



## Fortnightly Bulletin on Genetic Engineering South Against Genetic Engineering (SAGE)

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### **Centre refuses to divulge details of GM field trials**

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In an era of transparency, the government has been less than candid on issues of public health. It has, despite an SC order, avoided explicitly mentioning the "implications and biological results" of field trials of genetically modified crops. In fact, it has questioned the competence of the court to decide matters of 'science and technology'.

The ministry of environment, in its affidavit filed as a reply to the SC order, has divulged the complete list of 144 applications it has approved

for testing since 2006, including ones of crops meant for human consumption like okra, rice, cauliflower, groundnut, tomato and potato.

The admission that trials for food crops were cleared and the government, despite the court order, did not explain the impacts of such trials has the green brigade up in arms.

Ironically, the government, instead of explaining the possible public health and environmental impact of such trials, has merely detailed the

process it is following and the trials it is using for testing these food crops the very process under review in the court.

"When the court asked for implications and biological results of the tests of GM crops, the government could have explained the possible biological and environmental impacts of such trials and their results and not just a list of what is being tested and how," said Aruna Rodriguez, one of the petitioners.

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## EU experts fail to agree approval of GMO beet

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EU biotech experts failed to agree on approving an application for genetically modified (GMO) sugar beet, again exposing the bloc's deep-seated rift on biotech foods, the European Commission

The sugar beet, called H7-1, was developed jointly by U.S. biotech giant Monsanto and German plant breeding company KWS SAAT AG to resist glyphosate-containing herbicides.

The application is for use in food and animal feed produced from the beet, for example sugar, syrup, dried pulp and molasses.

The modified sugar beet would not be for cultivation.

Experts representing the EU's 27 national governments failed to reach the consensus needed in the EU weighted voting system either to approve or reject the application. Under EU law, the paperwork now goes to

EU ministers for a final decision.

If the ministers fail to take a decision within three months, then the Commission -- the EU's executive arm -- usually issues its own authorization under a legal default process.

Since the EU's six-year unofficial moratorium on approving new GMO products was lifted in 2004, the Commission has authorized a string of GMOs in this way, outraging green groups.

For many years, EU countries have not been able to secure the majority needed to vote through a new GMO approval. They last agreed to authorize a new GMO product in 1998.

European consumers are well known for their wariness towards GMO foods but the biotech industry insists its products are safe and no different to conventional foods.

### MAIZE DECISION DELAYED

The national experts also discussed two other GMO applications, both for maize hybrids. But there was no conclusion and the debate would resume at their next meeting scheduled for May 10 and 11, the Commission said in a statement.

The first maize hybrid, known as MON810/NK603, was submitted for EU approval by Monsanto and is designed to resist certain insects and also glyphosate -- the active ingredient in Monsanto's Roundup herbicide.

The second GMO maize, a hybrid known as 1507/NK603, has been developed to resist certain field pests like the European corn borer, and also the herbicides glufosinate and glyphosate. It is made by Pioneer Hi-Bred International, a subsidiary of DuPont Co., and Dow AgroSciences unit Mycogen Seeds.

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## Disappearance of bees- *Colony collapse disorder*

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### *I. Loss of bees poses a stinging blow to humans*

Across the nation, honeybees are vanishing by the billions, a medical mystery with few clues. Because unlike past die-offs, corpses aren't littering the hives.

Instead, the adult bees fly off to work and never come home, leaving behind a queen, perhaps some freshly laid eggs and a handful of overburdened young adults.

So far, at least 25 states have reported serious bee die-offs, called colony collapse disorder, prompting last week's congressional subcommittee hearing on the issue. Illinois is on the verge of joining the group.

Suspects include pesticides, viruses, bacteria, genetically modified crops and other cumulative stresses. One theory is that the bees leave the nest and aren't able to orient or navigate their way back, so they die in the fields. "Some pesticides introduced are neurotoxic and might not kill outright but could affect behavior," said May Berenbaum, head of the department of entomology at the University of Illinois. "Viral diseases can also cause behavior changes."

Finding the cause is critical and not just because bees are

unique, socially sophisticated creatures. As Einstein supposedly said, "If all the bees disappeared tomorrow, humans would have only four years left on the planet."

Woefully underappreciated honeybees are the principal pollinators for 80 percent of the world's grains, fruits, vegetables and legumes, including about 90 crops in North America, a value of about \$14 billion. And these aren't just any crops. They're nutritious superfoods such as blueberries, cherries, cranberries, melons, squash, apples and broccoli.

