1.2 The structure of world agriculture

1.2.1 The Food and Agriculture Organization (FAO)

Food and Agriculture Organization of the United Nations

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FAO emblem with its Latin motto, *Fiat panis* ("Let there be bread")

Abbreviation	FAO, ONUAA
Formation	16 October 1945, in Quebec City, Canada
Type	Specialized Agency
Legal status	active
Headquarters	Rome, Italy
Head	José Graziano da Silva (current)
Parent organization	UN Economic and Social Council
Website	www.fao.org

The **Food and Agriculture Organization of the United Nations** (**FAO**) is an agency of the United Nations that leads international efforts to defeat hunger. Serving both developed and developing countries, FAO acts as a neutral forum where all nations meet as equals to negotiate agreements and debate policy. FAO is also a source of knowledge and information, and helps developing countries and countries in transition modernize and improve agriculture, forestry and fisheries practices, ensuring good nutrition and food security for all. As of 8 August 2013, FAO has 194 member states, along with the European Union (a "member organization").[1B]

FAO was set up on 16 October 1945, in Quebec City and its headquarters are in Rome. The agency is directed by the Conference of Member Nations, which meets every two years to review the work carried out by the organization and to approve a Programme of Work and

Budget for the next two-year period. The Conference elects a council of 49 member states (serving three-year rotating terms) that acts as an interim governing body, and the Director-General, who heads the agency.

FAO headquarters in Rome.

FAO has seven departments: Administration and Finance, Agriculture and Consumer Protection, Economic and Social Development, Fisheries and Aquaculture, Forestry, Natural Resource Management and Environment, and Technical Cooperation.[5B]

FAO's Regular Programme budget is funded by its members, through contributions set at the FAO Conference. This budget covers core technical work, cooperation and partnerships including the Technical Cooperation Programme, knowledge exchange, policy and advocacy, direction and administration, governance and security.

The FAO regular budget for the two years 2012–2013 is US$1,005.6 million. The voluntary contributions provided by members and other partners support mechanical and emergency (including rehabilitation) assistance to governments for clearly defined purposes linked to the results framework, as well as direct support to FAO's core work. The voluntary contributions are expected to reach about US$1.4 billion in 2012–2013.

This overall budget covers core technical work, cooperation and partnerships, leading to Food and Agriculture Outcomes at 71%; Core Functions at 11%; the Country Office Network – 5%; Capital and Security Expenditure – 2%; Administration – 6%; and Technical and Cooperation Program – 5%.

Priority work areas

For the coming two years 2014–2015, FAO has outlined the following priorities in its fight against hunger.[6B]

- Help eliminate hunger, food insecurity and malnutrition – contribute to the eradication of hunger by facilitating policies and political commitments to support food security and by making sure that up-to-date information about hunger and nutrition challenges and solutions is available and accessible.
- Make agriculture, forestry and fisheries more productive and sustainable – promote evidence-based policies and practices to support highly productive agricultural sectors (crops, livestock, forestry and fisheries), while ensuring that the natural resource base does not suffer in the process.
- Reduce rural poverty – help the rural poor gain access to the resources and services they need – including rural employment and social protection – to forge a path out of poverty.

- Enable inclusive and efficient agricultural and food systems – help to build safe and efficient food systems that support smallholder agriculture and reduce poverty and hunger in rural areas.
- Increase the resilience of livelihoods from disasters – help countries to prepare for natural and human-caused disasters by reducing their risk and improving the resilience of their food and agricultural systems.

Programmes and achievements

Codex Alimentarius

FAO and the World Health Organization created the Codex Alimentarius Commision in 1963 to develop food standards, guidelines and texts such as codes of practice under the Joint FAO/ WHO Food Standards Programme. The main aims of the programme are protecting consumer health, ensuring fair trade and promoting coordination of all food standards work undertaken by intergovernmental and non-governmental organizations.

World Food Summit

In 1996, FAO organised the World Food Summit, attended by 112 Heads or Deputy Heads of State and Government. The Summit ended with the signing of the Rome Declaration, which established the goal of halving the number of people who suffer from hunger by the year 2015.[7B] At the same time, 1,200 Civil Society Organisations (CSOs) from 80 countries participated in an NGO forum. The forum was critical of the growing industrialisation of agriculture and called upon governments – and FAO – to do more to protect the 'Right to Food' of the poor.[8B]

Response to food crisis

In December 2007, FAO launched its Initiative on Soaring Food Prices to help small producers raise their output and earn more. Under the initiative, FAO contributed to the work of the UN High-Level Task Force on the Global Food Crisis, which produced the Comprehensive Framework for Action. FAO has carried out projects in over 25 countries and inter-agency missions in nearly 60, scaled up its monitoring through the Global Information and Early Warning System on Food and Agriculture, provided policy advice to governments while supporting their efforts to increase food production, and advocated for more investment in agriculture. It has also worked hand-in-hand with the European Union. One example of its work is a US$10.2 million, €7.5 billion scheme to distribute and multiply quality seeds in Haiti,[12B] which has significantly increased food production, thereby providing cheaper food and boosting farmers' incomes.

FAO–EU partnership

In May 2009, FAO and the European Union signed an initial aid package worth €125 million to support small farmers in countries hit hard by rising food prices. The aid package falls under the EU's €1 billion Food Facility, set up with the UN Secretary-General's High-Level Task Force on the Global Food Crisis and FAO to focus on programmes that will have a quick but lasting impact on food security.[13B] FAO is receiving a total of around €200 million for work in 25 countries, of which €15.4 million goes to Zimbabwe.[14B]

Food security programmes

The Special Programme for Food Security is FAO's flagship initiative for reaching the goal of halving the number of hungry in the world by 2015 (currently estimated at close to 1 billion people), as part of its commitment to the Millenium Development Goals. Through projects in over 100 countries worldwide, the programme promotes effective, tangible solutions to the elimination of hunger, undernourishment and poverty. Currently 102 countries are engaged in the programme and of these approximately 30 have begun shifting from pilot to national programmes. To maximize the impact of its work, FAO strongly promotes national ownership and local empowerment in the countries in which it works.

FAO created the International Plant Protection Convention or IPPC in 1952. This international treaty organization works to prevent the international spread of pests and plant diseases. Among its functions are the maintenance of lists of plant pests, tracking of pest outbreaks, and coordination of technical assistance between member nations. As of May 2012, 177 governments had adopted the treaty.

Alliance Against Hunger and Malnutrition

The Alliance Against Hunger and Malnutrition (AAHM)[20B] aims to address how countries and organizations can be more effective in advocating and carrying out actions to address hunger and malnutrition. As a global partnership, AAHM creates global connections between local, regional, national and international institutions that share the goals of fighting hunger and malnutrition. The organization works to address food security by enhancing resources and knowledge sharing and strengthening hunger activities within countries and across state lines at the regional and international levels.

