

**MONSANTO-ISING INDIAN AGRICULTURE:
A PAPER ON GIVING AWAY INDIAN AGRICULTURE ON A PLATTER
TO MONSANTO THROUGH PUBLIC-PRIVATE PARTNERSHIPS**

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MONSANTO-ISING INDIAN AGRICULTURE

"No Food Shall Be Grown That We Don't Own" – reported objective of Monsanto

Monsanto is an American agri-business corporation, which is today the world's largest seed company. It is also one of the world's largest agri-chemical companies. Monsanto group in India and elsewhere mainly operates in the seeds, herbicides and biotechnology traits segments mostly. On the agri-chemical front, in addition to crop protection products, there are some veterinary and lawn-and-garden products that Monsanto engages in. The company operates in the United States of America (its home country), Latin America, Europe, Africa, Asia-Pacific and Canada.

Monsanto's seed sales were nearly US\$5 Bn in 2007, constituting 23% of the global proprietary seeds market (the non-proprietary seed market around the world is now only 18% of the world seed market)¹. Monsanto is also the world's fifth largest agri-chemical company with sales worth nearly US\$3.6 Bn in 2007, which constitutes 9% of the world agri-chemical market share. The worldwide market for agri-chemicals was worth US\$ 38.6 billion in 2007.

In 2009, Monsanto's global net sales were US\$ 11.72 billion, of which 62% was from seeds and agriculture technologies and 38% from the agricultural productivity segment (Annual Report, Monsanto India, 2010).

Monsanto had grown into the largest seed company in the world by aggressive market maneuvers including 69 acquisitions, taking stakes in 14 companies and divesting from 17, during 1985 and 2009.

MONSANTO'S HISTORY OF HUMAN RIGHTS VIOLATIONS, LIES & OMISSIONS

Monsanto has become infamous over the years for many human rights violations, lies and omissions in its quest for more and more markets and profits. For instance, for decades, Monsanto dumped highly toxic PCBs in Anniston Alabama, then spent years covering up the dumping and the attendant health hazards to residents. It appears that Monsanto knew what it was doing when it was dumping its toxic wastes but concealed the same and denied the effects. On February 22, 2002, Monsanto was found guilty for poisoning the town of Anniston, Alabama with their PCB factory and covering it up for decades. They were convicted of negligence, wantonness, suppression of the truth, nuisance, trespass, and outrage. The \$700 million fine imposed on Monsanto was on behalf of the Anniston residents, whose blood levels of Monsanto's toxic PCBs were hundreds or thousands of times the average².

Similarly, in the case of dioxin and its impacts, Monsanto is known to have covered up dioxin contamination of several of its products.

In Indonesia, Monsanto gave bribes and questionable payments to at least 140 officials, attempting to get their genetically modified (GM) cotton accepted. In 1998, six Canadian government scientists testified before the Senate that they were being pressured by superiors to approve rbGH, that documents were stolen from a locked file cabinet in a government office, and that Monsanto offered them a bribe of \$1-2 million to pass the drug without further tests.

When it comes to the safety of products like glyphosate (Monsanto's brand of this herbicide is called Roundup), it was found that two labs conducting safety studies for Monsanto were indulging in "routine falsification of data". One lab study claimed it used 'specimens from the uteri of male rabbits'.

¹ "Who owns nature? – Corporate Power and the Final Frontier in the Commodification of Life", ETC group, November 2008

² Jeffrey M Smith, "Monsanto: The world's poster child for corporate manipulation and deceit", Originally published July 30 2010 at http://www.naturalnews.com/z029325_Monsanto_deception.html "Monsanto-ising Indian Agriculture":

The story of the first mass-marketed bioengineered food product, Monsanto corporation's recombinant bovine growth hormone (rBGH), also reflects the nature of this corporation. "rBGH has been linked to cancer in humans and serious health problems in cows, including udder infections and reproductive problems. rBGH's development and approval was rife with scandal and protest. But the right combination of government backing, corporate science, and heavily-funded corporate public relations schemes paved the way for the first major release of a genetically engineered food into the American food supply. The roles played by the FDA and the Monsanto corporation in the development, safety evaluation, approval, and marketing of rBGH led to the exposure of the American public to the multiple hazards of bioengineered foods. These organizations hid important information about safety concerns, masked disturbing conflicts of interest, and stifled those who were asking the "wrong" questions and telling the truth about rBGH"³.

In the case of Genetically Modified (GM) crops, it was found that Monsanto chose to keep biosafety data away from public scrutiny and has committed scientific fraud by wrongly interpreting its data and classifying the GM product as safe.

Readers should also recall that this is a company which is infamous for suing and jailing farmers elsewhere for doing what they had always done (if they didn't, agriculture would not have survived over the centuries and you and I would not be alive now!): saving their own seed and re-sowing!

Since 1996, Monsanto has filed thousands of lawsuits against hundreds of farmers across the world⁴. In the USA, Centre for Food Safety has taken up investigations into this anti-farmer behaviour of Monsanto. The findings and conclusions of CFS's research is presented below, extracted directly from their report.

