

The National Biodiesel Programme of Brazil – who might benefit?

S.L. Stattman, P.S. Bindraban & O. Hospes

Background

At the moment there is a lot of international enthusiasm and criticism on biofuel policies. Some argue that the use of biofuels leads to competition between food, feed and biofuels while others see new opportunities for small farmers and regional development. Brazil is the first country that is implementing biodiesel policies on a national scale. For this purpose it set up an inter-ministerial Biodiesel Programme (PNPB) to promote sustainable development by improving the competitiveness of Brazilian agribusiness and society through use of bio-diesel. The PNPB has multiple goals: (1) enhancing social inclusion of family farmers, (2) improving regional development and generating economic incentives through creation of jobs and income in the biodiesel sector, (3) finding sustainable alternatives for fossil fuels and taking care of the *environment* by reducing CO₂ emissions, and (4) supporting *technology* to improve local development.

In Brazil a large variety of oleaginous crops is available to produce this biodiesel; the government suggested the use of rapeseed, palm oil, castor bean, jatropha, sunflower, soybean and algae. The choice for a particular crop can depend on the type of farming and geographical area. As the government specifically aims at the inclusion of small farmers it has developed mechanisms to include their produce into the biodiesel

production chain. Therefore a Social Fuel Stamp and a tax reduction system are set up to promote use of alternative oil crops that are not already traded on a large scale on the national and international commodity market. However, there seems to be a tension between the quantity of vegetable oils needed for biodiesel production and the social objectives of the PNPB.

Objectives of the research

- To analyse the dynamics and impact of the PNPB
- To explore the role, position, concerns and strategy of the main actors and their position towards the use of soy oil for biodiesel production
- To assess the feasibility of small farmers to engage in the biodiesel chain
- To contribute to the (inter)national discussion on the relationship between food, feed and fuel production from a social science perspective

Approach

- Map a network to create an overview of key actors and institutions in biodiesel and soy production
- Map the production chains of biodiesel and soy to indicate interdependent relations of current institutions
- Combine the network and chain analysis and relate them to the perceptions of actors in order to analyse social-cognitive networks

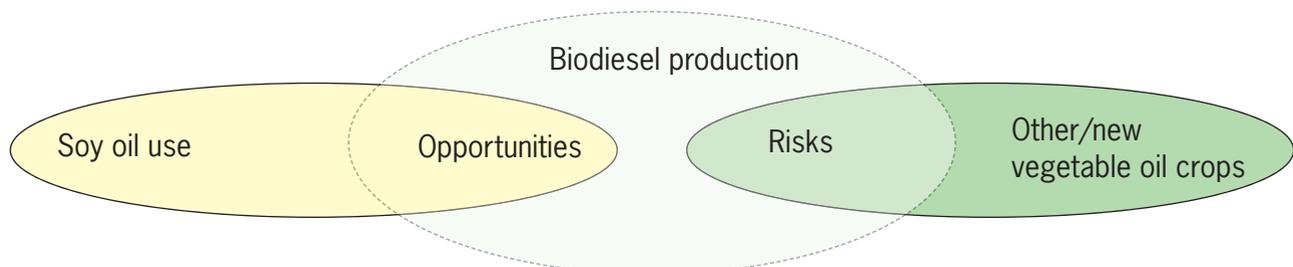


Figure 1. Opportunities and risks with biodiesel production.

Cultivation of oleaginous crops

The net-chain analysis demonstrates the different visions and interests portrayed by the actors involved with the development of the PNPB. It shows that their position depends on their current chain position (Fig. 1). Based on this information it is possible to distinguish two important patterns. In the first place there is the pattern of 'risks'. This one applies mainly to small farmers. They have to produce crops on which very little agronomic knowledge is available, technologies still have to be improved, and they all produce a little which needs an efficient and widespread infrastructural network. On the other hand there is the pattern of 'opportunities' that primarily applies to producers of soy oil. With their experience and management of the chain the production of biodiesel is a differentiation of their market opportunities thus giving them a stronger position in national and international trade. These aspects suggest that the PNPB might have difficulties achieving all its objectives. A tension field will arise between the availability of sufficient vegetable oil and the willingness to produce this oil. If the government really wants to support small farmers they need to improve their sense of security for the transition and production of oleaginous crops. However, if the main goal appears to be sufficient supply of biodiesel than soy oil might be an interesting alternative.

Reflection

The research analyses the development of governance structures in the rapidly evolving policy field of biodiesel production. It becomes clear that policies are not independently operating structures, but a flexible system that evolves as a result of interaction between various interest groups. Even though improving the livelihood of small farmers is one of the main objectives, it is questionable whether they are able to participate in the development of the PNPB. Fig. 2 shows that both the soy and the PNPB arena's consist of a large variety of key players that have their own perspective on the development of the biodiesel market in Brazil. These include: producers, small farmers, biodiesel industry, vegetable oil purchasers, regulatory agencies, ministries, extension services, non-governmental organisations, and etcetera. For all actor groups it seems difficult to make generalisations. The size and diversity of the country bring about a huge variety in context and organisational structures. Some actors argue that introducing such a new system comes with many unpredictable risk and consequence while others might see it as a (technical) challenge. Yet, the current position in either the soy or PNPB arena seems of key importance for their attitude as well as their influence on the future evolution of the biodiesel infrastructure.

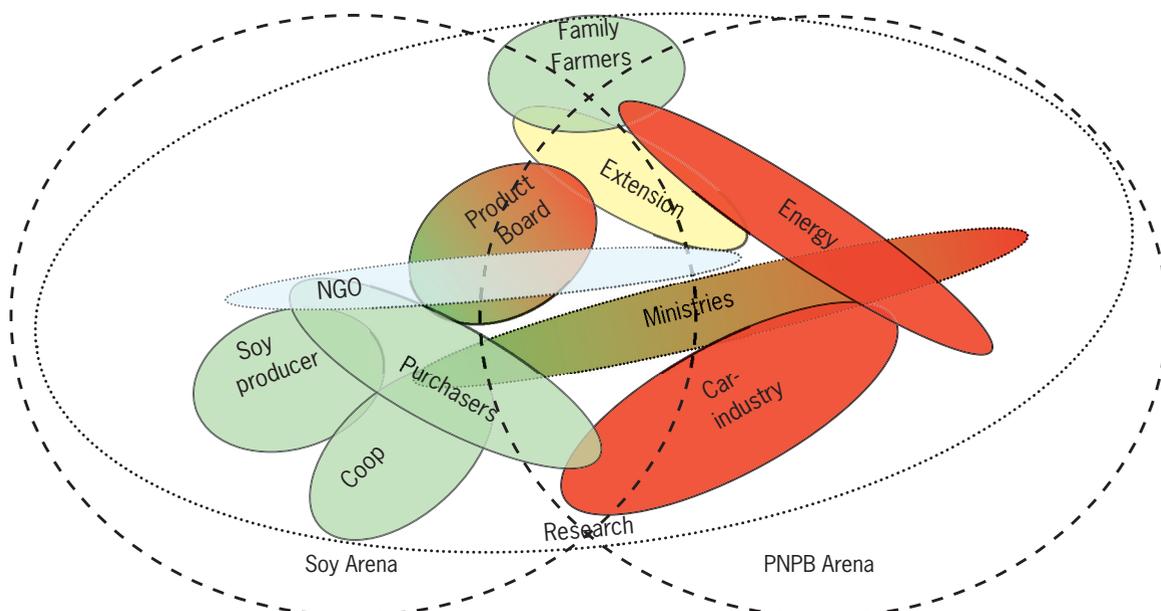


Figure 2. Soy and biodiesel production arenas.