Food. Riots and Rights

Luca Colombo and Antonio Onorati

Reclaiming
Diversity &
Citizenship

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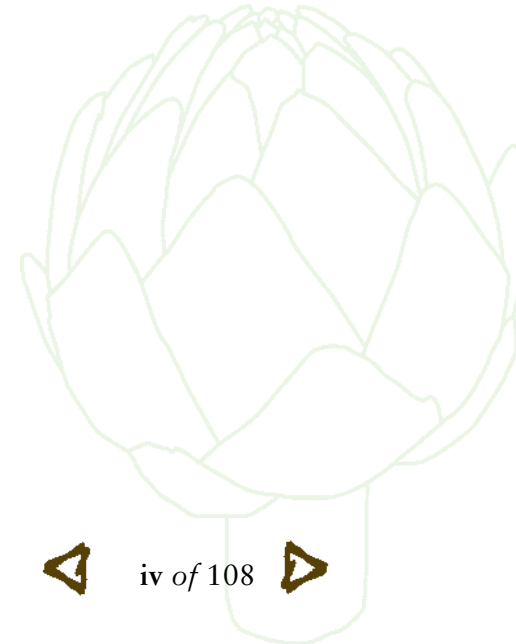

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Part 1
Food: humanity's life-support system in crisis

Introduction

When talking about food, one billion appears to be the magic number. One billion people face food insecurity while another billion suffer from obesity. There are more than one billion (1.3 billion, says FAO) food producers working in fields, pastures, seas and forests around the world. There are 1.4 billion hectares of arable land being worked by farmers to produce cereals, vegetable protein, tubers, vegetables and fibre. One billion tonnes of cereal are destined every year for direct human consumption, while another billion tonnes of grain are diverted to animal feed or cars' petrol tanks.

Many of these figures have remained obstinately constant over recent decades. The area of cultivated land, for example, has stayed remarkably stable in the face of growing demographic pressure. Loss of farmland to urbanisation, desertification, and declining soil fertility has been compensated for by new land being placed under cultivation, though this has not been without environmental costs. Farmers themselves, despite the pressures of modernisation, remain strongly anchored to the cycles of production and reproduction of food as well as to their own communities, and maintain strong links with their land, which they view as a source of life rather than simple capital. Hunger is ever present for entire populations and communities: the timid efforts of heads of state and governments in 1996 to halve the number of people exposed to hunger within 20 years failed to get that number below 800 million, and the food crisis saw that number risen to more than one billion – mostly the rural poor (Box 1).

Box 1. Food insecurity: a problem which refuses to go away

Food insecurity – which should have been defeated within 10 years according to the World Food Conference of 1974, or halved within 20 years according to the 1996 World Food Summit – is in fact worsening. The United Nation's Food and Agriculture Organization (FAO) noted that the number of hungry people rose by 75 million in 2007, (FAO, 2008a) and by 40 million in 2008, to a total of 963 million.(FAO, 2008b). A year later, in 2009 1,020 million people were facing food insecurity (FAO, 2009a).

However, the three Rome-based UN agencies (FAO, the International Fund for Agricultural Development and the World Food Programme) show some signs of hope when they state that Millennium Development Goal (MDG) target 1 – reducing by half the share of hungry people by 2015 – is within reach if adequate, appropriate actions are taken. Nevertheless, the latest 2012 FAO, IFAD and WFP figures indicate that globally 870 million people are still food insecure (FAO, 2012a).

What these numbers tell us is that there is little land available to feed the world – around a fifth of a hectare of arable land per person, or one hectare per farmer. The challenge is to put that land to the best use possible, maximising the social use of food as a fundamental pillar of survival rather than merely seeing food as a commodity, creating land use that upholds the right to food, and rebalancing access to productive resources, of which land represents a most precious (and common) part.

According to the United Nation's Food and Agriculture Organization (FAO), in 2010 40% of the active world population was employed in agriculture.[1] This primary activity uses 38% of the planet's land surface but merely contributes to global GDP.

Through what lens should we view this primary activity? Through that of the right to food? As a source of work and employment? In terms of land use and natural resources? Or as the generation of commodities and their trade? This book views the right to food through all these prisms in an attempt to help us better weigh and respond to these questions.