*"After extensive research and numerous interviews with farmers and lawyers, CFS found that Monsanto, the world's leading agricultural biotechnology company, has used heavy-handed investigations and ruthless prosecutions that have fundamentally changed the way many American farmers farm. The result has been nothing less than an assault on the foundations of farming practices and traditions that have endured for centuries in this country and millennia around the world, including one of the oldest, the right to save and replant crop seed. In general, Monsanto's efforts to prosecute farmers can be divided into three stages: investigations of farmers, out-of-court settlements, and litigation against farmers Monsanto believes are in breach of contract or engaged in patent infringement. Monsanto itself admits to aggressively investigating farmers it suspects of transgressions, and evidence suggests the numbers reach into the thousands. According to farmers interviewed by CFS, these thousands of investigations frequently lead to the second stage: Monsanto pressuring the farmer to settle out of court for an undisclosed sum and other terms agreed to in confidential settlements. To date (2005), Monsanto has filed 90 lawsuits against American farmers. The lawsuits involve 147 farmers and 39 small businesses or farm companies, and have been directed at farmers residing in half of the states in the U.S. The odds are clearly stacked against the farmer: Monsanto has an annual budget of \$10 million dollars and a staff of 75 devoted **solely** to investigating and prosecuting farmers. The largest recorded judgment made thus far in favor of Monsanto as a result of a farmer lawsuit is \$3,052,800.00. Total recorded judgments granted to Monsanto for lawsuits amount to \$15,253,602.82. Farmers have paid a mean of \$412,259.54 for cases with recorded judgments".*

Currently, Monsanto is being investigated by the Justice Department in the USA for its anti-trust behaviour, based on the unprecedented rise in seed prices that began a decade ago, stemming mostly from the advent of Genetically Modified seed and the severe seed industry concentration that ensued.

The Justice Department began an antitrust investigation of the seed industry last year, with an apparent focus on Monsanto. It is reported that Monsanto has used license agreements with smaller seed

³ <http://www.psrast.org/ecologmons.htm>

⁴ Monsanto Vs. US Farmers, A report by the Centre for Food Safety, Washington, 2005
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companies to gain an unfair advantage over competitors and to block cheaper generic versions of its seeds from eventually entering the market. The seed market in which prices have soared higher in an unprecedented way is dominated by Monsanto. Including the sharp increases in 2009, Agriculture Department (USDA) figures show that corn seed prices have risen 135 percent since 2001 and soybean prices by 108 percent whereas the Consumer Price Index rose only 20 percent in that period⁵.

Factsheet: Monsanto's Sordid History

From the Center for Food Safety

Monsanto, best known today for its agricultural biotechnology products, has a long and dirty history of polluting this country and others with some of the most toxic compounds known to humankind. From PCBs to Agent Orange to Roundup, we have many reasons to question the motives of this company that claims to be working to reduce environmental destruction and feed the world with its genetically engineered food crops.

- Headquartered near St. Louis, Missouri, the Monsanto Chemical Company was founded in 1901. Monsanto became a leading manufacturer of sulfuric acid and other industrial chemicals in the 1920s. In the 1930s, Monsanto began producing polychlorinated biphenyls (PCBs). PCBs, widely used as lubricants, hydraulic fluids, cutting oils, waterproof coatings and liquid sealants, are potent carcinogens and have been implicated in reproductive, developmental and immune system disorders.
- The world's center of PCB manufacturing was Monsanto's plant on the outskirts of East St. Louis, Illinois, which has the highest rate of fetal death and immature births in the state. By 1982, nearby Times Beach, Missouri, was found to be so thoroughly contaminated with dioxin, a by-product of PCB manufacturing, that the government ordered it evacuated. Dioxins are endocrine and immune system disruptors, cause congenital birth defects, reproductive and developmental problems, and increase the incidence of cancer, heart disease and diabetes in laboratory animals.
- By the 1940s, Monsanto had begun focusing on plastics and synthetic fabrics like polystyrene (still widely used in food packaging and other consumer products), which is ranked fifth in the EPA's 1980s listing of chemicals whose production generates the most total hazardous waste.
- During World War II, Monsanto played a significant role in the Manhattan Project to develop the atom bomb.
- Following the war, Monsanto championed the use of chemical pesticides in agriculture, and began manufacturing the herbicide 2,4,5-T, which contains dioxin. Monsanto has been accused of covering up or failing to report dioxin contamination in a wide range of its products.
- The herbicide "Agent Orange," used by U.S. military forces as a defoliant during the Vietnam War, was a mixture of 2,4,5-T and 2,4-D and had very high concentrations of dioxin. U.S. Vietnam War veterans have suffered from a host of debilitating symptoms attributable to Agent Orange exposure, and since the end of the war an estimated 500,000 Vietnamese children have been born with deformities.
- In the 1970s, Monsanto began manufacturing the herbicide Roundup, which has been marketed as a safe, general-purpose herbicide for widespread commercial and consumer use, even though its key ingredient, glyphosate, is a highly toxic poison for animals and humans. In 1997, The New York State Attorney General took Monsanto to court and Monsanto was subsequently forced to stop claiming that Roundup is "biodegradable" and "environmentally friendly."
- Monsanto has been repeatedly fined and ruled against for, among many things, mislabeling containers of Roundup, failing to report health data to EPA, and chemical spills and improper chemical deposition. In 1995, Monsanto ranked fifth among U.S. corporations in EPA's Toxic

⁵ <http://www.nytimes.com/2010/03/12/business/12seed.html>

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Release Inventory, having discharged 37 million pounds of toxic chemicals into the air, land, water and underground.

- Since the inception of Plan Colombia in 2000, the US has spent hundreds of millions of dollars in funding aerial sprayings of Monsanto's Roundup herbicides in Colombia. The Roundup is often applied in concentrations 26 times higher than what is recommended for agricultural use. Additionally, it contains at least one surfactant, Cosmo-Flux 411f, whose ingredients are a trade secret, has never been approved for use in the US, and which quadruples the biological action of the herbicide.
- Not surprisingly, numerous human health impacts have been recorded in the areas affected by the sprayings, including respiratory, gastrointestinal and skin problems, and even death, especially in children. Additionally, fish and animals will show up dead in the hours and days subsequent to the herbicide sprayings.
- In the 1980s and early 1990s, Monsanto was behind the aggressive promotion of synthetic Bovine Growth Hormone, approved by the FDA for commercial sale in 1994, despite strong concerns about its safety. Since then, Monsanto has sued small dairy companies that advertised their products as free of the artificial hormone, most recently bringing a lawsuit against Oakhurst Dairy in Maine.
- In August, 2003, Monsanto and its former chemical subsidiary, Solutia, Inc. (now owned by Pharmacia Corp.), agreed to pay \$600 million to settle claims brought by more than 20,000 residents of Anniston, AL, over the severe contamination of ground and water by tons of PCBs dumped in the area from the 1930s until the 1970s. Court documents revealed that Monsanto was aware of the contamination decades earlier.

