

2008

THE STATE OF FOOD AND AGRICULTURE



BIOFUELS: prospects, risks and opportunities



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Foreword

More than at any time in the past three decades, the world's attention is focused this year on food and agriculture. A variety of factors have combined to raise food prices to the highest levels since the 1970s (in real terms), with serious implications for food security among poor populations around the world. One of the most frequently mentioned contributing factors is the rapid recent growth in the use of agricultural commodities – including some food crops – for the production of biofuels. Yet the impact of biofuels on food prices remains the subject of considerable debate, as does their potential to contribute to energy security, climate-change mitigation and agricultural development. Even while this debate continues, countries around the world confront important choices about policies and investments regarding biofuels. These were among the topics discussed at FAO in June 2008 by delegations from 181 countries attending the High-Level Conference on World Food Security: the Challenges of Climate Change and Bioenergy. Given the urgency of these choices and the magnitude of their potential consequences, participants at the Conference agreed that careful assessment of the prospects, risks and opportunities posed by biofuels is essential. This is the focus of FAO's 2008 report on the *State of Food and Agriculture*.

The report finds that while biofuels will offset only a modest share of fossil energy use over the next decade, they will have much bigger impacts on agriculture and food security. The emergence of biofuels as a new and significant source of demand for some agricultural commodities – including maize, sugar, oilseeds and palm oil – contributes to higher prices for agricultural commodities in general, and for the resources used to produce them. For the majority of poor households who consume more food than they produce, higher prices can pose a serious threat to food security – especially in the short term. But it is important to keep in mind that biofuels are only one of many drivers of high

food prices: weather-related production shortfalls in major exporting countries, low global cereal stocks, increasing fuel costs, the changing structure of demand associated with income growth, population growth and urbanization, operations on financial markets, short-term policy actions, exchange rate fluctuations and other factors also play a role. Given appropriate policies and investments, high prices can trigger a response in terms of increased agricultural production and employment, which could contribute to poverty alleviation and improved food security over the longer term.

The report also finds that the impact of biofuels on greenhouse gas emissions varies widely, depending on where and how the various feedstock crops are produced. In many cases, increased emissions from land-use change are likely to offset or even exceed the greenhouse gas savings obtained by replacing fossil fuels with biofuels, and impacts on water, soil and biodiversity are also a concern. Good agricultural practices and increased yields through technological developments and improved infrastructure can help reduce some of these adverse impacts. In the longer run, the emergence of second-generation biofuels may offer additional benefits.

These are some of the main conclusions. What are their implications for policy? Our starting point must be the current situation of soaring food prices and the severe problems they pose for the poor. There is an urgent need to provide immediate relief and assistance to the net food-importing developing countries most affected by higher food prices, as well as providing safety nets to poor net food-buying households in developing countries. This is a shared responsibility of national governments and the international community. However, it is advisable to avoid policies such as export bans and direct price controls, which may in fact worsen and prolong the crisis by blocking price incentives for farmers and preventing them from increasing output.

There is also an urgent need to review current policies supporting, subsidising and mandating biofuel production and use. A large share of the recent growth in biofuels has been driven by such policies, especially in Organisation for Economic Co-operation and Development (OECD) countries. Many of the assumptions underlying these policies regarding beneficial impacts on climate change and energy security are now being questioned, and unintended consequences of rising food prices for poor consumers are being recognized. There seems to be a case for directing expenditures on biofuels more towards research and development, especially on second-generation technologies, which hold more promise in terms of reductions in greenhouse gas emissions with less pressure on the natural resource base.

Effective action must be undertaken to ensure that biofuels provide a positive contribution to reductions in greenhouse gas emissions while minimizing other negative environmental impacts. There is a need, especially, for a much better understanding of the effects of biofuels on land-use change, from which the most significant impacts on greenhouse gas emissions and other environmental impacts will be derived. Criteria for sustainable production of biofuels can help ensure environmental sustainability. However, it is critical that such criteria be carefully assessed and applied only to global public goods, and they must be designed in such a way as to avoid the creation of additional trade barriers and posing undue constraints on developing countries wishing to take advantage of the opportunities offered by biofuels.

When we look to the longer run, to the extent demand for biofuels leads to a continued upward pressure on prices for agricultural commodities, we must be able to reap the opportunities this provides for agricultural development and poverty alleviation. This requires overcoming some of the long-run constraints which have hampered agricultural development in too many developing countries for too long. The emergence of biofuels as a new source of demand for agricultural commodities strengthens the case for enhanced investments, as well as increased levels of development assistance, directed towards the agriculture sector and the

rural areas. Particular attention needs to be given to ensuring that farmers have access to necessary inputs such as irrigation, fertilizers and improved seed varieties through market-supportive mechanisms. Opportunities for developing countries to take advantage of biofuel demand would also be greatly advanced by the removal of the agricultural and biofuel subsidies and trade barriers that currently benefit producers in OECD countries at the expense of producers in developing countries.

The future of biofuels and the role they will play for agriculture and food security remain uncertain. There are many concerns and challenges to be overcome if biofuels are to contribute positively to an improved environment as well as to agricultural and rural development. But just as hasty decisions to promote biofuels may have adverse unintended consequences on food security and the environment, so might hasty decisions to restrict biofuels limit opportunities for sustainable agricultural growth that could benefit the poor. As noted in the Declaration adopted at the June 2008 High-Level Conference on World Food Security, "It is essential to address the challenges and opportunities posed by biofuels, in view of the world's food security, energy and sustainable development needs. We are convinced that in-depth studies are necessary to ensure that production and use of biofuels is sustainable in accordance with the three pillars of sustainable development and take into account the need to achieve and maintain global food security ... We call upon relevant inter-governmental organizations, including FAO, within their mandates and areas of expertise, with the involvement of national governments, partnerships, the private sector, and civil society, to foster a coherent, effective and results-oriented international dialogue on biofuels in the context of food security and sustainable development needs." It is my hope that this report will contribute to better-informed dialogue and policy action in this area of critical choices we face.



Jacques Diouf
FAO DIRECTOR-GENERAL

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Abbreviations and acronyms

EU	European Union
CRB	Commodity Research Bureau
GBEP	Global Bioenergy Partnership
GDP	gross domestic product
IRR	internal rate of return
LDC	least-developed country
LIFDC	low-income food-deficit country
MFN	most-favoured nation
Mtoe	million tonnes of oil equivalent
NPV	net present value
OECD	Organisation for Economic Co-operation and Development
TSE	total support estimates
WTO	World Trade Organization