Food on the menu

1973 was the first year that food shortages became a global concern. The world had been destabilised by the first oil crisis. Supply and demand for petrol products were out of balance and geopolitical tensions caused petrol prices to explode. The situation was compounded by rising agricultural prices and severe famines, such as those which hit Sudan and Bangladesh. For the first time ever, these events triggered a global response and the reaction of the international community was unprecedented in its unity, with the United Nations urgently organising the first global conference on food. This took place in Rome in 1974, and had no lesser aim than to eradicate world hunger. Henry Kissinger, then US Secretary of State, promised that "*within 10 years no child* will *go to bed hungry" (ETC, 2008a)*.

Yet today, well into the 21st century, every five seconds a baby dies due to hunger or causes attributable to hunger (World Food Programme, undated). Anguish over rising energy and food prices once again fills the newspapers. 2008 was the year of multiple crises: food, energy, finance, and the economy. While these crises are not all the same, food and finance have a number of points in common. Firstly, as feared by the FAO (FAO, 2008c), the financial collapse worsened the food crisis by affecting the real economy and available income, even if on a less dramatic scale than previously expected (FAO, 2012a). Secondly, there was no productive crisis in agriculture. On the contrary – in 2008 the cereal harvest (the basis for feeding the world) grew by a record 4.9% to reach a total of 2,232 million tonnes (FAO, 2008d). That represents around one-third of a tonne a year for every human being – or almost a kilo per day for every single one of us. The crisis was not therefore born of a productive deficit. Rather, it was derived from a widespread loss of confidence in the productive, commercial and credit complex.

The term 'food crisis' was disliked by those who believed it spreads panic and contributes to the escalation of prices (Box 2) (Sarris, 2008). Mere inflationary dynamics, say the panic fire-fighters. Maybe – however, we argue in this book that we are not dealing with a simple short-lived economic episode, but rather a serious symptom of a widespread, systemic pathology, reflected in persistently high and volatile prices.

The popular unrest caused by the rising price of food must not be understood as a mere call for food to fill empty stomachs, but rather as a demand for political action on agricultural, economic, social, financial and environmental policy issues. In the sections which follow we outline the multiple factors that have contributed to this crisis in the food system. The food price rises that gripped our attention at the end of 2007 and the beginning

1 Data from FAOSTAT website: faostat3.fao.org/home/index.html#DOWNLOAD.

Box 2. From price rises to food riots

From January 2005 to February 2008 the price of maize increased by 131% and wheat by 177%. These increases dragged up vegetable oil prices, with the price of palm oil increasing by 165% from the end of 2005, while soya increased by 175% (Mitchell, 2008). Rice went up by 165% between April 2007 and April 2008 (Wahl, 2008).

An article published in the *International Herald Tribune* by Jacques Diouf (Director General of the FAO) and Jean-Michel Severino (Director of the French Development Agency) underlined that a 1% increase in food prices brings with it a fall in calorific intake among poor people of 0.5% (Diouf and Severino, 2007). The FAO price index increased by 9% in 2006, 23% in 2007 and in the month of June 2008 it was 30% higher than June 2007 (FAO, 2008e). Although it fell at the end of 2008, it remained more than 28% higher than two years previously (FAO, 2008b). It is therefore easy to calculate the calorie gap that millions of the world's destitute must have suffered as a result of price rises.

Between the end of 2007 and the first months of 2008, riots occurred across all regions of the globe. They began with the 'tortilla riots' in Mexico in 2007, triggered by the rising price of maize. These riots had their origin in the abandoning of a national agro-foods agenda once Mexico joined the North American Free Trade Area (NAFTA). NAFTA liberalised food imports into Mexico from North America, notably maize, a staple of the Mexican diet. Mexico, which was substantially self-sufficient in the years before NAFTA came into effect, now imports 30% of its maize. The sudden and substantial diversion of maize into the production of bioethanol in the US reduced the availability of maize for Mexican imports and caused prices to rise dramatically.