Following the World Food Summit, the Alliance was initially created in 2002 as the 'International Alliance Against Hunger (IAAH)' to strengthen and coordinate national efforts in the fight against hunger and malnutrition. The mission of the Alliance originates from the first and eight UN Millennium Development Goals; reducing the number of people that suffer from hunger in half by 2015 (preceded by the "Rome Declaration" in 1996) and developing a global partnership for development. The Alliance was founded by the Rome based food agencies – the Food and Agriculture Organization of the United Nations (FAO),[21B] UN World Food Programme (WFP),[22B] International Fund for Agriculture Fund for Development (IFAD),[23B] – and Bioversity International.[24B]

AAHM connects top-down and bottom-up anti-hunger development initiatives, linking governments, UN organizations, and NGOs together in order to increase effectiveness through unity.[25B]

Integrated pest management

During the 1990s, FAO took a leading role in the promotion of integrated pest management for rice production in Asia. Hundreds of thousands of farmers were trained using an approach known as the Farmer Field School (FFS)[17B]. Like many of the programmes managed by FAO, the funds for Farmer Field Schools came from bilateral Trust Funds, with Australia, Netherlands, Norway and Switzerland acting as the leading donors. FAO's efforts in this area have drawn praise from NGOs that have otherwise criticized much of the work of the organization.

Transboundary pests and diseases

FAO established an *Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases* in 1994, focusing on the control of diseases like rinderpest, foot-and-mouth disease and avian flu by helping governments coordinate their responses. One key element is the *Global Rinderpest Eradication Programme*, which has advanced to a stage where large tracts of Asia and Africa have now been free of the cattle disease rinderpest for an extended period of time. Meanwhile *Locust Watch* monitors the worldwide locust situation and keeps affected countries and donors informed of expected developments.

Global Partnership Initiative for Plant Breeding Capacity Building

The Food Price Index (FAO) 1990-2012

The Global Partnership Initiative for Plant Breeding Capacity Building (GIPB) is a global partnership dedicated to increasing plant breeding capacity building.[26B] The mission of GIPB is to enhance the capacity of developing countries to improve crops for food security and sustainable development through better plant breeding and delivery systems.[27B] The ultimate goal is to ensure that a critical mass of plant breeders, leaders, managers and technicians, donors and partners are linked together through an effective global network.

Increasing capacity building for plant breeding in developing countries is critical for the achievement of meaningful results in poverty and hunger reduction and to reverse the current worrisome trends. Plant breeding is a well recognized science capable of widening the genetic and adaptability base of cropping systems, by combining conventional selection techniques and modern technologies. It is essential to face and prevent the recurrence of crises such as that of the soaring food prices and to respond to the increasing demands for crop based sources of energy.

Investment in agriculture

FAO's technical cooperation department hosts an Investment Centre that promotes greater investment in agriculture and rural development by helping developing countries identify and formulate sustainable agricultural policies, programmes and projects. It mobilizes funding from multilateral institutions such as the World Bank, regional development banks and international funds as well as FAO resources.[28B]

Globally Important Agricultural Heritage Systems

The Globally Important Agricultural Heritage Systems (GIAHS) initiative was begun by the FAO in 2002. It exists to identify, register and promote the conservation and sustainable development of biologically diverse land use systems and landscapes.[29B]

Statistics

The FAO Statistical Division produces FAOSTAT, which offers free and easy access to data for 245 countries and 35 regional areas from 1961 through the most recent year available. Enhanced features include browsing and analysis of data, an advanced interactive data download, and enhanced data exchange through web services.

Criticism - 2000s

The 2002 Food Summit organised by FAO was considered to be a waste of time by many of the official participants.[48B] Social movements, farmers, fisherfolk, pastoralists, indigenous peoples, environmentalists, women's organisations, trade unions and NGOs expressed their "collective disappointment in, and rejection of the official Declaration of the ... Summit".[49B]

In 2004, FAO produced a controversial report called 'Agricultural Biotechnology: meeting the needs of the poor?'. The report claimed that "agricultural biotechnology has real potential as a new tool in the war on hunger".[50B] In response to the report, more than 650 organisations from around the world signed an open letter in which they said "FAO has broken its commitment to civil society and peasants' organisations". The letter complained that organisations representing the interests of farmers had not been consulted, that FAO was siding with the biotechnology industry and, consequently, that the report "raises serious questions about the independence and intellectual integrity of an important United Nations agency".[51B] The Director General of FAO responded immediately, stating that decisions on biotechnology must "be taken at the international level by competent bodies" (in other words, not by NGOs). He admitted, however, that "biotechnology research is essentially driven by the world's top ten transnational corporations" and "the private sector protects its results with patents in order to earn from its investment and it concentrates on products that have no relevance to food in developing countries".[52B]

In May 2006, a British newspaper published the resignation letter of Louise Fresco, one of eight Assistant Directors-General of FAO. In her letter, the widely respected Dr Fresco stated that "the Organisation has been unable to adapt to a new era", that "our contribution and reputation have declined steadily" and "its leadership has not proposed bold options to overcome this crisis".[53B]

October 2006 saw delegates from 120 countries arrive in Rome for the 32nd Session of FAO's Committee on World Food Security. The event was widely criticised by Non-Government Organisations, but largely ignored by the mainstream media. Oxfam called for an end to the talk-fests[54B] while Via Campesina issued a statement that criticised FAO's policy of Food Security.[55]

On 18 October 2007, the final report of an Independent External Evaluation of FAO was published. More than 400 pages in length, the evaluation was the first of its kind in the history of the Organization. It had been commissioned by decision of the 33rd Session of the

FAO Conference in November 2005. The report concluded that "The Organization is today in a financial and programme crisis" but "the problems affecting the Organization today can all be solved".[56B]

Among the problems noted by the IEE: "The Organization has been conservative and slow to adapt", "FAO currently has a heavy and costly bureaucracy", and "The capacity of the Organization is declining and many of its core competencies are now imperiled".

Among the solutions: "A new Strategic Framework", "institutional culture change and reform of administrative and management systems".

The official response from FAO came on 29 October 2007: "Management supports the principal conclusion in the report of the IEE on the need for 'reform with growth' so as to have an FAO 'for this century'".[57B]

Meanwhile, hundreds of FAO staff signed a petition in support of the IEE recommendations, calling for "a radical shift in management culture and spirit, depoliticization of appointments, restoration of trust between staff and management, [and] setting strategic priorities of the organization".[58B]

In conclusion the IEE stated that, "If FAO did not exist it would need to be invented".

In November 2008, a Special Conference of FAO member countries agreed a US$42.6 million (€38.6 million), three-year Immediate Plan of Action for "reform with growth" as recommended by an Independent External Evaluation (IEE).

Under the plan US$21.8 million, €15 million will be spent next year on overhauling the financial procedures, hierarchies and human resources management.[59B]

1.2.2 The ownership of agribusiness

In agriculture, **agribusiness** is the business of agricultural production. It includes agrichemicals, breeding, crop production (farming and contract farming), distribution, farm machinery, processing, and seed supply, as well as marketing and retail sales.

Within the agriculture industry, "agribusiness" is used simply as a portmanteau of agriculture and business, referring to the range of activities and disciplines encompassed by modern food production. There are academic degrees in and departments of agribusiness, agribusiness trade associations, agribusiness publications, and so forth, worldwide. In this context the term is only descriptive, and is synonymous in the broadest sense with food industry. The UN's FAO, for example, operates a section devoted to Agribusiness Development[1] which seeks to promote food industry growth in developing nations.

