



International Food and Agribusiness Management Review
Volume 11, Issue 3, 2008

Industry Speaks

Strategies for Solving the Food Inflation Problem

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Abstract

This article addresses some of the partial truths and misinformation in media reporting over the booming food prices debate. Many studies are only linking biofuels to the inflation cause, while ignoring several other factors such as the growth of the world population, economic development and income distribution. An overview of the causes is discussed and 10 strategies proposed which policy makers, governments, and organizations can adapt to move the world forward towards long-term sustainability.

Keywords: food crisis, bio-fuels, strategy, sustainability, problem solving.

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Introduction

During the last few weeks I've heard several important discussions in international forums regarding the booming food prices and its consequences world-wide. Between 2003 and 2005, the FAO's food price index rose 14.71%; in the two consecutive years which followed, it reached 34.19%; then in just one year from March 2007 to March 2008, the index bumped to an incredible 57.14% (FAO, 2008 a). As a result, inflation is a real concern in Europe (3.6%), China (8.3%), USA (4.0%), Russia (12.7%) and many other markets of different economic power. The poorest countries are suffering the most from soaring food prices. Poorer families spend a larger percentage of their budget on food consumption. We've seen the devastating proof in several of the least developed nations during the last 12 months. For example, in Haiti, the poorest country in the Americas, former Prime Minister Jacques Edouard Aléxis was expelled from his position in April by his own congress after being accused of negligence in failing to properly combat the problem. Within one week, in Africa, a fifty kilo bag of rice went from \$ 35 USD to \$ 70 USD. In Cameroon, Africa, official numbers reported 24 deaths after weeks of conflicts between local police and hunger mobs, but some human right activists say the real number surpasses the hundreds. According to FAO Director, General Jacques Diouf, soaring food prices pushed no less than 50 million people to hunger in 2007 only (FAO, 2008 b).

Following the first news about rising food prices and its consequences, journalists, researchers, scholars and opinion makers started to publish their studies and personal thoughts around the causes of these dynamics. In the first part of this article, I will address some incomplete views over the food prices debate. Many studies are only linking biofuels (a) to the inflation cause, ignoring several other factors, some of which we've known for a longtime, such as the growth of world population (b), and there are new ones, like economic development and income distribution (c) in populated countries such as India, Brazil, Eastern Europe, China, Indonesia, Thailand, South Africa, Argentina, Arabian countries, African countries, among others; stronger governmental programs (d) for aid and food consumption such as the *Bolsa Familia in Brazil*—reaching 10 million families; the major impact of urbanization (e) of society bringing megacities, increasing food consumption and changing consumption habits; oil prices (f) went up from \$ 35 USD to \$ 100 USD in five years, impacting production and transportation costs. The strong dollar devaluation (g); and farm/production shortages due to climate, droughts and diseases (h) and investment funds operating in futures markets and others in agribusiness. What is the percentage of responsibility for each of these nine factors that together have caused the problem? If it is only biofuels, why are other products not related to biofuels like rice and orange juice also having strong price increases?

The Case of Biofuels

In the particular case of biofuels, several serious sustainable driven global investments in South America, Africa and Asia, among others, are being severely damaged by these articles and opinions. One respected and well informed economists, in a recent article published in the New York Times made the following statement:

“...even seemingly good biofuels policies, like Brazil’s use of ethanol from sugar cane, accelerate the pace of climate change by promoting deforestation.”

Biofuels production in Brazil is more than 1,500 miles away from Amazon region. An important representative from the United Nations (ONU) has classified biofuels as a “crime against humanity” and has requested the European Commission abandon its target of blending fossil fuels with 10% of biofuels. The General Director of Food Marketing Institute (FMI), has attacked biofuels by classifying their production as a “moral problem”. Several significant research studies have been published validating positive experiences and solutions on the sustainability of biofuels for decades and must be considered before emitting an opinion. Since the debate is gaining an ever bigger proportion, we must scrutinize studies being published in first level world journals, newspapers and magazines using sometimes obscure methodologies, and dangerously generalizing the results. Academics know the risks of generalization.

