



ACCOUNT OF THE CONFERENCE
"RISING AGRICULTURAL AND BIOFUEL PRICES: CONSEQUENCES FOR DEVELOPING COUNTRIES"

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The question of the effects of rising biofuel prices on developing countries is complex. On one hand, the current rise in farm prices establishes a favorable environment for agriculture in developing countries. On the face of it, higher farm incomes means money invested on the farm, leading to greater yields and even increased non-farm investment. The impact of rising farm prices is even much greater in developing areas, where 53% of the active population, or about 1.3 billion individuals, work in the agricultural sector. But, on the other hand, rising agricultural prices translate into higher prices for food with undesirable consequences for household budgets among poorer consumers, especially those living in urban areas. Moreover, biofuels could represent a low-cost solution to rising energy needs in developing countries. In this way they may help farming, but they also contribute to an increase in food prices. Therefore, the answer that emerged from this discussion was a nuanced one; rising agricultural prices and biofuels may well be good news for developing countries, but only if public policies are implemented in order to limit undesirable effects and lower tension between competing demands for food and energy. The response is even more complex in light of the widely varying economic and agricultural conditions that obtain from one country to the next. In such different conditions it is difficult to formulate a response that is not uselessly reductive.

A NOTE ABOUT THE CONTEXT

Gross world food production has doubled since 1970. The 180% increase in food production achieved in the developing world outstripped population growth, resulting in an increase in *per capita* food production of some 50%. Cereals, including wheat, corn, and rice experienced the greatest production increases, while certain cereals grown for food showed slight growth (millet, sorghum...) At the same time, **world agricultural prices dropped by approximately 60% in constant dollar terms over the last four decades.** This decrease was not advantageous for farmers, but it did benefit poor consumers.

MAIN FACTORS DRIVING CHANGES IN PRIMARY GOODS MARKETS IN THE FUTURE (SLIDES 1 - 22)

The factors discussed below do not take into account changes due to the new biofuel market nor climate change.

- **Strong demographic growth, mainly affecting urban areas of developing countries:**
 - world population will continue to grow in the coming years despite diminished rates of growth and will likely reach 8.1 billion by 2030. Most of this growth will occur in the cities of developing countries. Food supply for urban populations is clearly an issue to be addressed, both in terms of food quantities, but also transport infrastructure.
 - the demographic structure of developing areas is changing rapidly, as populations age. The implications of these changes for food supply issues are not clear.

- **By 2030 a number of countries will have to confront starvation problems:**

Poor incomes will continue to increase until 2010, at which point they will begin to shrink. Even the likely increase will not sufficient to give the poorest segments of the population the means to be self-sufficient in food. According to FAO projections, the poor countries of subsaharan Africa will experience serious problems of starvation. In caloric terms, it is predicted that the population of many countries will face nutritional difficulties.

- **Rising demand for cereals and meat**

While some populations will experience food shortages, others in the developing world will be increasing their demand for meat, and consequently demand for cereals as feed crops will rise as well. This demand will spring from rising revenues that will benefit some segments of the population.

These three factors will result in rising prices on world cereal markets. Some developed nations will become net grain exporters, while some developing countries -- especially those without petroleum resources -- will have difficulty paying for cereal imports.

Demand for farm goods, whether for food or fuel, will remain vigorous in the coming decades at the same time that natural resource constraints may limit agricultural production.

In South Asia and North Africa, almost all arable lands are already under cultivation, and a significant share of available water resources are devoted to agriculture (53% in North Africa and the Near East, about 35% for South Asia). This share will increase in the future; estimated share of water resources that will be put towards agriculture in 2030 are 60% for North Africa and the Near East, and 40% for South Asia. These two regions will be forced to import cereals and other staples in order to feed their populations. As a rule, the strongest demand for water arises from the agricultural sector, and the FAO sees this demand growing until about 2030. Will natural resources, namely water and land, become constraints on world agricultural production?

WHAT IS THE MARKET OUTLOOK FOR NON-FOOD-AND-FEED AGRICULTURAL GOODS ? (SLIDES 23 - 31)

Energy consumption is tied to income, and as incomes rise in developing countries energy demands will rise along with them. Oil production, however, is not expected to increase to any significant degree in coming years, and new petroleum discoveries will continue to grow scarce. Biofuels constitute an alternative to petroleum, and one which must be considered seriously.

