

0**0**→ **Pic. 8**

Res nullius ... is a Latin term derived from Roman law whereby res ... are considered ownerless property and are usually free to be owned. It is related to Occupatio. Examples of res nullius in the socio-economic sphere are wild animals or abandoned property. ... Wild animals are regarded as res nullius, and as not being the subject of private property until reduced into possession by being killed or captured. Res nullius also has an application in public international law, more specifically called terra nullius, whereby a nation may assert control of an unclaimed territory and gain control when one of its citizens (often an exploratory and/or military expedition) enters the territory. This terra nullius principle justified colonisation of much of the world, as exemplified in the "carving up" of Africa by the European powers.... It is the concept that even though there may be indigenous peoples residing in "newly discovered" land, it is the right of the "more civilised" to take the land and put it to "good use".

http://en.wikipedia.org/wiki/Res_nullius

Biomass advocates refer to "marginal", unproductive, idle, degraded, abandoned, waste lands ... as many as 500 million hectares of abandoned and marginal land are available worldwide for growing biomass crops. gaia Foundation et.al. Agrofuels and the myth of marginal lands, 2008

www.watchindonesia.org/Agrofuels&MarginalMyth.pdf

0→ **Pic. 9**

Trevor Williams, the former Executive Secretary of IBPGR (International Board for Plant Genetic Resources) has argued that 'it is not the original material which produces cash returns' and a 1983 forum on plant breeding stated that 'raw germplasm only becomes valuable after considerable investment of time and money'. According to this calculation, peasants' time is considered valueless and available for free.

Vandana Shiva: Biotechnology and the Colonisation of Regeneration, 1991 Bangalore seminar on Women, Ecology and Health

A**Arable Land**→ **Pic. 8**

Arable land per person / world

1950: 5.100 qm

1975: 3.400 qm

2000: 2.700 qm

2050: 2.000 qm

Rural population:

2010: 3.411.352.000 / 49 % of the world population

... Arable land is a category of agricultural land, which, according to Food and Agriculture Organization's (FAO) definition, additionally includes land under permanent or perennial crops, such as fruit plantations, as well as permanent pastures, for grazing of livestock. In 2008, the world's total arable

land amounted to 1,387 Mha, and 4,908 Mha was classified as "agricultural land."

www.Fao.org/fileadmin/templates/ess/ess_test_folder/Publications/Yearbook_2010

Artikel 27,1, 1996

—► Pic. 9

Laut Artikel 27.1 des Abkommens muss eine Innovation, damit ihr IRP zuerkannt werden können, zur industriellen Anwendung geeignet sein. Das schließt sofort alle Sektoren aus, die außerhalb der industriellen Organisationsform arbeiten oder erfinderisch tätig sind.

Åslaug Haga

—► Pic. 3

Ms. Haga is the Director of Renewable Energy of the Federation of Norwegian Industries. She is also the Head of the governing board of the Norwegian Institute for Nature Research (NINA). ... She was elected Chairman of the Centre Party in 2003. Ms. Haga held three Ministerial positions: Minister of Cultural Affairs from 1999-2000, Minister of Local Government and Regional Development from 2005-2007, and Minister of Petroleum and Energy from 2007-2008.

<http://www.croptrust.org/content/who-we-are>

B

Behaviorism & Subsidiarity

—► Pic. 10

The Sahel zone has for decades been a region of worldwide aid projects with various political backgrounds. For example, the Millennium Villages initiated by Jeffrey Sachs, the Green Belt Movement in Kenya or the Green Wall.

The Millennium Villages Project is a project of the Earth Institute at Columbia University, the United Nations Development Programme, and Millennium Promise. It is an approach to ending extreme poverty and meeting the Millennium Development Goals ... Millennium Villages claims to ensure that communities ... have a real, sustainable opportunity to lift themselves out of the poverty trap the Millennium Villages obtain only similar achievements at far greater expenses. This is a result of the Millennium Villages' use of artificial fertilizers and hybrids seeds (often of plants such as corn, which are not indigenous to the area). ... According to Rachel Bezner Kerr, use of fertilizers and genetically modified seeds leads to dependence of the farmers on expensive products being marketed by large industrial companies. ...

http://en.wikipedia.org/wiki/Millennium_Villages_Project

Millennium Villages provides villages, free of charge, with what are considered the building blocks of development: modern seeds and fertilizer, boreholes for clean water, clinics. ... Millennium Villages require a heavy investment per village, as well as a flow of external support for some years, and that is not a sustainable solution. It's hard to believe the outside world will provide the billions of dollars necessary to create tens of thousands of Millennium Villages in Africa." Indeed, foreign aid flows collapsed after the financial crash of 2008.

The Great Green Wall ...was first proposed by Nigerian president Olesegun Obasanjo in 2005... he urged planting a 15km-wide strip of trees across Africa to prevent the Sahara desert from expanding southward as climate change intensified. ... African heads of state endorsed Obasanjo's vision, and the idea gained international traction with the establishment of the Africa-European Union Partnership on Climate Change, which in 2007 adopted the plan ... What amounts to a vast tree plantation across thousands of miles of African drylands is bound to fail, the critics warn. Young trees need care to survive: watering, pruning, protection from animals. That means giving local people the incentive to provide such care, and irrigation facilities where there often is no water supply. The Great Green Wall is too good an idea to be allowed to fail. ... Beyond the fear that Obasanjo's literal vision... is likely to enrich African forestry departments more than local communities, it also turns out to rest on a basic scientific mistake. High-resolution satellite images captured by the US Geological Survey (USGS) show that the Sahara is not, in fact, advancing southward. .. Dia, a geologist, understands the scientific arguments against the literal vision of the Great Green Wall. But to embrace such arguments would alienate his patron, ... and other heads of **state**....

<http://mondediplo.com/2011/12/11africatrees>

... What makes FMNR so empowering, and sustainable, is that Africans themselves own the technology... this knowledge is free. It's hard to overstate how important that is to poor farmers--and nations. It means they can use the technology now, without waiting or relying on capital infusions from foreign governments or humanitarian organizations.

Biofuel Companies



Pic. 8

Map

<http://www.e2.org/ext/doc/E2AdvancedBiofuelMarketReport2012.pdf;jsessionid=9AA7AF85BCD54B489CD936ED9686EB3B>
Advanced Biofuel Market Report 2012

BOP Marketing



Pic. 3

Monsanto has shifted its business strategy in poor countries, particularly in Sub-Saharan Africa, towards marketing to the "bottom of the pyramid" (BOP) – targeting the poorest, albeit diffused, segment of the market which could bring trillions of dollars in sales. ... The company's main product is called the "Combi-Pack", labelled as Xoshindlala in Zulu which means "chase away hunger", which has been commercially released in South Africa since the late 1990s. The "Combi-Pack" is a package of hybrid maize seeds, fertilizers and herbicides intended for use in small landholdings... and comes with pictogram instructions for illiterate users. The product is regarded as a good example of BOP marketing, ... The package comes with the "no-till" technology that Monsanto has been promoting across developing countries, which is dependent on the use of herbicides instead of plowing to reduce soil

erosion and touted as an environmentally sustainable practice. Monsanto... currently controls 40 percent of South Africa's market in maize seeds, through gradual acquisition of local seed companies and the continuous upgrading on fits research facilities and capabilities in the country over the past few years.

Elenita C. Dano, Unmasking the New Green Revolution in Africa, African Centre for Biosafety. Third World Network, 2009

Borlaug Dialog

—► Pic. 11

The Award Ceremony coincides with the Norman E. Borlaug International Symposium, known as the "Borlaug Dialogue," which addresses an issue related to hunger and food security each year. Past symposia have focused on the promises and challenges presented by biofuels for global development, the dual challenges of malnutrition and obesity, water insecurity and its impact on development and stability in the Middle East, and "The Green Revolution Redux: Can We Replicate the Single Greatest Period of Hunger Reduction in All Human History?" In 2008, the World Food Prize Foundation accepted a \$5 million contribution from Monsanto Company to ensure the continuation of the ...Symposium. The funds support a renewed fundraising campaign to transform the historic Des Moines Public Library building into a public museum, the Hall of Laureates, to honor Dr. Norman Borlaug and the work of the World Food Prize Laureates. The 2013 "Borlaug Dialogue" will be held October 16–19.

http://en.wikipedia.org/wiki/World_Food_Prize

"the three-day conference brings together international experts, policy leaders, business executives and farmers to address cutting-edge issues in food security and nutrition. In 2012, the event attracted over 1,000 participants from more than 65 countries, and it has been called "the premier conference in the world on global agriculture." Once again, we will have a distinguished and diverse array of speakers including H.E. Olafur Ragnar Grimsson, the President of Iceland, and H.E. Cardinal Peter Turkson of Ghana, who is the President of the Pontifical Council for Justice and Peace at the Vatican. I have a very special announcement to make: We are greatly honored that Tony Blair, Prime Minister of Great Britain and Northern Ireland from 1997 – 2007 and now Patron of the Africa Governance Initiative, will be part of a special panel titled 40 Chances, moderated by Howard G. Buffett and focused on redefining the fight against hunger, poverty and suffering. We are so very pleased to have Howard's son Howard W. and his wife Lili with us today."

Ambassador Kenneth M. Quinn, president of the World Food Prize Foundation, Remarks from the World Food Prize Laureate Announcement June 19th 2013



Cary Fowler

→ Pic. 3

Prior to joining the Trust as its Executive Director, Dr. Cary Fowler was Professor and Director of Research in the Department for International Environment & Development Studies at the Norwegian University of Life Sciences. He was also a Senior Advisor to the Director General of Bioversity International. In this latter role, he represented the Future Harvest Centres of the Consultative Group on International Agricultural Research in negotiations on the International Treaty on Plant Genetic Resources. Cary's career in the conservation and use of crop diversity spans 30 years ... He is a past-member of the National Plant Genetic Resources Board of the U.S. and the Board of Trustees of the International Maize and Wheat Improvement Center in Mexico. Cary is the author of several books on the subject of plant genetic resources and more than 75 articles on the topic in agriculture, law, and development journals.

<http://www.croprust.org/content/who-we-are>

CGIAR

→ Pic. 3

...is a strategic alliance that unites organizations involved in agricultural research ... Its donors include governments... foundations and international and regional organizations. The work they support is carried out by the 15 members of the CGIAR Consortium of International Agricultural Research Centers in close collaboration with hundreds of partner organizations. The CGIAR now has 64 governmental and nongovernmental members and supports 14 research centers and one intergovernmental research center (AfricaRice).

<http://en.wikipedia.org/wiki/CGIAR>

CGIAR

→ Pic. 5

The Consultative Group of International Research

Starting in 1943, the Rockefeller Foundation and the Mexican government laid the seeds for the Green Revolution when they established the Office of Special Studies, which became the International Maize and Wheat Improvement Center (CIMMYT) in 1963. CIMMYT and the International Rice Research Institute (IRRI, Philippines), established in 1960 with support from the Rockefeller Foundation and Ford Foundation, developed high-yielding, disease-resistant varieties that dramatically increased production of these staple cereals... In 1970, the Rockefeller Foundation proposed a worldwide network of agricultural research centers under a permanent secretariat. This was further supported and developed by the World Bank, FAO and UNDP, and the CGIAR was established on May 19, 1971, to coordinate international agricultural research efforts aimed at reducing poverty and achieving food security in developing countries. ...By 1983 there were 13 research centers around the world under its umbrella.

IRRI - International Rice Research Institute, Los Banos, Philippines, 1960;
CIMMYT International Maize and Wheat Improvement Center, Mexico, 1966;
IITA International Institute of Tropical Agriculture, Ibadan, Nigeria, 1967;
CIAT Centro Internacional de Agricultura Tropical, Cali, Colombia, 1968; ...

CIP Centro Internacional de la Papa, Lima, 1971; WARDA West african rice development association, Monrovia, Liberia; CARDIA International Center for Agricultural Research in the Dry Areas, Aleppo Syrien, 1978, ICRISAT International Crops Research Institute for the Semi-Arid Tropics, Hyderabad, India, 1972; ILRAD International Laboratory for Research for Animal Diseases, Nairobi, Kenya, 1973; IIPGR International Institute for Plant Genetical Resources, 1974 Rome Italy; ILCA International Livestock Center Africa, Addis Abbeba, Ethiopia, 1974; IFPRI International Food Policy Research Institute, Washington D.C., USA, 1975; WFC, WorldFish Center, Penang, Malaysia, 1977; WAC, World Agroforestry Centre, Nairobi Kenya, 1978;

<http://en.wikipedia.org/wiki/CGIAR>

CGIAR / New Centers

—► Pic. 6

CGIAR has responded, at least in part, to criticisms of Green Revolution methodologies. This began in the 1980s, and mainly was a result of pressure from donor organizations. Methods like Agroecosystem Analysis and Farming System Research have been adopted to gain a more holistic view of agriculture. ...

http://en.wikipedia.org/wiki/Green_Revolution

... At the same time the CGIAR institutes began to understand themselves more and more as public private partnerships. New centers since 1980: ISNAR supervising and implantation of PPP Modells, NL; IWMI International Water Management Institute, Colombo, Sri Lanka, 1985 (Donor Unilever Sri Lanka); CIFOR Center for International Forestry Research, Bogor, Indonesien, 1993; Bioersity International, Rom (Donors: Gates Foundation and also corporate bodies, such as Mars Inc, and Pioneer Hi-Bred International Inc); ILRI International Livestock Research Institute, Nairobi, Kenya, 1995 (Donors: Gates / Alliance for a green Revolution in Africa / AGRA)

<http://en.wikipedia.org/wiki/CGIAR>

Claims: EP0483514 (A1) 1992-05-06

—► Pic. 10

Use of molecular markers in tree breeding.

1. A method of tree breeding wherein Restriction Fragment Length Polymorphism (RFLP) technology is applied to samples of tree material from a plurality of trees; the information derived from said RFLP technology is presented in a genetic relatedness hierarchy, a level in said hierarchy comprising groups, each of which groups relates two of said trees as being more genetically related to each other than either of the two trees is genetically related to any other tree in any other of said groups; two of said trees of appropriate relative genetic diversity are selected; and a further tree or trees is/are derived from the two selected trees.
2. A method according to Claim 1, wherein a further tree is derived by crossing the two selected trees.
3. A method according to Claim 1, wherein further trees are derived by cloning each of the two trees.
4. A method according to Claim 1, 2 or 3, wherein said trees are of a commercial species.

5. A method according to Claim 4, wherein said species is a Eucalyptus species.
6. A method according to any preceding claim, wherein said samples are leaf samples.
7. A method according to any one of Claims 1 to 5, wherein said samples are shoot samples.
8. A method for use in tree breeding, wherein RFLP technology is applied to material from a progeny tree, to material from the mother tree of said progeny tree, and to material from a plurality of trees which are possible paternal trees in respect of said progeny tree, and data therefrom is subjected to analysis thereby to determine the tree of said possible paternal trees which is the most likely paternal tree in respect of said progeny tree.
9. A method according to Claim 8, as applied in respect of a multiplicity of mother trees in a stand of trees.
10. A method for use in tree breeding, wherein RFLP technology is applied to seed of a body of seed and data therefrom is used to provide a criterion of assessment of said body of seed.
11. A method according to Claim 10, wherein the criterion of assessment is the degree of selfing of individual trees.
12. A method according to Claim 10, wherein the criterion of assessment is the proportion of pollen parents represented in said body of seed.
13. A method according to Claim 10, wherein the criterion of assessment of said body of seed is compared to the same criterion established in respect of a second body of seed.
14. A method according to any one of the preceding claims, wherein the probes used in the RFLP technology comprise one or more of GLPP011; GLPP029; GLPP063; GLPP093; P002 AND P022.
15. An RFLP probe comprising GLPP011.
16. An RFLP probe comprising GLPP029.
17. An RFLP probe comprising GLPP063.
18. An RFLP probe comprising GLPP093.
19. An RFLP probe comprising P002.
20. An RFLP probe comprising P022.

Claims: EP0483514 (A1) 1992-05-06

Cordons pierreux

—▶ Pic. 10

Cordons pierreux are thin lines of fist-sized stones laid across fields. Their purpose is to form a catchment. When rain falls, it pushes silt across the surface of the field, which then fetches up against the cordon. Slowing down the flow of water gives it more time to soak into the earth. The accumulated silt also provides a comparatively fertile spot for seeds of local plants to sprout. The plants slow the water even further in turn, and their roots break up the compacted soil, thereby making it easier for more water to soak in.

http://en.wikipedia.org/wiki/Yacouba_Sawadogo

Credit Flood (Third World Credits / Billion USD)

—▶ Pic. 5

1961 - ca. 20 Billion USD
 1971 - ca. 70 Billion USD
 1980 - ca. 560 Billion USD

At the beginning of the 1970s, a downright credit flood ensued, with an increase in granting credits of more than 200% a year and sufficient risk checks hardly being made by the lending countries. While the foreign debts of the Third World amounted to ca. 20 thousand million dollars in 1961, they already amounted to ca. 70 in 1971 and ca. 560 thousand million in 1980. The massive rise in oil prices in 1973 additionally accelerated the aggressiveness in lending on the side of the countries of the North and the necessity to borrow money on the side of the countries of the South... So while the North was intent on investing the excess money resulting from the hike in oil prices in credits, these credits were in higher demand by the countries of the South due to their drastically higher oil bills.