Sources:

Sheldon Rampton, John Stauber, Trust Us, We're Experts (New York, NY: Penguin Putnam, 2002).

Brian Tokar, "Monsanto: A Checkered History," The Ecologist, Sept./Oct. 1998

CBS News, 60 Minutes: Herbicide Problems, January 14, 2002

<http://www.monsantowatch.org/index.php?page=none>

MONSANTO IN INDIA

Monsanto Chemicals of India Ltd (MCIL) changed its name to Monsanto India Ltd in 2000 pursuant to the hiving off of its chemicals division, and renewed focus on herbicides, seeds and traits. MCIL was set up in 1949 as an agent of US-based Monsanto Chemical Co. The first production unit for pesticide formulations was established in Lonavla, Maharashtra, in the early 1970s. In 1997, the company opened a new plant in Silvassa for manufacturing herbicides. Currently, it also has a biotechnology research centre in Bangalore, which was shifted from its original location in the Indian Institute of Science subsequent to farmers' and activists' wrath.

The US parent has a total controlling or strategic holding of 74.66 percent, with the remainder in the hands of Indian individuals and mutual funds⁶. Subsequent to the parent company's merger with Pharmacia and Upjohn, the company consolidated its agriculture business even while divesting its chemicals portfolio.

Monsanto India, till 2000, consisted of several entities. Monsanto Chemicals was a pure manufacturer of agrochemicals. Monsanto Enterprises looked after the marketing and distribution functions and was the marketing arm of the US parent with a marketing and distribution infrastructure and rights for the entire

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www.monsantoindia.com

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range of parent's products; while Monsanto India was the holding company of the group's operations in India. Seeds and other biotechnology products were introduced through the parent's 100% subsidiary, Monsanto Technologies. All this subsidiaries have now been integrated with Monsanto Chemicals, which subsequently became Monsanto India Ltd in 1999-2000. This restructuring was aimed at making Monsanto India an "integrated agri-business company" and was formally put through in June 2000⁷.

Before 2008, the company had branded seed products like DeKalb maize hybrids (HiShell, AllRounder, Prabal, Sheetal, Double etc.), Asgrow sunflower hybrids (SH3322, SH41, SH177, SH416, SH88 etc.), Frontline paddy hybrids (RH 257, RH664 etc.) in addition to Herbicides like Roundup (Glyphosate), Machete (Butachlor), Leader (Sulfasulfuron) and FastMix (Butachlor).

However, during the fiscal year 2007-08, Monsanto India divested its Butachlor and Alachlor businesses to Sinochem India Company Private Limited and Sunflower seeds business to Devgen Seeds and Crop Technology Pvt. Ltd⁸. Today, Monsanto had made Dekalb corn seeds and Roundup herbicide as its core business in India, in addition to the biotech traits business.

Recent news stories have reported how Monsanto's plans to do business in Genetically Modified (GM) material has been okayed by the agriculture ministry which had told the Foreign Investment Promotion Board (FIPB) that Monsanto India be given the green signal. Monsanto India had approached the FIPB for approval with a view to 'integrating its agro-chemical business in India with its US parent's seed business'. "The FIPB approval is expected to pave way for the GM giant to bring in its menu of genetically modified food products including GM corn, maize and soya (first generation GM crops which were mostly cash crops) apart from its globally famous "Roundup Ready" brand, which are widely used in several developing countries" says a financial media report. Worldwide, in a new hierarchy emerging within the seed industry, Monsanto is becoming the trait seller to many seed-selling companies and around 95% of the GM crops planted worldwide is supposed to have Monsanto's proprietary traits which also mostly include an in-built market for its herbicide (a portfolio of selling 'traits', seeds and chemicals). Meanwhile, Monsanto has recently begun a fellowships programme called Monsanto Beachell-Borlaug International Scholars Program to support hybrid wheat and rice breeding projects in India. For this, it has linked with some of the country's premier universities and research institutes and had announced a grant of ten million US dollars. As an analyst put it, "*what is alarming is not that agribusiness giant Monsanto is seeking answers from the Indian public funded universities and research institutions; it is that Monsanto is the one asking the questions at Indian public funded institutions.... It is paying researchers to ask questions that it is most interested in having answered*"⁹. One can imagine why Monsanto would be interested in wheat and rice and what kind of markets can be raked in with these two largest-grown staple crops in the country.

This is the same Monsanto that had unabashedly slipped out of the Monopolies & Restrictive Trade Practices Commission (MRTPC) inquiry into Bt Cotton seed pricing in relation to the royalty amount and technology fees being charged per packet of Bt Cotton in India. Many would remember that the Andhra Pradesh government had approached the MRTPC in 2006 about the exorbitant charges being levied by Monsanto for its Bollgard technology in India, especially as compared to what was being charged in the USA and China and it is estimated that thousands of crores of rupees were paid up by poor Indian farmers in the name of royalty/technology fees. Monsanto sidled out from this case saying that it is Mahyco-Monsanto Biotech (MMB) which is the technology provider in India. While that may be so, financial statements of Monsanto India (Schedule 13, page 60 of Annual Report of the company for 2007-08 on its website), show 490 lakhs of rupees as balance due from MMB (India) Ltd and reflects the

⁷ <http://www.thehindubusinessline.com/businessline/iw/2000/09/17/stories/0217b050.htm>

⁸ <http://www.corporateinformation.com/Company-Snapshot.aspx?cusip=C3562A400>

⁹ Kamalakar Duvvuru, "Monsanto: a contemporary East India Company and Corporate Knowledge in India, July 2009 (<http://dissidentvoice.org/2009/07/monsanto-a-contemporary-east-india-company-and-corporate-knowledge-in-india/>)

royalty income of Mahyco Seeds on Page 58! This is a company obviously adept at using various *avatars* to suit the need of the hour.