In 2004, biofuels accounted for 1% of world energy consumption

What follows is a brief sketch of the world energy picture and of the place biofuels could occupy in this picture. In 2004 world energy demand was 463 exajoules; in 2030 demand will rise to 670 exajoules, and 850 by 2050. In addition, non-OECD demand will at some point outstrip demand generated by OECD member states. In 2004 biomass (not including biofuels) was the source of 32.5 exajoules of energy. Biofuel use totalled 0.90 exajoules. Approximately 10 million hectares was needed to produce this much biofuel. The quantities of biomass used for energy vary from region to region throughout the world. Africa and Asia are the world leaders in biomass as an energy source. In certain countries, including The Democratic Republic of the Congo or Tanzania, biomass meets more than 90% of national energy demand. In contrast, biomass within the OECD, which accounts for only 3% of world biomass production, is a very small part of the energy equation.

Biofuels could account for somewhere between 300 - 500 exajoules annually worldwide by 2050, including up to 200 in Africa, 180 in Latin America, and as many as 120 in North America. It should be noted that producing such estimates is difficult, and a large margin of error exists. The question remains about the **impact of such levels of production on water and land resources as well as on agricultural and food prices.**

WHAT IMPACT OF INCREASED BIOFUEL USE ON FOOD PRICES? ARE ALL FORMS OF BIO-ENERGY COMPETITIVE?

Biofuels create a link between agricultural prices and energy prices

Producing energy from biomass and in particular producing biofuel has forged a link between agricultural prices and oil prices. As a result prices on agricultural markets are currently on the rise because the price of oil is going up, and this is true for all farm products whether destined for food and feed, or for fuel.

Can biofuels compete with oil-derived fuel?

The cost of producing biofuels varies according to both the plant and the production process used in making the biofuel.

- Sugar cane in Brazil: biofuel becomes profitable when oil reaches 30-35 dollars per barrel
- Corn in the US: biofuel becomes profitable when oil reaches 55-60 dollars per barrel
- Various sources of biomass in the EU: biofuel becomes profitable when oil reaches 80 dollars per barrel.
- Second-generation biofuels: at the current level of know-how, this form of biofuel would become profitable when the price of a barrel of oil reaches 100 dollars.

Given such a wide range of production costs, trade tariffs are indispensable for protecting fledgling industries in the US and the EU if production in these areas is to get off the ground. In other words, the production of biofuels in the EU and the US must be the result of a policy choice including implementation of subsidies and barriers to protect the sectors involved in biofuel production.

If the policies in place in developed countries are left unchanged, production levels for biofuels will continue to climb, more land will be devoted to biomass production for biofuel, and this pressure on supply will push farm prices higher. This phenomenon is amplified by two others: the current low levels of world stockpiles and adverse climatic conditions.

The impact of biofuels on prices for farm products

The use of primary goods produced on the farm for the production of biofuels will have an impact on demand for these goods, and therefore on their price. This effect will be all the greater in light of the supply pressures due to other constraints. Accordingly, the price of oleaginous and cereal crops ought to rise and the price for biofuel production byproducts (such as protein-rich cattle-cake for feed) will likely move downward.

In a situation of higher agricultural prices and higher oil prices, certain countries will be better off while others will be required to increase their energy expenditures, thereby draining funds from other public spending areas, with a possible negative effect on social stability.

Overall rising agricultural prices would seem to be positive for agriculture in developing countries. But this overall advantage will likely be tempered by adverse effects in other sectors in some countries, depending on local factors such as availability of natural resources, export and import capacity, relative impact on consumers versus farmers, and so forth. For example, slide 18 shows that certain countries already cultivate all or nearly all of their arable land. If domestic demand rises, these countries will need to import food at new – higher – prices. Another example is seen on the final slide which shows how the situation varies from one developing country to another and, even within the same country, how several variables are in play, including the cost of oil, the level of farm product prices and the productive capacity of the agricultural sector. Finally, all evaluations and forecasts run up against the large unknowns of climate change on one hand and policy change regarding support for biofuels on the other. Beyond these considerations, there is also the need to assess and to take into account the environmental impact of biofuels.