In the wake of the economic recession in 1974/75, lending attained a further function, namely, to again stimulate economic growth in the capitalist centres: The granting of bilateral credits by the countries of the North to the countries of the South was on the one hand linked to a trade agreement according to which the debtors committed to acquire ... industrial goods and arms from the respective lending country using the money they received. On the other hand the debtor countries were granted conditions enabling them to increasingly bring natural resources and basic industrial goods to the free market. The countries of the South soon stood in direct competition with each other in regard to their export efforts, which led to the desired decline in prices for natural resources and thus to sinking import costs for the countries of the North. Due to the therefore lacking – but originally planned – additional income through the quantitative increase in exports, it became impossible for the countries of the South to ever be able to pay back their debts.

http://www.schoener-leben-goettingen.de/Materialien/Publikationen/HTM/slg_1_sept00_T2.htm

D

De Sublimus Dei

→ Pic. 9

Pope Paul III ... May 29, 1537 ... We, who, though unworthy, exercise on earth the power of our Lord and seek with all our might to bring those sheep of His flock who are outside into the fold committed to our charge, consider, however, that the Indians are truly men and that they are not only capable of understanding the Catholic Faith but, according to our information, they desire exceedingly to receive it. Desiring to provide ample remedy for these evils, ...

We define and declare by these Our letters, or by any translation thereof signed by any notary public and sealed with the seal of any ecclesiastical dignitary, to which the same credit shall be given as to the originals, that, notwithstanding whatever may have been or may be said to the contrary, the said Indians and all other people who may later be discovered by Christians, are by no means to be deprived of their liberty or the possession of their property, even though they be outside the faith of Jesus Christ... By virtue of Our apostolic authority We define and declare by these present letters, ... which shall thus command the same obedience as the originals, that the said Indians and other peoples should be converted to the faith of Jesus Christ by preaching the word of God and by the example of good and holy living.

<http://www.papalencyclicals.net/Paul03/p3subli.htm>

A biofuel is a fuel that uses energy from a carbon fixation. These fuels are produced from living organisms. Examples of this carbon fixation are plants and microalgae. ... Biomass refers to recently living organisms, most often referring to plants or plant-derived materials. This biomass can be converted to energy in three different ways: thermal conversion, chemical conversion, and biochemical conversion. This biomass conversion's can be in solid, liquid, or gas form. ...

This new biomass can be used for biofuels. Bioethanol is an alcohol made by fermentation, mostly from carbohydrates produced in sugar or starch crops such as corn or sugarcane. Cellulosic biomass, derived from non-food sources, such as trees and grasses, is also being developed as a feedstock for ethanol production. Ethanol can be used as a fuel for vehicles in its pure form, but it is usually used as a gasoline additive to increase octane and improve vehicle emissions. Biodiesel is made from vegetable oils and animal fats. Biodiesel can be used as a fuel for vehicles in its pure form, but it is usually used as a diesel additive to reduce levels of particulates, carbon monoxide, and hydrocarbons from diesel-powered vehicles.

In 2010, worldwide biofuel production reached 105 billion liters (28 billion gallons US), up 17% from 2009, and biofuels provided 2.7% of the world's fuels for road transport, a contribution largely made up of ethanol and biodiesel. Global ethanol fuel production reached 86 billion liters (23 billion gallons US) in 2010, with the United States and Brazil as the world's top producers, accounting together for 90% of global production. The world's largest biodiesel producer is the European Union, accounting for 53% of all biodiesel production in 2010. As of 2011, mandates for blending biofuels exist in 31 countries at the national level and in 29 states or provinces. ...

The International Energy Agency has a goal for biofuels to meet more than a quarter of world demand for transportation fuels by 2050 to reduce dependence on petroleum and coal.

https://en.wikipedia.org/wiki/Biofuel#First-generation_biofuels

http://www.earth-policy.org/datacenter/pdf/book_wote_energy_biofuels.pdf

The patent grab on so-called climate-ready traits is sucking up money and resources that could be spent on affordable, farmer-based strategies for climate change survival and adaptation. ... The Gene Giants are now focusing on the identification and patenting of climate-proof genetic traits (genes associated with abiotic stresses), especially related to drought and extreme temperatures.

Abiotic stresses refer to environmental stresses encountered by plants such as drought, temperature extremes, saline soils, low nitrogen, etc.

Who will control the Green Economy, 2011, www. etcgroup.org

The International Rice Institute (IRRI) launched a new initiative funded by the Bill and Melinda Gates Foundation, to switch the photosynthesis mechanism in rice.

...In November 2009, CIMMYT (International Wheat and Maize Improvement Center) launched their Wheat Yield Potential Consortium to do the same for wheat.

The new Biomasters, 2011; www. etcgroup.org

ETC Group uncovered 1.600 patents / 55 patent families (corresponding to a single "invention" submitted for intellectual property protection in more than one country), resulting in 532 separate patent documents. BASF ... holds 21 of the 55 patent families. Together, Monsanto and BASF hold 27 of the 55 of the patent filings (49%). This is significant because Monsanto and BASF announced in March 2007 that they would enter a \$1.5 billion partnership to develop crops that are more tolerant to adverse environmental conditions. Although Ceres, Inc. and Mendel Biotechnology are independent companies, both companies conduct joint research with Monsanto (and Monsanto holds an equity stake in Mendel). Monsanto... and BASF... have forged a colossal \$1.5 billion partnership to engineer stress tolerance in plants. Together, the two companies account for 27 of the 55 patent families (49%) of those identified by ETC Group

Who will control the Green Economy, 2011, www. Etcgroup.org

Demand: Emissions Trading

→ Pic. 7

Certified Carbon Credits, 2011 45 Mill USD

318 projects in India

101 projects in China

94 projects in Brazil

The new Biomasters, 2011; www. etcgroup.org

...Europe listed a contract to trade offsets generated by a CDM carbon project called Certified Emission Reductions. ... Many companies now engage in emissions abatement, offsetting, and sequestration programs to generate credits that can be sold on one of the exchanges. At least one private electronic market has been established in 2008: CantorCO2e. Carbon credits at Commodity Exchange Bratislava are traded at special platform - Carbon place.

Trading in emission permits is one of the fastest-growing segments in financial services in the City of London with a market estimated to be worth about 30 billion in 2007. Louis Redshaw, head of environmental markets at Barclays Capital, predicts that "Carbon will be the world's biggest commodity market, and it could become the world's biggest market overall."

http://en.wikipedia.org/wiki/Emissions_trading

Demand: Emissions Trading

→ Pic. 7

Emissions trading or cap and trade is a market-based approach used to control pollution by providing economic incentives for achieving reductions in the emissions of pollutants. A central authority (usually a governmental body) sets a limit or *cap* on the amount of a pollutant that may be emitted. The limit or cap is allocated or sold to firms in the form of emissions permits which represent the right to emit or discharge a specific volume of the specified pollutant. Firms are required to hold a number of permits (or allowances or *carbon credits*) equivalent to their emissions. The total number of permits cannot exceed the cap, limiting total emissions to that level. Firms that need to increase their volume of emissions must buy permits from those who require fewer permits. The transfer of permits is referred to as a trade. In effect, the buyer is paying a charge for polluting, while the seller is being rewarded for having reduced emissions. Thus, in theory, those who can reduce emissions most cheaply will do so, achieving the pollution reduction at the lowest cost to society. ... one emissions permit or allowance is considered equivalent to one metric ton of carbon dioxide (CO₂) emissions. ... These permits or units can be sold privately or in the international

market at the prevailing market price. ... Trading exchanges have been established to provide a spot market in permits, as well as futures and options market to help discover a market price and maintain liquidity. Carbon prices are normally quoted in Euros per tonne of carbon dioxide or its equivalent (CO₂e). Other greenhouse gases can also be traded, but are quoted as standard multiples of carbon dioxide with respect to their global warming potential. ... Currently there are six exchanges trading in UNFCCC related carbon credits: the Chicago Climate Exchange (until 2010), European Climate Exchange, NASDAQ OMX Commodities Europe, PowerNext, Commodity Exchange Bratislava and the European Energy Exchange. NASDAQ OMX Commodities.

http://en.wikipedia.org/wiki/Emissions_trading

Demand for Land

→ Pic. 8

Estimations Landgrabbing:

Large-scale land deals have risen 20 million hectares between 2005 and 2009 according to the International Food Policy Research Institute/ IFPRI (2009); 45 million hectares since 2007-2008 according to the World Bank (2010); and 227 million hectares since 2000 according to Oxfam (2011). Ultimately though it is virtually impossible to know how much land grabbing is taking place. One problem is that many land deals are simply not reported; they take place in secret and are not covered by the media. But even if each and every land deal was reported, it would still be impossible to pin down the numbers for a variety of reasons. First, the projects involved in reported large-scale land acquisitions can be at widely different stages of planning and operationalisation – some just initial, others more advanced. Second, the financing behind the projects is fluid and can change abruptly...

Third, there is the problem of unreliable and corrupt recording of measurable data about land and land use, a problem which goes back further than the current wave of land grabbing and has to do with both technical and political factors. In the end, measuring land grabbing is like trying to pin a wave to the sand. ...

<http://www.tni.org/primer/global-land-grab#onwhatscale>

Farmlandgrabs:

2000 – 2011: 227 million ha / world

Oxfam (2011) / <http://farmlandgrab.org/post/view/18406>

2007 – 2008: 45 million ha / world

World Bank , Agricultural Outlook, 2009 – 2018

30 million ha / Africa

The Land Portal, Land Matrix Data, World Bank , Agricultural Outlook, 2009 - 2018

2030: Biofuel feedstocks expected to range between 18 and 47 million ha
World Bank, Rising global interest in farmland, Washington DC, September 2010

99 million ha / Europe

Fian Deutschland e.V.: German Investment funds involved in land grabbing, Draft 25 October 2010

Demand: Genetic Security

→ Pic. 6

Most frequent commercialised transgenic traits:

Herbicide tolerance	40 %
Insect Resistance	24 %
Viral resistance	10 %
Fungal resistance	4 %
Product quality	21 %

Brian D. Wright: International Crop Breeding in a World of Proprietary Technology, 2000

Demand: Genetic Use Restriction Technology

→ Pic. 6

The need was there to come up with a system that allowed you to self-police your technology, other than trying to put laws and legal barriers to farmers saving seed... It was considered to built in a "gene police" Melvin Oliver Shiva USDA, 1985 ... In 1983, Delta & Pine Land (D&PL) joined with the US Department of Agriculture in a project to develop Terminator seeds. It was one of the earliest experiments with GMO. It was a long-term project. ... In March 1998 the US Patent Office granted Patent No. 5,723,765 to Delta & Pine Land for a patent titled, Control of Plant Gene Expression. ...The patent is owned jointly ... by D&PL and the United States of America, as represented by the Secretary of Agriculture. ... In a June 1998 interview, USDA spokesman, Willard Phelps ... explained that USDA wanted the technology to be widely licensed and made expeditiously available to many seed companies. They wanted to get Terminator seeds into the developing world where the Rockefeller Foundation had made eventual proliferation of genetically engineered crops the heart of its GMO strategy from the beginnings of its rice genome project in 1984. USDA's Phelps stated that the US Government's goal in fostering the widest possible development of Terminator technology was 'to increase the value of proprietary seed owned by US seed companies and to open up new markets in Second and Third World countries.

<http://www.Globalresearch.ca/monsanto-buys-terminator-seeds-company/3082>

Demand: Green Revolution

→ Pic. 5

The term "Green Revolution" was first used in 1968 by former United States Agency for International Development (USAID) director William Gaud, who noted the spread of the new technologies: "These and other developments in the field of agriculture contain the makings of a new revolution. It is not a violent Red Revolution like that of the Soviets, nor is it a White Revolution like that of the Shah of Iran. I call it the Green Revolution." ...

http://en.wikipedia.org/wiki/Green_Revolution

... By the 1970s, the term 'revolution' was well deserved, for the new seeds - accompanied by chemical fertilisers, pesticides, and, for the most part, irrigation - had replaced the traditional farming practices of millions of Third World farmers. By the 1990s, almost 75% of Asian rice areas were sown with these new varieties. The same was true for almost half of the wheat planted in Africa and more than half of that in Latin America and Asia, and about 70% of the world's corn as well. Overall, it was estimated that 40% of all farmers in the Third World were using Green Revolution seeds, with the greatest use found in Asia, followed by Latin America.

<http://www.foodfirst.org/media/opeds/2000/4-greenrev.html>

Demand: Green Revolution



Pic. 5

...the Green Revolution was a brilliant Rockefeller family scheme to develop a globalized agribusiness which they then could monopolize just as they had done in the world oil industry beginning a half century before. As Henry Kissinger declared in the 1970's, 'If you control the oil you control the country; if you control food, you control the population.' Agribusiness and the Rockefeller Green Revolution went hand-in-hand. They were part of a grand strategy which included Rockefeller Foundation financing of research for the development of genetic engineering of plants and animals a few years later.

<http://www.globalresearch.ca/doomsday-seed-vault-in-the-arctic-2/23503>

Demand: Irrigation, Fertilizer, Hybrid-Seed



Pic. 5

Nitrogene Fertilizer Use

1940 - 14,6 mill. tons

1950 - 22 mill. tons

1960 - 34 mill. tons

Hi Bred Seed use – Pioneer Hi Bred – % per acre USA

1936 - 0,1 %

1940 - 90 %

1960 - 96.3 %

1 farm feeds...

1940 - 11 people

1950 - 15 people

1960 - 26 people

Agrium: Sustaining a Growing World, 80 Years of Evolution in North American Fertilizer and Agriculture, <http://mawrc.org/downloads/AgriumAnniv2012-Dowbenko.pdf>

Demand: Irrigation, Fertilizer, Hybrid-Seed



Pic. 5

The primary lesson that came about through the dust bowl was the need for fertilizers, Hybrid Seeds and Irrigation Programs.

... As part of New Deal programs, Congress passed the Soil Conservation and Domestic Allotment Act in 1936, ...

The administration also began to educate farmers on soil conservation and antierosion techniques, including crop rotation, strip farming, contour plowing, terracing, and other improved farming practices. ...

http://en.wikipedia.org/wiki/Dust_Bowl

...The severe drought...revealed an advantage of hybrid corn not previously recognized – its drought tolerance. This revealed ecological resilience motivated some farmers to adopt hybrids despite their commercial unattractiveness in normal years. That response to climate change had a tipping effect. The increase in sales of hybrid seed in 1937 and 1938 financed research at private seed companies that led to new varieties with

significantly improved yields in normal years. ... Widespread commercial adoption began in 1932 The US Department of Agriculture began tracking the adoption of the new varieties in the following year, 1933. At that time only about 0.1 percent of the nation's corn acreage was planted to the new seed. In 1936 the USDA proclaimed significant increases in yield per acre could be achieved by adopting hybrid corn ... Yet it took another decade before 70 percent of the corn acreage had been planted with hybrid seed. By 1960, 96.3 percent of acreage was planted to hybrid varieties... One of the hybrid traits introduced improved the plant's ability to absorb nitrogen fertilizers and indeed the use of fertilizer was required to reach the potential of the hybrids.

Richard Sutch : The Impact of the 1936 Corn-Belt Drought on American Farmers' Adoption of Hybrid Corn, University of California, Riverside Draft of January 6, 2010

Demand: Population Control

—► Pic. 5

UNFPA began operations in 1969 as the United Nations Fund for Population Activities ... under the administration of the United Nations Development Fund. In 1971 it was placed under the authority of the United Nations General Assembly. UNFPA, the United Nations Population Fund, is a UN organization. The work of the UNFPA involves promotion of the right of every woman, man and child to enjoy a life of health and equal opportunity. This is done through major national and demographic surveys and with population censuses. ... Their work involves the improvement of reproductive health...

http://en.wikipedia.org/wiki/United_Nations_Population_Fund_Compulsory_sterilization_policies

... UNFPA has been accused by different groups of providing support for government programs which have promoted forced abortions and coercive sterilizations ... (for example) UNFPA provided aid to Peru's population control program in the mid-to-late '90s. When it was discovered the Peruvian program had been engaged in carrying out coercive sterilizations ... UNFPA supported Chinese government programs which include forced abortions and coercive sterilizations, 2002

<http://www.infowars.com/depopulating-the-third-world-un-sterilization-campaigns-in-developing-countries-accelerating/>

Demand: Structural Adjustments

—► Pic. 7

Structural adjustments are the policies implemented by the International Monetary Fund (IMF) and the World Bank (the Bretton Woods Institutions) in developing countries. These policy changes are conditions for getting new loans from the International Monetary Fund (IMF) or World Bank, or for obtaining lower interest rates on existing loans. ... The SAPs are supposed to allow the economies of the developing countries to become more market oriented. ...

This then forces them to concentrate more on trade and production so it can boost their economy. ... Structural Adjustment Programs generally implement "free market" programs and policy. ... These programs include internal changes (notably privatization and deregulation) as well as external ones, especially the reduction of trade barriers.

https://en.wikipedia.org/wiki/Structural_adjustment

Example India 1991

In 1998, the World Bank's structural adjustment policies forced India to open up its seed sector to global corporations like Cargill, Monsanto and Syngenta. The global corporations changed the input economy overnight. Farm saved... seeds were replaced by corporate seeds, which need fertilizers and pesticides and cannot be saved.

Monocultures and uniformity increase the risk of crop failure... When Monsanto first introduced Bt Cotton in 2002, the farmers lost 1 billion rupees due to crop failure. Instead of 1,500 kilos per acre as promised by the company, the harvest was as low as 200 kilos per acre. Instead of incomes of 10,000 rupees an acre, farmers ran into losses of 6,400 rupees an acre. In the state of Bihar, when farm-saved corn seed was displaced by Monsanto's hybrid corn, the entire crop failed, creating 4 billion rupees in losses and increased poverty for desperately poor farmers. ...

The second pressure Indian farmers are facing is the dramatic fall in prices of farm produce as a result of the WTO's free trade policies. The WTO rules for trade in agriculture are, in essence, rules for dumping. ...

Global wheat prices have dropped from \$216 a ton in 1995 to \$133 a ton in 2001; cotton prices from \$98.2 a ton in 1995 to \$49.1 a ton in 2001; Soya bean prices from \$273 a ton in 1995 to \$178 a ton. ...

... This reduction is due not to a change in productivity, but to an increase in subsidies and an increase in market monopolies controlled by a handful of agribusiness corporations.