Riots hit not only highly populated states such as Egypt, Pakistan, Ethiopia, Indonesia, the Philippines and Bangladesh, but also other countries such as Mauritania, Yemen and Bolivia. Later, in Haiti, five people died in street battles (see Box 3), and in Cameroon there were so many victims that authorities requested journalists to refrain from counting the dead in order to contain the unrest. Another nation hit by these uprisings was Senegal, where demonstrations made the problem global by personally involving the Director General of the FAO, the Senegalese Jacques Diouf, who was said to have presidential ambitions in his home country. On 17th December 2007, Diouf launched an initiative aimed at offering technical and political assistance to those countries hardest hit by the food crisis, and FAO allocated US $17 million to that end.

The situation captured the attention of the media and of public opinion, sometimes with a certain amount of over exposure. In Italy the bread and pasta strike promised by some consumer organisations was to a large extent been a virtual affair, yet it occupied many newspaper headlines (enough to make even an attentive observer like Lester Brown of the Earth Policy Institute fall into the trap and include the Italian 'strike' in a list of global uprisings against the food price explosion; Brown, 2008). In the US and the United Kingdom some supermarket chains (Walmart, Costco, Tesco) put quotas on sales of basic food, particularly rice, to cash in on fears of scarcity, creating rationing similar to that of times of war (Nicastro, 2008).

of 2008 were caused by a complex combination of factors, and they offer us the occasion to reflect on the future of food – on who will produce, process, commercialise and consume it; where, how and how much.

For more than a decade prior to the food crisis cereal reserves had been eroded and neglected while rising demand for agricultural commodities had continued to eat away at food stocks – principally as a result of market liberalisation. Both public investment in agriculture and development aid destined for the primary sector had been deliberately reduced over a number of years, a fact even admitted by the World Bank: *"The share of agriculture in official development assistance (ODA) declined sharply over the past two decades, from a high of about 18% in 1979 to 3.5% in 2004. It also declined in absolute terms, from a high of about $8 billion (2004 US$) in 1984 to $3.4 billion in 2004…The bigger decline was from the multilateral financial institutions, especially the World Bank"* (World Bank, 2007).

The productive model of the Green Revolution had been shown to be energy inefficient, unsustainable and socially unsuitable. Policies subsidising and setting binding targets for agrofuels were sucking up a significant proportion of agricultural foodstuffs. Changes in diet in South and East Asia were constantly increasing the demand for meat, milk, fats and grains. The credit crunch and financial readjustment resulting from the US sub-prime mortgage crisis could already be seen on the horizon in 2007, and the price of oil had been on the rise for over two years, with repercussions for the costs of agricultural production and the industrial supply chain. None of these factors were sudden shocks; instead they were easy-to-predict long-term trends. Nevertheless, the spread of the food crisis found world leaders unprepared.

Liberalising food

> *"It's important for our nation to build – to grow foodstuffs, to feed our people. Can you imagine a country that was unable to grow enough food to feed the people? It would be a nation subject to international pressure. It would be a nation at risk. And so when we're talking about American agriculture, we're really talking about a national security issue".* US President George W. Bush in remarks to the Future Farmers of America, 27th July 2001

In his speech to the United Nations during World Food Day in 2008 US President Bill Clinton made similar assertions to those by President Bush above. Clinton called for the pursuit of "agricultural self-sufficiency" as a long-term objective for every nation (FAO, 2008f). From anyone else, these statements would have been seen as backwards looking, nostalgic for a mythical golden era of self-sufficient agrarian societies. But these pronouncements were never translated into policy; on the contrary, both the Bush and Clinton administrations worked in the opposite direction. Like all fans of globalisation they worked for the asymmetrical opening-up of markets and reduction of levels of protection. They worked to reduce duties and tariffs, leading to grave consequences for local rural economies and for farmers incapable of competing with foodstuffs imported at artificially low prices. We explore this further in this section.