In the context of agribusiness management in academia, each individual element of agriculture production and distribution may be described as agribusinesses. However, the term "agribusiness" most often emphasizes the "interdependence" of these various sectors within the production chain.[2]

Among critics of large-scale, industrialized, vertically integrated food production, the term *agribusiness* is used negatively, synonymous with *corporate farming*. As such, it is often contrasted with smaller family-owned farms.

Examples

Examples of agribusinesses include seed and agrichemical producers like Dow AgroSciences, DuPont, Monsanto, and Syngenta; AB Agri (part of Associated British Foods) animal feeds, biofuels, and micro-ingredients, ADM, grain transport and processing; John Deere, farm machinery producer; Ocean Spray, farmer's cooperative; and Purina Farms, agritourism farm.

Agribusiness is involved in genetically modified crops for maize, potato, rice soybean, tomato, cotton, tobacco and wheat.

As concern over global warming intensifies, biofuels derived from crops are gaining increased public and scientific attention. This is driven by factors such as oil price spikes, the need for increased energy security, concern over greenhouse gas emissions from fossil fuels, and support from government subsidies. In Europe and in the US, increased research and production of biofuels has been mandated by law.[3]

Dow AgroSciences LLC is a wholly owned subsidiary of the Dow Chemical Company specializing in not only agricultural chemicals such as pesticides, but also seeds and biotechnology solutions. The company is based in Indianapolis, Indiana, in the United States. Dow AgroSciences operates brand names such as Sentricon, Vikane, Mycogen, SmartStax, Pfister Seed, Phytogen, Prairie Brand Seed, Profume, Renze Seeds and Triumph Seed.

Dow AgroSciences also produces Omega-9 canola and sunflower oils.

Ivor Watkins Dow, the predecessor in New Zealand of Dow AgroSciences, operated a plant near New Plymouth, accused of exposing nearby residents to dioxins.[2]

DuPont describes itself as a global science company that employs more than 60,000 people worldwide and has a diverse array of product offerings.[12] In 2005, the Company ranked 66th in the Fortune 500 on the strength of nearly $28 billion in revenues and $1.8 billion in profits.[13]

DuPont businesses are organized into the following five categories, known as marketing "platforms": Electronic and Communication Technologies, Performance Materials, Coatings and Color Technologies, Safety and Protection, and Agriculture and Nutrition.

The agriculture division, Dupont Pioneer makes and sells hybrid seed and genetically modified seed, some of which goes on to become genetically modified food. Genes engineered into their products include the LibertyLink gene, which provides resistance to Bayer's Ignite/Liberty herbicides; the Herculex I Insect Protection gene which provides protection against various insects; the Herculex RW insect protection trait which provides protection against other insects; the YieldGard Corn Borer gene, which provides resistance to another set of insects; and the Roundup Ready Corn 2 trait that provides crop resistance against glyphosate herbicides.[14] In 2010 Dupont Pioneer received approval to start marketing Plenish soybeans, which contains "the highest oleic acid content of any commercial soybean product, at more than 75%. Plenish provides a product with no trans fat,

20% less saturated fat than regular soybean oil, and more stabile oil with greater flexibility in food and industrial applications."[15] Plenish is genetically engineered to "block the formation of enzymes that continue the cascade downstream from oleic acid (that produces saturated fats), resulting in an accumulation of the desirable monounsaturated acid."[16]

Safety has always been a key focus to the company. “The Goal is Zero” - zero injuries or incidents - thus, became one of the most important core values of the company.[17] It was changed from "The Goal is Zero" to "Committed to Zero" in reference to injuries or accidents.

DuPont was listed No. 4 on the Mother Jones Top 20 polluters of 2010; dumping over 5,000,000 pounds of toxic chemicals into New Jersey/Delaware waterways.[19]

DuPont has its R&D facilities located in China, Japan, Taiwan, India, Germany, and Switzerland with an average investment of $1.3 billion annually in a diverse range of technologies for many markets including agriculture, genetic traits, biofuels, automotive, construction, electronics, chemicals, and industrial materials. DuPont employs more than 5,000 scientists and engineers around the world.[20]

On May 1, 2012, DuPont announced that it had acquired from Bunge full ownership of the Solae, LLC joint venture, a soy-based ingredients company. DuPont previously owned 72 percent of the joint venture while Bunge owned the remaining 28 percent.[23]

Monsanto members of the board of directors as of December 2013 were:[65A]

- Gregory H. Boyce, Chairman and CEO of Peabody Corporation
- David L. Chicoine, president of South Dakota State University
- Janice L. Fields, former president of McDonald’s USA, LLC, a subsidiary of McDonald’s Corporation
- Hugh Grant, president and CEO
- Arthur H. Harper, managing partner of GenNx360 Capital Partners
- Laura K. Ipsen, corporate vice president of Microsoft Corp.'s Worldwide Public Sector organization.
- Gwendolyn King, president of Podium Prose, a speakers bureau
- C. Steven McMillan, former chairman and CEO of the Sara Lee Corporation
- Jon R. Moeller, chief financial officer of The Proctor & Gamble Company.
- William U. Parfet, chief executive officer of MPI Research Inc.
- George H. Poste, chief executive of Health Technology Networks
- Robert J. Stevens, executive chairman of the board of Lockheed Martin Corporation

US public officials' connections to Monsanto

A number of people have held positions at Monsanto and in US government agencies such as the *Food and Drug Administration* (FDA), United states *Environmental Protection Agency* (EPA) and the Supreme Court at various points in their careers. Critics of Monsanto have said that the interconnections between the company and the US government have allowed Monsanto to profit by favorable regulations at the expense of customer safety.[337A][338A][339A] On the other hand, supporters of the practice of individuals moving between government sector and the private sector point to the need for competent and experienced people in both sectors and to the importance of appropriately managing conflicts of interest that such cross-sector movements may cause.[340A][341A]:16–23 The list of such people includes:

- Earle H. Harbison, Jr. served with the Central Intelligence Agency for 18 years, rising to the rank of Deputy Director, after which he had a career at Monsanto, rising to the roles of President, Chief Operating Officer, and Director of Monsanto, which he held from 1986 to 1993.[45A]
- Michael A. Friedman, MD, was Senior Vice President of Research and Development, Medical and Public Policy for Pharmacia, and later served as an FDA deputy commissioner.[342A][343A]
- Linda J. Fisher was an assistant administrator at EPA before she was a vice president at Monsanto from 1995 to 2000. In 2001, Fisher became the deputy administrator of the EPA.[144A]
- Michael R. Taylor was an assistant to the FDA commissioner before working as an attorney for King & Spalding, a private-sector law firm that represented Monsanto among other clients.[344A][345A] He later served as deputy commissioner for policy to the FDA on food safety between 1991 and 1994 during which time the FDA approved rBST.[144A] He was accused of a conflict of interest, but a federal investigation cleared him. Following his tenure at the FDA, Taylor returned to Monsanto as Vice President for Public Policy.[297A][298A][299A] On July 7, 2009, Taylor entered government as Senior Advisor to the Commissioner of the US Food and Drug Administration for the Obama administration.[300A][301A]
- United States Supreme Court Justice Clarence Thomas worked as an attorney for Monsanto in the 1970s. Thomas wrote the majority opinion in the 2001 Supreme Court decision J. E. M. Ag Supply, Inc. v. Pioneer Hi-Bred International, Inc.[346A] which found that "newly developed plant breeds are patentable under the general utility patent laws of the United States."[144A][346A][347A]
- Mickey Kantor served on Monsanto's board after serving in government as a trade representative.[144A]
- William D. Ruckelshaus served as the first head of the EPA in 1970, was later acting Director of the Federal Bureau of Investigation, and then Deputy Attorney General of the United States. From 1983 to 1985, he returned as EPA administrator. After leaving government he joined the Board of Directors of Monsanto; he is currently retired from that board.[348A]
- Between serving for Gerald Ford and George W. Bush, Former Secretary of Defense Donald Rumsfeld was chairman and chief executive officer of G.D. Searle & Company, a pharmaceutical company which produced aspartame apparently while working on an ulcer drug. Monsanto bought the company in 1985, and re-branded aspartame as NutraSweet. Rumsfeld's stock and options in Searle were $12 million USD at the time of the transaction.[144A]
- Monsanto is a client of the Lincoln Policy Group, a lobbying group created by former chairwoman of the Senate Committee on Agriculture, Blanche Lincoln after she lost her re-election bid in 2011. Robert Holifield, who was chief of staff on that committee, is a partner in the group.[349A]