Vandana Shiva, From Seeds of Suicide to Seeds of Hope: Why Are Indian Farmers Committing Suicide and How Can We Stop This Tragedy?
http://www.huffingtonpost.com/vandana-shiva/from-seeds-of-suicide-to_b_192419.html

Demand: Undo Land Reforms Undo Land Reforms

→ Pic. 5
→ Pic. 8

There is significant evidence that the Green Revolution weakened socialist movements in many nations. In countries such as India, Mexico, and the Philippines, technological solutions were sought as an alternative to expanding agrarian reform initiatives, the latter of which were often linked to socialist politics. ...

http://en.wikipedia.org/wiki/Green_Revolution

... Propriety redistribution took place in: Bolivia 1952, Chile 1960, Colombia 1966, Cuba 1959, Guatemala, until 1954, Peru 1950, Vietnam 1953 - 1956, South Korea 1950, Philippines 1960s. In 1949, shortly after the Chinese communist came to power, the highest levels of the US government ... commend land reform as the least unacceptable option ... In the early 1960s the USA ... placed its efforts primarily on developing a military response to communist insurgency and economic and technical aid ... The Malthusian fears which propelled the Green Revolution put land reform on hold, and even reversed it in many parts of the world.

The Great Rice Robbery, A handbook on the impact of IRRI in Asia, 2007 Pesticide Action Network Asia and the Pacific. Kilusang Magbubukid: Philippines: Historical and political perspectives on IRRI

Disaster-Capitalism

→ Pic. 2

Sunday, 24 February 2008, 4:00 PM

Svalbard Global Seed Vault Opening Conference

If global catastrophes like *asteroid impacts* or *disease pandemics* were to strike, seeds stored in this first ever "doomsday" vault would ensure that humans could regrow the crops needed for survival. The vault, designed to

withstand all natural and human disaster, will house samples of all known food crops.

Terje Riis-Johansen, Minister of Agriculture and Food, Norway

There are seven billion of us on the planet today. By 2020, there will be more than nine billion. ... Obtaining enough food in the years to come will be even more of a challenge. Climate change is making it more difficult and more expensive to produce food. This is the context in which the seeds being stored in Svalbard Global Seed Vault will play a vital role in the future. *Lars Brekk* We believe the design of the facility will ensure that the seeds will stay well-preserved even if such forces as *global warming* raise temperatures outside the facility.

Magnus Bredeli Tveiten, project manager

Genebanks have been subject to natural disasters, war and civil strife. Many genebanks are situated in developing countries The seed vault is the perfect place for keeping seeds safe for ... for up to 10,000 years. ... Our mission is to ensure the conservation and availability of crop diversity for food security worldwide. An increasingly unpredictable and changing climate, and a world population expected to reach 9 billion by 2050, will place unprecedented demands on agriculture. Conserving the vast diversity of crop varieties is the only way to guarantee that farmers and plant breeders will have the raw materials needed to improve and adapt their crops to meet these challenges and provide food for us into the future.

Cary Fowler, Executive Director, Global Crop Diversity Trust

<http://www.regjeringen.no/en/dep/lmd/campaign/svalbard-global-seed-vault/news/summary-of-the-svalbard-conference.ht>

Disaster Capitalism: John Kerry

—► Pic. 11

Secretary of State John Kerry's Keynote Remarks...the challenge today to all of us in a world that is facing the threat of climate change, which is more real than unfortunately some people want to acknowledge, and what that may do to hunger and refugees and devastation and to food supplies – these are really challenging times and this is a significant moment ... Because despite all the world's technological advances, today nearly 870 million people, one-eighth of the world's population, suffer from chronic hunger – chronic hunger.

And it is obviously a trap that prevents people from realizing their God-given potential, but more than that, places people in extremis, places communities in extremis. It can actually feed into terrorism. ...

It feeds into failed states. It feeds into all of the challenges that we face in terms of building order and creating stability on this planet. And the struggle for food is, in the end, a struggle for life itself.

So the stakes are really high and the challenge is beyond what we face today in terms of all of the statistics and what they tell us. The challenge is that by 2050, the world's population is going to grow to 9 billion people.

That is going to demand at least a 60 percent increase over our current agricultural production. ... Last year, President Obama, along with African leaders, announced the formation of the New Alliance for Food Security and Nutrition. And that is a way to seek to engage the private sector, and it has a goal of lifting 50 million people out of poverty in the next 10 years. And in just the first year of its existence, it has already secured 4 billion in investment commitments. And just – you can already see what this is doing in Ethiopia, where I was just a few weeks ago for the African Union 50th anniversary.

There, they are distributing better seeds to about 15,000 maize farmers, and that will potentially increase their productivity by 50 percent.

Source: U.S. State Department, <http://www.state.gov/secretary/remarks/2013/06/210896.htm>

Disaster: Climate Change

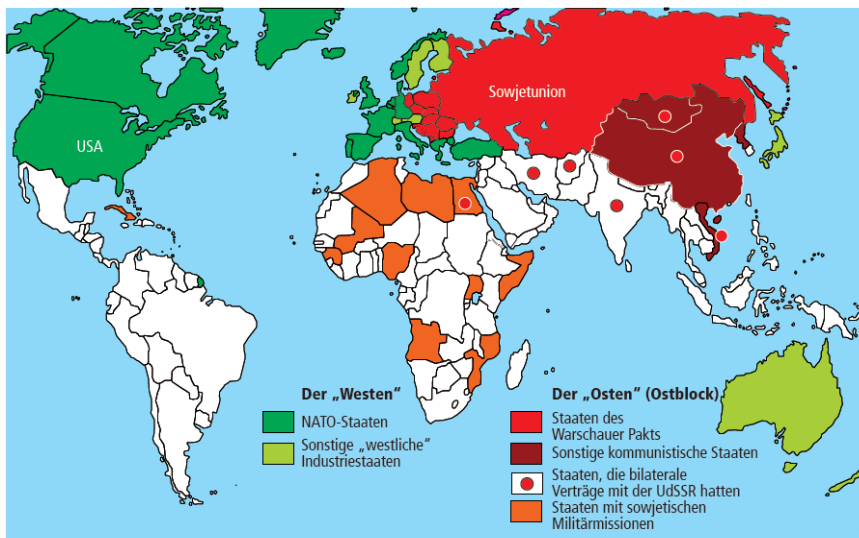
→ Pic. 7

Climate model projections were summarized in the 2007 Fourth Assessment Report (AR4) by the Intergovernmental Panel on Climate Change (IPCC). They indicated that during the 21st century the global surface temperature is likely to rise a further 1.1 to 2.9 C (2 to 5.2 F) for their lowest emissions scenario and 2.4 to 6.4 C (4.3 to 11.5 F) for their highest. ... Future warming and related changes will vary from region to region around the globe. The effects of an increase in global temperature include ... a rise in sea levels... as well a probable expansion of subtropical deserts. Other likely effects of the warming include a more frequent occurrence of extreme weather events including heat waves, droughts and heavy rainfall, ocean acidification and species extinctions due to shifting temperature regimes. Effects significant to humans include the threat to food security from decreasing crop yields and the loss of habitat from inundation.

http://en.wikipedia.org/wiki/Climate_change

Disaster: Communism

→ Pic. 5



http://www.omnia-verlag.de/upload_files/welt_machtbloecke.pdf

Disaster: Dustbowl, 1931 –1939

→ Pic. 5

... period of severe dust storms causing major ecological and agricultural damage to American and Canadian prairie lands in the 1930s. The phenomenon was caused by severe drought combined with a failure to apply dryland farming methods to prevent wind erosion. ... Rapid mechanization of farm implements ... were significant in the decisions to convert arid grassland ... to cultivated cropland.... The drought and erosion of the Dust Bowl affected 100,000,000 acres (400,000 km²), centered on the panhandles of Texas and Oklahoma ... The Dust Bowl exodus was the largest migration in

American history within a short period of time. By 1940, 2.5 million people had moved out of the Plains states; of those, 200,000 moved to California.

http://en.wikipedia.org/wiki/Dust_Bowl

The farmer migration went mostly to California / Los Angeles where the farmers found work in the huge orchards and the Californian Defense Industries. By the end of the war, the L.A. area had produced 17% of all of America's war production.

<http://faculty.washington.edu/gregoryj/dust%20bowl%20migration.htm>

Disaster: Genetic Erosion

→ Pic. 6

China: 1940: 10.000 Weat varieties / 1970: 1000
Philippines: 1940: 6000 Rice Varieties / 1980: 1
Mexico: 1940: 10.000 Maize Varieties / 1998 : 2000

<http://www.fao.org/docrep/007/y5609e/y5609e02.htm>

Report on the Genetic Vulnerability of Major Crops, 1972 by the Agricultural Board, the Division of Biology and Agriculture, and the National Research Council The report discussed the vulnerability of 11 important crops: "The key lesson... is that genetic uniformity is the basis of vulnerability to epidemics... this uniformity derives from powerfull economic and legislative forces."

Robin Pistorius: A History of plant genetic Resources, IPGRI 1993

Disaster: Greenhouse Effect

→ Pic. 7

Global warming is the rise in the average temperature of Earth's atmosphere and oceans since the late 19th century and its projected continuation. ... scientists are more than 90% certain that it is primarily caused by increasing concentrations of greenhouse gases produced by human activities such as the burning of fossil fuels and deforestation. ... Proposed policy responses to global warming include mitigation by emissions reduction, adaptation to its effects, and possible future geoengineering. Most countries are parties to the United Nations Framework Convention on Climate Change (UNFCCC), whose ultimate objective is to prevent dangerous anthropogenic ... climate change. Parties to the UNFCCC have adopted a range of policies designed to reduce greenhouse gas emissions and to assist in adaptation to global warming They have agreed that deep cuts in emissions are required, and that future global warming should be limited to below 2.0 C (3.6 F) relative to the pre-industrial level. Reports published in 2011 by the United Nations Environment Programme and the International Energy Agency suggest that efforts as of the early 21st century to reduce emissions may be inadequate to meet the UNFCCC's 2 C target.

http://en.wikipedia.org/wiki/Global_warming

Disaster: Hunger in the 3rd World

→ Pic. 5

In 1976, a book was published by two World Bank economists surpassed the FAO with an estimate that more than half the population in the developing countries, 840 million people were seriously malnourished in the mid 1960s. Professor Poleman, who has done an analyses of the difficulties in quantifying the nutrition situation in developing countries for the Agricultural Department ... (writes, that) food production in developing countries tends to be

understated because taxation is often based on production, and because so much backyard production is locally consumed and never counted.

<http://www.nytimes.com/1981/10/05/business/food-and-hunger-statistics-questioned.html?pagewanted=all>

Disaster: Population Bomb

—► Pic. 5

THE POPULATION BOMB - BY THE BILLIONS

1804 : 1 Billion
1960: 5 Billion
1987: 5 Billion
2011: 7 Billion

Voice Of The People (Canada): THE POPULATION BOMB - BY THE BILLIONS votp.blogspot.com

Disaster: Population Bomb

—► Pic. 5

The Population Bomb was a best-selling book written by Stanford University Professor Paul R. Ehrlich and his wife, Anne Ehrlich (who was uncredited), in 1968. It warned of the mass starvation of humans in the 1970s and 1980s due to overpopulation, as well as other major societal upheavals, and advocated immediate action to limit population growth. ... The title Population Bomb was taken (with permission) from General William H. Draper, founder of the Population Crisis Committee ... Ehrlich ... believed that the United States should take a leading role in population control, In order to avoid charges of hypocrisy or racism it would have to take the lead in population reduction efforts. Ehrlich floats the idea of adding "temporary sterilants" to the water supply or staple foods. ... Countries with sufficient programmes in place to limit population growth, and the ability to become self-sufficient in the future would continue to receive food aid. ... He mentions his support for government mandated sterilization of Indian males with three or more children.

http://en.wikipedia.org/wiki/The_Population_Bomb

Disaster: Volcker Shock / Debt Crisis

—► Pic. 6

1979 Volcker has been named chairman, putting his mark on Fed policy by raising the discount rate a full percentage point ... While the 3-month Treasury Bill was climbing from 8% in September of '79 to 12.5% by year end, the Fed wasn't counting on long-term rates rising as well, from the 9.2% level in September to 10.1% by December 31st. ... Into early 1980 interest rates ... continued to rise... By the end of the first quarter, the long bond was yielding 12.3%.

Reagan won the election... and, as soon as the votes were tabulated, Volcker began to tighten interest rates more. The federal funds rate, which had averaged 11.2% in 1979, peaked at 20% in June 1981. The prime rate rose to 21.5% in '81 as well. Debt—dollar debt—was to be the vehicle for a new role of New York banks, led by David Rockefeller's Chase Manhattan and Walter Wriston's Citibank.

http://www.buyandhold.com/bh/en/education/history/2000/paul_volker2.html

Their idea was to extend hundreds of billions of dollars in newly acquired OPEC and other petrodollars, which they "persuaded" Saudi and other OPEC governments to bank their new oil surpluses in London or New York banks.

... This second phase, the post-gold era Kissinger's "petro-dollar recycling," rolled along ... until early 1979 when the dollar faced a major foreign sell-off during the end of the Jimmy Carter Presidency. In August 1979, to restore world "confidence" in the dollar, President Jimmy Carter, ... was forced...to accept Paul Volcker a protégé of Rockefeller's from Chase Manhattan Bank, as new Chairman of the Federal Reserve with an open mandate to do what was necessary to save the dollar as reserve currency. ... Volcker's shock therapy, begun in October 1979, lasted until August 1982. Interest rates shot through the roof to double digits... Within a year, the prime rate had shot up to the unheard-of level of 21.5%
The Latin American debt crisis, an ominous foretaste of today's USA sub-prime crisis, erupted as a direct result of the Volcker shock. In August 1982 Mexico announced it could no longer pay in dollars the interest rate service on its staggering debt. It, as most of the Third World from Argentina to Brazil, from Nigeria to Congo, from Poland to Yugoslavia, had fallen for the New York banks' debt trap.

<http://www.globalresearch.ca/the-financial-tsunami-the-financial-foundations-of-the-american-century/7813>

Disaster: Vulnerability of Monocrops

—▶ Pic. 6

Invasive species

a) Southern corn leaf blight

The Southern corn leaf blight is a fungal disease of maize. It was in Florida, Alabama, Mississippi, Louisiana, Texas, Georgia, Alabama, Kentucky, Illinois, Indiana, Iowa, Minnesota and Wisconsin (it later entered Canada), Oklahoma, May to September 1970 ...

b) Bollworm

The pink bollworm (*Pectinophora gossypiella*), is an insect known for being a pest in cotton farming. It broke out in 1975 Arkansas, New Mexico.

Robin Pistorius: A History of plant genetic Resources, IPGRI 1993

Displacement

—▶ Pic. 8

Peasants, farmers, indigenous people, pastoralists, fisherfolk, forest dwellers, nomads. Not only does land grabbing mean that farmers will lose their land, but these lands will be transformed from smallholdings or communal lands into large industrial estates connected to far off markets. The Chairperson of the United Nations Permanent Forum on Indigenous Issues estimates that the land rights of some 60 million indigenous people world wide may be at risk as a result of large scale agro-fuel expansion.

<http://www.oaklandinstitute.org/great-land-grab-rush-world%E2%80%99s-farmland-threatens-food-security-poor>

Dr. M.S. Swaminathan

—▶ Pic. 11

In a written statement, Dr. M.S. Swaminathan, the renowned Indian scientist and Chairman of the World Food Prize Laureate Selection Committee, said... "2013 marks the 60th anniversary of the discovery of the... DNA Molecule ... During the last 60 years, the science of molecular genetics...has opened up uncommon opportunities for shaping the future of agriculture, industry, medicine and environment protection... Van Montagu, Chilton, and Fraley each conducted groundbreaking molecular research on how a plant bacterium could be adapted as a tool to insert genes from another organism

into plant cells, which could produce new genetic lines with highly favorable traits.

http://www.worldfoodprize.org/index.cfm/24667/24410/three_biotechnology_scientists_awarded_2013_world_food_prize

Mankombu Sambasivan Swaminathan (born 7 August 1925) is an Indian geneticist and international administrator, renowned for his leading role in India's "Green Revolution," ... He is the founder and Chairman of the MS Swaminathan Research Foundation. ... From 1972 to 1979 he was director general of the Indian Council of Agricultural Research, and he was minister of Agriculture from 1979 to 1980. He served as director general of the International Rice Research Institute (1982–88) and became president of the International Union for the Conservation of Nature and Natural Resources in 1988.

http://en.wikipedia.org/wiki/M._S._Swaminathan#Honours.2C_awards_and_international_recognition

E

Economic Espionage Act, 1996

→ Pic. 9

The act makes the theft or misappropriation of a trade secret a federal crime. ... Penalties for violation are fines of up to US\$500,000 per offense and imprisonment of up to 15 years for individuals, and fines of up to US\$10 million for organizations.... The International Trade Commission has used the EEA's definition of misappropriation to support its enforcement of US trade laws that prohibit "unfair methods of competition and unfair acts in the importation of articles ... in the United States." ...

... The EEA was developed on the basis of a national philosophy that emphasizes a "level playing field" for all business competitors that arose in no small part due to the size and diversity of the American private sector. Many other nations not only lack such legislation, but actively support industrial espionage using both their national intelligence services as well as less formal mechanisms including bribery and corruption. ...

... The United States Office of the National Counterintelligence Executive publishes an annual report on Foreign Economic Collection and Industrial Espionage mandated by the U.S. Congress which outlines these espionage activities of many foreign nations.

http://en.wikipedia.org/wiki/Economic_Espionage_Act_of_1996

Emile Frison

→ Pic. 3

... is the Director General of Bioversity International.... served as Director of Bioversity's regional office for Europe ... was Director of the organization's International Network for the Improvement of Banana and Plantain in Montpellier, ... recently lead the organization ... in the formulation of a new strategic vision for Bioversity, in which nutrition and agricultural biodiversity will play an important role in the overall goal of reducing hunger and poverty in a sustainable manner.