In response to the debt crisis that hit developing countries at the beginning of the 1980s, the International Monetary Fund (IMF) and the World Bank advocated a profound restructuring of the agricultural economies of the affected countries. In exchange for financial help, governments were forced to implement structural adjustment programmes under the supervision of the IMF and World Bank. These programmes led to liberalisation, privatisation, deregulation and the dismantling of public services. In agriculture, export markets became the final destination for the flow of produce, and agricultural systems were adjusted to

that end. By exporting, it was claimed, debtor countries could generate income to repay loans and satisfy national needs. In reality, these programmes opened internal markets to products and inputs supplied by transnational corporations (TNCs) that were consolidating their expansion at that time. TNCs took advantage of the enthusiasm for attracting foreign capital to invest heavily in the agricultural sector (Bello, 2008; Patel, 2008).

Structural adjustment allowed small elites and foreign companies to establish direct control over the primary sector. Investments in land and processing plants helped develop close relationships with compliant and complacent governments. Development aid from developed countries and financial institutions was often conditional on opening access to natural resources, the privatisation of water, and the promotion of cash crops and exports. Irrigation dams and reservoirs, for example, were needed for the development of plantations, and this infrastructure was privatised or sold. The management of public food stockpiles was handed over to the private sector, and the companies that mediate and manage agricultural supply were either privatised or incapacitated by inadequate government funding. The period saw the end of agrarian reforms and the redistribution of land. Moreover, there was to be no more direct or indirect assistance to farmers in terms of subsidies, tax relief or the creation of infrastructure and services around family agriculture, or mechanisms to facilitate access to credit and to structures of commercialisation. This process was accompanied by the closure, significant reduction or privatisation of the market organisations regulating strategic reserves, price stabilisation mechanisms, guaranteed prices for producers and controls on imports.

In almost all the countries of the developing world, tariffs and other means of protecting internal markets were reduced or removed, allowing an influx of fertilisers, machinery and food goods. This favoured export-orientated agricultural practices, and a focus on producing only a limited number of commodities essentially destined for industrial processing locally or abroad, at the expense of producing food for local consumption. Imports came from the developed world, where farmers enjoy considerable subsidies – so generous that they overproduce (see below). This led to the marginalisation of subsistence agriculture, which lost its access to local markets. The elimination of import duties led to further loss of revenues. The progressive fall in prices for agricultural goods over the course of the past 30 years (with the modest exception of rising cereal prices seen in the mid-1990s), along with the other factors described above, led to economic and social poverty in the rural world, leaving it unable to react adequately and quickly to the price crisis that hit systems on a global scale in 2007/08 (Box 3).

The result is that today 70% of developing countries are net importers of food. While in the 1960s developing countries registered – as a whole – an agricultural surplus of around US$ 7 billion a year, by the end of the 1980s this had disappeared (FAO, 2007a). The least developed countries have seen a doubling of imports compared to exports (FAO, 2007a). Even Brazil, a major agricultural power, is a massive importer of strategic foods such as wheat, buying 7.3 million tonnes on the international market (making it the second largest global importer after Egypt, which imported 7.7 million tonnes; USDA, 2008). Many developing countries have therefore become dependent on other countries for key food imports, with a consequent weakening of their food (and political) sovereignty. This is the case for such populous nations as the Philippines and Indonesia for rice or Mexico for maize. They have to rely on significant imports to ensure daily staples for their population, thus exposing both diets and national sovereignty to the capricious global market.

In the developing world, food for both rural and urban areas used to be supplied by local producers. Switching from farming based on subsistence or local markets to a ‘globalised’ approach has exposed farmers to global market forces which have

Box 3. The dangers of open markets: examples from Haiti and Africa

In 2007 and 2008 there were violent riots in Haiti caused by rising food prices. A few decades ago Haiti was self-sufficient in rice (the basis of the population's diet). However, conditions imposed by international lenders, particularly a loan from the IMF granted in 1994, forced open the local market, allowing the arrival of US rice at low prices (thanks to US government subsidies to US rice producers), sweeping away local production. The rising price of local rice then made it inaccessible to many families in the quantities required (Quigley, 2008). *"A country like Haiti annually consumes 200 thousand tonnes of flour and 320 thousand tonnes of rice. 100% of the flour consumed is imported and around 75% of the rice. Between January 2007 and January 2008 the price of flour in Haiti rose by 83% and that of rice by 69%. Six of the nine million Haitians live in conditions of extreme poverty. Many of them are reduced to eating bread made with mud"* (Ziegler, 2008).