But bees do more than just put food on our plates. Beeswax is used to make pharmaceuticals. Honey, which has wound-healing and antioxidant properties, and other bee products have been a staple in folk medicine for thousands of years. And bee products, including bee pollen and propolis, are among the best medicinal foods we can eat, according to Jonny Bowden's new book, "The 150 Healthiest Foods on Earth" (Fair Winds Press, \$24.99).

Here's a closer look at bee products.

- Honey: The health benefits depend on how it's processed

and the quality of the plants the bees visit. Raw honey typically retains more of the healthful phytochemicals, and Berenbaum has shown that dark honey has more illnessfighting antioxidants than light honey. Honey also can remove bacteria from infected wounds and even improve oral health.

- Bee pollen: Often called "nature's most perfect food" because it contains all eight essential amino acids, bee pollen comes from the male germ cell of flowering plants. It also has flavonoids that have significant antioxidant properties.

- Propolis: An antimicrobial used in products such as toothpaste, propolis is created after bees collect a resinous sap from trees. The clever bees glue it on the hive to block out viruses and bacteria, and research shows that humans also can benefit from its antibacterial and antifungal effects. Propolis can help with the common cold, gastrointestinal infections, upperrespiratory-tract infections, and it can enhance the immune system, according to the "Condensed Encyclopedia of Healing Foods" (Pocket Books, \$7.99), which lists food prescriptions for common ailments.

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## Bees Vanish, and Scientists Race for Reasons

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### *II. What is happening to the bees?*

More than a quarter of the country's 2.4 million bee colonies have been lost — tens of billions of bees, according to an estimate from the Apiary Inspectors of America, a national group that tracks beekeeping. So far, no one can say what is causing the bees to become disoriented and fail to return to their hives.

As with any great mystery, a number of theories have been posed, and many seem to researchers to be more science fiction than science. People have blamed genetically modified crops, cellular phone towers and high-voltage transmission lines for the disappearances. Or was it a secret plot by Russia or Osama bin Laden to bring down American agriculture? Or, as some blogs have asserted, the rapture of the bees, in which God recalled them to heaven? Researchers have heard it all.

The volume of theories "is totally mind-boggling," said Diana Cox-Foster, an entomologist at Pennsylvania State University. With Jeffrey S. Pettis, an entomologist from the United States Department of Agriculture, Dr. Cox-Foster is leading a team of researchers who are trying to find answers to explain "colony collapse disorder," the name

given for the disappearing bee syndrome.

"Clearly there is an urgency to solve this," Dr. Cox-Foster said. "We are trying to move as quickly as we can."

Dr. Cox-Foster and fellow scientists who are here at a two-day meeting to discuss early findings and future plans with government officials have been focusing on the most likely suspects: a virus, a fungus or a pesticide.

About 60 researchers from North America sifted the possibilities at the meeting today. Some expressed concern about the speed at which adult bees are disappearing from their hives; some colonies have collapsed in as little as two days. Others noted that countries in Europe, as well as Guatemala and parts of Brazil, are also struggling for answers.

"There are losses around the world that may or not be linked," Dr. Pettis said.

The investigation is now entering a critical phase. The researchers have collected samples in several states and have begun doing bee autopsies and genetic analysis.

So far, known enemies of the bee world, like the varroa mite,

on their own at least, do not appear to be responsible for the unusually high losses.

Genetic testing at Columbia University has revealed the presence of multiple microorganisms in bees from hives or colonies that are in decline, suggesting that something is weakening their immune system. The researchers have found some fungi in the affected bees that are found in humans whose immune systems have been suppressed by the Acquired Immune Deficiency Syndrome or cancer.

"That is extremely unusual," Dr. Cox-Foster said.

Meanwhile, samples were sent to an Agriculture Department laboratory in North Carolina this month to screen for 117 chemicals. Particular suspicion falls on a pesticide that France banned out of concern that it may have been decimating bee colonies. Concern has also mounted among public officials.

"There are so many of our crops that require pollinators," said Representative Dennis Cardoza, a California Democrat whose district includes that state's central agricultural valley, and who presided last month at a Congressional hearing on the bee issue. "We need an urgent

call to arms to try to ascertain what is really going on here with the bees, and bring as much science as we possibly can to bear on the problem.”

So far, colony collapse disorder has been found in 27 states, according to Bee Alert Technology Inc., a company monitoring the problem. A recent survey of 13 states by the Apiary Inspectors of America showed that 26 percent of beekeepers had lost half of their bee colonies between September and March.