In India, Monsanto is reported to have tried to use the American influence to ensure that its proprietary technologies - and therefore, assured markets - are not breached. In an infamous incident in 2005 involving David Mulford, the then US Ambassador to India, an unprecedented interference in internal matters in India occurred when Mulford sent a letter to Narendra Modi, the Chief Minister of Gujarat, asking him to curb the illegal trade of Bt Cotton seeds in Gujarat and warned Modi that failure to do so will "dampen the transfer of technologies and investments from abroad, including from the United States". Mulford apparently referred to "law-abiding companies" being put to a disadvantage due to this illegal seed trade.

The Government of India allowed Monsanto to direct the future course of agriculture, especially through the so-called Second Green Revolution, from its high pedestal of being a Board Member of the Indo-US Knowledge Initiative on Agriculture (KIA, the deal signed by India and the USA in 2005 for ushering in the next green revolution in India).

This brief paper on "Monsanto-ising Indian Agriculture" is seeking to throw light on the nature of this profiteering corporation from experiences from its operations the world over, on its operations in India and then focuses on a new development that Monsanto is orchestrating in different states of India in expanding its markets, especially in the corn, cotton and vegetable seed segments to raise issues of urgent concern and ensure that governments protect Indian farmers' interests from this onslaught.

PPP: MONSANTO'S LATEST STRATEGY FOR EXPANDING ITS SEED MARKETS

"In 2009-10 alone, our partnerships have made a difference in the lives of 1,70,000+ maize farmers in India" – Monsanto India's Annual Report 2010

Maize is the third largest cereal crop grown in India. In 2008-09, the largest maize extents were cultivated in the following states: Karnataka (13.08%), Rajasthan (12.88%), Andhra Pradesh (10.42%), Madhya Pradesh (10.29%), Uttar Pradesh (9.78%), Maharashtra (8.01%) and Bihar (7.84%). In terms of irrigated maize area, Punjab tops the list with 64.4% of its maize area under irrigation, followed by Bihar (60.3%) followed by Andhra Pradesh and Karnataka. Only 2.7% of Rajasthan's maize area was under irrigation in 2007-08.

Of the 7.8 million hectares (19.3 million acres) maize area in India, roughly 40% is under hybrids and this area is constantly and rapidly expanding, with corporations aggressively pushing a variety of marketing strategies. Apart from Monsanto, other players in the hybrid corn seed segment include Pioneer Hi-Bred (a DuPont subsidiary), Syngenta India, Shriram Bioseed Genetics, Kaveri, Kanchan Ganga Seeds etc.

Monsanto has a (maize) product portfolio of nearly 14 high-yielding hybrid maize seeds for different agro-climatic zones, says its Annual Report of 2010 – it is reported that 20 lakh Indian farmers grow Monsanto's Dekalb brand maize hybrids. Monsanto has two maize breeding research stations – Ghaziabad and Bengaluru and has three maize seed processing facilities at Bellary, Eluru and Hyderabad. Within the corn hybrids segment, Monsanto claims that Dekalb hybrids are grown on 4 out of every 10 maize acres in India¹⁰. It is estimated that out of the hybrid corn seeds market worth around 600 crore rupees in India, Monsanto has a 39% share (2008). There is a steady demand for maize from the domestic poultry feed and starch industry as well as exports¹¹. This is where Monsanto hopes to push its markets for GM corn seeds along with Roundup Ready. Field trials for a hybrid of Bt and Roundup Ready lines are already underway in different locations of India since the past two years. The company plans to launch

¹⁰ <http://www.monsantoindia.com/monsanto/layout/pressreleases/pressreleases/hybrid2707.asp>

¹¹ <http://www.thehindubusinessline.com/2008/09/06/stories/2008090650451200.htm>

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genetically modified corn or Bt corn in 2012-13 in India and whose studies and regulatory trials are in the final stages¹².

In the recent past, seed companies, especially Monsanto, have discovered a new strategy for expanding their markets rapidly in the form of partnerships with state governments in India for some chosen crops like corn, cotton and vegetables. Several state Governments such as the Jammu and Kashmir, Rajasthan, Orissa, Himachal Pradesh and Gujarat have signed MOUs with Monsanto. Most of these MOUs serve as a strong entry point for Monsanto to penetrate its hybrids into economically and ecologically vulnerable regions within the state, namely the tribal belts. The following pages try to present some information on these projects, the issues with the agreements as well as what is emerging on the ground as field visits have shown and our concerns with regard to the use of taxpayers' funds for expanding the markets of an anti-people corporation like Monsanto. While information with regard to the projects in Himachal Pradesh and Jammu & Kashmir is scanty, we present here details of the project in Gujarat, Rajasthan and Orissa.

In Gujarat, the project is being implemented in the tribal districts of Dahod, Panchmahal, Sabarkantha, Baroda and Banaskantha; in Rajasthan, it is in the five districts of Banswara, Dungarpur, Udaipur, Pratapgarh and Sirohi. In Jammu & Kashmir, the project is in the four districts of Jammu, Samba, Kathua and Udhampur. In Himachal Pradesh, the project was initiated in 2007 in the districts of Una, Solan, Kangra, Hamirpur and Mandi.

Orissa is the latest entrant on this scene of partnerships with a project called Project Golden Days, initiated in September 2010 in the districts of Bolangir, Kalahandi, Nuapada, Nayagarh and Khurda, once again with tribal farmers.

