

## Communications & Opinions



### Fighting food scarcity and environmental degradation in times of economic crisis\*

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Dear Friends,

I am delighted to welcome you in such large numbers to the 2nd Forum on the Future of Agriculture, and I can only regret that we had to reject the overflow of applications. This 2nd Forum is organized by the ELO together with Syngenta and co-sponsored by Syngenta and the ELO with input from the RISE Foundation, of which Syngenta is a strategic partner.

Our first keynote speaker today, Commissioner Louis Michel apologized for dropping out because of a mission to Cuba. I am therefore taking over the opening address. It will be followed by a video address by Nobel Prize economist Paul Krugman. It was taped at a breakfast meeting with him here yesterday as he could not be with us today.

We face three global crises. They concern the environment, finance and food. The sharpest of them is the current financial collapse, the worst since the Great Depression. The most frightening is the looming food crisis with world hunger approaching one billion people this year. The most alarming is climate change because of its different and greater scale of risk. They are interconnected. For instance, without a greater and more stable food economy, one cannot expect to meet the Kyoto goals against climate change. Without success in Kyoto II, food production itself would suffer in turn from declining yields. Without trust in the financial framework, there is no way to meet the food and environmental challenges.

At the last World Economic Forum in Davos Bill Clinton said that the world's problem is that it is « unequal, unstable and unsustainable ». Let me put this in the context of the main world trends.

What are these trends? **World population growth** is the biggest trend-making factor: 220,000 more people a day, close to 8bn overall within the next 17 years (2025), and 3bn with less than \$2/day by 2050. Africa's population alone will grow by nearly a quarter in barely 9 years (2007-2016), while Asia's population will rise by nearly half a billion. At the same time, we see huge movements from rural towards urban zones. Consequently, there is rapidly growing demand for crop products including feeding stuff with meat consumption increasing with living standards. World grain consumption is expected to quadruple in developing countries by 2025 compared to 1969, with a 40% jump from 1997 and about one quarter of additional demand originating in China. Other major global trends are **globalization and urbanization** with production moving to the most competitive regions and trade in food becoming more open, but also more concentrated and managed; **growing energy demand** and **climate change** with agriculture contributing to emissions, but also suffering or benefiting from changing climates depending on climatic zones.

(Additional challenges are increasing market volatility, uncertainty regarding innovations and the financing of public services provided by farmers. **Market volatility** results from yield and end stock fluctuations, food imbalances and market segmentation, input and output and exchange-rate fluctuation, consumer sensitivity to food quality, safety and price. There is **uncertainty** regarding timing and application of

**innovations** as regards biotechnology, nanotechnology, precision farming, carbon sequestration, and information technology. Finally, there is the challenge of who will pay for agricultural **public services provided by land managers** that the market does not pay for, such as rural landscape maintenance, environmental protection, biodiversity and animal welfare. These challenges are aggravated by **global irresponsibility** regarding finance, food security, water and environmental sustainability (not to mention energy sufficiency)

I will now comment on the financial crisis, food security and environment preservation, and conclude advocating new, global responsibilities.

### **Financial Crisis**

Governments, bankers, companies and rating agencies generally claim that the worst financial collapse in three generations could not have been predicted. False! There are several economists, most prominently Paul Krugman, whose video-presentation follows my address, who analyzed the pitfalls of a global economy lacking proper management, and predicted its collapse. And it was a theologian, Professor Hans Küng, who applied the chaos theory to the world economy according to which even small causes can have devastating effects, predicting in the mid-nineties “a repetition of the 1929-1933 crisis, and the collapse of the international economic order”.

However the most severe **downturn** since the Great Depression has **multiple causes**: financial irresponsibility by governments, banks, corporations as well as by the public, which have by and large behaved with “irrational exuberance” (Greenspan) by over-spending, over-investing, and over-consuming in good times, as if the party could go on for ever, as if resources were unlimited, as if economic cycles were a thing of the past, and as if budget and current account imbalances did not matter. Most of them acted unaware, ignorant, or oblivious of risk. This has led to a liquidity and credit crisis, which paralyzed investment and trade and caused for many enterprises and banks a solvency crisis. The risky and uncontrolled behaviour of investment - and other bankers was made possible by the absence of a proper regulatory framework. President Thomas Jefferson must have had an early premonition when he said in 1802: “I believe the banking institutions are more dangerous to our liberties than standing armies”. “But they should not carry alone the cross for global systemic market and policy failure.

