted a US patent for GM coffee based on what is already known about using ethylene to encourage the ripening of coffee cherries. Patent number US 5,874,269, entitled 'Purified proteins, recombinant DNA sequences and processes for controlling the ripening of coffee plant', makes 48 wide-ranging claims.^{xviii} It describes how UH biotechnologists have 'switched off' the natural ripening process of coffee cherries. The cherries from GM coffee can only ever ripen when sprayed with the naturally occurring plant hormone ethylene, which triggers the final stages of fruit ripening.

Plants make their own ethylene from two enzymes. Hawaiian researchers isolated genetic sequences for the enzymes from Arabica coffee plants and linked them to a powerful 'on-switch' commonly used in plant genetic modification. They used a method known as 'particle bombardment' to modify Arabica plants with these genetic constructs and bombarded coffee plant cells with small gold beads coated in these constructs and other genes. Researchers hope that they will be able to grow genetically modified coffee plants from these cells.

Integrated Coffee Technologies Inc (ICTI) was set up in Hawaii to commercialise GM coffee, and is also working on GM tea and cocoa. 'They (the growers) are going to be able to increase their yields and decrease their labour... by perhaps 50 per cent as compared to selected picking,' says John Stiles of ICTI.^{xxiv} Dr Stiles is a former UH researcher and is listed on the patent as one of four inventors of the GM ripening-controlled coffee. The technology is intended to help larger farmers and plantation owners to raise their profits by employing fewer people for harvesting and putting the money saved into increased planting and thereby increasing their output. The main targets are Hawaii, Brazil and Central America.

ICTI had an agreement with Monsanto through a company called ForBio Tropical Plants to use Monsanto's patented enabling technologies for ICTI's coffee products. At the time it was agreed that, 'in return, Monsanto has access... to our coffee ripening technology for a licensing fee', said ICTI.^{xxv} The relationship between ICTI and ForBio has reportedly broken down, and the link between ICTI and Monsanto over the GM coffee seems to have gone with it. ICTI are now approaching other

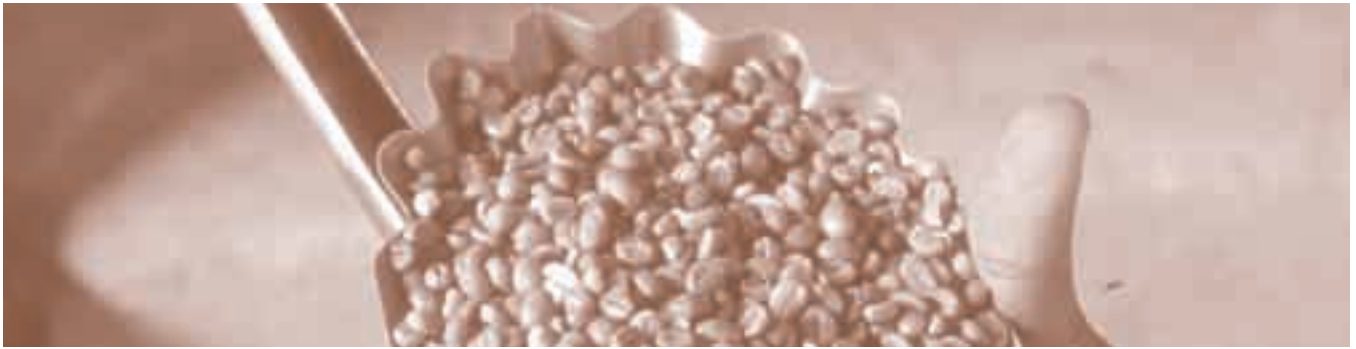
biotech companies in order to gain access to their enabling technologies for ripening-controlled coffee.

Problems with GM coffee – a door closing on smallholders

Designed to assist smallholders' strongest competitors, GM coffee is utterly unsuitable for small farms. It will also have a negative effect on biodiversity, weaken coffee's natural resilience and may have unpredictable environmental impacts. It also transfers control over the crop from the hands of the farmer to the hands of the company that provides, at a price, the ripening chemical.