Unfortunately, not all biofuels can’t be put into the same basket because significant differences exist among ethanol sources and their energy-yield efficiency. Ethanol from the world’s two biggest producers, the USA and Brazil, differ considerably in terms of how they impact food prices. Fuel production demands are competing for a growing portion of the world’s biggest maize production (23.7% in 2007). The United States is producing ethanol from one of the most important crops for human and animal consumption. US ethanol is heavily dependent upon subsidies (\$ 6 billion USD in 2007) and US ethanol production does have some impact on maize prices internationally. Additionally, America’s maize production grows year after year mostly taking land from soy fields, which for instance decreased 16% in 2007 compared to the previous year (USDA, 2008). On the other hand, Brazil manages to produce its sugar cane based ethanol without subsidies, for less than half the cost per liter and more than twice the yield per hectare when compared to the US product. As far as land use is concerned, sugar cane has mainly taken areas from degraded pasture used for extensive cattle farming. In the state of Sao Paulo, where currently around 70% of the country’s sugar cane grows, the area designated to the crop grew over 37% from 2001 to 2006. Some 75% of such growth, or 725.204 hectares, occurred over former pasture areas. During that period, pastures also lost ground for soy, sorghum, cassava, potatoes and other important cultures to human and animal nutrition (CAMARGO, et al). Brazil’s livestock index is 0.9 units per

hectare, way lower than other world meat exporters, which leaves a huge gap for improvements in yield. Nevertheless, modernization is already taking place on Brazilian ranches through investments especially in genetics and animal nutrition, as well as through improvements in animal and soil handling.

Additionally, because of the need for culture rotation, 15 to 20% of the areas used for growing sugar cane are actually producing food (usually soy, peanuts or beans). This has contributed to Brazil's record food production year after year, despite increasing biofuel production. As said before, there are several studies showing that Brazilian ethanol and other biofuels are energy and cost efficient and represent a sustainable pathway towards the development of some of the world's poorest areas. Society must ask itself what are the interests and who are sponsoring these "studies"? A nice starting point is to analyze who loses margins with these changes and from the growth of biofuels.

Solutions for a Sustainable Future

In this second part of the article, I suggest two ways to solve this food inflation problem. One, in my view, is going backwards towards an increase in protectionism, stimulating non competitive areas to produce and returning to the "self sufficiency" of war times; or to ban biofuels (a biofuels moratorium) is a possible solution for society to live on a more sustainable planet. I offer governments and international organizations, my contribution to the food inflation debate, a 10 point agenda that, in my opinion, is the right avenue to follow, in providing long term results.

1 – *Expand production horizontally into new areas, with environmental sustainability.* This expansion can be done in several countries—South America uses only 25% of its capacity, but on all continents, with millions of hectares that today are poorly used. In Brazil several studies by recognized institutions confirm the existence of more than 100 million hectares that can be utilized for food and biofuels production, without touching fragile systems and mostly growing over degraded pastures. These production and land expansions, if stimulated with sustainable contracts, will bring inclusion in farming, new entrepreneurs, job creation in less developed nations, income distribution and economic development, having even a positive impact in democracy. The following table shows that Brazil still have plenty of areas for food and biofuel production.

2 – *Vertical expansions, or, more production in areas that are already being utilized.* Several hectares in South America, in Africa, in Asia, and even in developed nations could produce more if more technology, investments were done. If one compares the amount of corn a USA farmer can generate in tons per acre is two or even three times higher than the average production of Brazil and other countries. With irrigation, some farms on the tropics can generate three crops per year.

Table 1. Availability of arable land in Brazil

	Millions of hectares	% of total area	% of arable area
Brazil	850	100	
Not arable or preservation area	510	60	
Total arable area	340	40	100
Cultivated area	63.1	7.4	18.6
Soy	20.6	2.4	6.1
Maize	14	1.6	4.1
Sugar cane	7.8	0.9	2.3
Sugar cane for ethanol	3.4	0.4	1.0
Pasture	200	23.5	58.8
Total available area	77	9.1	22.6

Source: ICONE and UNICA

3 – *Reduce food import taxes and other import barriers and protections.* Food prices in some countries are artificially inflated due to import taxes and other kinds of protections. As an example, beef in the European Union costs four or five times higher than the same quality beef in an Argentinean or Brazilian store of the same European retailer. The argument mostly used is that lowering the protections will damage local agriculture of less developed countries. It must be assumed now that the new level of commodity prices may allow local agriculture to be competitive. Several other internal taxes on food can also be reduced by local Governments, reducing consumer prices. Additionally, the more than \$ 330 billion USD spent annually by OCDE members in agricultural subsidies put even more pressure in prices while undermining more cost efficient food production in naturally competitive countries.