<http://www.croptrust.org/content/who-we-are>

EU Biofuel Directive

→ Pic. 8

The Directive on the Promotion of the use of biofuels and other renewable fuels for transport, officially 2003/30/EC and popularly better known as the biofuels directive is a European Union directive for promoting the use of biofuels for EU transport. The directive entered into force in May 2003, and stipulates that national measures must be taken by countries across the EU aiming at replacing 5.75% of all transport fossil fuels (petrol and diesel) with biofuels by 2010.

The directive also called for an intermediate target of 2% by 31 December 2005. The target of 5.75% is to be met by 31 December 2010. The percentages are calculated on the basis of energy content of the fuel and apply to petrol and diesel fuel for transport purposes placed on the markets of member states. Member states are encouraged to take on national "indicative" targets in conformity with the overall target.

https://en.wikipedia.org/wiki/Directive_on_the_Promotion_of_the_use_of_biofuels_and_other_renewable_fuels_for_transport

Everybody's Business

→ Pic. 8

Landgrabbing / investors:

Private equity funds US\$2.4 trillion

Hedge funds US\$ 1.9 trillion

Pension funds US\$30 trillion +23% since 2010

Sovereign wealth funds US\$ 4.7 trillion +14% since 2010; today, the pension fund industry is three times larger than the other three put together.

Investment banks, university endowments, wealthy individuals, insurance companies, state funds, food processing industry.

<http://www.viacampesina.org/downloads/pdf/en/landgrabGRAIN-dec2011.pdf>

These farmland funds generated a rate of return from 1991 to 2010 that was roughly double that from investing in gold or the S&P 500 stock index and seven times that from investing in housing... 400 % return on investment within 10 years.

<http://farmlandgrab.org/post/view/19638>

Example Norfund

→ Pic. 8

Matanuska is a Mozambique-based company owned by UK-based Saxion Estates subsidiary Rift Valley Holdings, one of the largest African farmland owners, and Matanuska Mauritius, which appears to be a shell company. Norfund has invested US\$3.7 million in the company, giving it a 33.3% share, and provided it with US\$4 million in loans. In a first phase of the company's operations, Matanuska established a 3,000-ha banana plantation and secured a 12-year supply agreement with Chiquita. According to a report by Mozambique's national farmers organisation UNAC, the company has made repeated labour-law violations.

www.grain.org/.../4479-grain-releases-data-set-with-...

In Mali, tree management had been part of traditional agriculture. Salif Guindo..., a farmer from the village of Endé, explains how they revived an ancient voluntary association of farmers, called Barahogon, that had encouraged tree stewardship for generations. But using trees was abandoned when cutting wood became a crime. First the French colonial government declared all trees to be state property, enabling government officials to sell timber rights to woodcutters. Similar arrangements continued after independence. Meanwhile, farmers caught pruning or cutting trees were punished. As a result they would uproot seedlings to avoid later hassles. Needless to say, several generations of this left the land denuded and increasingly desiccated. In the early 1990s, a new Mali government--perhaps mindful that farmers furious about mistreatment had killed Forestry Agency officials in some villages--passed a law giving farmers ownership of trees on their land. Farmers did not hear about the law until Sahel Eco mounted a campaign to inform them via radio and word of mouth. Since then, FMNR (Farmer-managed natural regeneration) has spread rapidly, including across borders. Salif recalls a recent visit from twenty mayors and provincial directors of agricultural and environmental agencies from Burkina Faso. "They seemed astonished to hear our story and see the evidence," Salif says. "They asked, Is this really possible?"

In Niger, too, FMNR had a hard time gaining traction, in part because it involves some counterintuitive elements: namely, to grow trees farmers must be allowed to cut them down as well. ... only after Niger government officials suspended enforcement of regulations against cutting trees did tree-growing gather momentum. ... The pattern has been the same throughout the western Sahel: FMNR has spread largely by itself, from farmer to farmer and village to village, as people see the results with their own eyes and move to adopt the practice.

Regreening Africa | The Nation <http://www.thenation.com/article/regreening-africa#ixzz2XyKEQOzQ>

F

Farmer-managed natural regeneration (FMNR)

—► Pic. 10

... involves the systematic regeneration and management of trees and shrubs from tree stumps, roots and seeds. FMNR is especially applicable, but not restricted to, the dryland tropics. As well as returning degraded croplands and grazing lands to productivity, it can be used to restore degraded forests, thereby reversing biodiversity loss and reducing vulnerability to climate change. FMNR can also play an important role in maintaining not-yet-degraded landscapes in a productive state, especially when combined with other sustainable land management practices such as conservation agriculture on cropland and holistic management on rangelands. ...

FMNR adapts centuries-old methods of woodland management, called coppicing and pollarding, to produce continuous tree-growth for fuel, building materials, food and fodder without the need for frequent and costly replanting. On farmland, selected trees are trimmed and pruned to maximise growth while promoting optimal growing conditions for annual crops (such as

access to water and sunlight). When FMNR trees are integrated into crops and grazing pastures there is an increase in crop yields, soil fertility and organic matter, soil moisture and leaf fodder. There is also a decrease in wind and heat damage, and soil erosion....

http://en.wikipedia.org/wiki/Farmermanaged_natural_regeneration

Farmer Suicides

→ Pic. 7

In addition to causing harm to public health and ecosystems, GE seeds and crops provide a pathway for corporations to own seeds through patents and intellectual property rights (IPRs). Patents provide royalties for the patent holder and corporate monopolies. This translates into super profits for Monsanto. For the farmers this means debt. For example, more than 250,000 Indian farmers have been pushed to suicide in the last decade and a half. Most of the suicides are in the cotton belt where Monsanto has established a seed monopoly through Bt cotton.

The GMO Emperor has no clothes, Global Citizen Repor, ef. Vandana Shiva, Navdanya International, 2011

The region in India with the highest level of farmers suicides is the Vidharbha region in Maharashtra - 4000 suicides per year, 10 per day. This is also the region with the highest acreage of Monsanto's GMO Bt cotton. Monsanto's GM seeds create a suicide economy by transforming seed from a renewable resource to a non-renewable input which must be bought every year at high prices. Cotton seed used to cost Rs 7/kg. Bt-cotton seeds were sold at Rs 17,000/kg. Indigenous cotton varieties can be intercropped with food crops. ... Bt-cotton can only be grown as a monoculture. Indigenous cotton is rain fed. Bt-cotton needs irrigation. ... Indigenous varieties are pest resistant. Bt-cotton, even though promoted as resistant to the boll worm, has created new pests, and to control these new pests, farmers are using 13 times more pesticides than they were using prior to introduction of Bt-cotton. And finally,... Monsanto sells its GMO seeds on fraudulent claims of yields of 1500/kg/year when farmers harvest 300-400 kg/year on an average. High costs and unreliable output make for a debt trap, and a suicide economy.

Vandana Shiva, From Seeds of Suicide to Seeds of Hope: Why Are Indian Farmers Committing Suicide and How Can We Stop This Tragedy?
http://www.huffingtonpost.com/vandana-shiva/from-seeds-of-suicide-to_b_192419.html

Flex Mex

→ Pic. 7

The Kyoto Protocol defines three "flexibility mechanisms" that can be used by Annex I Parties in meeting their emission limitation commitments. The flexibility mechanisms are International Emissions Trading (IET), the Clean Development Mechanism (CDM), and Joint Implementation (JI). ...

The CDM and JI are called "project-based mechanisms," in that they generate emission reductions from projects. The difference between IET and the project-based mechanisms is that IET is based on the setting of a quantitative restriction of emissions, while the CDM and JI are based on the idea of "production" of emission reductions. The CDM is designed to encourage production of emission reductions in non-Annex I Parties, while JI encourages production of emission reductions in Annex I Parties.

https://en.wikipedia.org/wiki/Kyoto_Protocol

Kyoto Protocol: Clean Development Mechanism / Joint Implementation Program Encourages investments by Northern companies and states in sequestration of climatic mitigation projects located in the global South... From 2009, projects that produced biodiesel on so called degraded lands also became eligible for CDM credits.

The new Biomasters, 2011; www. etcgroup.org

Frison – Banana

"Only GM can save the banana" is the underlying message of a story that first surfaced in 2001... and has done the rounds in the media ever since. The story claims that because bananas are sterile, they can't be bred to avoid virulent banana diseases and so could be extinct within a decade. ... Each time this headline-grabbing story (re)emerges, it gets expertly debunked... until the next time comes around. And almost every time, the same scientist is quoted, Dr Emile Frison. ... the ... FAO has directly contradicted Dr. Frison's claims ... saying that ... problems of vulnerability to disease (are) aggravated by the widescale commercial use of the Cavendish banana, and can be countered by promoting greater genetic diversity.

<http://www.gmwatch.org/gm-myths/11244-qonly-gm-can-save-the-bananaq>

Frison – Syngenta / Pioneer

→ Pic. 3

Donors

Frison - CGIAR

Bioversity International



Garrett Hardin: The Tragedy of the Commons, 1968

→ Pic. 5

Hardin focused on human population growth, the use of the Earth's natural resources, and the welfare state. ... Parents breeding excessively would leave fewer descendants because they would be unable to provide for each child adequately. Such negative feedback is found in the animal kingdom. ... Hardin blamed the welfare state for allowing the tragedy of the commons; where the state provides for children and supports overbreeding as a fundamental human right.

*The Great Rice Robbery, A handbook on the impact of IRRI in Asia, 2007 Pesticide Action Network Asia and the Pacific.
Kilusang Magbubukid: Philippines: Historical and political perspectives on IRRI*

Gates Microsoft

→ Pic. 3

Microsoft has 90 percent of the world share for user software, 2011

<http://de.statista.com/statistik/daten/studie/157902/umfrage/marktanteil-der-genutzten-betriebssysteme-weltweit-seit-2009/>

The Global Crop Diversity Trust Its members according to the top 5 Google hits

→ Pic. 3

The Global Crop Diversity Trust provides scientific guidance and assistance in organizing shipments of seeds. The Trust will also finance a large part of the management and operation of the Seed Vault.

/ Mission: Yet at the moment much of the world's crop diversity is neither safely conserved, nor readily available to scientists and farmers who rely on it to safeguard agricultural productivity. ... The Global Crop Diversity Trust is the only worldwide response to this funding crisis. ... it is important to note how the Trust differs from other organizations competing for donations. ... It is rare that the world faces a major problem which has highly disturbing implications but an identifiable and achievable solution. This is precisely what the Trust offers; a measurable plan, relying on existing institutions and simple proven technologies. It is the only solution. Crop diversity is disappearing, and the Trust is the sole dedicated worldwide funding organization for its conservation. ... The Trust offers a unique opportunity to put in place a rational and cost-effective system for the conservation of the resources which underpin all agriculture and the world's future food supplies. ... An increasingly unpredictable and changing climate, and a world population expected to reach 9 billion by 2050, will place unprecedented demands on agriculture. Conserving the vast diversity of crop varieties is the only way to guarantee that farmers and plant breeders will have the raw materials needed to improve and adapt their crops to meet these challenges - and provide food for us into the future. And there is only one organization working worldwide to solve this problem - the Global Crop Diversity Trust. The Trust's response is to raise an endowment, the interest from which is enough to guarantee the effective conservation - and crucially, the ready availability to those who wish to use it - of the biological basis of all agriculture. The endowment will ensure that the conservation of this most vital and natural resource is placed forever on a firm foundation.

<http://www.croptrust.org/content/who-we-are>

The Global Crop Diversity Trust/ other GCDT board members

Dr. Mangala Rai, Secretary of India's Department of Agricultural Research and Education (DARE),

John Lovett (Australia), Chairperson of the Cooperative Research Centre for National Plant Biosecurity, Syngenta grain-gen board.

Klaus Töpfer (Germany), Former Executive Director of the UN Environment Programme (UNEP); Under Secretary General of the UN Food Program...

Modibo Tiémoko Traoré (Mali), former Minister for Rural Development, Mali, FAO Assistant Director-General charged with the Agriculture and Consumer Protection Department.

Sir Peter Craine (London Garden Direktor)

Ibrahim Assane Mayaci Prime/Foreign Minister von Senegal, Member of „Rural Hub-Dakar“

Modibo Tiémoko Traore, Mali Rural Minister

Walter Fust SDC (Swiss Ambassador with a long career in the diplomatic field)

<http://www.croptrust.org/content/who-we-are>

Glyphosat

→ Pic. 5

Monsanto patented Glyphosat 1974 as the phytotoxin Roundup.

There are four pesticides currently in use on farms that derive from World War II Era Nerve Gas: methidathion, oxydemeton-methyl, methamidophos, and ethoprop. ...

<http://www.worldfuturefund.org/Projects/greenrevolution7.html>

... Environmental groups and farmworker advocates have sued the Environmental Protection Agency, arguing that four pesticides derived from WWII-era nerve gas agents should be banned. The four pesticides ... are methidathion, oxydemeton-methyl, methamidophos, and ethoprop. They are acutely toxic and cause systemic illnesses to humans and wildlife by inhibiting ... Symptoms of cholinesterase inhibition include muscle spasms, confusion, dizziness, loss of consciousness, seizures, abdominal cramps, vomiting, diarrhea, cessation of breathing, paralysis, and death. Acute poisonings can also cause chronic (long-term) effects, such as permanent nerve damage, loss of intellectual functions, and neurobehavioral effects.

Time to Stop Using Nerve Gas On Farms? - The Daily Green http://www.ecochem.com/t_news.html

Glyphosate

→ Pic. 6

A recent study identifies approximately 400 coastal 'dead zones' around the globe, covering an area of 245.000 km². These are marine waters that are so oxygen depleted they can no longer sustain life. The main culprit: chemical fertilizer runoff.

Who Owns Nature, November 2008, www.etcgroup.org

Use of glyphosat worldwide ca. 1 Mio. Tons, 2010
Ca. 40,000 fatal poisonings in the Third World
25 % of banned pesticides are exported ...

<http://www.epa.gov/oppead1/international/trade/>

...The patent on Glyphosate has meanwhile expired in most countries. Herbicides containing Glyphosate are now also being produced by other corporations, e.g., Touchdown by Syngenta or Durango by Dow AgroSciences.

<http://www.keine-gentechnik.de/dossiers/roundup-und-gentechnik-pflanzen/fakten-zu-roundup-und-glyphosat.html>

H

Homestead Act, 1862

→ Pic. 5

The Homestead Acts were several United States federal laws that gave an applicant ownership of land ... originally consisted of grants totaling 160 acres ...of "unappropriated" federal land ... they were initially proposed as an expression of the "Free Soil" policy of Northerners who wanted individual farmers to own and operate their own farms...The first of the acts, the

Homestead Act of 1862,... Anyone who had never taken up arms against the U.S. government ... could file an application to claim a federal land grant. ...An amendment to the Homestead Act of 1862, the Enlarged Homestead Act, was passed in 1909 and increased the allotted acreage to 320. Another amended act, the Stock-Raising Homestead Act, was passed in 1916 and again increased the land involved, this time to 640 acres. ... Between 1862 and 1934, the federal government granted 1.6 million homesteads and distributed 270,000,000 acres (420,000 sq mi) of federal land for private ownership. ... The homestead acts were much abused. ... people manipulated the provisions of the act to gain control of resources, especially water. .. That method was also used by large businesses and speculators to gain ownership of timber and oil-producing land ...

http://en.wikipedia.org/wiki/Homestead_Acts

Since around the beginning of the 1930s, research has been conducted on the extent to which this could at least have amounted to illegitimate appropriation – land-grabbing.

Sakolski, A. (1932) The Great American Land Bubble: The Amazing Story of Land-Grabbing, Speculation and Boom from Colonial Times to the Present Time. New York: Harper & Bros., 1932

The Homestead Act caused a huge displacement of the Indians. We didn't get any evaluation about the forced migration of indian persons due to the Homestead Act.

I

In the stomach it creates desasters & produces demands → **Pic. 5**

Nature meets itself in the stomach of the predators.
In the stomach it creates desasters & produces demands;
it creates desasters & produces demands;
it makes people superfluous.

Iowa Hunger Summit → **Pic. 11**

The World Food Prize Foundation established the Iowa Hunger Summit as a means to celebrate Iowa's great successes in fighting hunger and poverty and to unite in further action against both. .. It is held each year during the World Food Prize's week of events in October at the Des Moines Marriott Downtown. ... The Iowa Hunger Summit gathers several hundred leaders from across Iowa representing community organizations, business and industry, state and local government, social agencies, churches and religious communities, schools and universities, and other groups that lead or participate in projects to confront hunger.

https://www.worldfoodprize.org/en/events/iowa_hunger_summit/

IPC → **Pic. 9**

The Intellectual Property Committee was a coalition of 13 US corporations "dedicated to the negotiation of a comprehensive agreement on intellectual

property in the current GATT round of multilateral trade negotiations". The coalition was formed in March 1986 by Bristol-Myers, DuPont, FMC Corporation, General Electric, General Motors, Hewlett-Packard, IBM, Johnson & Johnson, Merck, Monsanto, Pfizer, Rockwell International and Warner Communications. ... Members changed throughout 1986 to 1996. By 1994, CBS, DuPont and General Motors quit, and others like Digital Equipment Corporation, Procter & Gamble, and Time Warner had joined.