Most wild species of Arabica coffee are in southwest Ethiopia and are already under threat from deforestation and resettlement.^{xxvi} The importance of genetic diversity in coffee is illustrated by Tewolde Egziabier, General Manager of Ethiopia's Environmental Protection Authority and African Spokesperson at the UN Food and Agriculture Organisation negotiations on the International Undertaking for Plant Genetic Resources for Food and Agriculture, when discussing a recent disease outbreak:

'When that disease entered Ethiopia, it had minimal effect. There was plenty of diversity [of coffee species], and a lot of resistance to coffee berry disease was discovered and even though it hit coffee production, the impact was much smaller than had been anticipated. Coffee production bounced back, the susceptible ones being eliminated and the successful genotypes taking over. So whilst it was disastrous in Eastern Africa



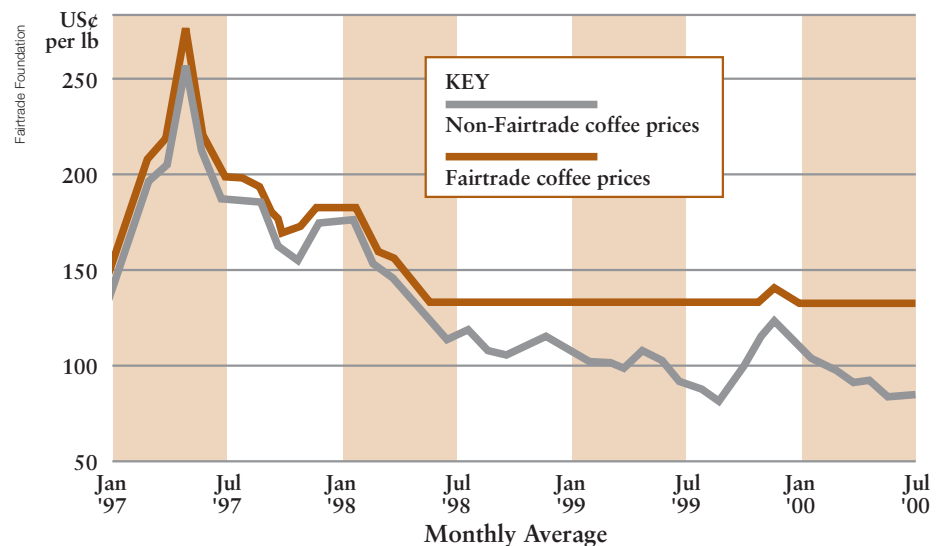
and necessitated the use of massive amounts of chemical applications, in Ethiopia... it became virtually unnecessary to use any chemicals to fight the disease.^{xxvii}

Loss of species through plantation monocropping, lack of upkeep of small farms becoming increasingly unprofitable or GM contamination would reduce or eliminate the possibility of such natural resistance being developed.

Dr Stiles hopes that GM coffee plants will be available to farmers within 6-7 years. It then takes 3-4 years for seedlings to produce their first crop. He is now trying to address technical setbacks in order to produce GM coffee plants for sale. It appears that ethylene is not suitable for use in fields because it disperses before plants can absorb it when sprayed, so researchers are looking for a way around this fundamental problem.

There is also some concern that, as has happened with scientifically 'improved' agriculture in the past, poor coffee farmers may, in desperation, be persuaded by promises of better crops to take up GM coffee. Even if they know it was not designed for their small farms (for example mechanised harvesting is impossible on uneven hillside terrain among closely planted trees on small farms), smallholders facing increased poverty may be enticed into the GM market. If they are, they will find that:

- they can no longer grow their own seedlings and that GM seedlings will be several times more expensive than traditional varieties;
- they will be absolutely dependent on chemicals, and the companies that sell them, every year to produce a crop. They will have handed over



control of their crop and will be vulnerable to increases in chemical prices;

- they will lose any intercropped food because ethylene kills flowers, and since it often works in conjunction with other plant hormones, it may also have other, unpredictable effects on neighbouring plants.