Public funds spent by various state Governments in partnership with Monsanto for hybrid seed expansion

<i>State</i>	<i>Name of the Project</i>	<i>Project outlay – amount in rupees</i>	<i>No of farmers as beneficiaries</i>
Gujarat	Project Sunshine ¹³	46.82 crores (2009)	1,40,891
Rajasthan	Project Golden Rays ¹⁴	62 crores (2010)	8,00,000
Jammu & Kashmir	Project Rainbow ¹⁵	23 Lakhs (2010)	900
Orissa	Project Golden Days ¹⁶	12.10 crores ¹⁷ (2010)	23,500
Himachal Pradesh	Project Imagine (Dekalb Advantage program) ¹⁸	53.22 crores (2007)**	8,63,000

** Information obtained over phone from Addl Director of Agriculture, Govt of Himachal Pradesh

¹² <http://www.business-standard.com/commodities/storypage.php?autono=403681>

¹³ www.vanbandhukalyanyojana.gujarat.gov.in/...Project/Project%20proposal%20Monsanto.pdf

¹⁴ <http://timesofindia.indiatimes.com/city/jaipur/Hybrid-seeds-for-five-tribal-dists/articleshow/6225655.cms>

¹⁵ <http://php.statetimes.in/news/2010/09/08/project-rainbow-to-benefit-900-farmers>

¹⁶ <http://www.orissadiary.com/ShowBusinessNews.asp?id=21125>

¹⁷ www.orissa.gov.in/agriculture - Minutes of the State Level Sanctioning Committee meeting under RKVY, 21/5/2010

¹⁸ <http://www.monsantoindia.com/monsanto/layout/pressreleases/pressreleases/Dekalb1807.asp>

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PROJECT SUNSHINE IN GUJARAT: “Partnering to build markets”¹⁹

Gujarat had around 6.1% of India’s corn land in the state in 2008-09 (0.50 million hectares) with only 9.2% of the corn area under irrigation in 2007-08 (Official website of the Dept of Agriculture & Cooperation, Govt of India).

One of Monsanto’s oldest such agreements exists with the Gujarat in the name of Project Sunshine. The Government of Gujarat has granted for this project nearly 46 crore rupees in 2009, for Monsanto’s Hybrid maize seed to be distributed free of cost in the tribal regions of Gujarat. The money was spent by the tribal welfare department of Gujarat in implementing the project in the districts of Dahod, Panchmahal, Vadodara, Sabarkantha and Banaskantha.

Project Sunshine 2009 is described by the project document as an integrated project for productivity improvement of traditional maize growing tribal farmers. This project was implemented in 16 talukas of 5 districts of Gujarat with 140,891 farmers, with the seeds certified by Navsari Agriculture University. In this project, free hybrid seed and 150 kgs of chemical fertilizers are distributed, along with a component of extension support and Rs. 500/- is paid by the farmers as ‘beneficiary contribution’.

This project began as a pilot project in 2006-07 under the name of Project Rainbow. The rapid expansion of this project is given in the table below.

Project	Year	Outlay	Number of Villages	Number of Farmers	Number of Acres
Project Rainbow (Monsanto’s own funds)	2006-07	NA	300 villages, 2 districts		
Project Sunshine (ITDP project)	2008-09	19.12 crores	535 villages, 2 districts	30,000	30,003
Project Sunshine (ITDP)	2009-10	46.82 crores	1707 villages, 5 districts	140,891	160,000*

Source: Compiled from project documents on Gujarat Government’s tribal welfare department’s website and from media reports*

On October 4th and 5th 2010, a **Fact Finding Team** consisting of senior office bearers of Bhartiya Kisan Sangh in Gujarat and members of the Kisan Swaraj Yatra met with many tribal farmers who were part of Project Sunshine, to document their experiences with regard to yields, pest and disease management, dietary preferences, cultivation practices etc., in this project, with Monsanto’s hybrid maize.

The fact finding team (FFT) members met with around 25 tribal farmers from around five villages in the Sukhsar market yard at around 4.30 pm on October 4th 2010 in the Dangs region of Gujarat. Farmers present there shared their experiences with maize cultivation in Project Sunshine. Nine of them had taken maize seed and 3 bags of chemical fertilizers (Urea, DAP, Sulphur/MoP) for a payment of Rs. 1100/- to the local NGO implementing “Project Sunshine” in this area (the farmers were from Fatehpura taluka and later it was clarified that the payment was for the insurance component in the project).

These farmers reported that the crop was a failure this season – there has been no germination for an entire lot of seed supplied. “What are you doing now that the crop has failed? Who will you hold accountable?”, the FFT members asked. There were bewildered looks on their faces. It was as though the thought never occurred to them to hold the seed supplier or the government or the NGO liable. As

¹⁹ <http://www.monsanto.com/newsviews/Pages/Feed-the-Future-Initiative.aspx>
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though a season lost is not about losing a large part of one's meager earnings in this poor part of the state. "We can't do anything about it since we are left with no receipts or bills. The NGO took it back while supplying the fertiliser, after giving it initially when they supplied the seed", explained the local BKS leader. So, do your villages still have at least some native seed left, the farmers were asked. "Yes, only about 25% which might also disappear soon if we are not careful".

"Our white maize which was planted next to the hybrid maize fields started yielding yellow-colored grain due to contamination", they explained. "Hybrid maize also requires more water and irrigation, while the yield advantage is only 20%. We also don't sow any intercrops with hybrid maize whereas with desi maize, we grow some pulses and other crops. What's more – our animals don't like being fed on hybrid maize fodder. Even those mute animals seem to know what is good for them".

The team later visited a village called Vangad, to find out from villagers what they thought of the project. "We know better than to sow that hybrid maize given in the project. We take what the NGOs give us – throw away the seed, sow our own '*safed makka*' and keep the chemical fertilizer. Even with the fertilizer, we don't use all of it and sell away what we don't need", explained a young farmer. The FFT was told that this village is quickly going back to their own maize after trying out hybrid maize supplied by Monsanto.

This is one of the villages where Project Sunshine, the tribal welfare department's tie-up with Monsanto is happening in Gujarat. Yes, the yield is around 25% higher, reveal the farmers, 'but then, we don't like eating this maize. We give it to our cattle. There are more pests and we resort to using pesticides like Phorate, when we sow the hybrids". Do the cattle like eating the fodder from hybrid maize, FFT members wanted to know. "What option do those mute beings have? They have to eat whatever is given to them by us", responded one of them.