[https://en.wikipedia.org/wiki/Intellectual_Property_Committee_\(US_private_coalition\)](https://en.wikipedia.org/wiki/Intellectual_Property_Committee_(US_private_coalition))

"Once created, the first task of the IPC was to repeat the missionary work we did in the US in the early days, this time with the industrial associations of Europe and Japan to convince them that a code was possible. It was not an easy task but our Trilateral Group was able to distill from the laws of the more advanced countries the fundamental principles for protecting all forms of intellectual property... Besides selling our concepts at home, we went to Geneva where [we] presented [our] document to the staff of the GATT Secretariat. We also took the opportunity to present it to the Geneva based representatives of a large number of countries... What I have described to you is absolutely unprecedented in GATT. ... Industry has identified a major problem for international trade. It crafted a solution, reduced it to a concrete proposal and sold it to our own and other governments... The industries and traders of world commerce have played simultaneously the role of patients, the diagnosticians and the prescribing physicians."

James Enyart (Monsanto), A GATT Intellectual Property Code, Less Nouvelles, June 1990, 54 – 56

**It creates disasters & produces demands;
it makes people superfluous**

→ **Pic. 6**

Nature meets itself in the stomach of the predators.
In the stomach it creates disasters & produces demands;
it creates disasters & produces demands;
it makes people superfluous.

It makes nature superfluous

→ **Pic. 7**

Nature meets itself in the stomach of the predators.
In the stomach it creates disasters & produces demands;
it creates disasters & produces demands;
it makes people superfluous;
It makes nature superfluous.

J

John Locke

→ **Pic. 9**

Labour creates property, but it also does contain limits to its accumulation: man's capacity to produce and to consume. According to Locke, unused property is waste and an offence against nature. However, with the introduction of "durable" goods, men could exchange their excessive perishable goods for goods that would last longer and thus not offend the

natural law. The introduction of money marks the culmination of this process.

...

Money makes possible the unlimited accumulation of property without causing waste through spoilage. ... The introduction of money eliminates the limits of accumulation. ... Locke is aware of a problem posed by unlimited accumulation but does not consider it his task. He just implies that government would function to moderate the conflict between the unlimited accumulation of property and a more nearly equal distribution of wealth and does not say which principles that government should apply to solve this problem. ...

Moreover, Locke anchors property in labour but in the end upholds the unlimited accumulation of wealth.

http://en.wikipedia.org/wiki/John_Locke#Theory_of_value_and_property

K

Kenneth Quinn

→ Pic. 11

John Kerry about Kenneth Quinn in his keynote at the announcement of the World Food Prize: "I'm particularly grateful to be introduced by Ken Quinn. I was sitting there thinking, listening to Ken, General MacArthur said old soldiers never die, they just fade away. Well, old Foreign Service officers never die either, but they don't fade away, obviously. (Laughter.) They just go on to take on new, terrible tasks. And this is a man who knows how to do it. (Applause.) ... what an amazing journey we have shared together... And back in 1968, when I was in Vietnam, I got up to this tiny little hamlet on the Mekong River – ... beautiful, beautiful little place, rice paddies all around it...

...And Ken was informing me that he spent a whole year there or so, I guess, as a Foreign Service officer and actually going out on missions with some of our boats and so forth. So we've been intersecting for a long time, and it's an honor to be here with him. Ken is the only Foreign Service officer to receive both the Army Air Medal and the State Department's Medal for Heroism and Valor. And that tells you a lot, folks. (Applause.) ... And I think the words "impossible" and "intractable" sort of go with his DNA somehow, and he knows how to work through them.

U.S. State

Department, <http://www.state.gov/secretary/remarks/2013/06/210896.htm>

L

Lewis Coleman

→ Pic. 3

... President of DreamWorks Animation, in 2005 ... employed by Bank of America Securities, ... where he was a Senior Managing Director from 1995 to 1998 and Chairman from 1998 to 2000. ... ten years at the Bank of America ... Head of Capital Markets, Head of the World Banking Group, and Vice Chairman of the Board and Chief Financial Officer. He spent the previous 13 years at Wells Fargo Bank Head of International Banking, and Chairman of the Credit Policy Committee. ... one of the pioneers of debt-for-nature swaps, which involves agreements between developing nations in debt

and one or more of their creditors who agree to forgive debt in return for environmental protection.

<http://www.croptrust.org/content/who-we-are>

Coleman is also the lead Board Director of Northrup Grumman Corporation, one of America's largest military industry Pentagon contractors. Among the best-known arms products... the heavy strategic stealth bomber B-2 Spirit, the F-14, the unmanned reconnaissance drone RQ-4A Global Hawk and the nuclear-powered aircraft carriers of the Nimitz class.

<http://www.globalresearch.ca/doomsday-seed-vault-in-the-arctic-2/23503>

Coleman – Rockefeller Foundation

—▶ **Pic. 3**

Northrop Grumman and Rockefeller Foundation are members of the National Center for the Preservation of Democracy.

M

Members of the Global Crop Diversity Trust Board Margaret Catley-Carlson

—▶ **Pic. 3**

Chair of the Global Water Partnership, and the International Advisory Committee for Group Suez Lyonnaise des Eaux, member of the UN Secretary General's Advisory Board, and of the Council of Advisors of the World Food Prize. She serves on the Boards of ... IWMI (the International Center for Water Resource Management); the IFDC (Fertilizer Management) and IIED - the Int. Institute for Environment and Development... chair of the ICARDA and CABI Boards and the Water Supply and Sanitation Collaborative Council, Vice Chair of the IDRC Board of Water for the 21st Century ... President of the Canadian Int. Development Agency 1983-89; Deputy Executive Director of UNICEF in New York 1981-1983; President of the Population Council in New York 1993-98; and Dep. Minister of Department of Health and Welfare of Canada 1989.

<http://www.croptrust.org/content/who-we-are>

Group Suez Lyonnaise des Eaux is one of the world's largest private water companies.

Catley-Carlson – CGIAR

—▶ **Pic. 3**

IWMI (the International Center for Water Resource Management) is a part of the CGIAR.

Marker Assisted Breeding

—▶ **Pic. 9**

MAS ... works like a genetic barcode scanner, analyzing the unique sequence of components in a plant's DNA to identify the desired genes. The process begins by identifying several thousand short, unique stretches of DNA called "markers" that are distributed throughout the plants genome. Some of these markers are associated with genes that contribute to the desired traits. During breeding, if a marker is consistently associated with the desired gene—because they are both present or both absent in offspring plants—the marker can be used to track the gene. Thus, once a plant's genetic barcode

has been scanned and specific markers identified, it becomes possible to screen thousands of seedling plants for the presence of the desired gene(s). ... Seeds are now like our cell phones and laptops – containers that deliver proprietary technologies. ... The gene giants are stocking hundreds of monopoly patents on genes in plants that the companies will market as crops genetically engineered to withstand environmental stresses such as drought, heat, cold, floods, saline soils and more. Beyond the U.S. and Europe, patent offices in major food producing countries such as Argentina, Australia, Brazil, Canada, China, Mexico and South Africa are also swamped with patent filings.

Who will control the green technology, 2009, www.etcgroup.org

Monsieur Mathieu Ouédraogo et Monsieur Yacouba Sawadogo

—► **Pic. 10**

is a farmer from... in Burkina Faso who has been successfully using traditional farming techniques from the region to restore soils damaged by desertification and drought.

Together with **Mathieu Ouédraogo**, another local farm innovator, Yacouba Sawadogo began experimenting with techniques for rehabilitating damaged soil in about 1980. He relies on simple approaches traditional to the region: cordons pierreux and zai holes. Both Sawadogo and Ouédraogo have engaged in extension and outreach efforts to spread their techniques throughout the region.

http://en.wikipedia.org/wiki/Yacouba_Sawadogo

... Sawadogo's experiments worked: by concentrating water and fertility in pits, he increased crop yields. But the most significant result was one he hadn't anticipated: tiny trees began to sprout amid his rows of millet and sorghum, thanks to seeds contained in the manure. As one growing season followed another, it became apparent that the trees--now a few feet high--were further increasing crop yields while also restoring soil fertility. Sawadogo's struggle may seem small, but it is part of the most important test humanity now faces. No matter what happens at Copenhagen or beyond, the world is locked in to decades of temperature rise and the associated climate impacts: deeper droughts, fiercer floods, more pests. ... The tree-based farming that Sawadogo and hundreds of thousands of other poor farmers in the Sahel have adopted could help millions of their counterparts around the world cope with climate change. ... Already these practices have spread across vast portions of Burkina Faso and neighboring Niger and Mali, turning millions of acres of what had become semi-desert in the 1980s into more productive land. The transformation is so pervasive that the new greenery is visible from outer space via satellite pictures. With climate change, much more of the planet's land will be hot and arid like the Sahel. It only makes sense, then, to learn from the quiet green miracle unfolding there.

Regreening Africa | The Nation <http://www.thenation.com/article/regreening-africa#ixzz2XyKEQOzQ>

Monsanto

—► **Pic. 3**

Monsanto controls 23 % of the proprietary seed market / 9% agrochemical market (2009)

Who will control the Green Economy, 2011, www.etcgroup.org

Monsanto is cited as one of the major sponsors behind the Svalbard Global Seed Vault in many web sites but not in the home page of the Svalbard Global Seed Vault. Monsanto does share technology and patents with following companies mentioned in the referred document: The Australia based Grains Research & Development Corporation (GRDC) and the Swiss based company Syngenta AG.

<http://monsantoboycott.com/sponsorships/>

Monsanto

→ Pic. 4

Through a series of transactions, the Monsanto that existed from 1901 to 2000 and the current Monsanto are legally two distinct corporations. Although they share the same name and corporate headquarters, many of the same executives and other employees, and responsibility for liabilities arising out of activities in the industrial chemical business, the agricultural chemicals business is the only segment carried forward from the pre-1997 Monsanto Company to the current Monsanto Company. This was accomplished beginning in the 1980s:

1985: Monsanto purchased G. D. Searle & Company for \$2.7 billion in cash.

In this merger, Searle's aspartame business became a separate Monsanto subsidiary, the NutraSweet Company. CEO of NutraSweet, Robert B. Shapiro, became CEO of Monsanto from 1995 to 2000. 1996: Acquired Agracetus, a majority interest in Calgene, creators of the Flavr Savr tomato, and 40% of DeKalb Genetics Corporation. It purchased the remainder of DeKalb in 1998. Purchased parts of India's biggest seed company MAHYCO. Purchased Cargill international Seed corporations in Latin- and Central America. 1997: Monsanto spun off its industrial chemical and fiber divisions into Solutia Inc. This transferred the financial liability related to the production and contamination with PCBs at the Illinois and Alabama plants. In January, Monsanto announced the purchase of Holden's Foundations Seeds, a privately held seed business. By acquiring Holden's, Monsanto became the biggest American producer of foundation corn, the parent seed from which hybrids are made. The combined purchase price was \$925 million. Also, in April, Monsanto purchased the remaining shares of Calgene.

1999: Monsanto sold off NutraSweet Co. and two other companies. In December, Monsanto merged with Pharmacia & Upjohn, and the agricultural division became a wholly owned subsidiary of the "new" Pharmacia; the medical research divisions of Monsanto, which included products such as Celebrex, were rolled into Pharmacia. 2000 (October): Pharmacia spun off its Monsanto subsidiary into a new company, the "new Monsanto". As part of the deal, Monsanto agreed to indemnify Pharmacia against any liabilities that might be incurred from judgments against Solutia. As a result, the new Monsanto continues to be a party to numerous lawsuits that relate to operations of the old Monsanto. (Pharmacia was bought by Pfizer in a deal announced in 2002 and completed in 2003.) 2005: Monsanto acquired Emergent Genetics and its Stoneville and NexGen cotton brands. Emergent was the third largest U.S. cotton seed company, with about 12 percent of the U.S. market. Monsanto's goal was to obtain "a strategic cotton germplasm and traits platform." February 2005: Emergent Genetics Inc. 2007: In June, Monsanto completed its purchase of Delta and Pine Land Company, a major cotton seed breeder, for \$1.5 billion. As a condition for approval of the purchase from the Department of Justice, Monsanto was obligated to divest its Stoneville cotton business, which it sold to Bayer, and to divest its NexGen cotton business, which it sold to Americot. Monsanto also exited the pig breeding business by selling Monsanto Choice Genetics to Newsham Genetics LC in November, divesting itself of "any and all swine-related patents, patent applications, and all other intellectual property". 2008: Monsanto purchased

the Dutch seed company De Ruiter Seeds for 546 million, and sold its POSILAC bovine somatotropin brand and related business to Elanco Animal Health, a division of Eli Lilly in August for \$300 million plus "additional contingent consideration".
July 2009: Westbred: gentic modified wheat.

Monsanto / <http://en.wikipedia.org/wiki/Monsanto>

Monsanto Sizing

→ Pic. 9

Monsanto recently filed patent application WO2008021413, which ... makes 175 claims to misappropriate various gene sequences and genetic variations, ... Monsanto ... explicitly claims all relevant maize and soy plants inheriting those genetic elements and its uses in food, feed and biomass. In a further patent application, WO 2009011847, Monsanto makes broad claims covering methods for cattle breeding, for the animals themselves as well as "milk, cheese, butter and meat".

<http://www.google.com/patents/EP0483514B1?cl=de>

Motorcycle

→ Pic. 10

"I think trees are at least a partial answer to climate change, and I've tried to share this information with others," Sawadogo adds. "I've used my motorbike to visit about a hundred villages, and others have come to visit me and learn. I must say, I'm very proud these ideas are spreading." ... these farmers are not planting trees, as Nobel Prize-winning activist Wangari Maathai has promoted in Kenya with her Greenbelt Movement. They are simply... nurturing the ones that sprout naturally.

Planting trees is much too expensive... for really poor farmers. Studies in the western Sahel have found that about 80 % of planted trees die within a year or two. By contrast, trees that sprout naturally are native species and thus more resilient. And of course they cost nothing.

Regreening Africa | The Nation <http://www.thenation.com/article/regreening-africa#ixzz2XyKEQOzQ>

Multi-Genome Patent Grab

→ Pic. 9

The genomics approach is especially attractive to Gene Giants because it gives them an opportunity to make sweeping patent claims that extend far beyond a single crop... Many of the patents claim isolated DNA sequences that are associated with abiotic stress tolerant traits. Because of the similarity in DNA sequences between individuals of the same species or among different species ... the patent claims extend not just... in a single engineered plant species, but also to a substantially similar genetic sequence in virtually all transformed plants. The claims typically include any gene or protein with "substantial identity" that is associated with abiotic stress tolerance in transgenic plants, as well as methods for using the isolated gene sequences to engineer the plant to respond to abiotic stress. For example, DuPont's (Pioneer Hi-Bred) November 2007 patent entitled "transcriptional activators involved in abiotic stress tolerance" claims a method for expressing the genetic sequences in a plant that improves its cold and/or drought tolerance the claims are not limited to drought/cold tolerance in a single crop – but to use of the technology in transgenic monocots (e.g., maize, barley, wheat, oat, sorghum or rice) and dicots (e.g., soybean, alfalfa, safflower, tobacco, sunflower, cotton or canola). Monocots and dicots are the primary

classes of flowering plants – and nearly all of the world's food supply comes from flowering plants. A Syngenta... patent application also seeks extremely broad claims. It ... claims gene sequences that confer abiotic stress tolerance – including “cold stress, salt stress, osmotic stress or any combination thereof. The claims extend to a “substantially similar” gene sequence from a monocot or a dicot plant, from a cereal (including maize, rice, wheat, barley, oat, rye, millet, milo, triticale, orchardgrass, guinea grass, sorghum and turfgrass). Also claimed are methods for using the specified gene sequences as vectors, expression cassettes, as well as plants containing such polynucleotides to alter the responsiveness of a plant to abiotic stress.

The new Biomasters, 2011; www.etcgroup.org

N

Nature meets itself in the stomach of the predators

—► Pic. 4

In the stomach of the predators, nature has prepared its site of unification, the amboss of innermost melting together, the organ of connection of the different animal species”, writes Marx as a summary in his 1st article on the regularisation of forest use, which he observed in the Rheinische Landtag in 1842. Old feudal rights of use such as wood and berry collection were being adapted to the new property rights of rural aristocracy, that is to say levelled. The summary was intended for the representatives of the aristocracy, who, despite being united in greed, were suspiciously monitoring who would be able to gain maximum advantage from the legislation.

Karl Marx: Debatten über das Holzdiebstahlggesetz, 1842, in: Karl Marx/ Friedrich Engels – Werke, Dietz Verlag, Berlin. Band 1. Berlin/DDR. 1976. S. 109-147.

New Deal on Global Food Policy

—► Pic. 8

A princip actor among these institutions is the International Financial Corporation (IFC), the private sector of the World Bank Group, which finances private investments in the developing world by advising governments ... and encouraging business enabeling environments .. Working alongside the IFC is the Foreign Investment Advisory Board (FIAS), which promotes private investment by improving the “investment clima” of developing countries ... During the heigth of the 2008 food price crisis the World Bank called for a New Deal on Global Food Policy, which pushed for a vast increase in agricultural production. IFC investments capitalize in the fact that high food prices have triggered a “financial revolution” in agriculture after years of unvestment ...

Driven by the belief that high food prices offer unique opportunities for emerging markets .. 2009, the IFC formed an alliance with Altima Partners to invest in farming cooperations and agricultural land in “emerging market countries”. The new \$625 million Altima One World Agricultural Development Fund is IFC’s largest equity investment in its expanding agribusiness portfolio.

<http://www.oaklandinstitute.org/great-land-grab-rush-world%E2%80%99s-farmland-threatens-food-security-poor>

Nitrogene – Fertilizer

→ Pic. 5

By the end of World War II, the United States had built 10 large-scale nitrate factories to make bombs. With Europe's and Japan's production facilities in ruins, the US entered the postwar period as the undisputed global champion of nitrogen production. The industry quickly shifted from munitions to fertilizer and domestic consumption began to skyrocket, driven, Smil writes, by the rise of new hybrid strains of corn, "the first kind of high-yielding grain cultivar dependent on higher fertilizer applications.

