

Where Nature and Science Meet

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REPORT LOOKS AT U.S. ASSISTANCE FOR SSA

<http://www.africanhunger.org/uploads/articles/2bf0674bd36a2d7ef43fdc439102ef07.pdf>

Michael R. Taylor and Julie A. Howard look at "Investing In Africa's Future: U.S. Agricultural Development Assistance For Sub-Saharan Africa." Their report moves beyond the traditional understanding of agricultural development assistance to encompass the wide range of investments and activities that may contribute to the ability of agriculture to help Africa. It tackles natural resources management, policy making, as well as market development for agricultural inputs and outputs.

The research seeks to, among others, summarise the policy-level commitments to African agriculture made by U.S., African, and other world leaders and organisations; document levels and trends in U.S. assistance to African agriculture; and present conclusions and recommendations concerning U.S. agricultural development assistance for sub-Saharan Africa.

Researchers found that the total U.S. agricultural development assistance for Africa has grown by only an estimated 2% in real terms since 2000, and the apparent trend in U.S. assistance for African agriculture is not promising. This stands in direct contrast to increases in funding for health programs in the continent.

The report recommends, among others, that the U.S. should:

- invest more in economic growth, making African agriculture a real budget priority,
- reduce political overhead,
- improve donor coordination and pooling of resources,
- foster local ownership of the development process, and

- improve transparency, accountability, and focus on local ownership and high-impact programs with longer time horizons.

WORLD EXPERTS AGREE ON BLUEPRINT FOR AGRI DEVELOPMENT

<http://www.fao.org>

World experts have agreed on a blueprint on sustainable agricultural development to reduce hunger and poverty, and improve environmental protection in developing countries. They called on governments to prioritise public expenditures on public goods for rural areas including research, extension training and education as well as for them to recognise the vital role of agriculture and rural communities in country development. This was the gist of "The Beijing Consensus on the future of global agriculture and rural areas" released by the Food and Agriculture Organisation (FAO).

In related matters, FAO mentioned the crucial role of the Global Donor Platform for Rural Development, which it co-chairs with the German Federal Ministry for Economic Cooperation and Development. This Platform brings together donor organisations to tackle advocacy work in the development community. The focus of this initiative is to reduce poverty and enhance economic growth in developing countries through improved donor cooperation and harmonisation of approaches and procedures.

Burkina Faso, Cambodia, Nicaragua and Tanzania were selected as pilot countries to assess procedures and conditions that would promote a common program and framework of support at the country level. The assessments have been completed and detailed proposals for supporting the harmonisation process have been prepared. Eventually, the Platform hopes that common procedures and agreed frameworks for donor activities can be developed at the country level.

MAINTAINING NON GM POLICIES EXPENSIVE

<http://www.pgeconomics.co.uk>.

"GM-avoidance" policies in the European Union (EU) could result in additional costs and feasibility problems for the EU food and feed sector. "The Global GM Market: Implications for the European food chain: An analysis of labelling requirements, market dynamics and cost implications" released by Brookes West and Neville Craddock Associates identifies numerous food and feed ingredients in the food chain derived using genetic modification. Among others, the report notes that:

- The availability of non GM soybeans and derivatives from Brazil (the largest supplier) is likely to decline in the next 12 months, resulting in an increase in the price differential between non GM and GM soy by as much as 25%.
- For livestock product producers (producing meat, milk and dairy products), the widening price differential, for a primary feed ingredient, could result in feed costs rising by between 6% and 10% in the next 1 to 3 years.
- For manufacturers of products such as cooking oils and margarines, their non use of GM derived ingredients could add over 16% to raw material costs.

NO RISK TO HUMAN HEALTH FROM GM CROP DRUG RESISTANCE

<http://www.scidev.net/content/news/eng/no-risk-to-human-health-from-gm-vrop-drug-resistance.cfm>

GM plants containing genes that make them 'immune' to antibiotics will not lead to a breed of 'superbugs' that we would be powerless to treat, say researchers in the October issue of *The Lancet Infectious Diseases*.

Antibiotic resistance genes, often referred to as 'markers', are used to prepare GM crops. Researchers who want to modify plants to become resistant to drought, for instance, will introduce the drought resistance gene and the antibiotic resistance gene together.

Not all attempts to modify the plants will be successful. To know which plants were modified, the researchers grow them in a mixture containing the antibiotic. Only those in which the genetic

modification was successful – the plants that contain both the marker and the drought resistance gene – will survive. Activists are concerned that if these markers “leak out” of the GM plants and are absorbed by bacteria, they could ensure the survival of the very bacteria the drugs were created to kill.

Philippe Gay, a retired scientist and former head of Technology Development & Support at Novartis Seeds, and Stephen Gillespie, professor of medical microbiology at University College London review what has been published so far on gene transfer. They concluded from this study that it would be difficult for the resistance genes to jump from GM plants to bacteria.

First, they say, once the plant cells come into contact with the bacteria, the plant DNA must be intact. Then the plant DNA fragments that contain the resistance genes would have to physically meet up with the bacteria, and be integrated into the bacteria’s own DNA, in such a way that the genes can function. Gay and Gillespie say the probability of all these conditions being met is very small. They conclude that if the transfer were to happen at all, its effect would be insignificant compared with the resistance that arises through inappropriate medical prescriptions of antibiotics and from hospital environments. However, despite this conclusion, alternative markers should be developed as a precautionary measure.

Nancy Terryn of the Institute for Plant Biotechnology for Developing Countries at Ghent University, Belgium agrees with Gay and Gillespie. “There is no evidence that the antibiotic resistance genes used in approved GM crops pose a problem for human health,” she said. She also agreed that the use of different marker genes would be preferable but adds that using antibiotic resistance markers are unavoidable in research on crops such as leguminous plants.