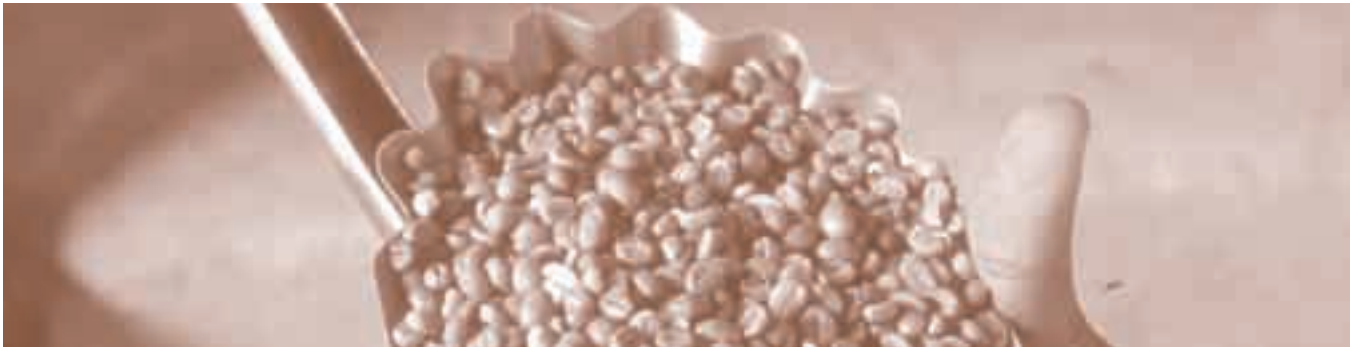
It is crucial that farmers considering GM coffee, even against the odds, get balanced, complete information before making such fundamental decisions about their livelihoods. Big companies looking forward to many years of profit from chemical sales cannot be relied upon to provide unbiased recommendations.

It is not just the coffee farmers who will be affected by a move to 'ripening-controlled' coffee. ActionAid Brazil's Director Ana Toni explains:

'Our main fear is for Brazil's coffee seedling industry. Currently the market for coffee seedlings in Brazil is highly decentralised. Coffee farmers can buy their seedlings from a variety of suppliers and farmers have the liberty

to produce their own seedlings, either for their own use or for sale. With the introduction of patented GM coffee the seedling market in Brazil would become much more rigid and small farmers would be on the losing side... Finally, it is important to point out the potential dependency on TNCs with the introduction of the GM coffee. At present the coffee seedling market is not only decentralised but also national. The introduction of GM coffee produced and patented by TNCs may make Brazil's coffee increasingly dependent on international input suppliers.'

It may seem to some that it is too soon to be worrying about GM coffee, that the crops are nearly ten years away from sale and that farmers are not yet affected. However, it is precisely because GM coffee is not yet available that we can and must stop it now. If the research is completed and the coffee makes it to the fields it will be too late. Getting a product withdrawn is far more difficult than preventing one being brought to market at all. Furthermore, we cannot wait for the impact on poor farmers to



begin; the market is already too volatile and their position in it too precarious to withstand any more.

Impact of GM coffee – robbing coffee's cradle

The list of likely problems that will follow GM coffee is long and has serious implications for smallholder farmers. Increased poverty, hunger, dependence on chemical companies and loss of business loom large for them. Significant losses of earnings and increased foreign debt await their countries.

There is no doubt that ripening-controlled coffee was developed for plantations regardless of its impact on smallholder farmers. Dr Tewolde Egziabier from Ethiopia agrees and says,

'Small farmers will be squeezed out of the market with GM coffee. It's a shift from a labour intensive to a capital intensive system, from small farmers to large farmers.'

If GM ripening-controlled coffee comes to market a number of effects are likely. Impacts on smallholder growers include:

- those who rely on picking coffee for their income, many of whom are struggling smallholder farmers, will suffer as plantations take up mechanised harvesting and reduce their workforce;

- as smallholder farmers are unable to compete, they will sell up to larger concerns and move to poor urban centres to survive and plantations will grow;

- it will be even harder for smallholder farmers to compete as plantation outputs increase and global coffee prices drop further.

Wider impacts of GM coffee include:

- when smallholders are driven out of business, countries like Uganda, Ethiopia and others will then lose crucial export earnings while their foreign debts rise;

- social unrest may increase in coffee growing areas as incomes decrease and survival becomes more difficult. It is already known, for example, that Uganda reports increases in robberies and suicides when prices are lowest;^{xxvii}

- farmers growing GM coffee will become dependent on agrochemical companies for their harvests;

- an increasing proportion of coffee will be chemically treated as plantations use significant amounts of chemical inputs – notably herbicides, insecticides and fungicides;

- the high diversity of wild coffee species, important to developing new strains and natural strength in cultivated varieties, will be eroded and may be lost;

- monocrop plantations vulnerable to disease and environmental degradation will have unpredictable long-term productivity;^{xxix}

- the biodiversity that integrated forest systems protect will be threatened or lost;

- if genetic contamination of natural coffee trees occurs, those farmers will

become dependent on chemicals for their crop as well;

- GURTs, already subject to international condemnation, will gain a stronger hold in global agriculture;^{xxx}

- high quality natural coffee may become unavailable to consumers as the smallholder farmers who produce it go out of business.