<http://foodpolicyforthought.wordpress.com/2013/04/27/10-things-i-didnt-know-about-nitrogen-fertilizer/>



Occupy World Food Prize

→ Pic. 11

The World Food Prize (WFP) organizers say the speakers they invited to participate in the WFP ceremonies in Des Moines on October 16-20, 2012, represent a broad spectrum of the international food and agriculture industry, including persons involved in sustainable farming. A brief glance at the information below reveals not diversity but a smothering blanket of corporate uniformity. ... Although WFP speakers and their charities work to alleviate world hunger, their efforts are inevitably affected by the policies of their principal donors, such as the Gates Foundation and Monsanto. Donors like these do not support policies and programs that significantly deviate from their own agendas. Food policies that spurn GM seeds and pesticides in favor of organic and small sustainable farming usually lose out to agribusiness. Agribusiness and chemical corporations exist ultimately for profit, not the public welfare. Occupy the World Food Prize believes the WFP committee has not delivered a fair and balanced program of speakers. Representatives of organic and sustainable agriculture have been ignored and thus denied the same opportunities as their corporate counterparts to be heard at the ceremonies.

<http://occupytheworldfoodprize.com/about>



Packages / Impacts

→ Pic. 5

At the beginning of the first Green Revolution, the Rockefeller and Ford Foundations promoted industrial-style agriculture in the Global South through technology "packages" that included modern varieties (MVs), fertilizer, pesticides, and irrigation. ... seminal studies revealed that the Green Revolution's expensive "packages" favored a minority of economically privileged farmers, put the majority smallholders at a disadvantage, and led to the concentration of land and resources.

<http://www.foodfirst.org/media/opeds/2000/4-greenrev.html>

Packages / Impacts

→ Pic. 6

World's Top 3 Fertilizer Corporations, 2009

Yara, Norway - 12 %
Mosaic, USA - 11 %
Agrium, Canada - 10 %

Globally, Consumption of industrial fertilizers increased 31% from 1996 to 2008 due to increase in livestock production and agro fuel crop plantings.

World's Top 4 Pesticide Corporations, 2009

Syngenta - 19 %
Bayer - 19 %
BASF - 11 %
DOW - 10%

In 2007 the four largest pesticide companies reported double-digit sales jumps. Pesticide revenues are up in nearly all regions, but Latin America (particularly Brazil, Argentina and Mexico) and Eastern Europe were key grow markets.) ...

Who will control the Green Economy, 2011, www.etc.group.org

A recent study identifies approximately 400 coastal 'dead zones' around the globe, covering an area of 245.000 km². These are marine waters that are so oxygen depleted they can no longer sustain life. The main culprit: chemical fertilizer runoff.

Who Owns Nature, November 2008, www.etcgroup.org

Use of glyphosat worldwide ca. 1 Mio. Tons, 2010
Ca. 40,000 fatal poisonings in the Third World
25 % of banned pesticides are exported ...

<http://www.epa.gov/oppead1/international/trade/>

...The patent on Glyphosate has meanwhile expired in most countries. Herbicides containing Glyphosate are now also being produced by other corporations, e.g., Touchdown by Syngenta or Durango by Dow AgroSciences.

<http://www.keine-gentechnik.de/dossiers/roundup-und-gentechnik-pflanzen/fakten-zu-roundup-und-glyphosat.html>

Packages / Impacts: World Trends in Fertilizer use

→ Pic. 5

World total:	1959 / 60	1989/90	2020
	27,4	143, 6	208,0
Nitrogen	9,5	79,2	115,3
Phosphat	9,5	37,5	56,0
Potash	9,7	20,6	56,0

<http://www.ifpri.org/sites/default/files/publications/vb38.pdf>

Packages / Impacts: Global Pesticide consumption

→ Pic. 5

1960	1970	1980
850 million UDS	2700 mill usd	11.600 mill usd

[http://www.iaees.org/publications/journals/piaees/articles/2011-1\(2\)/Global-pesticide-consumption-pollution.pdf](http://www.iaees.org/publications/journals/piaees/articles/2011-1(2)/Global-pesticide-consumption-pollution.pdf)

Global Pesticide consumption and pollution with China as a focus, WenJun Zhang a.o., 2011

SESSION ON AGROCHEMICAL TRANSNATIONAL CORPORATIONS,
Bangalore, 3-6 December 2011

This session of the Permanent People's Tribunal (PPT) completes a long process of investigation that began in July 2008, when representatives of Pesticide Action Network (PAN) International presented a request of intervention in order to investigate how and in which terms the activities of transnational agrochemical corporations cause "massive death, terrible harm to health, plunder of the environment and destruction of ecological balance and biodiversity" Due to the impossibility for the victims and survivors to have effective recourse to legal avenue for justice..., the PPT decided to hold the session in Bangalore, from December 3rd to December 6th 2011, after two years of intense work gathering and documenting cases. ...

In accordance with the program ... witnesses, technical witnesses and survivors made oral presentation of specific cases and submitted supporting documents. As established in its Statute, the Tribunal notified the legal representatives of the transnational corporations headquartered in Germany (Bayer and BASF), Switzerland (Syngenta) and the United States (Monsanto, DuPont, Dow Chemical Company).

The situation presented to the Tribunal in terms of human rights violations by and through agrochemical transnational corporations (TNCs) can be summarized as follows. Bayer, BASF, Dow, DuPont, Monsanto and Syngenta are major agrochemical TNCs, involved in the production of both agrochemicals and proprietary seeds (including hybrid seed and genetically modified seed). Combined, those six companies have a 72% share of the global pesticide market... Linked to the power and influence of these corporations is a recurring picture of abuse of this power ranging from bribery (direct and indirect), threats, and harassment to weakening regulations, producing misleading, erroneous or even false information and data and untruthful and aggressive marketing and promotion of hazardous pesticides and of genetically modified (GM) seed. ... As a consequence, highly toxic pesticides are produced, marketed and used, resulting in great suffering and in the violations of rights, which largely affect small farmers, farm laborers, the poor and powerless. Violations of rights and suffering also occurred through the introduction and use of genetically modified crops on their own terms and in combination with the use of hazardous agrochemicals. The problem of hazardous agrochemicals in this context is worsened by the failure of glyphosate to control weeds, which enhances the use of pesticides such as 2,4.D and dicamba, and the genetic modification of crops so that they can tolerate such harmful herbicides.

The Tribunal makes the following declaration of responsibility for the six indicted TNCs and three Governments in particular and further also declares the responsibilities of all States, international organizations, UN Specialist Agencies, all other institutions of global governance. CONCERNING THE INDICTED SIX CORPORATIONS (BASF, BAYER, DOW CHEMICAL, DUPONT, MONSANTO)

The Tribunal finds on all evidence presented before it, the six TNCs prima facie responsible for gross, widespread and systematic violations of the right to health and life, economic, social and cultural rights, as well as of civil and political rights, and women and children's rights.

The Tribunal further finds that their systematic acts of corporate governance have caused avoidable catastrophic risks, increasing the prospects of extinction of biodiversity, including species whose continued existence is necessary for reproduction of human life.

CONCERNING THE THREE SPECIFICALLY INDICTED STATES

The United States of America (USA), the Swiss Confederation (Switzerland) and the Federal Republic of Germany (Germany) have demonstrably failed to comply with their internationally accepted responsibility to promote and protect human rights, especially of vulnerable populations and their specific customary and treaty obligations in the sphere of environment protection in the following ways: The three States, where six corporations are registered and headquartered, have failed to adequately regulate, monitor and discipline these entities by national laws and policy; the concerned States have not as fully respected the human rights of freedom of speech, expression, and association of citizens and persons within their own jurisdictions protesting against the move toward a second Green Revolution, not having learned the lesson of the first. ...

Members of the jury: Upendra Baxi (India), Elmar Altvater (Germany), Ibrahima Ly (Senegal), Paolo Ramazzotti (Italy), Ricarda Steinbrecher (UK) Gianni Tognoni (Italy)

Programme of the Session; Bangalore, 12, 4, 2011

9:15 AM – 9:40 AM: Witness 1: Roundup Ready (RR) Soy Case – Javier Souza, (RAPAL, Argentina)
9:40 AM – 10:05 AM: Witness 2: Poisoning of Silvino Talavera Case – Petrona Villasboa (Paraguay)
11:05 AM – 11.30am: Witness 4: Endosulfan Poisoning / Aerial Spraying Case – Jayakumar Chelaton, (Thanal, India);
11.30 AM – 11:55 AM: Witness 5: Endosulfan Poisoning Case – Dr. Y. S. Mohankumar (Kasargod, India);
11.55 AM – 12:20 PM: Witness 6: Endosulfan Poisoning Case – Dr. Mohammed Asheer (Kasargod, India);
1:30 PM –1:55 PM: Witness 7: US farmers vs. Monsanto – David Runyon (US) ;
1.55pm -2.20pm: Witness 8: Presentation on the Poisoning of the Arctic Case – Kathryn Gilje (PAN North America)
2:20 AM – 2:45 PM: Witness 9: Death of Bees / Philipp Mimkes (CBG Network, Germany)
2:45 AM – 3:10 PM: Witness 10: Death of Bees / Graham White (Beekeeper, UK) ; 3:10 PM – 3:35 PM: Witness 11: Atrazine and Harassment Case – Dr. Tyrone Hayes (University of California, Berkeley, USA) ;
3:35 PM – 4:00 PM: Witness 12: Obsolete Pesticide Dumps Case – About Thiam (PAN Africa, Senegal) ;
4:30 PM – 4:55 PM: Witness 13: Child Labour Case (MV Foundation) – Mr Shankar (India)
4:55 PM – 5:20 PM: Witness 14: Child Labour Case (child) – Ashwini (India);
5:20 PM – 5:45 PM: Witness 15: Paraquat Poisoning – Nagama Raman (Pesticide Sprayer, Malaysia)

End of Day 2 Session

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Philanthrocapitalism
Gates Foundation

→ **Pic. 3**

...The Global Crop Diversity Trust (GCDT), which supports the operational costs of Svalbard, has received almost \$30 million dollars in support from the

Bill and Melinda Gates Foundation. (Global Diversity Trust, "Funding Status 1-1-2011."

<http://www.croptrust.org/main/funds.php>

This is by far the largest support of any non-governmental entity.

Amy Goldman, Kent Whealy's Nemesis, Joins' Fine Gardening

Gates Foundation – Monsanto

→ Pic. 3

As is well known, the Gates Foundation has very close working ties to Monsanto. The Gates Foundation invested \$23 million in Monsanto in 2010 to help the company through some financial woes, and has been a determined supporter of spreading Monsanto's genetically engineered crops throughout the developing world.

Amy Goldman, Kent Whealy's Nemesis, Joins' Fine Gardening

Gates Foundation – Monsanto – CGIAR

→ Pic. 3

Dr. Robert Horsch (was), hired by the Gates Foundation as Senior Program Officer of the Global Development Program (which is the supervisor of the AGRA Project) . Horsch had been Vice-President of Product and Technology Cooperation, and later Vice-President for International Development Partnerships, of Monsanto Corporation ... Horsch worked with Monsanto for 25 years before he joined the Gates Foundation... He was also a member of the Advisory Committee of the Partnership to Cut Hunger and Poverty in Africa (PCHPA), the Private Sector Committee of the CGIAR and the United Nations Millennium Project Task Force on Hunger.

Elenita C. Dano, Unmasking the New Green Revolution in Africa, African Centre for Biosafety. Third World Network, 2009

Philantrocipitalism

Monsanto – CGIAR

→ Pic. 3

... teaming up with philanthro-capitalists to develop climate-tolerant traits for the developing world. Monsanto and BASF, for instance, are working with the International Maize and Wheat Improvement Center (CIMMYT) and national agricultural research programs of Kenya, Uganda, Tanzania and South Africa to develop drought-tolerant maize. The program is supported by a \$47 million grant from the Bill & Melinda Gates Foundation. For its part, Monsanto and BASF have agreed to donate royalty-free droughttolerant transgenes to the African researchers.

Etcgroup. Communique, June 2008, Patenting the "Climate Genes and Capturing the Climate Agenda

Philanthrocipitalism

Rockefeller Foundation – Gates Foundation

→ Pic. 3

Rockefeller Foundation ... forged an alliance with the Bill and Melinda Gates Foundation, publicly announced on 12 September 2006. The marriage of two of the world's largest philanthropic foundations gave birth to the Alliance for a Green Revolution in Africa (AGRA), with the Gates Foundation committing an initial amount of US\$100 million and another \$50 million from the Rockefeller Foundation. The alliance is considered a breakthrough for the Gates Foundation, which has hitherto been focusing most of its philanthropy

on global health and medical projects. AGRA's primary goal is to increase the productivity and profitability of smallscale farming using technological, policy and institutional innovations that are environmentally and economically sustainable.... The conceptual framework of the Gates-Rockefeller partnership ... is outlined in a "White Paper" entitled "Africa's Turn: The New Green Revolution for the 21st Century" ... The paper mainly summarizes..., that Africa has to benefit from the promises of the Green Revolution... through the combined use of applications of modern ecology and modern biotechnology.

Elenita C. Dano, Unmasking the New Green Revolution in Africa, African Centre for Biosafety. Third World Network, 2009

Philanthrocapitalism Syngenta – Foundation

→ **Pic. 3**

The Syngenta Foundation addressed the World Food Day Symposium in 2005 as an output of the Millennium Ecosystem Report. ... (Syngenta Foundation) created its flagship program, the Farmer Support Team (FST). The FST is a nationwide program in the Philippine archipelago. It works with farmers in all the major rice, fruit, and vegetable production provinces of the country. ...

It began by helping Filipino farmers gain greater understanding and achieve higher productivity through trainings in Integrated Pest Management (IPM), Integrated Crop Management (ICM) and Total Crop Management (TCM).

<http://en.wikipedia.org/wiki/Syngenta>

The Pink Bollworm Eradication Program, 2002

→ **Pic. 6**

Objective: To eradicate the pink bollworm from all cotton-producing areas of the U.S. ... The pink bollworm is costing U.S. cotton producers more than \$32 million each year in control costs and yield losses. To eliminate this annual burden, in 2002, the industry began Phase I of a program to eradicate this key cotton pest. ...

<http://www.cotton.org/tech/pest/bollworm/>

Monsanto invented and sells agricultural seeds that are genetically modified to make a crystalline insecticidal protein from *Bacillus thuringiensis*, known as Bt. ...

BT Cotton Mon 531 / BT Maize BR Soya

Adoption rate of BT transgenic Cotton varieties 1996 – 2009, in 12 Countries / per area under crops

Australia - 95 %; Burkina Faso - 29 %; China - 60 %

India - 89 %; Southafrica - 98 %; USA - 88 %

<https://de.wikipedia.org/wiki/Bt-Baumwolle>

Pioneer

→ **Pic. 3**

Pioneer / Dupont controls 15 % of the proprietary seed market / 6% argochemical market (2009)

Who will control the Green Economy, 2011, www.etcgroup.org

Launched in February 2010, the Improved Maize for African Soils Project (IMAS) will develop maize varieties that are better at capturing the small amount of fertilizer that African farmers can afford, and that use the nitrogen they take up more efficiently to produce grain. Project participants will use cutting-edge biotechnology tools such as molecular markers—DNA "signposts" for traits of interest—and transgenic approaches to develop varieties that ultimately yield 30-50% more than currently available varieties, with the same amount of nitrogen fertilizer applied or when grown on poorer soils. The varieties developed will be made available royalty-free to seed companies that sell to the region's smallholder farmers, meaning that the seed will become available to farmers at the same cost as other types of improved maize seed.... Improved varieties developed using DNA marker techniques are expected to be introduced within seven to nine years, and those containing transgenic traits are expected to be available in approximately 10 years, pending product performance and regulatory approvals by national regulatory and scientific authorities, according to the established laws and regulatory procedures in each country. IMAS is being led by CIMMYT and funded with USD 19.5 million in grants from the Bill & Melinda Gates Foundation and USAID. The project's other partners... - the DuPont Business, Pioneer Hi-Bred; the Kenya Agricultural Research Institute (KARI); and the South African Agricultural Research Council (ARC)—are also providing significant in-kind contributions including staff, infrastructure, seed, traits, technology, training, and know-how.

Elenita C. Dano, Unmasking the New Green Revolution in Africa, African Centre for Biosafety. Third World Network, 2009

Pioneer Hi Bred / DuPont

—► Pic. 4

1924 Henry Wallace begins selling 'Copper Cross', the first commercial hybrid seed corn. 1926 Hi-Bred Corn Company founded in Des Moines, Iowa, with \$7,000 in capital. 1931 Roswell Garst agrees to produce/distribute seed. The following year Garst partners with Charles Thomas to form the 'Garst and Thomas Seed Corn Company'. 1935 "Pioneer" was added to the name of the company to distinguish it from other hybrid corn companies. The full name is "Pioneer Hi-Bred Corn Company". 1936 Pioneer founds Hy-Line Poultry Farms (later Hy-Line International) to produce hybrid egg-laying chickens. Henry B Wallace (son of Henry A Wallace) serves as president of Hy-Line until 1975. ... 1970 The company name is changed to Pioneer Hi-Bred International, Inc. ... 1973 Becomes a publicly traded company. 1973 Pioneer obtains a soybean product line through the purchase of Peterson Seed Company. 1975 Purchases Lankhartt and Lockett companies (cotton seed business). 1977 Pioneer acquires Microbial Products division to develop bacterial strains for inoculation into silage. 1978 Hy-Line International is spun off. 1981 Pioneer becomes the market-share leader in North America corn sales. 1982 Annual sales pass the US\$10 million mark. 1991 Pioneer purchases 2 million shares and establishes a partnership with Mycogen Seeds to develop Bt insect resistance in corn, sorghum, soybean, canola, sunflower, and other seeds. Pioneer sold the shares in 1998. Pioneer becomes the number one brand of soybeans in North America. 1992 Pioneer paid \$450,000 to Monsanto for rights to genetically modified soybean seeds that are resistant to RoundUp herbicide. 1993 Pioneer paid \$38 million to Monsanto for rights to Bt corn that is resistant to European corn borers. 1996 Pioneer acquires 20% stake in Sunseeds Co. (a hybrid vegetable seed producer) ... 1997 DuPont acquires a

20% stake in Pioneer and the companies form a joint venture called Optimum Quality Grains LLC. 1999 DuPont purchases the remaining 80% of Pioneer for \$7.7 billion. 2006 DuPont and Syngenta announce Greenleaf Genetics, a joint venture to market seed genetics and biotech traits 2010 DuPont and Syngenta end their joint venture, Greenleaf Genetics, with Syngenta retaining complete ownership.