Field visits before and after the Kisan Swaraj Yatra reveal that farmers do not prefer consuming the hybrid maize being supplied in the Project Sunshine ("Peela/Laal makka"), their animals don't either and while the yields are about 20-25% higher (in some places, farmers reported 1.5 times more yield), the inputs are higher in terms of irrigation water and chemical fertilizers. Farmers report that the roti turns very hard much sooner in the case of hybrid maize, which they are unable to digest well, compared to the native maize. There are villages where farmers are accepting the project package but are not actually sowing the seed as they believe that it is not good for them or their lands ultimately. Some farmers reported germination failure this year in a lot of seeds supplied in the project this year but it was unclear who should be held accountable for this.

While this is the feedback from the field, there is also some information from the **Impact Assessment Report of the Anand Agriculture University** on this project.

- The Dekalb hybrid corn being used in the project matured 23 days later than the local cultivars (85 days)
- The hybrid yielded grain 81.17% higher than local cultivars on an average. (However,) the hybrid was cultivated under protected soil moisture, recommended high chemical fertilizer dose and plant protection measures.
- Farmers benefited 46.71% in net income from Prabal hybrid cultivation – however, land (being) engaged for 23 days more than local cultivation (would mean) it may be difficult for rainfed farmers to adopt cropping sequence and intercropping.

The University report also points out that looking to socio-economic conditions and ethnic preference, the tribal farmers may not prefer Prabal hybrid because of late maturity, high input requirement, purchase of costly hybrid seed every season, high cost of seed, rainfed and marginal cultivation practices and their food preference in the tribal belt of Gujarat. The farmers of Panchmahal, Dahod and Vadodara like white flint and early to medium maturing hybrid/varieties whereas, Sabarkantha and Banaskantha maize

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growers prefer early to medium maturing, yellow flint hybrids/varieties suitable to intercrop, cropping sequence under rainfed and marginal farming. Some them used F₂ seed to cultivated from previous produce. The University also recommended that Prabal hybrid should be compared with recommended hybrids / varieties of AAU as well as AICRP (All India Coordinated Research Project) on maize (ICAR) for the state.

The official **Concurrent Monitoring & Evaluation Report of Project Sunshine (Phase II)** found that borrowing has increased amongst the farmers compared to before the project intervention²⁰. When farmers **borrowed from moneylenders**, some had to pay 3-5% interest rates a month, on top of the higher price of required inputs that they bought through credit.

This report also points out that the agriculture university recommends less utilisation of fertilisers compared to Monsanto Company. "**Overuse of fertilisers** to the otherwise degraded soil in rainfed areas questions claim by the Monsanto Company of sustainable agriculture" says the report. This study also points to shortage of water for one watering.

It is also important to note that the increase in **seed price** of hybrid maize has been increasing at a phenomenal rate and this data is presented in the evaluation report. Where the value of seed was reported to be Rs. 156/- on an average per acre over five districts studied in 2007, it was Rs. 1194/- in 2008 and Rs. 1145/- in 2009.

It was observed that over the years, the study area has been facing the **shortage of one watering** (maize crop grown in kharif requires at least two waterings). On an average, farmers incur the cost of Rs. 698 per acre in watering. The irrigation is from wells where the water is drawn using diesel or electric motor, which further adds to the cost of watering.

Yield in 2009 was 700 kilos per acre, which was lower than the previous year (743 kgs per acre). Further, the yield of 743 kgs in 2008 is very close to the state average yield, it is reported. The evaluation report mentions that even though the researchers asked the farmers about the difference in yield between what was claimed by the company and what was actually harvested, farmers considered the yield good, compared to traditional variety of maize.

This evaluation report also found out farmers' perceptions on quality. Nearly half of the farmers reported that **quality of the produce** had positive implication in raising price of the produce. Further discussions revealed that the general price rise in price of the crop led them to believe that this change was a result of better quality of the produce of maize crop.

PROJECT "GOLDEN RAYS" IN RAJASTHAN: Pushing tribal farmers towards higher vulnerability?

Rajasthan accounts for 15% of the total corn acreage in India, as per some media reports (other official data of Government of India shows around 13% of total corn acreage in India to be in Rajasthan in 2008). Monsanto has a partnership with the Government of Rajasthan called Project Golden Rays, a la Project Sunshine in Gujarat. In 2009, it covered over 30,000 farmers in five tribal districts in 40+ villages. Under the scheme the state buys the hybrids from the company at a negotiated price and distributes them free to farmers, while Monsanto (India) provides the technical support on the agronomic practices. The project is financed by Rashtriya Krishi Vikas Yojana. Plans for Kharif 2010 included an expansion to nearly 35% of the corn-growing areas in Banswara, Dungarpur, Udaipur, Pratapgarh and Sirohi and this covered 750,000 tribal cultivators in 4000 villages.

²⁰ <http://www.vanbandhukalyanyojana.gujarat.gov.in/SUNSHINE%20REPORT%202010.pdf>
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While the Rajasthan government has entered into several agreements with various seed corporations in recent times, to purportedly make Rajasthan the “seed capital of India”, the significant MoU is with Monsanto, which outlines R&D, seed production, processing and extension services to farmers as the potential areas of collaboration. What is shocking is that while the ostensible objective is to increase yields, the Agreement lays down that the government will “help create an appropriate package of policies, rules and incentives to attract necessary investments from the private sector players”. Monsanto is supposed to promote hybrid maize, hybrid cotton and hybrid vegetable seeds as per this agreement. R&D component is supposed to involve extensive testing of *Monsanto’s proprietary germplasm*. As a recent Down To Earth piece shows, the Agreement also says that the company would get “fair opportunity for partnership in any seed distribution programme being considered and/or conceived by the Government of Rajasthan under its schemes for improving the lives of farmers as well as those aimed at improving productivity and availability’ of maize, cotton and vegetables” (‘Rajasthan opens farm gates’, Latha Jishnu & Jyotika Sood, Down To Earth, November 15th 2010).