AUSTRALIA TO LOSE FROM GM-FREE STANCE

<http://www.abareconomics.com>

Australian farmers stand to lose significantly from its country's genetically modified-free stance on planting transgenic canola. This view was forwarded in the article "Transgenic crops: welfare implications for Australia" published in the September issue of Australian Commodities.

A study by the Australian Bureau of Agricultural and Resource Economics (ABARE) said that as much as \$3 billion could be lost by 2015 for Australia's failure to commercialize transgenic crops. It noted that Australia will have to compete with an increasing volume of transgenic grains and oilseeds in the export market especially with Asia and South America adopting new transgenic crops. This will result in lower profitability and lower market share for conventional grain crops, which the report stated are more expensive to produce than transgenic varieties.

Although Australia has approved transgenic canola for commercial planting, state and territory legislators have established moratoriums prohibiting the growing of transgenic canola.

ICRISAT EFFORTS YIELD BETTER CHICKPEA

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Chickpea is the world's third most important food legume, but is not easily given to hybridization. This is especially important, since hybridization may be able to protect the crop from the various diseases and pests to which it is susceptible.

The first step to better chickpea has been taken by scientists at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), whose efforts have yielded a chickpea hybrid.

Researchers were able to cross a cultivated variety, *Cicer arietinum*, with the wild species *Cicer bijugum*, through embryo rescue and tissue culture methods. They hope that this hybrid will improve disease resistance and boost crop yields, and make a hardy plant better protected against harsh weather and pest attacks.

INTERNATIONAL EXPERTS DISCUSS FOOD SAFETY IN AFRICA

<http://www.fao.org/newsroom/en/news/2005/107908/index.html>

Experts from 50 countries converged on Harare, Zimbabwe to discuss ways to ensure safer food for better health and agricultural trade opportunities in Africa. They note that an improvement in the food safety system could reduce about 2000 deaths daily as a result of food and water contamination.

Organized by the Food and Agriculture Organization and the World Health Organization, the Regional Food Safety Conference discussed an Africa-wide Strategic Plan of Action for Food Safety to reduce future threats to public health and international trade caused by contaminated food and food products that do not meet international quality and safety standards. An example is the control of mycotoxins in staple African crops such as maize, groundnuts, and dried fruits.

FIRST BIOTECH INSTITUTE IN ETHIOPIA

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The first biotechnology institute in Ethiopia, Africa is currently being constructed. Made possible through a World Bank loan, the research complex will do research on both crops and animals. Aside from research laboratories, the institute will also house offices, staff living quarters, and guest houses.

Yohannes Gojjam, Manager of the Holeta Agricultural Research Center, said that the research complex will be operational next year. Meanwhile, senior research personnel have completed intensive training and foreign experts are expected to provide assistance when the buildings are ready for use.

FIRST NINE YEARS OF GM ASSESSED

<http://www.agbioforum.missouri.edu/v8n23/v8n23a15-brookes.htm>.

Graham Brookes and Peter Barfoot of PG Economics Ltd., UK assess how biotech crops have made an impact in the first decade of their use. Their article, "GM Crops: The Global Economic and Environmental Impact - The First Nine Years 1996-2004," appears in the online Agbioforum journal.

Both researchers found that the use of biotech crops in the last nine years has brought substantial net economic benefits at the farm level amounting to a cumulative total of \$27 billion. They pointed out gains in important crop sectors such as cotton, which has benefited from an additional \$6.5 billion in terms of farm income levels since 1996.

They also found that the use of biotech crops has reduced pesticide spraying by 172 million kg, as well as the environmental footprint associated with pesticide use by 14%. In the maize sector, pesticide use decreased by 24 million kg; while farmers reduced herbicide use by 5 million kg in the canola sector.

Researchers also found that the technology has significantly reduced the release of greenhouse gas emissions from agriculture, which is equivalent to removing five million cars from the roads.

NOTICEBOARD

23 – 27 October 2005 - INTERNATIONAL PLANT BIOTECH SYMPOSIUM IN AFRICA "Recent advancement in plant biotechnology research and its potential applications to plant protection in East Africa" is the theme of the International Plant Biotechnology Symposium to be held in Dar-es-Salaam, Tanzania. The forum will be used to establish the East African Plant Molecular Biologists Network (EAPMBNet). The network will bring together scientists in the field of plant molecular biology and biotechnology in the East African Region for collaborative benefits. For additional details visit <http://www.africancrops.net>.

13 – 15 November 2005 - EUROPEAN BIOTECH SYMPOSIUM The 6th European Biotechnology Symposium will be held at the Radisson SAS Scandinavia Hotel, Copenhagen, Denmark. A highlight of the symposium will be a session on "Doing the Deal" where

European biobusiness experts share their insights on what makes partnerships and collaborations a success. Online registration can be done at <http://www.bioconferences.com/ebs>.

19 – 23 November 2005 - INTERNATIONAL RICE GENETICS SYMPOSIUM The EDSA Shangri-la Manila is the site of the 5th International Rice Genetics Symposium. The Symposium, held every 5 years, explores developments in rice genetics and their applications. The 3rd International Symposium on Rice Functional Genomics will also be held under the auspices of the International Rice Functional Genomics Consortium. More details of the symposium are available at <http://www.irri.org/rg5>.

29 November – 1 December 2005 - CONFERENCE ON THE FUTURE OF FOOD Join a discourse on the future of the food industry such as health and wellness, market access, regulation, emerging science and innovation, during the GMA Conference on the Future of Food. This conference will be held at the Ronald Reagan Building, International Trade Center, Washington, D.C. Those interested to register online may visit <https://www.seeuthere.com/rsvp/invitation/invitation.asp?id=/m2c79e-416061647196>