Syngenta AG is a global Swiss agribusiness that markets seeds and agrochemicals. Syngenta is involved in biotechnology and genomic research. It was formed in 2000 by the merger of Novartis Agribusiness and Zeneca Agrochemicals. The company was ranked third in total seeds and biotechnology sales in 2009 in the commercial market.[2] Sales in 2013 were approximately US$ 14.7 billion. Syngenta employs over 28,000 people in over 90 countries. Over half of the sales are in Emerging Markets.[1] Syngenta is listed on both the Swiss stock exchange and in New York.[1]

History

Based in Basel, Switzerland, Syngenta was formed in 2000 by the merger of Novartis Agribusiness and Zeneca Agrochemicals.[3][4] Its roots are considerably older.

Novartis was formed of the 1995 merger of the three Swiss companies:[5] Geigy, which has roots back to 1758;[6] Sandoz Laboratories which was founded in 1876; and Ciba, founded in 1884.[7] Ciba and Geigy had merged in 1971 and had concentrated mainly on crop protection in its agro division, Sandoz more on seeds.

A Syngenta works in Huddersfield, West Yorkshire originally owned by ICI.

Zeneca Agrochemicals was part of AstraZeneca, and formerly of Imperial Chemica Industries. ICI was formed in the UK in 1926. Two years later, work began at the Agricultural Research Station at Jealott's Hill near Bracknell.

In 2004, Syngenta Seeds purchased Garst, the North American corn and soybean business of Advanta, as well as Golden Harvest Seeds.[8][9] On December 5, 2004, the European Union ended a six-year moratorium when it approved imports of two varieties of genetically modified corn sold by Monsanto and its Swiss rival, Syngenta.[10]

In 2005, Syngenta opposed a Swiss ban on genetically engineered organisms.[11] On November 28, 2005, Switzerland enacted a five-year ban on the farming of genetically modified crops, underscoring the problems facing the European Commission and biotech companies like Syngenta, Bayer and Monsanto as they try to overcome consumer doubts about safety.[12]

In 2007, Syngenta's Canadian division was named one of Canada's Top 100 Employers, as published in Maclean's magazine, one of only a handful of agribusiness firms to receive this honour.[13]

Syngenta finances the Syngenta Foundation for Sustainable Agriculture. This non-profit organization supports sustainable food security projects in a number of countries.[14]

Products

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. According to Syngenta, in the US their "proprietary triple stack corn seeds expanded to represent around 25 percent of units sold." [16] In 2010 the US EPA granted registration approval for insecticidal

trait stacks including Syngenta's AGRISURE VIPTERA™ gene, which offers resistance to certain corn pests.[16] Syngenta also cross-licenses its proprietary genes with Dow AgroSciences and thus is able to include Dow's Herculex®1 I and Herculex® RW insect resistance traits in its seeds.[16] It also sells a VMAX® soybean that is resistant to glyphosate herbicide.[16]

In 2013, Syngenta sales from crop protection products accounted for US $ 10.923 billion, i.e. 74% of total sales.[1]

Biofuels

Like many ag-companies, Syngenta also works in the bio-fuel space. In 2011, it announced the corn trait ENOGEN to reduce substantially the consumption of water and energy versus conventional corn.[17] Several ethanol producers plan to process such improved corn.[1]

In 2007, Queensland University in Australia contracted with Syngenta to research different inputs for biofuels as a renewable energy source.[18]

Board of directors

Syngenta is led by Chairman Michel Demaré. The other Directors are Vinita Bali, Stefan Borgas, Gunnar Brock, David Lawrence, Michael Mack (CEO), Eleni Gabre-Madhin, Eveline Saupper, Jacques Vincent, and Jürg Witmer[1]

Current products

A series of fatalities due to accidental consumption of the company's herbicide, Gramoxone (Paraquat) occurred in the 1960s. Because the product was used in a number of suicides during the 1970s and 1980s, blue dye, foul odor, and a powerful emetic were added to discourage misuse.[19]

Atrazine has been banned in the European Union.[20] There has been controversy over atrazine's effects on amphibians[20] but the EPA has concluded "that atrazine does not adversely affect amphibian gonadal development".[21] Research published by Tyrone Hayes and other scientists was used as evidence in a class action lawsuit against Syngenta by 15 water providers in Illinois that was settled for 105 million dollars in May 2012, which reimbursed more than 1,000 water systems for the costs of filtering atrazine from drinking water, although the company denies any wrongdoing.[20]

The European Commission decided to suspend use of the company's insecticide Cruiser (TMX, Thiamethoxam) on crops pollinated by bees.[22] Syngenta together with Bayer is challenging this ban in court. [23]

Former products

Syngenta's predecessor, Ciba-Geigy, introduced the insecticide Galecron chlordimeform in 1966, and it was removed from the market in 1988.[24] In 1976, Ciba-Geigy told regulatory authorities that it was temporarily withdrawing chlordimeform because ongoing long-term toxicology studies - particularly studies to determine if long-term exposure could cause cancer - showed that it was causing cancer, and that it has already started to monitor its

workers' exposure and had found chlordimeform and its metabolites in the urine of its workers.[25]:8–9 Ciba-Geigy then applied for, and was granted, permission to market Galecron at lower doses for use only on cotton.[26] However as further long term monitoring data was obtained, regulators banned chlordimeform in 1988. In a 1995 class action in the US, Ciba-Geigy agreed to cover costs for employee health monitoring and treatment. In 2005, Syngenta reported that employee health monitoring was continuing at the company's Monthey, Switzerland site [27]

Litigation

In 2001, the United States Patent and Trademark Office ruled in favor of Syngenta when the company filed suit against Bayer to protect its patent on a class of neonicotinoid insecticides.