Honeybees are arguably the insects that are most important to the human food chain. They are the principal pollinators of hundreds of fruits, vegetables, flowers and nuts. The number of bee colonies has been declining since the 1940s, even as the crops that rely on them, such as California almonds, have grown. In October, at about the time that beekeepers were experiencing huge bee losses, a study by the National Academy of Sciences questioned whether American agriculture was relying too heavily on one type of pollinator, the honeybee.

Bee colonies have been under stress in recent years as more beekeepers have resorted to crisscrossing the country with 18-wheel trucks full of bees in search of pollination work. These bees may suffer from a diet that includes artificial supplements, concoctions akin to energy drinks and power bars. In several states,

suburban sprawl has limited the bees' natural forage areas.

So far, the researchers have discounted the possibility that poor diet alone could be responsible for the widespread losses. They have also set aside for now the possibility that the cause could be bees feeding from a commonly used genetically modified crop, Bt corn, because the symptoms typically associated with toxins, such as blood poisoning, are not showing up in the affected bees. But researchers emphasized today that feeding supplements produced from genetically modified crops, such as high-fructose corn syrup, need to be studied.

The scientists say that definitive answers for the colony collapses could be months away. But recent advances in biology and genetic sequencing are speeding the search.

Computers can decipher information from DNA and match pieces of genetic code with particular organisms. Luckily, a project to sequence some 11,000 genes of the honeybee was completed late last year at Baylor College of Medicine in Houston, giving scientists a huge head start on identifying any unknown pathogens in the bee tissue.

“Otherwise, we would be looking for the needle in the haystack,” Dr. Cox-Foster said.

Large bee losses are not unheard of. They have been reported at several points in the past century. But researchers think they are dealing with something new — or at least with something previously unidentified.

“There could be a number of factors that are weakening the bees or speeding up things that shorten their lives,” said Dr. W. Steve Sheppard, a professor of entomology at Washington State University. “The answer may already be with us.”

Scientists first learned of the bee disappearances in November, when David Hackenberg, a Pennsylvania beekeeper, told Dr. Cox-Foster that more than 50 percent of his bee colonies had collapsed in Florida, where he had taken them for the winter.

Dr. Cox-Foster, a 20-year veteran of studying bees, soon teamed with Dennis vanEngelsdorp, the Pennsylvania apiary inspector, to look into the losses.

In December, she approached W. Ian Lipkin, director of the Greene Infectious Disease Laboratory at Columbia University, about doing genetic sequencing of tissue from bees in the colonies that experienced losses. The laboratory uses a recently developed technique for reading and amplifying short sequences of DNA that has revolutionized the science. Dr.

Lipkin, who typically works on human diseases, agreed to do the analysis, despite not knowing who would ultimately pay for it. His laboratory is known for its work in finding the West Nile disease in the United States.

Dr. Cox-Foster ultimately sent samples of bee tissue to researchers at Columbia, to the Agriculture Department laboratory in Maryland, and to Gene Robinson, an entomologist at the University of Illinois. Fortuitously, she had frozen bee samples from healthy colonies dating to 2004 to use for comparison.

After receiving the first bee samples from Dr. Cox-Foster on March 6, Dr. Lipkin's team amplified the genetic material and started sequencing to separate virus, fungus and parasite DNA from bee DNA.

"This is like C.S.I. for agriculture," Dr. Lipkin said. "It is painstaking, gumshoe detective work."

Dr. Lipkin sent his first set of results to Dr. Cox-Foster, showing that several unknown micro-organisms were present in the bees from collapsing colonies. Meanwhile, Mr. vanEngelsdorp and researchers at the Agriculture Department lab here began an autopsy of bees from collapsing colonies in California, Florida, Georgia and Pennsylvania to search for any known bee pathogens.

At the University of Illinois, using knowledge gained from the sequencing of the bee genome, Dr. Robinson's team will try to find which genes in the collapsing colonies are particularly active, perhaps indicating stress from exposure to a toxin or pathogen.

The national research team also quietly began a parallel study in January, financed in part by the National Honey Board, to further determine if something pathogenic could be causing colonies to collapse.

Mr. Hackenberg, the beekeeper, agreed to take his empty bee boxes and other equipment to Food Technology Service, a company in Mulberry, Fla., that uses gamma rays to kill bacteria on medical equipment and some fruits. In early results, the irradiated bee boxes seem to have shown a return to health for colonies repopulated with Australian bees.

