

Research into Biofuels

1)

Bioenergy Wiki

<http://www.bioenergywiki.net/index.php/Malawi>

- Site with very relevant info on Malawi's use of bioenergy

Extract from the wiki above:

- Malawi is a densely populated country located in the Great Lakes Region/ Zambezi River Basin of [Africa](#). This nation has implemented large-scale [ethanol](#) and [biodiesel](#) programs from sugar [molasses](#) and [jatropha](#), respectively.

- Jatropha seems to be the major crop of choice for biofuel conversion in Malawi - see <http://en.wikipedia.org/wiki/Jatropha> for more information on the crop and see below for more links regarding Jatropha's use

- **Excellent information on Jatropha for use as a biodiesel** -

<http://www.reuk.co.uk/Jatropha-for-Biodiesel-Figures.htm>

- <http://www.timesonline.co.uk/tol/news/world/article2155351.ece>

- **Pressing Jatropha - How it is converted into biodiesel** <http://www.reuk.co.uk/Pressing-Jatropha.htm>

News Links from wiki

- [Malawi's Super Harvest Proves Biofuel Critics Wrong](#) - 4 December 2007, Biopact. Malawi's harvest of [biofuel crops](#) was large enough to have replaced its entire consumption of oil and still allow exports to the world market.
- [Ethanol-driven vehicle under test in Malawi](#) - 28 December 2006, from SciDev Net, the test will involve a modified Mitsubishi Pajero driven over a 350-kilometre route from Lilongwe to Mzuzu.
- [The bumpy road to clean, green fuel](#) - from Gaia Movement Trust: Osman Ibrahim, head of an organization called the Biodiesel Agricultural Association, is urging farmers in Malawi to plant [jatropha](#).
- [Malawi Explores Biodiesel as a Cash Crop](#) - more information about the Biodiesel Agricultural Association.

2)

News Articles - specific to Malawi Biodiesel production

Malawi's super harvest proves biofuel critics wrong - or, how to beat hunger and produce more oil than OPEC

(Tuesday, December 04, 2007)

Excerpt from article:

This year, Malawi is *selling* corn to the UN's World Food Program and is *exporting hundreds of thousands of tons* of corn to its hungry neighbors. Had it decided to turn it into biofuels, it would have *replaced all its imported and expensive fossil fuels all at once* and become *entirely oil independent* (Malawi consumes around 5,500 barrels of oil per day).

Another very relevant article

Malawi moves to scale-up jatropha-based biodiesel industry

http://www.engineeringnews.co.za/article.php?a_id=134260

3)

Biofuels: benefits and risks for developing countries

Analysis of biofuels in developing countries

<http://www.scidev.net/en/opinions/biofuels-benefits-and-risks-for-developing-countr.html>

4)

The Promises and Challenges of Biofuels for the Poor in Developing Countries IFPRI 2005-2006 Annual Report Essay

http://www.ifpri.org/pubs/books/ar2005/ar2005_essay.asp#dl

PDF version: <http://www.ifpri.org/pubs/books/ar2005/ar05e.pdf>

Excerpt from text:

There are other challenges as well. Like any innovation, increased production of energy crops has the potential to exacerbate socioeconomic inequalities by concentrating benefits on the well-off. It can lead to deforestation, a loss of biodiversity, and excessive use of fertilizers and pesticides, thereby degrading the land and water that poor people depend on. Policymakers must take care to ensure that biofuel production is managed and regulated in a way that avoids these pitfalls. These risks are speculative at present. With improved access to finance and sound policies for support of cooperation and for contract security, most innovations in agriculture can be scale neutral. Under the assumptions of an aggressive biofuel growth scenario—which is not, it must be noted, a prediction—significant price increases for some food crops could emerge in the long run (135 percent for cassava, 76 percent for oilseeds, and 41 percent for maize by 2020) unless new technologies are developed that increase efficiency and productivity in crop

production and biofuel processing (see Box 2). Without technologies to improve productivity, the price changes would adversely affect poor, net-food-purchasing households and would probably exceed the possible income gains by many small farm households.

In addition, in many low-income developing countries, farmers are unaware of the opportunities presented by biofuel production and thus risk missing out on the potential benefits. Public-private partnerships could help raise awareness of these opportunities among farmers in low-income countries.

To develop a biofuels sector that is sustainable and pro-poor, actors at the international, national, and local levels have crucial roles to play. International institutions must help transfer knowledge and technology on developing an efficient and sustainable biofuels industry to poor countries. The international community must also create a level playing field for trade in biofuels. By subsidizing their domestic agriculture and their biofuels industries, the OECD countries are raising the price of grains and feedstock in their own countries and are distorting the opportunities for biofuel production and trade in developing countries. At the national level, policymakers must take steps to create a well-functioning market for biofuels, to promote investment in associated areas like flexible-fuel vehicles and fueling stations, and to regulate land use in line with socioeconomic and environmental goals. They must also provide farmers who wish to grow energy crops with the same kinds of support needed for other forms of agriculture, such as research and extension services, credit, and infrastructure. Finally, local institutions must participate in designing and managing projects to develop biofuels so that poor people and small farmers can gain benefits as both biofuel producers and consumers.

In response to concerns about energy supplies and prices, a number of countries have set standards or targets for biofuels use. The European Union has set a goal of 5.75 percent of motor fuel use from biofuels by 2010. The United States has mandated the use of 28.4 billion liters of biofuels for transportation by 2012. Brazil will require that all diesel contain 2 percent biodiesel by 2008 and 5 percent by 2013, and Thailand will require 10 percent ethanol in all gasoline starting in 2007. India mandates a 5 percent ethanol blend in nine states, and China is requiring a 10 percent ethanol blend in five provinces. Many other countries are taking similar steps.

As countries move to strengthen their energy security by increasing their use of biofuels, they should also work to ensure poor people's and small farmers' participation in the creation of a more sustainable global energy system. With sound technology and trade policies, win-win solutions—that is, positive outcomes for the poor as well as for energy efficiency—are possible with biofuels in developing countries.

5)

Bioenergy and Agriculture

<http://www.ifpri.org/2020/focus/focus14.asp>

Article on bioenergy - the following chapters are particularly relevant

- Bioenergy in Developing Countries: Experiences and Prospects:

http://www.ifpri.org/2020/focus/focus14/focus14_10.pdf

- Bioenergy and the Poor: http://www.ifpri.org/2020/focus/focus14/focus14_11.pdf

- Developing Bioenergy: A Win-Win Approach That Can Serve the Poor and the Environment: http://www.ifpri.org/2020/focus/focus14/focus14_12.pdf

6) Natural Resource Perspectives Magazine Article

Title: Biofuels, Agriculture and Poverty Reduction

<http://www.odi.org.uk/resources/specialist/natural-resource-perspectives/107-biofuels-agriculture-poverty-reduction.pdf>

Other links:

National Biodiesel Board <http://www.biodiesel.org/>

Recent article on biofuels in USA <http://www.roanoke.com/business/wb/180855>