Preference for monetary laxity and self regulation kept rates of interest too low to encourage savings favouring the debt makers. The mirror image of this was the under-spending of a number of Asian countries with high personal savings and foreign reserve accumulations. The dimension of the mismanagement of the US economy was only possible because of the role of the US Dollar as the world’s leading currency. But there has been a more global tendency in recent decades to overspend even in good times, despite the useful restraints imposed by EMU in the Euro-zone. As a result, it has become difficult for many countries to grow out of their debt without socializing it, notably by nationalizing banks. It will be equally difficult to stimulate the economy out of recession without leading future generations to carry the burden. Surplus, under-spending countries should of course, and can no doubt contribute to relaunching the world economy, but within limits. Their economies and employment suffer from export collapse. Bruised in the past by periods of currency crises and massive capital outflows in the context of very volatile, unregulated financial markets, they understandably prefer to avoid further financial crises by keeping large reserve cushions.

**Financial speculation** took advantage of the liberalization of international capital movements, which was permitted ignoring the warnings of John Maynard Keynes seven decades ago. As Martin Wolf recently wrote, “Keynes would be horrified that the world has let the genie of free capital flow out of the bottle. This, he would note, is why more external financing is needed than ever before, why vast foreign currency reserves have been accumulated, and why financial crises are once again global, rather than local” (unquote).<sup>1</sup> No wonder that the least open economies and least sophisticated banks often proved more

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<sup>1</sup> Financial Times, 9 September, 2008. Keynes understood the problem of continuing surpluses for the world system, confronted as he was in 1944 with an intractable US current account surplus.

resilient than their more global brothers and cousins that were caught by a tornado of trade falling dominoes.

The Issing Commission has just underlined the **weaknesses** of today's **international and financial system**. The latter has no reliable early warning signals of systemic risk. Its supervisory authorities are fragmented and lack the necessary information on the variety of financial markets, on global exposure of banks, on cross-border links between major financial institutions, on bank exposure with large corporations, on credit default swaps, on collateralized debt and so on. Financial globalization riding on the liberalization wave of capital flows, and not accompanied by macro-prudential supervision has jeopardized macro-financial stability. With resources barely equivalent to 5% of the foreign currency reserves of a few developing countries, the IMF can do little more than it does already. Its quotas should be increased. It should be allowed to issue at least \$500bn of Special Drawing Rights.

A new financial architecture is needed. The EU has demanded it, and is already examining regional regulatory proposals by Jacques de Larosiere. The ASEAN group of nations has called for "bold and urgent reform of the international economic system" that would take into account the needs of the developing countries.

International financial reform is a quite different and more complex endeavour than it was in Bretton Woods after WWII. This time, such a reform should be undertaken with due respect to ethical principles, an expression that is out of fashion. In 1993, meeting in Chicago, the Parliament of World Religions issued a declaration on global ethics in which it notably said that there was a need to reconsider the consequences of the commandment 'thou shall not steal'. I quote, "Nobody has any right to steal or defraud any other person or any public good.....or to dispose of any good without caring for the needs of society and of the earth....We must privilege the sense of moderation and of discretion, instead of the insatiable greed with regard to money, prestige and consumption...It is greed who lets humans loose their soul, their liberty, their composure, their internal peace, and consequently all that which makes them humans."(Unquote)

## **Food Security**

Let me now move to the food crisis. **Farm land** is under stress. For the World Earth Institute the main reasons why world food supply is tightening are population growth and accelerated urbanization,<sup>2</sup> changes in life-styles, falling water tables and diversion of irrigated water towards the cities. All this leads to losses in soil availability, quality and use for food.

The **food crunch** may have eased from one year ago. Wheat, corn and rice prices have tumbled 40% to 60% from all-time highs. In the EU, average producer prices increased by 2.7% in 2008, while agricultural input prices shot up by 11.6% (+60.6% for fertilizers and soil improvers). Make no mistake: the food crisis will come back with a vengeance. In 2008, the world's food import bill has surged above one trillion US dollars, 23% more than in 2007, and 64% more than in 2006. Developing countries have actually spent in 2008 about one third of the world's food import bill, or 35% more than in 2007. The 2008 World Food Report of FAO warned against a "false sense of security" as it expected the current combination of low food prices, high input costs, tightening export finance and conditions for bank letters of credit, that farmers cut their plantings, that there will be a price surge in the 2009-2010 harvesting season, "unleashing even more severe food crises than those experienced recently". There is good potential **new land for cultivation**, notably in Latin America, Africa and east Europe. But, new land is insufficient, and either inappropriate because of poor or polluted soils, or difficult to use for food production (due to doubtful property rights and/or poor finance and/or due to government mismanagement, or difficult to feed the market because of lack of transportation infrastructure.)<sup>3</sup> Moreover, cultivated land is diminishing fast, not just because of expanding

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<sup>2</sup> An estimated 40,000 ha of land are needed for basic living space for every 1 million people added.