"This supports the idea that there is a pathogen there," Dr. Cox-Foster said. "It would be hard to explain the irradiation getting rid of a chemical."

Still, some environmental substances remain suspicious.

Chris Mullin, a Pennsylvania State University professor and insect toxicologist, recently sent a set of samples to a federal laboratory in Raleigh, N.C., that will screen for 117

chemicals. Of greatest interest are the "systemic" chemicals that are able to pass through a plant's circulatory system and move to the new leaves or the flowers, where they would come in contact with bees.

One such group of compounds is called neonicotinoids, commonly used pesticides that are used to treat corn and other seeds against pests. One of the neonicotinoids, imidacloprid, is commonly used in Europe and the United States to treat seeds, to protect residential foundations against termites and to help keep golf courses and home lawns green.

In the late 1990s, French beekeepers reported large losses of their bees and complained about the use of imidacloprid, sold under the brand name Gaucho. The chemical, while not killing the bees outright, was causing them to be disoriented and stay away from their hives, leading them to die of exposure to the cold, French researchers later found. The beekeepers labeled the syndrome "mad bee disease."

The French government banned the pesticide in 1999 for use on sunflowers, and later for corn, despite protests by the German chemical giant Bayer, which has said its internal research showed the pesticide was not toxic to bees. Subsequent studies by independent French researchers have disagreed with Bayer. Alison Chalmers,

an eco-toxicologist for Bayer CropScience, said at the meeting today that bee colonies had not recovered in France as beekeepers had expected. "These chemicals are not being used anymore,"

she said of imidacloprid, "so they certainly were not the only cause."

Among the pesticides being tested in the American bee investigation, the

neonicotinoids group "is the number-one suspect," Dr. Mullin said. He hoped results of the toxicology screening will be ready within a month.

[http://www.nytimes.com/2007/04/24/science/24bees.html?\\_r=2&oref=slogin&pagewanted=print](http://www.nytimes.com/2007/04/24/science/24bees.html?_r=2&oref=slogin&pagewanted=print)

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## Lithuania against genetically modified food

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The Lithuanian ministry of the decided on Tuesday that it will not issue the permit to cultivate genetically modified summer rape for test purposes.

The decision comes amid a visit by European Union Agriculture and Rural Development Commissioner Marianna Fischer Boel, who prompted Lithuanians not to fear genetically modified foodstuffs. Last October, German company BASF Plant Science GmbH applied for a permit to grow genetically modified summer rape on the test fields of the Agriculture Institute in the district of Klaipeda for test purposes. Their application has been denied by the Lithuanian ministry of agriculture.

Rape, also known as canola, is a plant in the mustard family that is used primarily for animal feed but is also highly prized for its oil.

In considering this application, the Environment Ministry deliberated the recommendation from the Genetically Modified Organism Control Committee and took

into account of the opinion of the Health Ministry and the Agriculture Ministry, which disapproved of issuing a permit for cultivating genetically modified rape on test fields for test purposes.

This was not the first application to permit growing genetically modified plants in Lithuania for science purposes. Last year, a similar request to permit cultivation of genetically modified potatoes on the test field of the Agriculture Institute was likewise denied.

There has recently been much discussion on the topic of genetically modified food in Lithuania. In her visit to the country, Commissioner Boel urged Lithuanians not to fear genetically modified food.

Commissioner Boel said that genetically modified plants that do not cause harm to the environment and health could be cultivated in the European Union, yet she voiced a belief that it was imperative to avoid mixing of genetically modified and regular or organic plants, and therefore recommended

for the member states to adopt the legislation to prevent possible mixture of different crops.

During her visit, Commissioner Boel will accept an honorary doctorate from the Lithuanian Agricultural University.

Despite these calls by the EU, the general Lithuanian population remains sceptical of genetically modified food. A recent poll covering a thousand people aged above 18 revealed that more than one-half (58.9 percent) of Lithuania's people criticize genetically modified organisms, and more than two-thirds (69 percent) say they do not consume foodstuffs that are genetically modified.

Most (63 percent) of the respondents disapprove of growing of genetically modified plants in Lithuania, and 57.8 percent believe such plants ought to be banned. Only 17.2 percent said that cultivation of such plants is good. When asked about the purpose of genetically modified organisms, 27.4 percent of the people polled

said they helped producing more food and fight starvation. In the opinion of 18.9 percent of the respondents, such organisms are necessary for

scientific advancement. A lesser percentage of the respondents say these organisms have to do with industrial development. Nearly

2 percent of the people believe the main reason behind the GMO use is capitalization.