The following year Syngenta filed suit against Monsanto and a number of other companies claiming infringement of its U.S. biotechnology patents covering transgenic corn and cotton. In 2004, the company again filed suit against Monsanto, claiming antitrust violations related to the U.S. biotech corn seed market, and Monsanto countersued. Monsanto and Syngenta settled all the litigation in 2008.[28]

Syngenta was defendant in a class action lawsuit concerning the adverse effects of Atrazine in human water supplies. The suit was settled for 105 million dollars in May 2012.[29][30][31] A similar case involving six states is currently in federal court.[32][33]

Brazil

On 21 October 2007, a Brazilian peasant organization, the Landless Workers' Movement (Portuguese: *Movimento dos Trabalhadores Rurais Sem Terra - MST*), led a group of landless farmers in an occupation of one of the company's seed research farms, in protest against genetically-engineered ("genetically modified") vegetables and in hopes of obtaining land for landless families to cultivate. After the occupation had begun, a team from NF Security arrived in a minibus and a fight with gunfire ensued. A protestor and a security guard were killed, and some protesters and security guards were wounded.[34]

The Brazilian police investigation completed in November 2007 blamed the confrontation and death of the protestor on nine employees and the owner of NF Security; the leader of MST was blamed for trespassing. The inquiry found that the protester was fatally shot in the abdomen and in the leg. The security guard was shot in the head. Eight others were injured, five of them landless.[35]

The Civil Court of Cascavel granted an order for the repossession of the site on December 20, 2007[36] and on June 12, 2008, the remaining MST members left the Santa Teresa site they had been occupying.[37] On October 14, 2008, Syngenta donated the 123-hectare station to the Agronomy Institute of Paraná (IAPAR) for research into biodiversity, recovery of degraded areas and agriculture production systems, as well as environmental education programs.[38]

Lobbying in the US

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.[39] Its lobbying expenditures in the US during 2012 were $1,150,000, ranking it 7th in its sector.[40]

Farmers Support Team

Syngenta sponsors several agricultural programs in developing nations. SFI 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).

Syngenta Foundation

The objectives and goals of the Syngenta Foundation are "to work with rural communities in the semiarid regions of the world and improve their livelihoods."[41]

The Syngenta Foundation addressed the World Food Day Symposium in 2005 as an output of the Millennium Ecosystem Report.[42]

Awards and community involvement

In October 2008, Syngenta Crop Protection Canada, Inc. was recognized as one of Waterloo Area's Top Employers, as announced in the Waterloo Region Record, Guelph Mercury and Cambridge Times.[43] In 2011, Syngenta was named among the top 10 employers in biotechnology by Science magazine.[44] The company was also recognized by the 2011 Dow Jones Sustainability Index (DJSI) as one of the best performing chemical companies worldwide. Syngenta was one of only five chemical companies in the World and Europe indices based on economic, social and environmental performance.[45]

In 2013, Syngenta announced a set of corporate goals to improve agricultural resource utilization, environmental stewardship, productivity, and education, particularly in poverty-stricken areas.[46]

Alleged targeting of research scientist

According to an article in the February 10, 2014, issue of *The New Yorker*, Syngenta's public-relations team took steps to discredit Tyrone Hayes, a biologist at the University of California at Berkeley whose research showed that the Syngenta-produced chemical atrazine was responsible for abnormal development of reproductive organs in frogs. The article described how, according to Hayes, the company paid third-party critics to write articles discrediting Hayes's work, planned to have his wife investigated, and planted hostile audience members at scientific talks given by Hayes.[20]

During a February 21 interview conducted on *Democracy Now* Hayes reiterated the claims.[47] After the interview aired, Syngenta denied targeting Hayes or making any threats, calling those statements "uncorroborated and intentionally damaging", "baseless", "malicious", and "defamatory"; it noted that the alleged threats had never been reported to law enforcement. Syngenta therefore demanded a retraction and public apology from Hayes and *Democracy Now*.[48]

1.2.3 Monsanto

Monsanto Company is a publicly traded American multinational chemical,[3A] and agricultural biotechnology corporation headquartered in Creve Coeur, Missouri.[4A][5A]

It is a leading producer of genetically engineered (GE) seed and of the herbicide glyphosate, which it markets under the Roundup brand.[6A]

History

Founded in 1901 by John Francis Queeny, the company's first product was the artificial sweetener saccharin.[18A] Monsanto expanded to Europe in 1919 by entering a partnership with Graesser's Chemical Works in Wales to produce vanillin, aspirin and its raw ingredient salicylic acid, and later rubber processing chemicals. In the 1920s Monsanto expanded into basic industrial chemicals like sulphuric acid and PCBs. In 1926 the company founded and incorporated the town of Sauget in Illinois. It was formed to provide a liberal regulatory environment and low taxes for the Monsanto chemical plants at a time when local jurisdictions had most of the responsibility for environmental rules.[19A] Queeny's son took over the company in 1928.

In 1936 Monsanto acquired Thomas & Hochwalt Laboratories in Dayton, Ohio, in order to acquire the expertise of Charles Allen Thomas and Dr. Carroll A. ("Ted") Hochwalt who made it into Monsanto's Central Research Department.[20A]:340–341 Thomas spent the rest of his career at Monsanto until his retirement in 1970, during which time he served as President (1951–60) and Chairman of the Board (1960–65).[21A] In 1943, Thomas was called to a meeting in Washington DC with Brig. Gen. Leslie Groves, commander of the Manhatten Project, and with James Conant, president of Harvard University and chairman of the National Defense Research Committee (NDRC).[22A] They urged Thomas to become co-director of the Manhattan Project at Los Alamos with Robert Oppenheimer, but Thomas was reluctant to leave Dayton and Monsanto.[22A] Thomas joined the NDRC, and Monsanto's Central Research Department began to conduct research for the Manhattan Project under contract from the US government.[23A]:vii To that end, Monsanto operated the Dayton Project, and later Mound Laboratories, and assisted in the development of the first nuclear weapons.[22A]

By the 1940s Monsanto was a major producer of plastics, including polystyrene and synthetic fibres. In 1946, it developed "All" laundry detergent and began to market it; they sold the product line to Lever Brothers in 1957.[24A] In 1947, one of its factories was destroyed in the Texas City Disaster.[25A] Monsanto acquired American Viscose from England's Courtauld family in 1949. In 1954 Monsanto partnered with German chemical giant Bayer to form Mobay and market polyurethanes in the United States.

Monsanto began manufacturing DDT in 1944, along with some 15 other companies.[26A] This insecticide was much welcomed in the fight against malaria-transmitting mosquitoes. Due to DDT's toxicity, its use in the United States was banned in 1972. In the late 1960s, the Monsanto plant in Sauget, IL. was the nation's largest producer of polychlorinated biphenyls (PCBs) used by U.S. industry.[28A] PCBs are a persistent organic pollutant, and cause cancer in animals and likely in humans as well, among other health effects.[92A] PCBs remain in the water along Dead Creek in Sauget. An EPA official referred to Sauget as "one of the most polluted communities in the region" and "a soup of different chemicals"[96A] In 1977

Monsanto stopped producing PCBs; the United States Congress banned domestic PCB production two years later.[27A][28A] In the 1960s and 1970s, Monsanto was also one of the most important producers of Agent Orange for United States Armed Forces operations in Vietnam.