To understand the experiences of farmers in the project, one of the authors of this paper went to Lehna village in Dungarpur district in Rajasthan on September 19th 2010. In the subsequent section, a compilation of five semi-structured interviews is presented from Lehna, a hamlet of 32 households predominantly of the Meena tribe. The sample interviewee group included four men and one woman farmer from Below Poverty Line (BPL) households. Their age group ranged between 28-53 years. They also own livestock such as ox, goat, chickens and cows. Major crops grown in this region include Maize, Rice, Toor dal (pigeonpea) and Bt. Cotton. Most of the tribals have traditionally grown Maize with a combination of other food crops. However, there seems to be an increasing perception among the Meena tribals towards replacing their food crops with cash crops such as Bt. Cotton.

Land and Income Details: Most of the interviewed have a land holding between 7-10 *bighas*. This translates to approximately 3 acres. In addition to farming, a significant contribution to family income depended on the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) wages, to a tune of Rs. 5000-8000/-.

All the five interviewees buy their seed from the market at a cost price of Rs. 420 for 5 kgs of maize and about Rs. 500 for 300 gms of Bt Cotton. None of them preserved the traditional varieties of seed. The available market choices for seed are limited to hybrids. So far they have not used any form of pesticide for their crops. They select the seed varieties to buy depending on the picture that is being advertised on the seed bags. Starting from the last rabi season (2010) the farmers in the Dungarpur region were given 5 kgs of maize seeds free of cost, including the interviewees. The free seed has been introduced at the Panchayat level by the Gram Sevak. Along with the seeds the farmers have also received free urea and DAP (Di-Ammonium Phosphate) for free. They have been given clear instructions to use the packaged Urea and DAP along with the seed. However, the farmers were unaware about the details of the free seed scheme.

Details of Crop and Yield: As mentioned earlier, all the interviewees are predominantly maize growing farmers. Their plantation area is divided into two parts, *desi* seed and *videshi* hybrid. Crops such as Toor dal and Rice are accommodated in not more than one Bega. It was reported that in the last five seasons of maize cultivation, a consistent decrease in yield of 2-3 quintals per season was experienced. At the same time, at the time of the interview all of them were hopeful of good yields in the upcoming harvest because adequate rain had fallen during the growing season.

Water: Most of the farmers in this region depend on rain-fed agriculture. Only one among the five interviewees had a tube well facility. He uses it for irrigation and other household purposes. The hybrid seeds used consume twice as much water as that of the traditional *desi* variety. The farmers expressed great concern regarding the water consuming capacity of the hybrid maize varieties. They experience

very low yields during seasons of scanty rainfall, and face the ironical dilemma of whether to use limited water to feed their crops and cattle or to use it for drinking purpose.

Nutritional issues: The farmers who spoke with the author repeatedly mentioned that they believe that hybrid corn does not give them the kind of strength that their own native maize varieties do.

The interviewees recorded constant skepticism and fear regarding the distribution of seed for free. The farmers assumed that a part of the funds from MGNREGS were being used for seed distribution, and they had rationalised that this explained why they were not receiving their daily wages as promised. They expressed doubts regarding the feasibility of the Government providing seed for free on a long-term basis. They were keen to know the Government's real motive behind this scheme and who the real beneficiaries are²¹.

PROJECT GOLDEN DAYS IN ORISSA: Latest partnership

This is the latest partnership in the series of partnerships that Monsanto is able to engage in, with various state governments. Launched in September 2010, this project once again is targeted at tribal farmers. Around 23,500 farmers of five districts – Bolangir, Kalahandi, Nuapada, Nayagarh and Khurdha districts will be part of this partnership. The Public-Private Partnership agreement was signed by the Orissa government with Monsanto in May 2010 under the title "Popularisation of cultivation of hybrid maize", using the Rashtriya Krishi Vikas Yojana funds (12.10 crores of rupees in 2010-11).

The amazing part of this Agreement are clauses like the ones below:

- In case of failure of germination of seeds, a District Level Monitoring Committee (including a representative of the company) shall verify such cases and take a final decision. If it is established that the failure to germinate is due to poor quality of seeds, Monsanto will replace the seed to the extent decided by the DLMC.
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- Similarly, if samples of the seed lots do not meet the germination standards, Monsanto India will replace the entire lot of sub-standard seed.
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- "All the parties understand and explicitly agree that the legal course of action will not be adopted or resorted to for settlement of any disputes arising out of this MoU", says one of the final clauses of the Agreement.

The above three clauses are clearly meant to reduce the liability of the corporation supplying the seed – while there does not seem to be any mention of what happens in the case of crop failure, it is obvious that replacement of seed will not be adequate compensation or redressal for farmers. It is also a matter of concern to note that even as existing legislations provide for liability of a punitive kind for sub-standard seed, this agreement is allowing the corporation to just replace seed, if tests and analysis show sub-standard nature of seed.

It is also shocking that this agreement prevents legal course of action in case of any disputes. It would be useful to remember here that a similar agreement related to seed quality under the "MoU" system adopted by Andhra Pradesh for several years was not adhered to by Mahyco-Monsanto Biotech Ltd (MMB Ltd) in the case of officially-accepted failure of Bt Cotton seed in Warangal district of Andhra Pradesh in 2004. Even though the Government of Andhra Pradesh ordered the company to pay up compensation

²¹ This report is based on personal interviews with five farmers Nisha Phalega, Dinesh Kumar Gomati, Maganlal Roth, Jeevan and Gomaji from Lehna, Dungarpur District, Rajasthan.
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(calculated at artificially low levels, that too after fudging up of data in favour of the company), this was refused, to the detriment of farmers' interests.