<sup>3</sup> For instance, an increase in Brazil's grain land and the creation of new rural settlements there would have negative consequences for the environment: domestic-soil sustainability, rainfall recycling, biodiversity and climate effects worldwide. In some countries, particularly in Africa, little can be achieved without agrarian reform and/or unpalatable pricing policies. "Africa's soils are the poorest in the world, and poor soils produce poor crops" (Kofi Annan). They

deserts, but also because much of it being lost to urbanization. It has been calculated that the addition of some 70 million people every year claims nearly 3 million hectares for housing, roads, highways and parking lots.

To meet **world demand** the necessary production growth will to a large extent have **to be met by a rise in the productivity** of the land already being farmed today. However, this will be difficult to accomplish as global agricultural productivity growth has been in decline since the Green Revolution of the 1960s and 1970s. Global crop yield increases have plummeted from 4% per annum in the sixties to eighties to 2% in the 1990s and barely 1% in 2000 to 2030 forecasts, despite substantial expected yield increases in India the USA, Russia and the Ukraine by then.

Europe's role as provider of food to the world is diminishing. The net crop-trade position of the EU-27 can be expected to deteriorate. Between 2003/05 and 2013/15 European Union demand for grains and oil seeds can be expected to increase more than its supplies for both grains and oil seeds. As we approach 2015, average net imports of corn are diminishing; net imports of oilseeds are expected to go up by 70%; and for wheat the EU will move from a net exporter to a net importer position. Part of the explanation lies in a shift towards bio-fuel production. The EU capacity to help fight world starvation will be reduced at a time in which food production will decline predominantly in those countries which already record increasing food import needs. (Nevertheless Europe will become a more secure production location in comparison to other world regions, while higher food prices will boost deforestation there. "Consequently, Europe has to take responsibility to significantly contribute to world food security and also to combat global warming by utilizing its production potential."<sup>4</sup>

Europe is of course only one player, however big. All countries will have to improve their food security policies. In many of them, in particular in Africa, one cannot expect to boost agricultural production without land reform and courageous food price policies favouring the farmer and costly to the urbanite. Consumption patterns will also have to change, notably reducing beef intake. There is already a fight for food in many countries. Moreover, there are signs of an international scramble for food, and beyond it a scramble for land to produce it. According to FAO the race by some countries to secure farmland overseas risks creating a "neo-colonial system". For instance, Daewoo Logistics of South Korea, the fourth largest maize importing country, is seeking to lease vast areas of productive agricultural land in Madagascar and elsewhere in order to satisfy domestic demand for maize and palm oil in Korea. There are precedents starting with Japan, who bought land in the American West to produce beef for Japanese consumers. A poor country such as Ethiopia, infamous for more than one food crisis, has just openly offered Middle Eastern countries to lease hundreds of thousands of hectares of its farmland in order to help them ensure food security in the Middle East. These plans show how important food security has already become. One can well imagine what sort of political problems may eventually arise if a country hosting foreign investment in farming faced a serious food crisis at a time in which rich foreigners exported all the food produced there for the exclusive benefit of their richer and better fed people abroad.

Clearly, banking crises have a substantial impact on food demand and supply, notably on planting, investments and trade. Last year, production costs have grown far more than corresponding farm income. The world's poorest developing countries lack the necessary credit lines to buy food; the great food exporters suffer from a lack of export finance. Trade financing costs tend to overtake trade margins. Food commodity markets are meanwhile so volatile and unpredictable, that barter trade has become too tempting to resist, despite its costs in shrinking markets. So has commodity speculation. The first of today's panels will deal with that.

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are thin, laden with iron and often lacking nitrogen, potassium and zinc. They cannot hold much artificial or natural fertilizer, because their nutrient retention is very poor and most of it will be washed away. Africa loses about 8m tones of soil nutrients a year. Much of the land is degraded to the point that 95m hectares have seen productivity reduced.

<sup>4</sup> Humboldt Universität zu Berlin, Working Paper no. 84/2008

## Environment Preservation

The credit crunch has also an impact on the environment, notably leading to decisions to forego investments to reduce GHG emissions. This is a missed opportunity. As Hillary Clinton said at the European Parliament in Brussels last week, “Never waste a good crisis”.

