

**Remarks as Prepared for Delivery by  
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**Biofuel Crops for Sustainable  
Global Energy Production<sup>\*</sup>**

U.S. Secretary of Agriculture Ed Schafer, Secretary of the Interior Dirk Kempthorne, Secretary of Energy Samuel Bodman, Administrator of the Environmental Protection Agency Stephen Johnson, Under Secretary for Democracy and Global Affairs, U.S. Department of State, Paula Dobriansky and world leaders, good morning.

Dear Friends,

It is a great privilege to be here today speaking to this august gathering on a topic that has drawn worldwide attention.

The emerging revolution in biofuels has opened up new prospects for developing countries – stronger energy security, new sources of wealth and reduced greenhouse gas emissions and pollution from fossil fuels.

A few years ago, this seemed almost impossible.

Indeed, modern biofuels can help meet the needs of the 1.6 billion people who lack home electricity and 2.4 billion who rely on traditional sources for their energy needs.

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<sup>\*</sup> Delivered as a panelist in the session on sustainability, technology and development, Washington International Renewable Energy Conference (WIREC), 5 March 2008, Washington, USA.

Moreover, biofuels can help mitigate climate change, reduce dependence on fossil fuels, cut down precious foreign exchange outflow, provide new markets for agricultural producers and stimulate rural growth and farm incomes.

However, the biofuels boom may backfire on the poor. One of the principal concerns at present is that biofuels may increase prices of basic cereals and compromise food security.

There is also widespread concern on a high environmental price to pay for the biofuel boom which may impact on climate change.

The food-energy security-climate change nexus has provoked worldwide concern and pose a big challenge to public international agricultural research.

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is a CGIAR-supported Center which works on the drylands of Asia and sub-Saharan Africa. ICRISAT is actively doing research on biofuel crops and production systems that are pro-poor.

By this, we develop systems that increase the incomes of the poor, but do not trade off biofuels against food and feed security or the environment. We call these “smart crops” because they avoid the pitfalls that so many are concerned about today.

Along with this, ICRISAT has developed SWEET SORGHUM, a smart crop that has shown good promise for bioethanol production. ICRISAT has been working on this for the last 15 years.

Sweet sorghum is similar to normal sorghum crop and is grown widely by poor farmers in Asia and sub-Saharan Africa.

Sweet sorghum stores large quantities of sugar in its stalks, in addition to producing high grain yields. It therefore addresses the world’s biofuel needs without compromising food and feed security.

Likewise, sweet sorghum uses half as much water per liter of ethanol produced from stalk compared to sugarcane. It is carbon dioxide neutral: one hectare of sweet sorghum absorbs and emits 45 tons of carbon during its growth cycle.

Moreover, sweet sorghum has good energy balance: it generates 8 units of energy for every unit of fossil-fuel energy invested.

What about the land tradeoff? New technologies such as hybrid sorghum, combined with increased fertilizer usage, can double or triple the current low yields of grain in the dry tropics. This is like doubling or tripling available land area. Hence, more biofuel and more crop can both be produced without clearing more land by this smart crop.

To commercialize sweet sorghum, ICRISAT has devised an innovative model for private-public-farmer partnerships. ICRISAT aims to develop biofuel industries that are highly competitive but also beneficial the rural poor and are environmentally sustainable.

Through our agribusiness incubator in Hyderabad, India, ICRISAT works with several young biofuel companies as well as government agencies and civil society organizations.

Through our private-public-farmer partnerships, ICRISAT develops sweet sorghum hybrids and tests new sweet sorghum varieties with thousands of small farmers. The distilleries provide them with improved seed and technical advice, offer them a guaranteed price for their crops and transport the harvested stalks for processing.

A significant feature of our private-public-farmer partnerships is that the rural poor are chief actors in biofuels development. The active participation of poor farmers through their producer organizations is the best guarantee that biofuels is a boon rather than a bane for the world's poor.

ICRISAT has also been instrumental in catalyzing the Alliance Bioenergy Platform (ABP) comprising nine CGIAR centers.

I would like to emphasize that sweet sorghum will not replace sugarcane in the developing world; sugarcane systems are well established.

However, it is difficult for sugarcane systems to expand because of their high requirement for irrigation water and rainfall. This tends to expand sugarcane systems into ecologically-sensitive areas like rainforests.

As this juncture, I would like to turn very briefly to biodiesel. ICRISAT is working on the well-known *Jatropha* crop but also on a lesser-known tree called *Pongamia*.

Along our pro-poor biofuel strategy, we are promoting these crops mainly as part of rehabilitating degraded lands. Our host, the Government of India, is willing to allocate some of its vast wasteland areas so that the landless poor can grow these tree crops to increase their incomes.

*Jatropha* can produce about 30 gallons per acre of biodiesel, depending on the quality of the land and crop management. This new opportunity is significant for the poorest of the poor, and helps rehabilitate wastelands at the same time. By using wastelands, we avoid clearing rainforests for palm-based biodiesel that has worried people in Southeast Asia.

A private-public-farmer partnership has also been formed to provide the landless poor, especially women, in tribal areas of India with access to wastelands for planting biodiesel crops *jatropha* and *pongamia*.

Once the trees mature, women collect the seeds and press out the oil in their villages for local use. They also sell the seeds to large-scale processors for much-needed cash.

As I close, let me emphasize three points to support sustainable global bioenergy production:

1. Greater investments on international agricultural research must be made to fully harness science and technology for biofuels development;
2. Biofuels development must be linked to the broader goals of food and feed security, poverty reduction and environmental sustainability; and
3. Biofuels innovations must be developed as an instrument of empowering the world's rural poor.

I will end my opening comments here and be glad to elaborate on any of these points during our discussion.

Thank you and good morning.