

Development and Biofuels

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I Why do biofuels matter for development and social justice?

Food-based biofuels, and biofuels that require agricultural land, increase hunger and undermine human rights and development around the world. Demand for these biofuels increases food prices, forces smallholder farmers off their land, and undermines water availability and quality. These impacts are not felt equally. Poor people in developing countries are the most heavily impacted, even though most biofuels end up in fuel tanks in developed countries.

The world has committed to ending chronic hunger and malnutrition in the Sustainable Development Goals, because of how central food security is to human rights, development and ending extreme poverty. Without addressing chronic hunger, it will be impossible to achieve the full array of development goals or fully realize human rights.

This will not be easy; 795 million people are suffering from chronic hunger. Additionally, there are serious challenges that must be taken into account, as population growth continues (raising demand for food) and climate change impacts agriculture (making it more difficult to meet that demand). Ending chronic hunger is possible, but it will require smart policy choices. Biofuel mandates that require the use of agricultural land, undermine water access and quality, and increase the price of food take us in the wrong direction. It is time for a fundamental shift in our biofuels policy to end our reliance on food-based biofuels.

I What are biofuels?

Biofuels are a type of transportation fuel made from plants. There are two main types of biofuels: ethanol and biodiesel. In the U.S., the most common type of biofuel is corn ethanol, but we also use soy-based biodiesel and sugarcane ethanol. In Europe and parts of Asia, palm-oil biodiesel is also common. Typically, biofuels are blended with gas or diesel before being sold to consumers. When you see an E10 sticker on your gas pump, that means your gas is about 10 percent ethanol.

Biofuels are promoted as an environmentally friendly alternative to fossil fuels, but the evidence does not support this for all types of biofuels. Numerous studies have shown that first generation biofuels, such as corn ethanol, do not provide the promised greenhouse gas emissions savings compared to fossil fuels. Because these biofuels must be grown on fertile land that is good for agriculture, they displace forests, wetlands and native grasslands (which often have nutrient-rich soil) or land being used for food production (which can result in food production expanding into new land instead). This land-use change releases carbon emissions in the soil and destroys plant life. Forests, wetlands and grasslands also serve as important “sinks” to absorb carbon emissions, so not only are the currently sequestered emissions lost, but a sink for future emissions is as well. Cellulosic biofuels, which use non-edible parts of plants such as corn stover or wild grass, are expected to require less land and be more environmentally friendly, but they are not widely available today.

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I What is the Renewable Fuel Standard?

Created in 2005 and expanded in 2007, the Renewable Fuel Standard, called the RFS, is the U.S. biofuel mandate. The mandate requires the consumption of increasing amounts of different types of biofuels, eventually reaching a total of 36 billion gallons per year in 2022. Each year the Environmental Protection Agency announces what percentage of gas and diesel sold to consumers must be made up of biofuels to meet the volume mandates set by the RFS. There are several types of biofuels: conventional (primarily food-based biofuels such as corn ethanol), advanced (includes some food-based biofuels such as soy biodiesel and sugarcane ethanol, but potentially other types as well) and cellulosic biofuels as defined above. Each type of fuel is supposed to provide a certain threshold of carbon emissions savings over fossil fuels. However, the EPA has consistently ignored the full life-cycle emissions of food-based biofuels, and studies have shown they do not meet these thresholds.

I Food Prices

Impact: Food-based biofuels increase hunger by increasing the price of food in the long term. Mandates for food-based biofuels such as corn ethanol drive up demand for the feedstocks (in this case corn) needed to make the biofuel. That increase in demand, and the increase in demand for inputs into agricultural production such as seeds and fertilizer, increases the price of food.

Food prices do not only increase for the crop used for biofuels though. If, due to increased prices, consumers shift some of their demand to a similar or substitute feedstock, those prices increase as well. Additionally, if the feedstock is needed for the production of other types of food, then those prices will also go up. For example, increasing the price of animal feed (corn) means that the price of dairy and meat will also increase.

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Why it matters: The price of food is a key part of addressing hunger. Food security requires having reliable access to enough nutritious food, which in most cases is determined by a person's ability to pay for that food. Increased food prices make it harder for people to feed their families, especially for poor people in developing countries who already spend the majority of their income on food.