Coffee has a vital role to play in development strategies as a cash crop that can be grown in a sustainable manner and intercropped with food. It can improve food security, provide a source of money for health care and education and help protect biodiversity. Introducing a technology that increases the competitiveness of one set of coffee farmers against others will exacerbate existing social and economic imbalances within countries and between developing countries and others.

Furthermore in a market already suffering from chronic oversupply and prices at all-time lows, GM coffee is an unnecessary and irresponsible technology. It may provide a few huge plantation and the companies that own them a larger profit, but the cost to millions will be too high to be acceptable. It is countries like Ethiopia, the birthplace of coffee and still dependent on it, which stand to lose the most.

We can and must act now to stop the development of GM coffee and protect the future of coffee and its farmers. One answer is certified Fairtrade coffee, the positive alternative.

Fairtrade coffee – it does make a difference

Sustainable, fair and fruitful, certified Fairtrade coffee can provide quality,

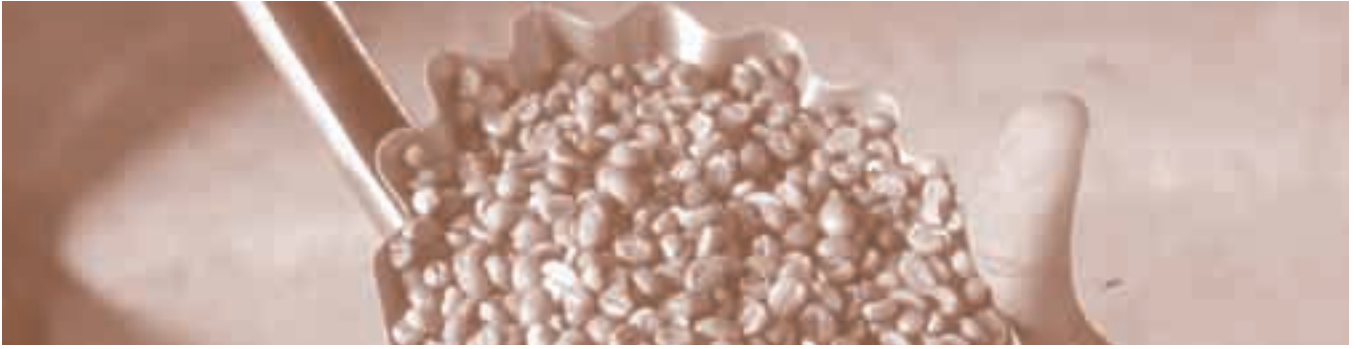


Photo: Jenny Matthews



Melkam Ayalew struggles to support a family of five on .75 hectares in the village of Zege, Ethiopia, a naturally forested area that has produced coffee for longer than anyone there can remember. In a good year her trees produce an average of 35 kilos, which gives her an income of around £23. She intercroops fruit for sale and works as a seamstress to try to make ends meet. She is also in debt because bad weather destroyed the crops of the entire area last year, so she and others had to borrow cash to survive. She doubts she will ever be able to pay off the loan. Despite the fact that Zege farmers

do not sell their coffee for export, the prices they receive are still hit hard by the standards the international market set. Melkam's family are already cutting both the quantity and the quality of the food they eat. She says, 'It depends on our coffee production. If the price falls, all the family misses breakfast.' Melkam is 20 years old.

Melkam and her neighbours think that having their cherries ripen simultaneously is a good idea, but they cannot afford the cost of GM seedlings or the chemicals required without some form of government subsidy – unlikely in the world's poorest country. One says, 'It is an interesting idea, but we don't have experience and we don't have the capacity to buy seedlings. Because of this the existing production is better.'