<http://www.baltictimes.com/news/articles/17627/>

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## Malaysia to Require Compulsory Labelling of GM Foods

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According to news reports, Malaysia is set to pass a Biosafety Bill by the end of the year that would require the mandatory labeling of GM products.

This was revealed by the Natural Resources and Environment Minister Azmi Khalid who added that Malaysia will go ahead with the plan despite opposition from the United States under the Free Trade Agreement (FTA) negotiation on the grounds that this will make it difficult for US companies to penetrate the local market.

The U.S. government has come under pressure from US business lobbies, which in their submissions to the U.S. Trade Representative, had insisted that mandatory labelling "should be firmly opposed by the U.S." in negotiations for a FTA with Malaysia.

Azmi said under the proposed law, a full declaration on the properties of all GM products was required while all companies producing GMO products will be responsible to study the products for its

health effects to ensure that the potential adverse impact of modern biotechnology was minimized.

The Biosafety Bill has been approved by the Cabinet and is due to have its second reading in Parliament soon. The Bill sets up a national regulatory system for GMOs, and is in keeping with Malaysia's obligations under international law, as the country is a Party to the Cartagena Protocol on Biosafety

[www.biosafety-net-info](http://www.biosafety-net-info)

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## US Exporters Fear GMO Corn Seed Will Hurt Sales

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US farmers are planting a genetically modified corn seed that has not yet been approved overseas, and exporters said on Tuesday they were concerned that any accidental commingling with regular supplies could hurt corn exports that were worth US\$4.8 billion last year.

Swiss-based Syngenta AG is selling seed that contains a trait called Agrisure RW that allows corn to resist root worm, an insect that can cause crop losses.

The US Agriculture Department has approved the seed as safe for use as food and animal feed.

Syngenta has required farmers to sign an agreement that they will only deliver the corn to non-export facilities. Syngenta introduced Agrisure RW for the first time this year and released a small amount but could not specify how much.

Monsanto Co. also sells biotech corn that resists corn root worm, but its variety has been approved for use in Japan and other countries, the company said.

Grain exporters have tried to segregate various GMO varieties in the past but have found it impossible due to the wind carrying pollen and accidental commingling, said Kevin Adams, chief executive of CGB Enterprises, a grain handler and exporter.

"We've seen that approach several times over and we have witnessed its dismal failure," he said. "We think it is irresponsible of Syngenta to release this trait."

CGB has informed farmers it may not accept Agrisure RW corn when they harvest their crops this fall. Bunge Ltd., another large exporter, sent a letter to farmers last week about the biotech corn seed.

"All Bunge's facilities are integrated into the export channel so we will not be receiving Agrisure RW corn,"

said Bunge spokeswoman Deborah Seidel.

Grain traders said they expect all companies to eventually refuse Agrisure RW corn, although grain elevators lack a way to immediately test for its presence.

"Japanese buyers are comparing it with StarLink and Bt10," said a grain trader. "This could be a disaster."

Syngenta came under fire in 2005 for accidentally mixing some insect-resistant, genetically modified Bt10 --

which has not been approved by the European Union for import -- into its approved Bt11 biotech seeds between 2001 and 2004.

In 2000, a biotech corn called StarLink, approved for use only as animal feed, was found in the US human food chain, sparking a nationwide recall of taco shells and corn-products foods from grocery shelves.

The detection led several countries, including top buyer Japan, to ban temporarily imports of US corn.

<http://www.planetark.com/avantgo/dailynewsstory.cfm?newsid=41541>

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## ***Article: Lessons from the cotton debacle***

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**Devinder Sharma**

It is turning out to be an unreliable marriage vow. The new buzz on the economic horizon - public-private partnerships - is a marriage of convenience; as soon as the dominant private sector partner finds the going tough, the partnership is abandoned to the public sector, leaving it in the lurch.

Genuine public-private partnerships are not new to India. Such arrangements actually began when the Commission for Agricultural Costs and Prices (CACP), then known as Agricultural Prices Commission (APC), drew up a unique model to enable the domestic textile

industry to turn competitive. The textile industry was in the doldrums ever since the British left our shores. Under pressure to bail out the industry, and not knowing what else to do, the APC did exactly what it is known for. It reduced the cotton prices. This quiet and little known manoeuvring succeeded because policy makers and economists have always treated farmers as a national burden, ready to be off-loaded at any given time. I still remember a CACP report in the late 1980s that stated clearly that cotton farmers had been deliberately paid 15 to 20 per cent less for the past 20

years. The same pricing system continued thereafter.