Notable achievements in the mid-1960s by Monsanto and its scientists as a chemical company included breakthrough research on catalytic asymmetric hydrogenation. This was an important advance because it was the first method for the catalytic production of pure chiral compounds.[29A] Using this method, Knowles' team designed the "first industrial process to chirally synthesize an important compound" — L-dopa, which is currently the main drug used to treat Parkinson's disease.[30A] In 2001 Knowles and Ryōji Noyori won the Nobel Prize in Chemistry. In the mid-1960s chemists at Monsanto developed the Monsanto process for making acetic acid, which until 2000 was the method most widely used to make this important industrial chemical. In 1965 Monsanto chemists invented AstroTurf, which the company then commercialized.

In 1968, it became the first company to start mass production of (visible) light emitting diodes (LEDs), using gallium arsenide phosphide. This ushered in the era of solid-state lights. From 1968 to 1970, sales doubled every few months. Their products (discrete LEDs and seven-segment numeric displays) became the standards of industry. The primary markets then were electronic calculators, digital watches, and digital clocks.[31A] Monsanto was a pioneer of optoelectronics in the 1970s.

The era of genetically modified crops - largest seed company (1980s - early 2000)

Monsanto scientists became the first to genetically modify a plant cell in 1982, along with three academic teams, which was announced in 1983[7A]. Five years later, Monsanto conducted the first field tests of genetically engineered crops.

It remained one of the top 10 U.S. chemical companies until it divested most of its chemical businesses between 1997 and 2002, through a process of mergers and spin-offs that focused the company on biotechnology.

In 1985, Monsanto acquired D. Searle & Company, a life sciences company focusing on pharmaceuticals, agriculture, and animal health. In 1993, Monsanto's Searle division filed a patent application for Celebrex,[33A][34A] which in 1998 became the first selective COX-2 inhibitor to be approved by the U.S. Food and Drug Administration (FDA).[35A] Celebrex became a blockbuster drug and was often mentioned as a key reason for Pfizer's acquisition of Monsanto's pharmaceutical business in 2002.[36A]

In 1994, Monsanto introduced a recombinant version of bovine somatotrophin, brand-named Posilac.[37A] Monsanto later sold this business off to Eli Lilly and Company.

In 1996, Monsanto bought Agracetus, the biotechnology company that had generated the first transgenic varieties of cotton, soybeans, peanuts, and other crops, and from which Monsanto had already been licencing technology since 1991.[38A] Monsanto first entered the maize seed business when it purchased 40% of DEKALB in 1996; it purchased the remainder of the corporation in 1998.[39A] In 1998 Monsanto purchased Cargill's seed business, which gave it access to sales and distribution facilities in 51 countries.[40A] In 2005, it finalized the purchase

of Seminis Inc, a leading global vegetable and fruit seed company, for $1.4 billion.[41A] This made it the world's largest conventional seed company at the time.

In 2007, Monsanto and BASF announced a long-term agreement to cooperate in the research, development, and marketing of new plant biotechnology products.[42A][43A]

Twenty first century spin-offs and mergers

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.[47A][48A] 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.[49A][50A]
- 1997: Monsanto spun off its industrial chemical and fiber divisions into Solutia Inc.[51A] 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.[52A] 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.[53A]
- 2000 (October): Pharmacia spun off its Monsanto subsidiary into a new company, the "new Monsanto".[54A] 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.[55A][56A])
- 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."[57A] The vegetable seed producer Semenis was purchased for $1.4 billion.[58A]
- 2007: In June, Monsanto completed its purchase of Delta & Pine Land Company, a major cotton seed breeder, for $1.5 billion.[59A] 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.[60A] 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".[61A]

- 2008: Monsanto purchased the Dutch seed company De Ruiter Seeds for €546 million,[62A] 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".[63A]
- 2013: Monsanto purchased San Francisco-based Climate Corp for $930 million.[64A]

Monsanto was a pioneer in applying the biotechnology industry business model to agriculture, using techniques developed by Genentech and other biotech drug companies in the late 1970s in California.[8A]:2-6 In this business model, companies invest heavily in research and development, and recoup the expenses through the use and enforcement of biological patents.[9A][10A][11A][12A] Monsanto's application of this model to agriculture, along with a growing movement to create a global, uniform system of plant breeders' rights in the 1980s, came into direct conflict with customary practices of farmers to save, reuse, share and develop plant varieties.[13A] Its seed patenting model has also been criticized as biopiracy and a threat to biodiversity.[14A][15A][16A] Monsanto's role in these changes in agriculture (which include its litigation and its seed commercialization practices[17A]), its current and former biotechnology products, its lobbying of government agencies, and its history as a chemical company have made Monsanto controversial.

In January 2010, Forbes magazine named Monsanto company of the year for 2009.[45A] Also in 2010, Swiss research firm Covalence released its annual ranking of the ethical performance of 581 multinational corporations as rated by the tone and frequency of news articles. Monsanto company was ranked at the bottom of the list of evaluated companies.[46A]

1.2.4 North-South power relationships

Worldwide production of wheat

The following **international wheat production statistics** come from Food and Agriculture Organization figures from the FAOSTAT database, and older data from International Grains Council figures from the report "Grain Market Report." The quantities of wheat in the following table are in million metric tonnes.

Country	2012[1]	2011[1]	2010[1]	2009[1]	2008[1]	2007[1]	2006[1]	2005[2]	2004[2]	2003[2]	2002	2001	2000	1999	1998	1997	1996
EU	134.5	140.0	136.5	138.5	150.3	120.1	126.7	135.4	149.4	111.7	133.6	126.6	132.4	123.1	134.1	126.4	124.3
China	125.6	117.4	115.2	115.1	112.5	109.9	104.5	96.3	91.6	86.5	90.3	93.9	99.7	113.9	109.7	123.3	110.6
India	94.9	86.9	80.7	80.7	78.6	74.9	69.4	72.0	72.1	65.1	72.8	69.7	76.4	70.8	65.9	69.4	62.6
United States	61.8	54.4	60.1	60.3	68.0	53.6	57.3	57.1	58.7	63.8	44.1	53.3	60.8	62.7	69.4	67.5	62.0
France	40.3	38.0	38.2	38.3	39.0	33.2	35.4	36.9	39.7	30.5	38.9	31.5	37.5	37.2	39.8	33.9	35.9
Russia	37.7	56.2	41.5	61.7	63.7	49.4	45.0	47.6	45.4	34.1	50.6	47.0	34.5	31.0	27.0	44.3	34.9
Australia	29.9	27.4	22.1	21.7	21.4	13.0	10.8	25.1	21.9	26.1	10.1	24.3	18.5	24.1	22.1	19.4	23.7

Wheat is grown on more than 216,000,000 hectares (530,000,000 acres),[48] larger than any other crop. World trade in wheat is greater than for all other crops combined. With rice, wheat is the world's most favored staple food. It is a major diet component because of the wheat plant's agronomic adaptability with the ability to grow from near arctic regions to equator, from sea level to plains of Tibet, approximately 4,000 m (13,000 ft) above sea level. In addition to agronomic adaptability, wheat offers ease of grain storage and ease of converting grain into flour for making edible, palatable, interesting and satisfying foods. Wheat is the most important source of carbohydrate in a majority of countries.

Since the Second World War, the trend in North America has been toward further consolidation of already vast farms. Transportation infrastructure has also promoted more economies of scale.