When asked is her family could survive if the new GM coffee lowered world coffee prices permanently, Melkam replied, 'I can't.' She adds, 'This Fairtrade we (would) prefer.'^{xxxix}

quantity and value for coffee drinkers while promoting and protecting a sustainable future for coffee and farmers. Buying Fairtrade is easy, and every purchase helps increase demand and strengthen the scheme.

While the development of GM coffee threatens to further accelerate a trend towards mechanisation and monocrop farming, the Fairtrade movement represents a positive alternative. Based on the principles of ensuring that a fair

price is paid to smallholder farmers in a long-term, contracted relationship that includes offering part of the price up front as credit, Fairtrade has the potential to make a big difference to the food security of millions of families in the developing world.

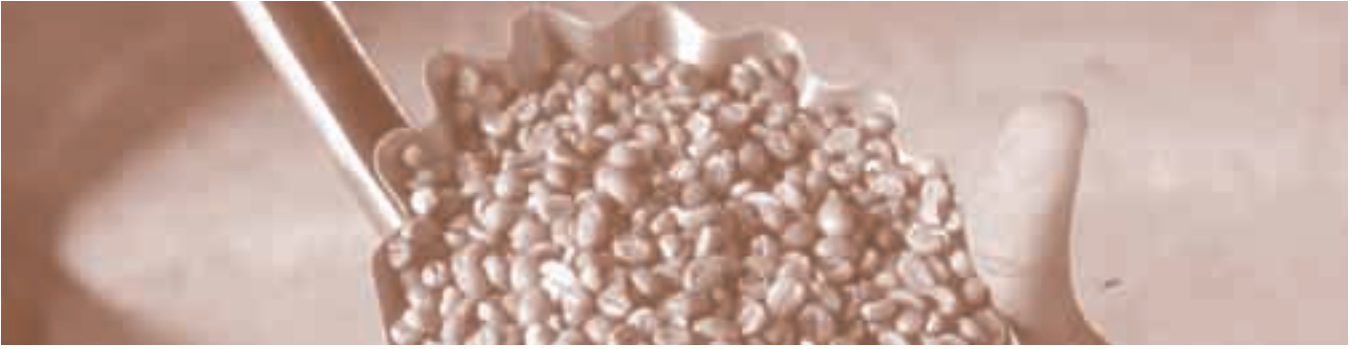
There are currently around half a million smallholder coffee farmers who receive a fair price for their crop through membership of farmers' organisations signed up to the Fairtrade scheme. This

is a tiny proportion of the seven million smallholder coffee farmers dependent on coffee for their primary source of income and the 60 million others who rely on coffee for a portion of their income. These co-operatives sell directly to coffee buyers and roasting companies who comply with the criteria set and monitored by the international umbrella group, Fairtrade Labelling Organisations (FLO) International. Some Fairtrade roasters also run producer support and development programmes, working directly with growers to improve their product and their business.

Experience has shown that farmers are likely to use the additional income they gain from the Fairtrade market to invest in projects that increase food security. Income is used to pay bank debt and thus avoid loss of land, to purchase the co-operative's own mill, and to increase the quality of the coffee. For example, PRODECOOP, based in Esteli, Nicaragua, was founded in 1993, has over 2,420 family members and has undertaken projects such as building schools and healthcare centres as well as training in production techniques and legal matters.^{xxxix}

Fairtrade could potentially represent all smallholder coffee farmers.

However, at the moment demand from Northern consumers is yet not high enough to support this, and FLO is not signing up new farmers to the scheme until demand is sufficiently boosted. Many of the farmers signed up to the Fairtrade scheme are only able to sell 10 per cent of their coffee production at Fairtrade terms, so an increase in demand can be met immediately, and new farmers could join the scheme as it grows.^{xxxix}



Buying Fairtrade coffee is not only an ethical choice, but is also about quality. In an independent taste test carried out by *Which?* Magazine in November 2000 on 10 roast and ground coffees, two of the top five places, including first place, were awarded to Fairtrade coffees.^{xxxiv} Fairtrade coffee compares favourably to other high quality coffees.

