

Global Gender Perspectives on Biofuel Production

Gale Summerfield

Women and Gender in Global Perspectives Program (WGGP)
Human and Community Development (HCD)
Agricultural and Consumer Economics (ACE)
University of Illinois at Urbana-Champaign

Regional Issues

- Brazil
- US
- China

**ANNUAL WORLD ETHANOL PRODUCTION BY COUNTRY
(MILLIONS OF GALLONS, ALL ETHANOL GRADES)**

Source: F.O. Licht

<http://www.ethanolrfa.org/industry/statistics/>

COUNTRY	2004	2005	2006
BRAZIL	3,989	4,227	4,491
U.S.	3,535	4,264	4,855
CHINA	964	1,004	1,017
INDIA	462	449	502
World TOTAL	10,770	12,150	13,489

Brazil

- Largest producer of ethanol for many years without increase in world grain/food prices
- Mainly large farms, not driving people off small farms
- Regional differences, Sao Paulo now produces over 60% of ethanol
- Gendered work, mainly male; many migrants from NE
- Working conditions have been problematic; more mechanization now

Sugarcane Workers Brazil, 2006

Source: Moraes, 2008 from PNAD data 2006

	Workers #	Age Average years	Male Emp. share	Education Average years
Brazil total	532,263	34.5	92%	3.7
North- Northeast	263,291	33.4	95%	2.5
Center- South	268,972	35.6	89%	4.8
Sao Paulo	156,279	36.3	88.1%	5.0

Brazil, cont.

- In 2008, Brazil had been gearing up for more global production opportunities
- Some small-scale production of biofuels from mamona/castor beans in NE for poor women and families
- Need to increase educational opportunities of cane workers and others to help with loss of jobs during mechanization.

U.S.

- Rapid increase in corn-based ethanol production in 2000s; exceeded Brazil by mid-2000s.
- Ethanol plants in US
Jan 2008, 139 plants; by Oct. 2008, 177 plants
- Highly subsidized

U.S., cont.

- Women not very visible in much of fossil fuel and biofuel process, but engaged at many levels
- Examining small communities in Illinois using CCF
- Social networks, entrepreneurship, social capital -- gender roles in building community capacity and resilience
- Limited employment opportunities
- Impacts of changing technologies and global linkages

Storing maize in fall -- China banned use of food grains for biofuel production in 2007



Biofuels in China

- Began program in early 2000s
- In 2004, compulsory use of 10% ethanol blended in gasoline (E10) in 5 provinces: Helongjiang, Jilin, Liaoning, Henan, and Anhui
- In 2006, expanded E10 program to 27 cities in Shandong, Jiangsu, Hebei, and Hubei

China: Ethanol Production and Subsidies

Source: IISD, 2008

	Units	2004	2005	2006
Production Capacity	Million tonnes	1.14	1.34	1.56
Subsidies	Million RMB	680	730	780
	Million US\$	100	107	115

- Earn higher incomes as farmers
 - Entrepreneurial activities
 - Cheaper energy
 - Possibly cleaner energy in homes
-
- Biodiversity
 - Marginal land
 - Price volatility

Global Gender Aspects and Regional Variations

- Improve understanding of links between food and biofuels
- Land, Property Rights, and Crops
- Net sellers or consumers?
- Impacts on control of income within family
- Changing technologies

Global Gender Policy Issues for Biofuels and Food

- Include gender in analysis of taxes and mandates
- Crises will come -- prepare early
- Social safety net emphasis -- consider time constraints
- Early childhood nutrition focus
- Clarify property rights
- Involve women at all levels of policy design and implementation