4 – *Investment in international logistics in order to reduce food costs.* Part of grain producing countries has extremely poor logistics, like the case of Brazil. Governments should invest and society should work harder to change institutions in order to facilitate public private partnerships to privatize ports, roads, and other food distribution logistic equipments.

5 – *Reduce transaction costs,* since major international food chains are badly coordinated, have several redundancies, poor use of assets, corruption, opportunism and other inefficiencies that are largely responsible for losses, increase in costs, and maintenance of not adding value to companies, agents or others in the food chains, impacting food prices. Institutional reforms as proposed by Douglass North are the solution here. Also more efficient cooperatives, producer pools, and other collective actions should gain force to reduce redundancies and increase producer organization and bargaining power.

6 – *Use the best sources for biofuels,* in a totally sustainable way. The example of Brazil could be better analyzed, since ethanol is produced in 3.5 million hectares of cane, using only 1% of the country's arable land and supplying 50% of fuel transport

consumption, with no impact in food production. The growth of food production and biofuels together at the State of Sao Paulo in the last 10 years shows that it is possible to grow food and biofuels together. Crops for biofuels that have better yields and don't compete with food chains should be prioritized in global development of biofuels. Ultimately, the growth of biofuels in the world's energy matrix has a positive effect in inflation and food production for it reduces economic dependency in limited resources and eases climate changes that jeopardize agriculture (lately, unusual climate patterns have impacted wheat and meat production, for instance). The energy balance of Brazilian ethanol is 4.5 times better than that of ethanol produced from sugar beet or wheat, and almost seven times better than ethanol produced from corn.

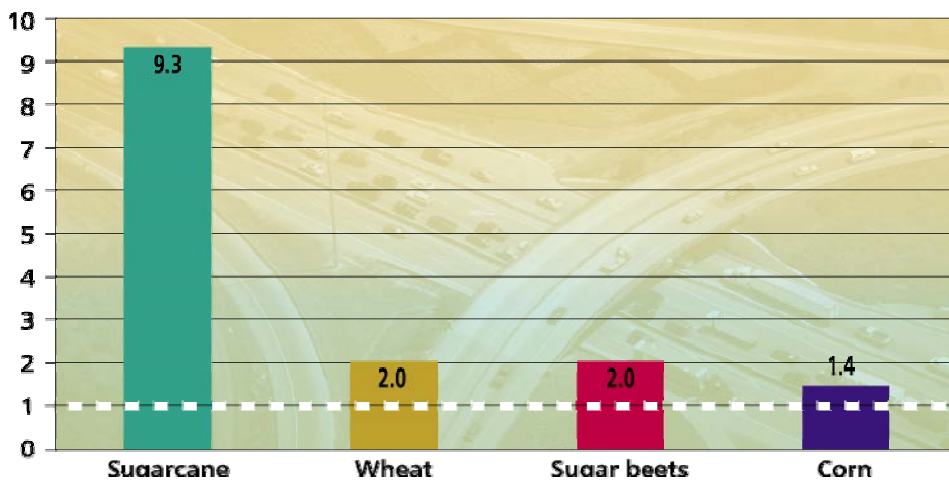


Figure 1. Energy Balance. Data represents the amount of energy contained in ethanol per unit of fossil fuel input

Note: estimated data

Source: World Watch Institute (2006) and Macedo et al (2008).

Data compiled by Icone and Unica

7 - Invest in a new generation of fertilizers. It is important to produce fertilizers from alternative sources, plants that can absorb more the energy of the sun, more recycling of by-products as sources of fertilizers to mitigate the huge risk and cost of fertilizers in the future. Fertilizers are among the most important and expensive inputs for agriculture, and in times in which yield must be improved, its importance grows even bigger. As an example, in Brazil fertilizers respond to around one third of total variable costs of a standard soy plantation. In the last three years farmers have been facing an astonishing increase in the prices of fertilizers. Compared to 2006, the DAP international prices averages for the first four months of 2008 rose more than 360%. Also during this same period, the prices of phosphate rock is 730% more expensive, TSP rose 414% and urea and potassium chloride rose 181% and 197% respectively (WORLD BANK, 2008).