Buying Fairtrade coffee is becoming easier all the time. Certified Fairtrade coffees are available in most UK supermarkets and are being made available in some high street coffee shops. Fairtrade currently accounts for about 1 per cent of instant coffee and 8 per cent of roast and ground coffee sales in supermarkets. No supermarkets, with the exception of the Co-op, have made

available a Fairtrade own-brand coffee. Costa Coffee are selling a Fairtrade coffee supplied by Café Direct, but could be doing more to promote it. Starbucks have made Fairtrade coffee available in the US, but are not selling it in UK outlets and have not yet made any commitment to do so. The Fairtrade Foundation point out that all coffee roasters, however small, can source Fairtrade coffee from the established UK-based traders that supply it. Fairtrade coffee could become a significant force in the world's market if demand for it continues to increase.

Increasing demand for Fairtrade coffee is absolutely crucial to making it a stronger option more able to include

more farmers. It is encouraging that the trend is already in that direction; the demand for Fairtrade coffee has increased 47 per cent per year for the past 5 years.



ActionAid and coffee farmers in Haiti working together

ActionAid works with coffee farmers in Haiti, the poorest country in the Western Hemisphere. There are no large-scale coffee plantations in Haiti and many families grow small amounts of coffee in their backyards. Coffee production is crucial to the economy, providing income for 300,000 families working on 100,000 hectares. Coffee is Haiti's chief agricultural export, accounting for around 20 per cent of foreign earnings.

In an area called Thiotte, on the borders of the Dominican Republic, 80 per cent of families grow coffee – it is the only export crop grown in the area. Traditionally they have to sell to dealers at low prices, but with ActionAid's help they are trying to improve their situation. Together they have set up six co-operatives with 1200 members, six collection points and six storage centres. They have initiated quality control mechanisms and are working hard to ensure that profits are evenly distributed among the community. These efforts would be undermined if GM coffee were produced. Some of the poorest people in one of the world's poorest countries could have their livelihoods snatched away.

GM coffee threatens Africa's oldest co-operative

Established in 1924 the Kilimanjaro Native Co-operative Union (KNCU) in Tanzania is Africa's oldest co-operative. When formed the co-operative enabled people who grow coffee on the slopes of Mount Kilimanjaro to break the monopoly power of private buyers.

The co-operative has seen many changes over the past 77 years. Co-operatives were taken over by the Coffee Authority of Tanzania in 1976. When the authority failed, the co-operative system came back, in 1984. The KNCU today represents around 160,000 members and runs a small bank to pay interest of savings and provide small loans. 'I am looking at it in the long term,' says KNCU member Raymond Kimaro. '(GM coffee) is going to be disastrous. Its going to push production from those people who are producing now to completely different people and then what about the smallholder farmer? They'll be finished.'



Stop GM coffee in its tracks – buy Fairtrade

Opposing GM coffee and buying Fairtrade means everybody wins.

ActionAid makes the following recommendations:

● Companies and others developing GM coffee should:

- stop development of GM coffee;
- restrict work on GURTs until control mechanisms have been established and impact assessments have been carried out;
- cease applying for and surrender all claims to patents on coffee.

● Coffee retailers (including supermarkets and high street coffee shops) should:

- pledge that they will not stock or sell GM coffee;
- offer at least one Fairtrade line as a permanent part of their business;
- develop and enforce practices that help ensure that smallholder coffee farmers get a reasonable price for their crops.

● Governments are urged to:

- support schemes to stabilise coffee prices through fair mechanisms that do not disproportionately harm smallholder farmers;

– ban Terminator Technology and deny requests to field test other GURTs until impact assessments have been conducted and controls have been initiated;

– eliminate tariff escalation on coffee and other products of importance to developing countries.

Members of the public can easily help smallholder coffee farmers make a decent living and provide for their families.

● You can express your opposition to GM coffee and its impact on smallholder farmers to grocery stores, coffee shops and other retailers.

● You can tell ICTI that consumers do not want GM coffee.

● You can urge companies that sell coffee to develop and enforce practices, which help ensure that smallholder coffee farmers, get a reasonable price for their crops

● You can help raise demand and strengthen the Fairtrade network by choosing to buy certified Fairtrade coffee.

You can use the ActionAid campaigning materials enclosed with this report to get you started. Please visit the ActionAid website at www.actionaid.org for additional action materials, ideas and campaign updates.

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Robbing Coffee's Cradle – GM coffee and its threat to poor farmers

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Briefing

