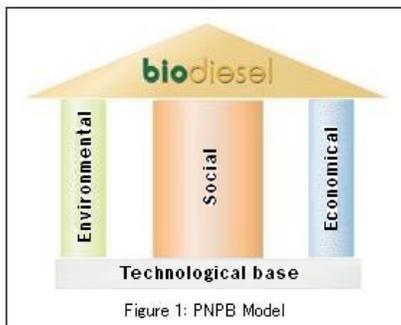


Can biofuel programs contribute to small farmer development? Drawing lessons from the National Biodiesel Program of Brazil

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Brazil is a pioneer in the development of large-scale biofuel programs. In the 1970s, Brazil launched a national program to make ethanol from sugar. Drawing lessons from the negative social and environmental effects of this program, Brazil launched a new program in 2004: the National Biodiesel Program of Brazil (PNPB). The objectives of this program are not only to contribute to economic development but also to social inclusion of small farmers and environmental sustainability. The Brazilian government assured that the PNPB would not threaten food security arguing that biofuel crops are cultivated on marginal soils and/or are part of mixed cropping systems.



This policy brief assesses to what extent the PNPB (a) has reached small farmers, (b) addresses environmental sustainability and (c) is not threatening food security. The assessment is based on findings from a Wageningen research project on the PNPB, funded by ICCO and the Ministry of LNV (BOCI programme).

Reaching small farmers?

Social inclusion is the contracting of small farmers to deliver oil crops (like palm oil, jatropha and castor bean) to a biodiesel factory for making energy. The Government of Brazil expects that such inclusion will contribute to economic development of smallholder agriculture.

However, whilst social inclusion is one of the main objectives of the PNPB, the targeted number of small farmers has not been reached. In fact, not more than 100,000 small farmers have been contracted, which is a small fraction of the millions of small farmers in Brazil.

How come? A first explanation is that the current design of the biodiesel program ignores that small farmers are already included in commodity chains and linked up to markets.

Small farmers feel that giving up their existing trade relationships may threaten their income and food security. They expect that energy cropping and a contract with a biodiesel company will limit their possibilities of cultivating crops to realize income and food security.

A second explanation is the lack or failure of small farmer organizations to voice these concerns. There is a lack of small farmer cooperatives, especially in the poor North and North-east regions of Brazil. Arguments of the federation of workers in family farming to organize biodiesel production units owned and managed by rural workers, are ignored at high political level.

A third explanation is that the PNPB has wrongly assumed that small farmers will simply trust (biodiesel) companies. This is to ignore the deeply rooted distrust of small farmers and laborers in large-scale agro-industry. Negative stories about companies that breach contracts keep this distrust alive.

A fourth explanation relates to inferior production and transport conditions, which is particular problematic in the North and Northeast regions of Brazil. The lack of adequate means of transport and accessible infrastructure are important barriers for small farmers to participate in the biodiesel production chain.

A fifth explanation has to do with the scale of the program. The large scale of the program and the high-tech processing plants have very much attracted large soy producers. The result is that the PNPB has been captured by the soy industry in spite of early intentions of the program to include many different oil crops produced in Brazil. About 90% of the raw material to make biodiesel is soy. The PNPB and biodiesel factories have proven a very appealing extra outlet for the soy industry.

Environmental sustainability

The government of Brazil claims that the PNPB will contribute to a reduction of CO₂ emissions compared to fossil fuels. However, the Brazilian biodiesel program does not include key environmental impact indicators to measure success/failure. More fundamentally, the government is not considering changing energy consumption patterns or promoting sustainable agricultural practices. The Ministry of Environment has so far not played an important role in the monitoring of the PNPB.

Food security

The Brazilian government states that the PNPB and biofuels in general do not form a threat to food security in Brazil. However, in official reports and presentations it remains unclear what dimension(s) and level(s) of food security are being referred to. Food security is not only about availability of food but also about access to food, stability of food supply and utilization of (more or less nutritious) food. Besides, there may be enough food at the state level but not so at the local level.

Looking at the local level, the Wageningen research found that the PNPB does not form a direct but an indirect threat to food security: land is not used for energy production instead of food production, and food crops are not used for energy production. However, small farmers expect that the sale of (non-edible) oil crops to biodiesel companies will force them to give up their existing relationships with local markets, without providing satisfying alternatives. This threat to their income security may indirectly form a threat to their food security.

Lessons learned

1. The PNPB is not directly threatening food security of small farmers but it does pose an indirect threat to their food security through endangering their existing trade relationships and livelihood security.
2. To date the biodiesel program of Brazil has failed to manifest itself as a sustainability program, giving due attention to profit, people and planet.
3. So far the PNPB has not yet succeeded in creating energy production that is attractive to and compatible with smallholder agriculture in Brazil. Different institutional and technological innovations still have to be found to address this incompatibility. This will form a major challenge for the Brazilian government, that wants to set an example as a worldwide pioneer in pro-poor and sustainable biofuels.