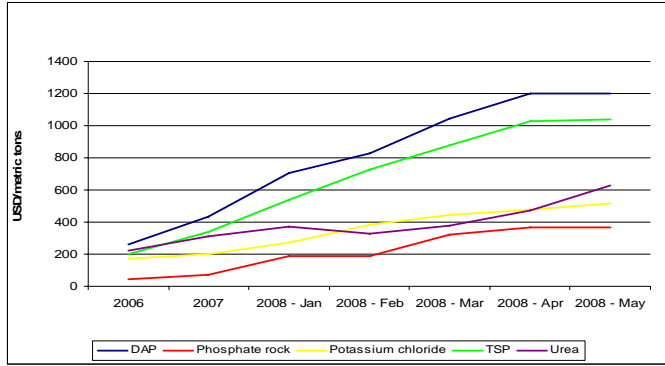


Figure 2. International Fertilizer Prices

Source: The World Bank

8 – *Work more towards sustainable supply contracts for farmers, with integrated sustainable investments and projects.* It is of fundamental importance that margins and income will be better distributed on food chains, reaching farmers all over the world. Price stimulus is the best economic incentive for growth in production with technology. It is well known and studied how concentration in several food industries and retailing retains margins that could be better distributed to farmers increasing economic development.

9 – *Stimulate research and investments in innovation from all possible sources, but mostly in genetics, in order to find new solutions for food and biofuels production and consumption.* In trying to solve the sustainability equation, seeds are a problem today, due to shortages. Public investments in agricultural research and development have decreased considerably in the past couple of decades, resulting in a yield-growth slowdown, disabling production and the ability to keep up with rising consumption. The following figure shows the decreasing investments in agriculture research and development:

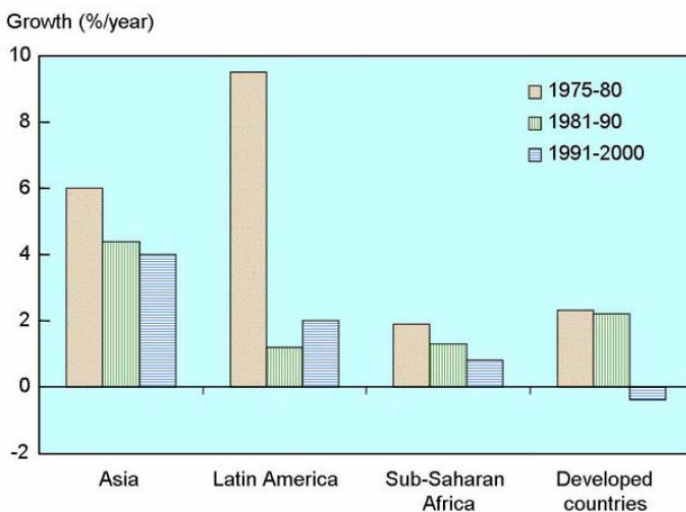


Figure 3. Public investment in agricultural research and development

Source: D. Byerlee et al apud International Rice Research Institute, 2008

10 – *Slowly work to change consumption habits in both food and fuel.* Food is over consumed in several parts of the world, bringing with it obesity—a major health concern. Another area of inefficient consumption is fuel. Investments need to be made in resourceful public transportation. This is a major challenge in many countries. Barcelona has implemented a very nice public biking system which is an excellent example of a working solution.

My contribution is to organize and propose these 10 suggestions for use in this major debate. They are not new, and some are already being implemented with beautiful results. But, we've reached a turning point. We can either go back to trying to increase protectionism, less efficient ventures of self-sufficiency, ban biofuels, create food export taxes, or even threaten to turn private companies into public companies. Or society can move forward, and I certainly hope global interests will allow us to move forward with this positive agenda, the right avenue for global sustainability.

Table 2. Causes of Food Price Increases and Possible Solutions

9 Causes of Food Prices Increase	10 Proposed Solutions
Biofuels	Sustainable horizontal expansion towards new areas
Population growth	Vertical expansion with more technology
Income distribution and wealth in populated countries	Reduction in food taxes and other protections
Governmental programs for food distribution	Investments in international logistics platform
Urbanization of population and megacities	Use the best sources for biofuels production
Oil prices impact on production and transportation costs	Reduction in transaction costs in food chains
Production shortages due to adverse climate conditions	New generation fertilizers
Dollar devaluation	Sustainable supply contracts to farmers
Investment funds operating in commodities	Innovations (genetics and others)
	Consumption behavior for less energy consumption