2012 Pioneer announces update to business name to be DuPont Pioneer.

2012 Lawsuit over GMO's/Insecticides/Health issues by 200 residents of Waimea, Kauai against Pioneer Hi-Bred International, a DuPont company.

http://en.wikipedia.org/wiki/Pioneer_Hi-Bred

Punjab

→ Pic. 5

Area under IR8 Rice

1967 – 54%

1984 – 95%

Punjab was selected by the Indian government to be the first site to try the new crops because of its reliable water supply and a history of agricultural success. India began its own Green Revolution program of plant breeding, irrigation development, and financing of agrochemicals. ...

http://en.wikipedia.org/wiki/Green_Revolution

... The occurrence of drought in 1966 caused a severe drop in food production in India, and an unprecedented increase in food grain supply from the US. ... The US President, Lyndon B. Johnson ... refused to commit food aid beyond one month until an agreement to adopt the Green Revolution package was signed between Indian agriculture minister ... and the US.

Vandana Siva, Violence of the Green Revolution, New Delhi, 2010

R

Roberto Rodrigues

→ Pic. 3

Roberto Rodrigues has served as Brazilian Minister of Agriculture (2003-2006), Co-chairman of the Interamerican Ethanol Commission (IEC), Coordinator of the Getulio Vargas Foundation Agribusiness Center (GV Agro) as well as President of the Superior Agriculture Council of São Paulo's Federation of Industries (FIESP). ... served as President of the prestigious Brazilian Rural Society and the Brazilian Agribusiness Association... represented the Brazilian agribusiness sector in several advisory committees... such as the National Agricultural Policy Council, the National Monetary Council, and the National Foreign Trade Council. He also chaired the National Agribusiness Forum.

<http://www.croptrust.org/content/who-we-are>

Rodrigues – Monsanto

→ Pic. 3

June 2004, Brazil ... could soon legalise the use of ... gene-modified soybeans (Monsanto's BT / Round up) after a five year ban ... Brazil is the last major agricultural exporter to ban the use of GMO technology, which is estimated to be used in around 56 % of the world's production. But Brazilian agriculture minister Roberto Rodrigues is positive: There is still a great possibility that the Senate will legalise GMOs before late September.

<http://www.foodnavigator.com/Legislation/An-end-to-Brazilian-GMO-ban>

Rodrigues – Pioneer

→ Pic. 3

DuPont recently received awards in the Ag Chemicals and Seeds categories at the National Agribusiness Forum in Campinas, Brazil. The award recognizes companies and institutions that are committed to the sustainable development of agribusiness in Brazil.

<http://www2.dupont.com/media/en-us/news-events/october/recognized-for-commitment.html>

Rodrigues – Syngenta

→ Pic. 3

Harvest Plus Program, Biofortification, Brazil

Rockefeller Foundation

→ Pic. 3

... was founded by John D. Rockefeller ... 1913... 'Its overall philanthropic activity has been divided into five main subject areas: Medical, health, and population sciences, Agricultural and natural sciences, Arts and humanities, Social sciences, International relations ... Agriculture was introduced to the Natural Sciences division of the foundation in the major reorganization of 1928. In 1941, the foundation gave a small grant to Mexico for maize research (CIMMYT) the primary intention being to stabilise the Mexican Government and derail any possible communist infiltration, in order to protect the Rockefeller family's investments. By 1943 this program ... had proved such a success with the science of corn propagation and general principles of agronomy that it was exported to other Latin American countries; in 1956 the program was then taken to India; again with the geopolitical imperative of providing an antidote to communism. It wasn't until 1959 that senior foundation officials succeeded in getting the Ford Foundation (and later USAID, and later still, the World Bank) to sign on to the major philanthropic project, known now to the world as the Green Revolution ...

http://en.wikipedia.org/wiki/Rockefeller_Foundation

Rockefeller Foundation – CGIAR

→ Pic. 3

The Consultative Group on International Agricultural Research (CGIAR) has evolved since the 1960s from a number of institutes that were founded around the world by the Rockefeller Foundation as crop research centres. CGIAR was shaped at a series of private conferences held at the Rockefeller Foundation's conference center in Bellagio, Italy. ... To ensure maximum impact, CGIAR drew in the UN Food and Agriculture Organization, the UN Development Program and the World Bank. ... Financed by generous Rockefeller and Ford Foundation study grants, CGIAR saw to it that leading Third World agriculture scientists and agronomists were brought to the US to 'master' the concepts of modern agribusiness production, in order to carry it back to their homeland. In the process they created an invaluable network of influence for US agribusiness promotion in those countries, most especially

promotion of the GMO 'Gene Revolution' in developing countries, all in the name of science and efficient, free market agriculture.

<http://www.globalresearch.ca/doomsday-seed-vault-in-the-arctic-2/23503>

Rockefeller / Green Revolution

→ Pic. 3

Costing around \$600 million, over 50 years, the revolution brought new farming technology, increased productivity, expanded crop yields and mass fertilization to many countries throughout the world. Later it funded over \$100 million dollars of plant biotechnology research and trained over four hundred scientists from Asia, Africa and Latin America.

http://en.wikipedia.org/wiki/Rockefeller_Foundation

Round up ready

→ Pic. 6

Roundup Ready Crops (RR Crops) are genetically engineered crops that have had their DNA altered to allow them to withstand the herbicide glyphosate (the active ingredient of Monsanto's herbicide Roundup). They are also known as "glyphosate tolerant crops." RR crops deregulated in the U.S. include: corn, soybeans, canola, cotton, sugarbeets, and alfalfa. The patent on the first type of Roundup Ready crop that Monsanto / (soybeans) expires in 2014. ... Monsanto has broadly licensed the patent to other seed companies : About 150 companies have licensed the technology .

<http://de.wikipedia.org/wiki/Roundup>

... The GM soya, Round Up Ready ("RR")... took only a few years to become established in Argentina. This crop swept onto the market as financial crisis hit Argentina in 2001.

While soya cultivation represented only 3700 hectares in 1971, it had risen to 8.3 million hectares in 2000, 9.3m by 2001, 11.6m by 2002 and by 2007 had reached 16 million hectares or 60% of the land in cultivation, giving rise to the phrase "soyisation of the country". ... Argentina 2010: 98 % of the cultivated soya is RR Soya.

Glyphosate use: 200 Mio. Liter, ca. 10 Liter per Hectar

<http://www.combat-monsanto.co.uk/spip.php?article299>

S

Sahel drought

→ Pic. 10

The Sahel drought was a series of historic droughts, beginning in at least the 17th century affecting the Sahel region, a climate zone sandwiched between the African savanna grasslands to the south and the Sahara desert to the north, across West and Central Africa. While the frequency of drought in the region is thought to have increased from the end of the 19th century, three long droughts have had dramatic environmental and societal effects upon the Sahel nations.

Famine followed severe droughts in the 1910s, the 1940s, and the 1960s, 1970s and 1980s, although a partial recovery occurred from 1975-80. ...

While at least one particularly severe drought has been confirmed each century since the 17th century, the frequency and severity of recent Sahelian droughts stands out. Famine and dislocation on a massive scale—from 1968 to 1974 and again in the early and mid-1980s—was blamed on two spikes

in the severity of the 1960-1980s drought period. From the late 1960s to early 1980s famine killed 100,000 people, left 750,000 dependent on food aid, and affected most of the Sahel's 50 million people.

http://en.wikipedia.org/wiki/Sahel_drought

Sample Alliances

→ Pic. 7 / 8

Joint ventures between Biotec, Oil and Seed companies
BP + Mendel Biotechnologies + DuPont Seeds
General Motors + Marathon Oil + Mascome (Biotec)
Shell + Codexis
Chevron + Solazyme (Biotec) + Weyerhäuser (Forest)

Who owns Nature? 2009; www.etcgroup.org

Satellite

→ Pic. 10

FMNR has spread largely by itself, from farmer to farmer and village to village, as people see the results with their own eyes and move to adopt the practice. Thanks to agro-forestry, satellite photos analyzed by the US Geological Survey can now discern the border between Niger and Nigeria. On the Niger side, where farmers are allowed to own trees and FMNR is commonplace, there is abundant tree cover; on the Nigeria side, where big tree-planting schemes have failed dramatically, the land is almost barren. ...
... When these images became available in 2008, even FMNR advocates like Reij and Rinaudo were shocked: they had no idea so many farmers had grown so many trees. Combining the satellite evidence with ground surveys and anecdotal evidence, Reij estimates that in Niger alone farmers have grown 200 million trees and rehabilitated 12.5 million acres of degraded land.

Regreening Africa | The Nation <http://www.thenation.com/article/regreening-africa#ixzz2XyKEQOzQ>

Scanfuel

→ Pic. 8

A Norwegian company, Scanfuel is operating what is currently noted to be the largest *Jatropha* plantation in Ghana. The company through its Ghana subsidiary, Scanfuel Ghana Ltd., has acquired 400,000 hectares of land in the Asante Akim North Municipality of the Ashanti Region to plant *Jatropha* for the production of biodiesel for export. But a visit by ghanabusinessnews.com and the International Correspondent of the European Energy Review to the farms and surrounding villages revealed...
an enterprise operating with impunity and disregard for local people, their way of life and local laws. According to the Chief of Efirise, one of the settler farmer communities within the operation area of Scanfuel, Amadu Zakari, the company acquired the land from the paramount chief of Agogo, Nana Akuoku Sarpong. He added that Scanfuel subsequently offered to pay GH¢1 per acre of land to the farmers whose land it was taking over. According to Zakari, most farmers rejected the offer because the amount was seen as paltry. Scanfuel, however is going ahead with its project, planting and harvesting the *Jatropha* seeds for processing and expanding by the day. Local people are worried but scared, as they believe there are powerful hands behind Scanfuel.
Scanfuel uses heavy agric machinery to clear everything in its way including human settlements, crop farms and economic trees. A walk around the farm

revealed Dawadawa and shea trees that have been cut down. Dawadawa tree serves as an essential food and medicinal plant for the local people. The shea tree, apart from serving as food, also has huge economic potentials for local people.

<http://foodsecurityghana.com/tag/scanfuel-ltd/>

Section 301 / Special 301

→ Pic. 9

Section 301 of the Trade Act of 1974 is the principal U.S. statute for identifying foreign trade barriers due to inadequate intellectual property protection. The 1988 Omnibus Trade and Competitiveness Act strengthened Section 301 by creating Special 301 provisions, which require the U.S. Trade Representative (USTR) to conduct an annual review of foreign countries' intellectual property policies and practices. By April 30th of each year, the USTR must identify countries that do not offer "adequate and effective" protection of IPR or "fair and equitable market access to United States person that rely upon intellectual property rights." According to an amendment to the Special 301 provisions by the Uruguay Round Agreements Act, the USTR can identify a country as denying sufficient intellectual property protection even if the country is complying with its TRIPS commitments. These findings are submitted in the USTR's annual Special 301 Report.

USTR's Special 301 annual reports demonstrate that, from a U.S. perspective, intellectual property protection is weak in developed as well as developing countries and that the willingness of countries to address intellectual property issues varies greatly.

http://itlaw.wikia.com/wiki/Special_301/

Sunday, 24 February 2008, 4:00 PM Svalbard Global Seed Vault Opening Conference

→ Pic. 2

If global catastrophes like *asteroid impacts* or *disease pandemics* were to strike, seeds stored in this first ever "doomsday" vault would ensure that humans could regrow the crops needed for survival. The vault, designed to withstand all natural and human disaster, will house samples of all known food crops.

Terje Riis-Johansen, Minister of Agriculture and Food, Norway

There are seven billion of us on the planet today. By 2020, there will be more than nine billion. ... Obtaining enough food in the years to come will be even more of a challenge. Climate change is making it more difficult and more expensive to produce food. This is the context in which the seeds being stored in Svalbard Global Seed Vault will play a vital role in the future. *Lars Brekk* We believe the design of the facility will ensure that the seeds will stay well-preserved even if such forces as *global warming* raise temperatures outside the facility.

Magnus Bredeli Tveiten, project manager

Genebanks have been subject to natural disasters, war and civil strife. Many genebanks are situated in developing countries ... The seed vault is the perfect place for keeping seeds safe for ... for up to 10,000 years. ... Our mission is to ensure the conservation and availability of crop diversity for food security worldwide. An increasingly unpredictable and changing climate, and a world population expected to reach 9 billion by 2050, will place unprecedented demands on agriculture. Conserving the vast diversity of crop

varieties is the only way to guarantee that farmers and plant breeders will have the raw materials needed to improve and adapt their crops to meet these challenges and provide food for us into the future.

Cary Fowler, Executive Director, Global Crop Diversity Trust

<http://www.regjeringen.no/en/dep/lmd/campaign/svalbard-global-seed-vault/news/summary-of-the-svalbard-conference.html?id=504663>

Surplus population

→ Pic. 5

Rice Cultivation - Labour per Crop per Hectar per Year, Days

Malaysia 1951	208
Karnataka India 1955	309
K. Phillippines 1972	102
Q. Phillippines 1979	68
California 1977	3

Vandana Siva, Violence of the Green Revolution, New Delhi, 2010

Surplus Population/ example India / Philippines

→ Pic. 5

Rural Urban Migration India:

1960 – 21 %

1970 – 25 %

1990 - 40 %

Vandana Siva, Violence of the Green Revolution, New Delhi, 2010

Filipino worker overseas, 1994: 6,21 Million

2,56 Mill contracted

1,8 Mill as permanent residents

1,8 Million undocumented

The Great Rice Robbery, A handbook on the impact of IRRI in Asia, 2007 Pesticide Action Network Asia and the Pacific. Kilusang Magbubukid: Philippines: Historical and political perspectives on IRRI

Svalbard Global Seed Vault

→ Pic. 1

The Svalbard Global Seed Vault, which is established in the permafrost in the mountains of Svalbard, is designed to store duplicates of seeds from seed collections around the globe. Many of these collections are in developing countries. If seeds are lost, e.g. as a result of natural disasters, war or simply a lack of resources, the seed collections may be reestablished using seeds from Svalbard.

The loss of biological diversity is currently one of the greatest challenges facing the environment and sustainable development. The diversity of food crops is under constant pressure. The Seed Vault has the capacity to store 4,5 million different seed samples. Each sample will contain on average 500 seeds, so a maximum of 2,25 billion seeds may be stored in the Seed Vault. The Seed Vault will therefore have the capacity to hold all the unique seed samples that are conserved today by all the approximately 1400 genebanks that are found in more than 100 countries all over the world. In addition the Seed Vault will have capacity to also store many new seed samples that may be collected in the future. ... Priority will be given to crops that are important

for food production and sustainable agriculture. The seeds will be stored in minus 18 degrees Celsius. The low temperature and the limited access to oxygen will ensure low metabolic activity and cause a delay in the aging of the seeds. Food security is a challenge in many developing countries. This is caused by a number of factors, e.g. lack of appropriate infrastructure for preservation of biodiversity. The security provided by Svalbard could consequently be of particular importance for many developing countries. Many developing countries are rich in biodiversity. The Svalbard vault will be an extra security for plant diversity. ...

The Svalbard Global Seed Vault is financed by three Norwegian Ministries: The Norwegian Ministry of Foreign Affairs, The Norwegian Ministry of Environment and The Norwegian Ministry of Agriculture and Food. The Seed Vault is built and technically operated by The Directorate of Public Construction and Property.

The Nordic Genetic Resource Centre is responsible for the management and operations of the Seed Vault. The Governor of Svalbard is responsible for the overall security of the Seed Vault. FAO Commission on Genetic Resources for Food and Agriculture (CGRFA) and the Governing Body of the International Treaty for Plant Genetic Resources for Food and Agriculture (ITPGRFA) provide the Global Framework for the Seed Vault. The seed Vault will contribute to the FAO Global System for Plant Genetic Resources.

<http://www.regjeringen.no/en/dep/lmd/campaign/svalbard-global-seed-vault.html?id=462220>

The website of the Norwegian government forgot to mention that the Seed Vault is co-financed by the Bill and Melinda Gates Foundation, the Rockefeller Foundation and the companies Syngenta, Monsanto and Pioneer/DuPont. Together, these firms dominate 50% of the global seeds market. The Rockefeller Foundation was one of the initiators of the Green Revolution in the 1960s, a worldwide campaign to industrialise agriculture, which has to a great extent led to the loss of biodiversity and soil erosion.

The Gates Foundation regards itself as their successor. It initiated the Alliance for a Green Revolution in Africa (AGRA) that propagates the second, genetically modified industrialisation of agriculture on the continent.

Svalbard Agreement

—► Pic. 1

does provide corporations seeking to patent plant genetics additional advantages in their efforts. ... the Svalbard deposit agreement is extremely complicated, opaque, at times downright misleading and involves difficult questions and interpretations of international law. ... Numerous seed banks only require a simple Memorandum of Understanding (MOU) with depositors. ... By contrast, there is little chance that some seed banks and collections, especially those that are local, smaller scale and... have the legal expertise, or funding to hire attorneys to decipher the myriad complications of the Svalbard contract. Meanwhile the GCDT, and its supporting biotech companies and their surrogates, are advertising how they are spending millions of dollars trying to acquire local and smaller seed collections from developing countries for Svalbard. As noted, these local collectors have little chance to understand, much less give informed consent, to what can happen to their deposits.