Joseph Stiglitz and Nicholas Stern have made a joint appeal to use the financial crisis as an opportunity to lay the foundations for a new wave of growth based on the technologies for a low carbon economy. “The investments - they wrote<sup>5</sup> - necessary to convert our society to a low-carbon economy – investments that can change the way we live and work – would drive growth over the next two or three decades”, ensuring it becomes sustainable. They added that “providing a strong, stable carbon price is the single policy action that is likely to have the biggest effect in improving economic efficiency and tackling the climate crisis.” (Lord Stern calculated that governments should spend at least 20% of their stimulus on green measures to achieve the emission targets. But according to the U.N. Environmental Programme, apart from China, only France and South Korea were doing enough, Germany’s record was reasonable (13% of the stimulus), and that of most others was dismal (between 0 for Poland and 2.6% for Japan).) The planned stimulus packages may well provide for more green projects, more than planned so far, but much, when not all, of the additional spending is likely to increase emissions.

In the long term, environmental security is the mirror image of food security, because there is no food without substantial clean water resources, productive soils, and appropriate climate. In turn, failure to tackle environmental degradation jeopardizes the future of agriculture and of the countryside. It has been estimated that hot summers will double in Europe by 2020 and become drier in the South, whereas winters will become wetter in the North with more frequent flooding, and the Gulf Stream might possibly change its behaviour. This notably calls for further reduction in the impact of agriculture on Greenhouse **Gas emissions**, principally carbon dioxide, methane and nitrous oxide

Climate change puts all businesses and society at cumulative, long-term risk. The failure of agriculture alone would lead to widespread hunger in developing countries and mass migration of people (half a billion according to the UN), mostly to developed countries.

There is much debate about the potential contribution of agriculture to renewable energies. The problem is that with existing technology, renewable energies may be renewable, but they are mostly not green. If one submits each of them to proper Life Cycle Analysis, they are net producers of CO<sub>2</sub> via their production systems. Bio-gas is currently the most interesting, especially if it is produced from animals, or other waste. Whether second-generation agro-fuels could get clear of most of the pitfalls of the first generation is open to doubt, although they allow saving the food component of plants. Cellulosic molecules are difficult to transform into sugar to produce ethanol. Making use of crop residues for bio-fuels could deprive the soil of organic material that is useful to maintain its structure, and weaken its nutrients and carbon storage function, could increase the rate of soil erosion and require compensating use of potash.

The search for more environmentally friendly agricultural inputs and practices must continue. Scientists are actually working to improve the efficiency of photosynthesis, carbon capture, nitrogen fixation and many other cellular processes that boost biomass yields. It may also become possible to plant crops in soils lost to salinisation, and to genetically produce plants that can grow in marginal or otherwise unusable farmland. If and when this happens, the demand will be there.

The European Commission is about to submit a White Paper “Adapting to climate change” together with a working document. It notably deals with crops with existing varieties as well as biotechnology products, heat-tolerant livestock breeds and modifications in animal diet patterns. It apparently advocates strengthening the CAP to discourage unsustainable practices, and assess the need for further regulation. This should for instance help enhance water efficiency in agriculture, increase water storage capacity of

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<sup>5</sup> « Obama’s chance to lead the green recovery », Financial Times, 3 March, 2009.

ecosystems and reduce flood risks. The White paper indicates the need for financial support for investments aimed at facilitating adaptation to climate change. These initiatives are welcome.

**The next reform of the CAP** will have also to respond to the new challenges it faces in the first half of this century. These include the **demand for public goods** and services – such as eco-system services, including carbon sequestration and the preservation of less favoured areas - that farmers provide, which are not paid for by the market. This subject is attracting growing attention at a time in which the trend in agricultural support points downwards, whereas temperatures, emissions and environmental degradation point upwards. If farm prices rise in the long term and presumably production costs as well, the opportunity cost for land managers of producing eco-systems and other public goods and services will rise as well. If direct farm payments are reduced after 2013, we might witness farming intensification and landscape neglect. So far, market signals have actually been distorted, because scarce resources as a good atmosphere, biodiversity and beautiful landscapes have been priced at zero. Resource degradation is the consequence. The risk is that it will worsen.