It is hard to overstate how crucial food security is, for both individuals and the larger community. Hunger impacts every aspect of development, from health to education and the economy. Children who do not receive sufficient nutrition before their second birthday can be permanently physically and mentally stunted. Students who do not have enough to eat struggle in school. Medication is not effective if people are malnourished. Food security is a core part of development; nothing succeeds without it.



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I Land

Impact: Beyond food prices, biofuels undermine food security by driving up demand for agricultural land. The increased demand for agricultural land leads to smallholder farmers being forced off of their land to make way for large biofuel plantations. ActionAid has worked with communities all over the world who have had their land threatened or taken in this way. In many developing countries, land tenure rights, or the farmers' ownership of that land, are not well established. Smallholder farmers, many of whom are women, also often do not have access to legal support or paperwork to prove they rightfully own the land. This allows companies, which are looking for large plantations to grow biofuel feedstocks, to take land even though it is a violation of those farmers' rights.

Why it matters: Most smallholder farmers eat what they can grow, so losing their land means losing their means of putting food on the table as well. Kicking them off of their land not only undermines their food security, but that of the whole community as well. Eighty percent of the food consumed in Asia and sub-Saharan Africa is produced by smallholder farmers. Increasing production of food somewhere else in the world may mean that global food production remains the same, but it does not automatically mean that the community that lost smallholder farmers will have access to that food.

In developed countries, it is easy to think of land as property or something that can be easily assigned a monetary value and compensated for. Land is much more than that for smallholder farmers in developing countries. These farmers depend on their land as their job, means of feeding their family, and their investment for the future. That land is their security, and it is not something that can be easily compensated for or replaced.



PHOTO: FABIO ERDOS/ACTIONAID

I Water

Impact: Producing biofuels has two basic stages: growing the feedstock and processing that feedstock into a fuel. Water is needed in both stages. In the production stage, there are possible impacts due to increased water usage and pollution in a particular area. However, the most universal impact on water related to food security is in the feedstock production stage. Water used to grow and process feedstocks for fuel is not available for other human needs, including food production (even in the case of rainfall – if the land is being used to grow fuel instead of food). Research commissioned by ActionAid USA showed that in most cases, even when displacing other agriculture production, expanding biofuel production increased water consumption and/or pollution.

The extent of the water consumption and pollution depends on the biofuel crop. Palm oil increases pollution substantially, while sugarcane uses relatively more water. Location of production also matters, as water shortages in some regions or pollution of crucial water sources can have much larger impacts than they would in other areas. However, these impacts are not considered by the Environmental Protection Agency when approving new biofuel types for consumption in the U.S.

Also alarming is the sheer amount of water that is required to grow these biofuel feedstocks, which are then exported to developed countries. Any water consumed in the production of those feedstocks is essentially exported with that feedstock as well, as 'virtual water.' U.S. imports from Guatemala include about 3 billion gallons of 'virtual water' along with sugarcane for ethanol.

Why it matters: Water is so crucial to human health and well-being that it is recognized as a human right. Not only do humans need water to drink and for hygiene, but it's a crucial part of food security, as water is needed to grow and prepare food. Waterborne diseases present a major health threat in many developing countries. Access to enough clean water is a basic requirement for a healthy life.



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I It's time for a change:

Pursuing clean, renewable energy to reduce emissions is absolutely essential if we are to avoid the worst of the impacts of climate change. This necessity should not be used as an excuse to continue mandates for food-based biofuels. They will not help us achieve the needed emission cuts. They will increase hunger, drive land grabs and undermine access to clean water. It's time for reform.

The RFS must be reformed to:

- End mandates for food-based biofuels and biofuels that rely on agricultural land,
- Recognize the importance of food security and development,
- Focus efforts on developing real low-emission solutions that do not increase hunger or undermine human rights.

Join us

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Acknowledgements

Author: Kelly Stone

Contributions: Janessa Robinson, Luis Cabrales, and Brandon Wu

ActionAid USA, 1420 K Street, NW, Suite 900, Washington, DC 20005, +1 (202) 835-1240

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