Amy Goldman, Kent Whealy's Nemesis, Joins 'Fine Gardening'

Global access to the genetic resources of agricultural crops is regulated by the "International Treaty On Plant Genetic Resources For Food And Agriculture".

It came into effect in 2004 and has meanwhile been ratified by 120 states. ... The treaty that regulates the storage of seeds in Svalbard is also based on the "International Treaty". It guarantees the gene banks that they will remain the owners of the stored material. However, they must give some to anyone who, as a breeder or farmer, requests so. If a breeder would like to have plant seeds stored in Svalbard, however, ... a look into the database of Vault suffices. ... To optimise access to the seeds of the gene bank: that's the whole meaning of the database of plants being collected at Spitzbergen. ... To this end, at least regulated computer access and the knowledge of its use are preconditions. Something that certainly does not apply to hundreds of millions of farmers today. ... The documents of the "International Treaty" show how great the interest in plant-genetic material is: 600 times a day, says Shakeel Bhatti, seed samples from the gene bank are requested via the treaty. Cross-border requests are mostly made by large seed corporations from the industrialised North that request material from the national gene banks, mostly from the southern hemisphere. Christoph Then: "It is about monopolising as much as possible of the naturally existing biological agrobiodiversity via these patents. And the databases are used for this purpose, information on regional varieties are utilised, everything that can be exploited in these patent applications. There are signs in the patents clearly indicating that the centres of biological diversity or the corresponding gene databases have been systematically searched. I believe that the large corporations indeed grasp it as a service facility they can visit to collect the relevant data, based on which they can then consider how to formulate their patent applications."

<http://www.heise.de/tp/artikel/30/30303/1.html>

Syngenta

—► Pic. 4

Syngenta was formed in 2000 by the merger of Novartis Agribusiness and Zeneca Agrochemicals.... Novartis was formed of the 1995 merger of the three Swiss companies: Geigy, which has roots back to 1758; Sandoz Laboratories which was founded in 1876; and Ciba, founded in 1884. Ciba and Geigy had merged in 1971 and had concentrated mainly on crop protection in its agro division, Sandoz more on seeds. Zeneca Agrochemicals was part of AstraZeneca, and formerly of Imperial Chemical Industries. ICI was formed in the UK in 1926 In 2004, Syngenta Seeds purchased the North American corn and soybean business of Advanta, as well as Garst and Golden Harvest. In 2005, Syngenta opposed a Swiss ban on genetically engineered organisms. ... Syngenta finances the Syngenta Foundation for Sustainable Agriculture.

<http://en.wikipedia.org/wiki/Syngenta>

Syngenta

—► Pic. 3

Syngenta AG is a large global Swiss specialized chemicals company which markets seeds and pesticides. Syngenta is involved in biotechnology and genomic research. ... Syngenta's field crops include both hybrid seeds and genetically engineered seeds, some of which enter the food chain and become part of genetically modified food ... Syngenta and its predecessor companies have been involved in numerous legal actions and controversies over the years. ... A series of fatalities due to accidental consumption of the

company's herbicide, Gramoxone (Paraquat) occurred in the 1960s.... Atrazine has been banned in several Wisconsin counties in the United States and in the European Union. Syngenta's contributions to US federal candidates, parties, and outside groups totaled \$267,902 during 2012, ranking it 10th on the list of companies in its sector. The company was recognized by the 2011 Dow Jones Sustainability Index (DJSI) as one of the best performing chemical companies worldwide.

<http://en.wikipedia.org/wiki/Syngenta>

Syngenta – Paraquat: Syngenta is additionally accused of hazarding cases of poisoning and deaths of agricultural labourers through the sale of the herbicide Paraquat. ... Paraquat is banned in the EU and Switzerland also on account of its high human toxicity. In 2012, the corporation was therefore nominated for the Public Eye Award.

<http://de.wikipedia.org/wiki/Syngenta>

Syngenta controls 9 % of the proprietary seed market / 18% argochemical market (2009)

Who will control the Green Economy, 2011, www.etcgroup.org

Syngenta - Gates Foundation – CGIAR

—► Pic. 3

Harvest Plus Program

The Syngenta Foundation supports the HarvestPlus Challenge Program to improve global nutrition. ... HarvestPlus, an initiative of the ... CGIAR, is an interdisciplinary global alliance of research institutions and implementing agencies. HarvestPlus focuses on improving the nutritional value of staple foods that poor people already eat. This "biofortification" uses conventional breeding to develop crops richer in appropriate minerals and vitamins. ... In 2009... the Syngenta Foundation joined the program's international supporters. These include the Gates Foundation, the US Agency for International Development, the World Bank and the UK's Department for International Development. The HarvestPlus development phase is intended to run until 2013.

<http://www.syngentafoundation.org/index.cfm?pageID=525>

Syngenta - Pioneer

—► Pic. 3

Common patent with Dupont Pioneer auf Pestizid about Corn Rootworm MIR604 (Agrisure®), 1 January 2011

<http://www.syngenta.com/global/corporate/de/news-center/news-releases/Seiten/en-101214.aspx>

T

Terminator Seeds

—► Pic. 6

The need was there to come up with a system that allowed you to self-police your technology, other than trying to put laws and legal barriers to farmers saving seed... It was considered to built in a "gene police" Melvin Oliver Shiva USDA, 1985 ... In 1983, Delta & Pine Land (D&PL) joined with the US

Department of Agriculture in a project to develop Terminator seeds. It was one of the earliest experiments with GMO. It was a long-term project. ...

In March 1998 the US Patent Office granted Patent No. 5,723,765 to Delta & Pine Land for a patent titled, Control of Plant Gene Expression. ... The patent is owned jointly ... by D&PL and the United States of America, as represented by the Secretary of Agriculture. ... In a June 1998 interview, USDA spokesman, Willard Phelps ... explained that USDA wanted the technology to be widely licensed and made expeditiously available to many seed companies ...

US Government's goal in fostering the widest possible development of Terminator technology was 'to increase the value of proprietary seed owned by US seed companies and to open up new markets in Second and Third World countries.

<http://www.Globalresearch.ca/monsanto-buys-terminator-seeds-company/3082>

Terminator Seeds

→ Pic. 6

Monsanto acquired Delta und Pine in 1998 ... Terminator seeds have not been commercialized anywhere in the world due to opposition from farmers, indigenous peoples, NGOs, and some governments. In 2000, the United Nations Convention on Biological Diversity recommended a de facto moratorium on field-testing and commercial sale of terminator seeds; the moratorium was re-affirmed in 2006. India and Brazil have passed national laws to prohibit the technology.

http://de.wikipedia.org/wiki/Genetic_Use_Restriction_Technology

The tendency of the rate of the profit to fall

→ Pic. 9

Trips caused a revolution in the products and processes available to biologists in general. ... Compared to the software industry fixed costs are high and variable costs of reproducing the new technology are negligible, so competition with price near marginal costs is infeasible ... there is some logic to the notion that Monsanto aims to be the Microsoft of the seed industry "

Brian D. Wright, International Crop Breeding in a World of Proprietary Technology

Trade Related Intellectual Property Rights

→ Pic. 9

(TRIPS) is an international agreement administered by the World Trade Organization (WTO)... It was negotiated at the end of the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) in 1994. The TRIPS agreement introduced intellectual property law into the international trading system for the first time and remains the most comprehensive international agreement on intellectual property to date...

TRIPS also specifies enforcement procedures, remedies, and dispute resolution procedures. ... Its inclusion was the culmination of a program of intense lobbying by the United States, supported by the European Union, Japan and other developed nations. The United States strategy of linking trade policy to intellectual property standards can be traced back to the entrepreneurship of senior management at Pfizer in the early 1980s, who mobilized corporations in the United States and made maximizing intellectual property privileges the number one priority of trade policy in the United States ... After the Uruguay round, the GATT became the basis for the establishment of the World Trade Organization. Because ratification of TRIPS is a compulsory requirement of World Trade Organization membership, any country seeking to obtain easy

access to the numerous international markets opened by the World Trade Organization must enact the strict intellectual property laws mandated by TRIPS.

...For this reason, TRIPS is the most important multilateral instrument for the globalization of intellectual property laws. ... Furthermore, unlike other agreements on intellectual property, TRIPS has a powerful enforcement mechanism. States can be disciplined through the WTO's dispute settlement mechanism.

http://en.wikipedia.org/wiki/TRIPS_Agreement

The framework for the TRIPS Agreement was conceived and shaped by three organisations – the Intellectual Property Committee (IPC), Keidanren and the Union of Industrial and Employers' Confederations of Europe (UNICE). IPC is a coalition of 12 large U.S. corporations... Keidanren is the federation of economic organisations in Japan and UNICE is the official mouthpiece of the European industry and business world.

Vandana Shiva, Biopiraterie, Münster 2002, S. 23

Tuesday, 26 February 2008 Opening Ceremony of Svalbard Global Seed Vault

→ Pic. 1

During the whole day - Pre-Arranged Interviews

Attendees: President of the European Commission, Mr José Manuel Barroso and Prime Minister of Norway, Mr. Jens Stoltenberg; Location: Press Center, SAS Radisson Hotel;

9:35 AM – 9:50 AM - Common Nordic Press Briefing; President of the European Commission, Mr José Manuel Barroso and Prime Minister of Norway, Mr. Jens Stoltenberg; Location: On the doorstep - outside SAS Radisson Hotel;

9:50 AM Airport – Seed Vault: Black boxes containing seeds from the gene banks of the world's international agricultural research centres CGIAR, arriving for the opening. 268,000 distinct samples of seeds, Colombia, Mexico, Canada, the Philippines, Syria, Nigeria, Pakistan, and Kenya. approximately 10 tons, filling 676 boxes. ...

10:30 AM – 11:15 AM Official Opening Ceremony

Workers' choir sings: Sleep Little Seedling Young

A polar bear made in ice by the artist Olav Storø guards the entrance of the vault. Its heart is made of local seeds that hopefully will sprout as the bear melts during the short summer; Welcome from the stage / Jens Stoltenberg's speech: "With climate change and other forces threatening the diversity of life that sustains our planet, Norway is proud to be playing a central role in creating a facility capable of protecting what are not just seeds, but the fundamental building blocks of human civilisation." José Manuel Barroso's speech: "This is a frozen Garden of Eden."; Fredrik Skavlan interviews Cary Fowler, Jessica Kathle, Jacques Diouf. Handover of the key by Øyvind Christoffersen of the Directorate of Public Construction and Property; Fredrik Skavlan interviews Wangari Maathai.; Stoltenberg and Barroso and the other guests carry seed boxes in the mountain.

Exit. The guests leave. Polar gospel choir sings "Sov, du vesle spire ung" (Sleep Little Seedling Young)

11:20 AM – 12:00 AM - Media Availability/Photo Opportunities

12:00 PM - Mr. Barroso and Mr. Stoltenberg departures for Ny-Ålesund

12:30 PM Press Briefing , media Availability

U

Undo landreform

→ Pic. 8

Commercial land deals are coming into direct conflict with land reform efforts in many developing countries. ... in the Philippines, for instance, a series of high profil deals have clashed with long running demands for agrarian reform, including land redistribution. ... Saudi executives representing big agricultural business have raised concerns about the Philippine agrarian reform. Furthermore, June 2009 media reports suggest that the E.U. is also pressuring Filipino government to remove its ban on foreign ownership of land through World Trade Organisation (WTO) provisions.

<http://www.oaklandinstitute.org/great-land-grab-rush-world%E2%80%99s-farmland-threatens-food-security-poor>

United Nations Framework Convention on Climate Change

→ Pic. 7

The UNFCC are yearly conferences ... they serve as the formal meeting of the UNFCC Parties (*Conferences of the Parties*) (COP) to assess progress in dealing with climate change, and beginning in the mid-1990s, to negotiate the Kyoto Protocol to establish legally binding obligations for developed countries to reduce their greenhouse gas emissions: ...

...1992 Rio de Janeiro, Agenda 21; 1995: The Berlin Mandat; 1996: Geneva, Switzerland; 1997: The Kyoto Protocol on Climate Change; 1998: Buenos Aires, Argentina; 1999: Bonn, Germany; 2000: The Hague, Netherlands; 2001: Bonn, Germany; 2001: Marrakech, Morocco; 2002: New Delhi, India; 2003: Milan, Italy; 2004: Buenos Aires, Argentina; 2005: Montreal, Canada; 2006: Nairobi, Kenya; 2007: Bali, Indonesia; 2008: Poznan, Poland; 2009: Copenhagen, Denmark; 2010: Cancún, Mexico; 2011: Durban, South Africa; 2012: Doha, Qatar

https://en.wikipedia.org/wiki/United_Nations_Climate_Change_conference

W

World Food Prize

→ Pic. 11

The World Food Prize is an international award recognizing the achievements of individuals who have advanced human development by improving the quality, quantity or availability of food in the world. In 1985 Nobel Peace Prize Laureate Norman Borlaug met with the Chief Executive of General Foods Corporation, James Fergusen. Borlaug presented his long standing desire for the establishment of a major prize for agriculture. ... In 1990, Des Moines businessman and philanthropist John Ruan assumed sponsorship of The Prize and established The World Food Prize Foundation, located in Des Moines, Iowa.

The prize recognizes contributions in all fields involved in the world food supply — food and agriculture science and technology, manufacturing, marketing, nutrition, economics, poverty alleviation, political leadership and

the social sciences. ... Laureates are honored and officially awarded their prize in Des Moines, Iowa, United States, in a televised award ceremony.

http://en.wikipedia.org/wiki/World_Food_Prize

World Food Prize Donors

→ Pic. 11

This is the 10th year that the State Department has hosted the World Food Prize's announcement ceremony ... But while the US government's involvement might suggest that the prize is a neutral barometer of agricultural excellence, funders of the foundation which backs it have a vested interest in promoting industrialized farming around the world... Out of 125 donors who contributed more than \$500 between fiscal years 2009 and 2011 ... 26 were either agribusiness or charities directly affiliated with agribusiness. Together, donations from these companies amounted to more than 28 percent of funds raised for that period ... The combined support of ADM, Cargill, Monsanto, and General Mills alone for this period came to more than a half million dollars. Powerful, policy-driving charities are also among the prize's top backers. The Gates Foundation and the Rockefeller Foundation ...made combined donations worth \$1.93 million between 2009 and 2011 ... In recent years, many World Food Prize recipients have been champions of exactly the kind of industrial-scale agriculture that is the livelihood of the award's corporate backers. ... Jo Luck and Pedro Sanchez, who won the prize in 2010 and 2002, respectively, began serving on a policy advisory committee for DuPont. In 2011, the ex-Ghanaian president John Kufuor was awarded ... Kufuor's leadership also saw consolidation of the agriculture industry and increased investment from US agribusiness.

Source URL: <http://www.motherjones.com/blue-marble/2013/06/why-did-john-kerry-announce-world-food-prize>

World Food Prize Laureates

→ Pic. 11

Washington, D.C. (June 19, 2013) – Three distinguished scientists — Marc Van Montagu of Belgium, and Mary-Dell Chilton and Robert T. Fraley of the United States — were today named the winners of the 2013 World Food Prize during a ceremony at the U.S. State Department, where Secretary of State John Kerry delivered the keynote address. Mr. John Ruan III, Chairman of the World Food Prize, also participated in the ceremony. "These three scientists are being recognized for their independent, individual breakthrough achievements in founding, developing, and applying modern agricultural biotechnology," **Ambassador Kenneth M. Quinn**, president of the World Food Prize Foundation said. Marc Van Montagu, who is Founder... of the Institute of Plant Biotechnology Outreach at Ghent University in Belgium; Mary-Dell Chilton, who is Founder... of Syngenta Biotechnology; and Robert T. Fraley, the Executive Vice President... of Monsanto, will be formally awarded the World Food Prize at the 27th Annual Laureate Award Ceremony at the Iowa State Capitol on October 17, in conjunction with the Borlaug Dialogue international symposium in Des Moines, Iowa, focused this year on "The Next Borlaug Century: Biotechnology, Sustainability and Climate Volatility."

http://www.worldfoodprize.org/index.cfm/24667/24410/three_biotechnology_scientists_awarded_2013_world_food_prize

World's Top 10 Seed Companies, 2009

→ Pic. 4

Seed Sales / US\$ Million Market Share

Monsanto	7,297	27 %	
DuPont (Pioneer)	4,641		17 %
Syngenta	2,564	9 %	
Limagrain	1,252	5 %	
Land O' Lakes	1,100		4 %
KWS AG	997	4 %	

Just 3 companies control more than half (53%) of the global commercial seed market.

Who will control the Green Economy, 2011, www.etc.group.org

Z

Zai

→ Pic. 10

Zai or Tassa are planting pits dug in the soil to catch water that were traditionally used in western Sahel (Burkina Faso, Niger, Mali) to restore degraded drylands and increase soil fertility. Zai holes are being reintroduced since the 1980's by Yacouba Sawadogo, a farmer from Burkina Faso, who introduced the innovation of filling them with manure and other biodegradable waste to provide plant nutrients. The manure attracts termites, whose tunnels help further break up the soil. He also slightly increased the size of the holes over the traditional models. Zai holes help improving the yields of trees, sorghum, and millet. ...the *zai* and other water-harvesting techniques have helped recharge underground water tables. "

In the 1980s water tables were falling by an average of one meter a year," Reij says. "Since FMNR and the water-harvesting techniques began to take hold, water tables have risen by five meters, despite a growing population." In some areas, the water table has risen by as much as seventeen meters. Some analysts have credited increased rainfall beginning in 1994. Reij says that can't explain it: "The water tables began rising well before that. The effect is felt within one or two years' time." Studies have documented the same replenishing effects in Niger.

Regreening Africa | The Nation <http://www.thenation.com/article/regreening-africa#ixzz2XyKEQOzQ>