Farmers in the European Union, United States and Japan are protected by agricultural subsidies. The European Union's programs are organized under the Common Agricultural Policy. The agricultural policy of the United States is demonstrated through the "farm bill", while rice production in Japan is also protected and subsidized. Farmers in other countries have attempted to have these policies disallowed by the World Trade Organization, or attempted to negotiate them away though the Cairns Group, at the same time the wheat boards have been reformed and many tariffs have been greatly reduced, leading to a further globalization of the industry. For example, in 2008 Mexico was required by the North American Free Trade Agreement (NAFTA) to remove its tariffs on US and Canadian maize.

Hopper-bottomed railcars, such are this one from Japan, have made moving grain much faster and less labour-intensive.

Modern issues affecting the grain trade include food security concerns, the increasing use of biofuels, the controversy over how to properly store and separate genetically modified and organic crops, the local food movement, the desire of developing countries to achieve market access in industrialized economies, climate change and drought shifting agricultural patterns, and the development of new crops.

Size of world banking sector

The top 20 banks worldwide determine the finance of world trade. Ranked by asset size they are

Asset Rank 2012	Bank	Country (Year End)	Assets ($millions CAD)	Pre-Tax Profit ($millions CAD)	Return on Assets %
1	**ICBC**	China (12/12)	2,803,129	49,326	1.76%
2	**Mitsubishi UFJ Financial Group**	Japan (03/13)	2,723,220	15,722	0.58%
3	**HSBC Holdings**	UK (12/12)	2,706,270	20,754	0.77%
4	**Deutsche Bank**	Germany (12/12)	2,668,327	1,039	0.04%
5	**Credit Agricole**	France (12/12)	2,662,788	-1,999	-0.08%
6	**BNP Paribas**	France (12/12)	2,529,047	13,753	0.54%
7	**JPMorgan Chase & Co**	US (12/12)	2,371,173	29,064	1.23%
8	**Barclays**	UK (12/12)	2,362,652	390	0.02%
9	**China Construction Bank Corporation**	China (12/12)	2,232,764	40,178	1.80%
10	**Bank of America**	US (12/12)	2,223,285	3,088	0.14%

11	**Agricultural Bank of China**	China (12/12)	2,116,358	30,029	1.42%
12	**RBS**	UK (12/12)	2,080,422	-8,361	-0.40%
13	**Mizuho Financial Group**	Japan (03/13))	2,060,264	8,336	0.40%
14	**Bank of China**	China (12/12)	2,026,278	29,942	1.48%
15	**Citigroup**	US (12/12)	1,874,170	7,535	0.40%
16	**Sumitomo Mitsui Financial Group**	Japan (03/13)	1,726,807	12,357	0.72%
17	**Banco Santander**	Spain (12/12)	1,683,513	4,698	0.28%
18	**Societe Generale**	France (12/12)	1,658,410	2,044	0.12%
19	**Groupe BPCE**	France (12/12)	1,521,601	4,963	0.33%
20	**Lloyds Banking Group**	UK (12/12)	1,465,721	-904	-0.06%

Comparison of GDP per capita of the 10 richest against the 10 poorest countries

The inequality between North and South can be shown in two lists of countries by gross domestic product at purchasing power parity per capita, the value of all final goods and services produced within a country in a given year, divided by the average (or mid-year) population for the same year. These are for the top and bottom 10 rankings.

Gross domestic product (GDP) dollar estimates are derived from purchasing power parity (PPP) calculations, per capita. Such calculations are prepared by various organizations, including the International Monetary Fund and the World Bank. As estimates and assumptions have to be made, the results produced by different organizations for the same country tend to differ, sometimes substantially. PPP figures are estimates rather than hard facts, and should be used with caution.

GDP per capita is often considered an indicator of a country's standard of living,[1][2] although this can be problematic because GDP per capita is not a measure of personal income. All figures are in current Geary–Khamis dollars, more commonly known as international dollars (Int$).

1	Qatar	91,189	171	Guinea	1,051
2	Luxembourg	89,510	172	Togo	1,034
3	Norway	66,141	173	Mozambique	1,007
4	Singapore	60,800	174	Madagascar	962
5	Switzerland	53,191	175	Niger	769
6	Brunei	52,482	176	Malawi	753
7	United States	51,749	177	Liberia	639
8	Kuwait	46,385	178	Eritrea	557
9	Austria	44,122	179	Burundi	551
10	Ireland	43,834	180	Congo, Dem. Rep.	415

Heavily indebted poor countries

The **heavily indebted poor countries** (**HIPC**) are a group of 39 developing countries with high levels of poverty and debt overhang which are eligible for special assistance from the International Monetary Fund (IMF) and the World Bank.

The HIPC Initiative was initiated by the International Monetary Fund and the World Bank in 1996, following extensive lobbying by NGOs and other bodies. It provides debt relief and low-interest loans to cancel or reduce external debt repayments to sustainable levels. To be considered for the initiative, countries must face an unsustainable debt burden which cannot be managed with traditional means.[1] Assistance is conditional on the national governments of these countries meeting a range of economic management and performance targets.

As of January 2012, the HIPC Initiative had identified 39 countries (33 of which are in Sub-Saharan Africa) as being potentially eligible to receive debt relief.[2] The 36 countries that have so far received full or partial debt relief are:[1]

- Afghanistan
- Benin
- Bolivia
- Burkina Faso
- Burundi
- Cameroon
- Central African Republic
- Chad
- Republic of the Congo
- Democratic Republic of the Congo
- Comoros
- Ivory Coast
- Ethiopia
- Gambia
- Ghana
- Guinea
- Guinea-Bissau
- Guyan
- Haiti
- Honduras
- Liberia
- Madagascar
- Mali
- Mauritania
- Mozambique
- Nicaragua
- Niger
- Rwanda
- São Tomé and Príncipe
- Senegal
- Sierra Leone
- Tanzania
- Togo
- Uganda
- Zambia

Four countries have yet to reach completion point for the HIPC program, and therefore entitled only to partial debt relief. The remaining 32 countries have completed the program and had their external debt cancelled in full.[1][3] An additional three countries (Eritrea, Somalia and Sudan) are being considered for entry into the program.

To receive debt relief under HIPC, a country must first meet HIPC's threshold requirements. At HIPC's inception in 1996, the primary threshold requirement was that the country's debt remains at unsustainable levels despite full application of traditional, bilateral debt relief. At the time, HIPC considered debt unsustainable when the ratio of debt-to-exports exceeded 200-250% or when the ratio of debt-to-government revenues exceeded 280%.[4]

Funding

The IMF estimates that the total cost of providing debt relief to the 40 countries currently eligible for the HIPC program would be around $71 billion (in 2007 dollars).[1] Half of the funding is provided by the IMF, World Bank, and other multilateral organizations, while the other half is provided by the creditor countries. The IMF's share of the cost is currently being funded by the proceeds of gold sales by the organization in 1999, but it estimated that this will not be enough to cover the full cost, and further funding will need to be raised if additional countries such as Sudan and Somalia meet the qualification requirements for entry into the program.[1]

Criticism

Critics soon began to attack HIPC's scope and its structure. First, they criticized HIPC's definition of debt sustainability, arguing that the debt-to-export and debt-to-government-revenues criteria were arbitrary and too restrictive. As evidence, critics highlighted that, by 1999, only four countries had received any debt relief under HIPC. Second, the six-year program was too long and too inflexible to meet the individual needs of debtor nations. Third, the IMF and the World Bank did not cancel any debt until the completion point, leaving countries under the burden of their debt payments while they struggled to institute structural reforms. Fourth, the ESAF conditions often undermined poverty-reduction efforts. For example, privatization of utilities tended to raise the cost of services beyond the citizens' ability to pay. Finally, critics attacked HIPC as a program designed by creditors to protect creditor interests, leaving countries with unsustainable debt burdens even upon reaching the decision point.[4]

Inadequate debt relief for such countries means that they will need to spend more on servicing debts, rather than on actively investing in programs that can reduce poverty.