There are two ways out. Either one finds a method to attach an attractive price to these public resources, or - if one doesn't know how, doesn't want, or can't do it -, one provides for payment of public goods in the context of the CAP. In any event, in order to save our planet, we need to give a value to what cannot be bought such as most public goods produced by land managers. You will get an update early this afternoon on the work of a task-force on this subject that is led by Allan Buckwell, run by the RISE Foundation and co-financed by the Italian Government.

### **For an Age of Responsibility**

At his inauguration, President Barak Obama has rightly heralded an Age of Responsibility. What kinds of responsibilities are most in demand today?

First of all, we need more **responsibility in world trade** in order to avoid that globalization allows a few to enrich beyond belief excluding many others. We need in particular more responsibility regarding food trade, and more responsibility in supporting a coordinated regulatory framework, as well as virtuous public and private behaviour fighting environmental degradation. Trade responsibility also means accepting special and differential treatment of developing countries in temporary trade protection so as to allow them to catch up with the more competitive industrialized and emerging countries. These countries should be allowed to protect themselves from a food import surge. The Doha Round will hopefully resume in due course, and can be concluded successfully if the US cuts its trade distorting subsidies, as the EU has already done, and India and other developing countries obtain a special safeguard mechanism against agricultural import surges.

Regarding **food**, this notably means combating monopolistic practices that corner the market. It also means discouraging barter trade that imperils efficient resource allocation, siphons off food stocks to the detriment of weaker trading partners, and tends to limit competition. We need greater **responsibility in cutting GHG** emissions, in showing greater respect for the environment and in strengthening and widening the Kyoto process. We also need greater **responsibility in budgetary and financial affairs**. Necessary stimulus packages must cater more to taxpayer than to shareholder interests, and avoid budgetary indiscipline passing the burden of adjustment on to future generations. All stakeholders must be given to understand that they have not only rights, but also obligations, have an interest in avoiding beggar-thy-neighbour policies, notably on investments, and need to cooperate on environment, finance, and food, not to mention energy.

On all three accounts – food, environment and finance – the Group of 20 must take into account the plight of the developing countries. Similarly, the EU-15 countries must take into account the plight of EU members in Central – and Eastern Europe that face fund withdrawals by western banks and the negative consequences of currency devaluations on household debt denominated in foreign currencies. George Soros has just proposed the creation of a Euro zone government bond market, complementing national bond markets, in order to help rescue the banking system and serve as a financing mechanism for coordinated counter-cyclical fiscal policies in Europe. Soros called on the EU to contribute to the stabilization of the

financial markets of its new members. Without financial recovery, food production and the environment will suffer.

**Summing up**, we face a future of food scarcity, with high, albeit very volatile prices both for inputs and outputs. Food scarcity is aggravated by managed trade and lack of finance and eventually also by environmental degradation. The market has lost its magic. Recent events have proven that markets can fail. Deregulation has backfired. Regulation has been rehabilitated. Open trade and related financing depend on it. A new financial architecture is urgent. Non-trade- distorting farm subsidies will have to stay, not just in Europe, but world wide, if food scarcity is not to worsen. Southern hemisphere countries will have to introduce land reforms allowing the poor to accede to the land, and adopt more appropriate food pricing policies. But this may not suffice. If there is going to be enough food at affordable prices for everybody, we may also have to change our food habits, not to say our life-styles.

Our leaders in Europe will have to recognize the fundamental role Europe is called to play in feeding the world in the context of food scarcity. The reform process of the CAP must be continuously adapted to changing realities. The status quo is not an option, nor can we expect radical departures from it. Our challenge is to update the CAP so that it allows us to preserve our capacity to sustainably produce the food we need, and help satisfy a growing world demand as well. Our farmers have a key role to play and have the right to ask how they can contribute to meet world food demand, save energy and water, conserve the environment, all at the same time while attacks against the CAP continue to grow as if there was no continuing need for it, and no ongoing, remarkable reform process. Similarly, we need to periodically adapt our environmental policies. If certain measures prove counterproductive, such as bio-fuel support for instance, they must be promptly recast.

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The global economic crisis may well become the longest in three generations. Investment and even trade protectionism may be temporarily on the increase. If trust in finance and economy does not return rapidly, economic reform, socio-economic growth and political stability will suffer. While some confidence in the financial system will return in due course, a new financial architecture will be required to strengthen the global economy and increase economic and financial fairness. In this connection, it is of the essence that the demands of global food and environmental security are taken into account, and that ways are found to finance the services that farmers provide to society. Let's hope that the G20 meeting in April is a success. And let me meanwhile wish all of us a good conference today.