It should also be remembered that in the current case, we are talking about tribal communities who are resource-poor, staying in ecologically fragile zones being drawn into programmes which are designed systemically and intentionally in favour of the corporations who are seeking bigger markets and not designed to support these vulnerable communities.

IN CONCLUSION.....

From the way the Public Private Partnerships (PPP) are being designed and implemented and from the experiences emerging from the ground, the following concerns and objections emerge strongly:

1. The legal frameworks under which the partnerships are emerging need to be questioned – while there are no transparent processes of bidding etc., that are adopted for these projects which leads to favouring of some commercial entities like Monsanto over the others and helping them towards building their monopolies, unacceptably supported by taxpayers' funds, the specific clauses in the MoUs and Agreements are clearly in violation of even existing legislations. For instance, the existing regulatory regimes with regard to seed quality control clearly fix liability, however inadequate, for sub-standard seed that is tested and analysed as such by Seed Inspectors and Analysts. However, the Agreement of Monsanto with the Government of Orissa clearly allows the company to get away with seed replacement without any punitive action! Governments have to be answerable to their citizens about why they are favouring corporations like Monsanto, jeopardizing the lives and livelihoods of poor farmers in the country.
2. It is also clear that Impact Assessment studies are not preceding these large scale projects which will have socio-cultural implications as well as environmental implications – this is all the more important given that tribal communities are being lured into these projects with populist strategies including freebies like hybrid seed and chemical fertilizers which are bound to have impacts on their soils, agro-diversity, farm economics, livestock-rearing-related issues and their diets and health.
3. There are serious issues of Seed and Food Sovereignty that arise from projects such as Project Sunshine, Project Golden Rays and Project Golden Days. Farmers are being actively encouraged to give up their traditional seed saving practices and lured into external dependency on corporations like Monsanto, which have already exhibited their true nature of wanting to monopolise markets to the exclusion of farmers' rights and have not hesitated to sue and jail farmers in the pursuit of markets.
4. There are important concerns with regard to tribal livelihoods, especially in the medium and long term with projects such as these:
 - Official evaluation and assessment reports themselves are pointing to highly variable performance even within the ostensible objective of these projects: increasing productivity. For instance, the average yields in one district in Gujarat as per the evaluation report are not showing any productivity increases and are significantly lower than in other districts; it is also reported clearly that the yields are lower than the claims made in the project. Field level interactions by the authors also show that crop failure is an issue that is not being addressed.
 - It is being reported that borrowing for agriculture and related activities is increasing after the project interventions began – this is a clear pointer to the higher investment requirements in the new crop cultivation and greater yields if any are not getting reflected in lesser borrowing. Over a period of time, there is a real danger of farmers getting into greater

- indebtedness and being pushed towards suicides as is happening in this country right now, wherever farmers have been pushed towards high-external-investment agriculture without adequate support systems otherwise in terms of higher pricing support etc. This danger is all the more real given that the technologies being promoted including that of use of chemical fertilizers and pesticides used on hybrid seed are essentially “treadmill technologies” that will require the use of more and more of the inputs over seasons, even as the productive resources get eroded.
- Farmers are repeatedly reporting, as official reports further confirm, that they do not prefer eating hybrid maize, that their animals also do not show a liking to the fodder from the hybrid crop and that they find it difficult to digest and believe that it does not lend them the kind of strength that their traditional varieties provide. Field interactions showed that dietary patterns are already changing. This poses urgent questions on the nutrition security aspects of such large scale changes being orchestrated. It should also be remembered that all over India, particularly in tribal regions, agriculture is a way of life, that it is closely connected to the socio-cultural lives of people including their festivals and diets and these projects are likely to leave an irreversible mark on this.
 - In the era of Climate Change, it is important to note that these projects are pushing farmers towards higher use of scarce resources like water and greater use of agro-chemicals. While this certainly does not help in better adaptation to climate change (it has been reported from the field already that hybrid maize is being grown as a monocrop while traditionally, maize was grown in a multi-cropped approach, which meant more resilient systems in an unpredictable setting and also took care of better soil fertility management etc.), it poses questions on mitigation too.
 - Partnerships with corporations like Monsanto pose big questions on which side the governments are on – this is a company with a proven record of anti-people behaviour whether it is PCBs or Dioxins or other such corporate crimes. Ever-increasing seed prices is a matter of great concern and this is something that is being investigated in the USA too, the home country of Monsanto. To accord larger and larger spaces to such a corporation in Indian agriculture is unconscionable, especially given the lack of concomitant accountability. It is time that governments state clearly how they intend to protect farmers’ resources and rights from such a monopolistic corporation, how they intend to create accountability mechanisms that protect farmers’ interests and how they will ensure medium and long term sustainability of the livelihoods of the poorest people in this country.

It is very apparent that poor tribal farmers and other farmers in the country are being pushed towards more risky livelihoods by project tie-ups with corporations like Monsanto with their hybrid seeds; it is also apparent that for Monsanto, this is a stepping stone for bringing in GM hybrid seeds in all these segments which will ensure markets both for Monsanto’s chemicals and seeds. It appears that India is not learning any lessons either from the environmental health and environmental disaster that Punjab, the seat of intensive agriculture in India, is reeling under or learning positive lessons related to sustainable livelihoods from experiences like the state-supported Community Managed Sustainable Agriculture (CMSA) programme in Andhra Pradesh.

It is also very apparent that apart from rhetoric mouthed now and then, there is no serious recognition of the special needs and vulnerabilities of the tribal communities of the country including the ecologically fragile regions that they survive in.

Through this paper, we question the notions of sovereignty that governments hold, especially in the area of Seed and Food, the notion of sustainable development and sustainable livelihoods of the most vulnerable in the country and demand that all governments concerned immediately cancel these public-private partnerships with corporations like Monsanto and instead, establish sustainable development programmes with the tribal farmers and others that they seek to benefit.