So for 40 years, nearly 17 million cotton growers have actually been subsidising the textile industry. I had thought this was a classic case of public-private partnership. And at what cost? Since 1993, nearly 75 per cent of the 150,000 farmers who have committed suicide were cotton growers, who ended their lives because they were unable to face the humiliation that comes along with growing indebtedness. These farmers were unable to bear the brunt of rising costs of cultivation and the static output prices. They didn't even know that

they were victims of an economic policy that was aimed at benefiting the textile industry. They are the unsung heroes of India's textile revolution, which claims to be the second biggest employer in the country.

If only these farmers had got the right price for the cotton they produced, the number of suicides would have been far less. Instead, cotton prices have been on a steady decline thereby acerbating the farm crisis.

The textile industry, I thought, would remain eternally grateful to toiling cotton farmers. They would always ensure that cotton farmers were a happy lot. But I was completely wrong. None of the textile majors have even made a cursory move or effort to share even a fraction of their booty with the struggling cotton farmers. At least, the textile majors could have launched a massive rescue operation for the 12 lakh cotton farmers in the Vidarbha region of Maharashtra. But who cares? What the textile industry wants is still lower prices! Unmindful of the serial death dance being enacted in the cotton belt, the textile industry instead forced the government to allow cheaper imports. During the period 1990- 2005, the import of cotton lint increased at a compound growth rate of over 75 per cent. This was despite the customs duty being increased from zero to 5 per cent in the year 2000. The industry was visibly happy at

the availability of low-cost cotton.

Cheaper imports are coming at a fast clip because of the massive subsidies cotton farmers get in the United States and European Union. With the US providing nearly US \$4.7 billion in subsidy support to its 20,000 cotton growers (one Arkansas cotton grower received US \$6 million, equal to the combined annual earnings of 25,000 cotton farmers in Vidarbha), cotton farmers in India are priced out. At such crucial times, it should have the responsibility of the textile industry to seek adequate protection for farmers, its partners in the value chain.

Unashamed of its past performance, the textile industry is now proposing a public-private partnership that draws a tripartite MoU between a select group of farmers, the Cotton Corporation of India (CCI) and the textile mills. The idea is to provide farmers with inputs and conduct demonstrations, and the mills would then agree to buy the produce at a premium of 5-10 per cent of prevailing market price. But this generosity would only apply to a few select farmers, and the other cotton growers would still face their penury and hardship.

The industry, meanwhile, continues to grow. With a turnover of Rs 1,50,000-crore, including export earnings, textiles are now poised to take

advantage of the phase-out of the multi-fibre agreement under WTO. The market is growing not only at the cost of farmers' sweat and blood, but also the state exchequer. The Cabinet Committee on Economic Affairs, under the chairmanship of Prime Minister Manmohan Singh, recently cleared four more textile parks bringing the total to 30. The development of the textile parks is aimed at facilitating additional investment, generate employment and increase textile production. To make this possible, it is the textile ministry that is expected to provide infrastructure facilities, such as roads, electricity supply - including captive power plants - and telecom lines to firms willing to set up textile units. The private share in this 'development' is missing.

Amidst all the talk of creating models of public-private partnerships based on transparency and commitment, the cotton debacle provides an important lesson in economic exploitation. Cotton farmers were very conveniently duped for four decades. They still are being fleeced by crony capitalism. What could have turned the public-private partnership between the textile industry and the cotton growers into a replicable global model has in reality turned out to be a national model of shame. Social inclusiveness does not only mean setting up village

schools and hospitals to demonstrate corporate responsibility. The private sector cannot get away by

setting up a few schools or hospitals for the poor. Public-private partnerships can only turn into a 'win-win' situation

when both partners measure up at the time of need.

<http://www.indiatogether.org/cgi-bin/tools/pfriend.cgi>

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*This fortnightly bulletin is brought out by South Against Genetic Engineering (SAGE), a coalition of civil society activists, farmers, scientists, academicians, and consumer groups of four Southern States of India, viz., Andhra Pradesh, Karnataka, Tamil Nadu and Maharashtra. SAGE has been waging a concerted battle against genetic engineering through a series of activities that involve public protests, media actions, seminars, consultations and publication of a series of education.*

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