Response to criticism

HIPC addressed its shortcomings by expanding its definition of unsustainable debts, making greater relief available to more countries, and by making relief available sooner.[4]

Since 1996, the IMF has modified HIPC in several ways, often in response to the shortcomings its critics have highlighted. The IMF first restructured HIPC in 1999. These revisions modified HIPC's threshold requirements. Today, HIPC defines three minimum requirements for participation in the program. First, as before, a country must show its debt is unsustainable; however, the targets for determining sustainability decreased to a debt-to-export ratio of 150% and a debt-to-government-revenues ratio of 250%. Second, the country must be sufficiently poor to qualify for loans from the World Bank's International Development Association or the IMF's Poverty Reduction and Growth Facility (PRGF, the successor to ESAF), which provide long-term, interest-free loans to the world's poorest nations. Lastly, the country must establish a track record of reforms to help prevent future debt crises.[4]

In addition to the modified threshold requirements, the 1999 revisions introduced several other changes. First, the six-year structure was abandoned and replaced by a "floating completion point" that allows countries to progress towards completion in less than six years. Second, the revised HIPC allows for interim debt relief so that countries begin to see partial

relief before reaching the completion point. Third, the PRGF heavily modified ESAF by curtailing the number and detail of IMF conditions and by encouraging greater input from the local community into the program's design.[4]

One of PRGF's goals is to ensure that impoverished nations re-channel the government funds freed from debt repayment into poverty-reduction programs. To that end, each country's PRGF program is modeled around a Poverty Reduction Strategy Paper (PRSP). PRSPs describe the macroeconomic, structural, and social programs that a country will follow to promote economic growth and reduce poverty. A broad range of government, NGO, and civil-society groups must participate in the development of the PRSP to ensure the plan has local support. Under the revised HIPC, a country reaches the decision point once it has demonstrated progress in following its PRSP. The country then reaches its completion point once it has implemented and followed its PRSP for at least one year and has demonstrated macroeconomic stability.[4]

In 2001, the IMF introduced another tool to increase HIPC's effectiveness. Under the new practice of "topping up," countries that unexpectedly suffer economic setbacks after the decision point due to external factors, such as rising interest rates or falling commodity prices, are eligible for increased debt forgiveness above the decision-point level.[4]

Further progress towards debt relief was announced on December 21, 2005, when the IMF granted preliminary approval to an initial debt relief measure of US $3.3 billion for 19 of the world's poorest countries, with the World Bank expected to write off the larger debts owed to it by 17 HIPCs in mid-2006."[5]

As of December 2006, twenty-one countries have reached the HIPC completion point. Nine additional countries have passed the decision point and are working toward completion. Ten other countries carry unsustainable debts according to HIPC standards, but they have yet to reach the decision point. So far, the IMF and World Bank have approved $35 billion of HIPC debt relief. Five countries have received an additional $1.6 billion in "topping up" assistance since 2001.[4]

Futures Trading

Prices of wheat on the world market are usually determined by Futures trading. This form of investment involves speculating on the price of a commodity going up or down in the future. A commodity could be

- the corn in a morning cereal eaten for breakfast
- the wheat that makes the bread in sandwiches
- the currency used to buy all these things ...

Commodities, traded between hundreds-of-thousands of investors, every day, all over the world, can make a profit by buying a commodity at a low price and selling at a higher price.

Futures trading is mainly speculative ‘paper’ investing. It is rare for the investors to actually hold the physical commodity, just a piece of paper known as a futures contract. For Futures contracts, the term contract is mainly used because, like a contract, a futures investment has an expiration date. They don't have to hold the contract until it expires. In fact, many short-term traders only hold their contracts for a few hours – or even minutes! The expiration dates vary between commodities, and they have to choose which contract fits their market objective.

Neither is there a limit on the number of contracts they can trade within reason – there must be enough buyers or sellers to trade with them. Many larger traders, investment companies and banks may trade thousands of contracts at a time. All futures contracts are standardised in that they all hold a specified amount and quality of a commodity.

A Short History of Futures Trading

Before Futures trading came about, any producer of a commodity (e.g. a farmer growing wheat or corn) found himself at the mercy of a dealer when it came to selling his product. The system needed to be legalised in order that a specified amount and quality of product could be traded between producers and dealers at a specified date. Contracts were drawn up between the two parties specifying a certain amount and quality of a commodity that would be delivered in a particular month.

In 1878, a central dealing facility was opened in Chicago, USA where farmers and dealers could deal in 'spot' grain, i.e., immediately deliver their wheat crop for a cash settlement. Futures trading evolved as farmers and dealers committed themselves to buying and selling future exchanges of the commodity. For example, a dealer would agree to buy 5,000 bushels of a specified quality of wheat from the farmer in June the following year, for a specified price. The farmer knew how much he would be paid in advance, and the dealer knew his costs.

Until twenty years ago, futures markets consisted of only a few farm products, but now they have been joined by a huge number of tradable 'commodities'. As well as metals like gold, silver and platinum; livestock like pork bellies and cattle; energies like crude oil and natural gas; foodstuffs like coffee and orange juice; and industrials like lumber and cotton, modern futures markets include a wide range of interest-rate instruments, currencies, stocks and other indices such as the Dow Jones, Nasdaq and S&P 500.

It didn't take long for businessmen to realise the lucrative investment opportunities available in these markets. They didn't have to buy or sell the actual commodity (wheat or corn, etc.), just the paper-contract that held the commodity. As long as they exited the contract before the delivery date, the investment would be purely a paper one. This was the start of futures trading speculation and investment, and today, around 97% of futures trading is done by speculators.

There are two main types of Futures trader: 'hedgers' and 'speculators'.

A hedger is a producer of the commodity (e.g. a farmer, an oil company, a mining company) who trades a futures contract to protect himself from future price changes in his product.

For example, if a farmer thinks the price of wheat is going to fall by harvest time, he can sell a futures contract in wheat. (You can enter a trade by selling a futures contract first, and then exit the trade later by buying it.) That way, if the cash price of wheat does fall by harvest time, costing the farmer money, he will make back the cash-loss by profiting on the short-sale of the futures contract. He 'sold' at a high price and exited the contract by 'buying' at a lower price a few months later, therefore making a profit on the futures trade. Other hedgers of futures contracts include banks, insurance companies and pension fund companies who use futures to hedge against any fluctuations in the cash price of their products at future dates.

Speculators include independent floor traders and private investors. Usually, they don't have any connection with the cash commodity and simply try to (a) make a profit buying a futures contract they expect to rise in price or (b) sell a futures contract they expect to fall in price.

In other words, they invest in futures in the same way they might invest in stocks and shares – by buying at a low price and selling at a higher price, or vice-versa.