The situation in Africa is similar. During the 1980s and 1990s the imposition of structural adjustment policies as a condition for maintaining access to credit led to deep cuts in programmes for assisting and protecting agriculture. Debt, which reached a peak of US$340 billion in 1995, weighed heavily on the governments of the region, and forced them to implement policies imposed by the World Bank (Food and Water Watch, 2008). This dynamic was accompanied by a decline in loans to support primary activity. In 1980, 30% of the resources made available by the World Bank to Africa were destined for agricultural projects, compared to only 12% in 2007 (World Bank, 2008). Many projects are now also aimed specifically at the production of cash crops and exports. So much so that since 1980, 30 projects in Africa, amounting to a total value of US $757 million, have supported the production of cocoa, cotton, coffee, rubber and tea (Food and Water Watch, 2008). As a result, in 2007/08 Africa imported 22% of its cereal requirements, amounting to 55 million tonnes, and exported only 3%. This is confirmed by the FAO: "*In 1980, Africa had an almost balanced agricultural trade when both agricultural exports and imports were at about USD 14 billion, but by 2007 its agricultural imports exceeded agricultural exports by about USD 22 billion (FAOSTAT, 2011). For food trade in particular, Africa food trade deficit had started at an earlier time (mid-1970s) and ever since it has grown fast and exceeded USD 13 billion in 2005…. The increase in food imports since the mid-1970s has been particularly striking for basic foodstuffs such as dairy products, edible oils and fats, meat and meat products, sugar and especially cereals, implying that food import has been increasingly important in ensuring food security*" (Rakotoarisoa *et al.*, 2011).

Yet another facet of this problem is that over-production of export crops compared to demand has had inevitable consequences for prices and incomes (World Bank, 2007). The price rises of those years translated into an estimated increase in food bills of around US $18 billion in 2008 (FAO, 2008g). It should be noted that the elites in power have usually favoured or even requested such development policies, seeing them as an easy way to enrich themselves or to reinforce their control over society.

undermined their social and economic position, and with it their capacity to meet their own (and others') primary needs, such as food, housing, clothing, education and health. As well as leading to increased vulnerability for producers, this has hurt consumers, who have seen price rises for food goods such as rice in Asia or maize in Africa. The result has paradoxically turned developing countries into exporters of agricultural commodities, but net importers of food.

When prices rose unexpectedly during the food crisis, this exposed the vulnerability of a supply system based on the global market. It was consumers who paid the price of dismantling their local productive networks. The food crisis also led to calls for the application of a 'shock doctrine' (see later section) to the agro-foods market, with the aim of further liberalisation. While some exporting countries (for example, of some strategic commodities such as rice) imposed restrictions on exports, those countries that were not self sufficient were encouraged by international financial institutions to reduce or eliminate import tariffs and duties, under the pretext of reducing the price of imported food and alleviating the burden on consumers. Many governments accordingly did so at the peak of the food crisis: in Africa 11 countries opted for tariff reductions (Ghana completely eliminated duties on rice, wheat, maize and vegetable oil), while seven countries in Asia and nine in Latin America took similar measures (Guzman, 2008). The effect was to further exacerbate the vulnerability of domestic producers. In Mexico, in response to the 'tortilla riots' sparked by price rises (Box 2), tariffs on wheat, rice and maize were reduced in 2008 (World Bank, 2009), aggravating existing difficulties in national productive systems. When Mexico allowed cheap US grains into the country under the NAFTA enforcement, Mexican campesinos were hit hard. *"By the time the NAFTA-mandated phaseout of tariffs reached completion in 2008, corn imports from the United States had quadrupled and more than 2.3 million agricultural jobs had been lost"* (Beachy, 2011). Instead of questioning the NAFTA policies and encouraging internal production, this short-term solution was intended to quell consumer unrest. However, ultimately it pushed rural communities further into the abyss and destabilised the agricultural system even more. The result is that effectively Mexico has handed over responsibility for its food provision to the United States, increasing its own food insecurity.

We therefore remain convinced that internal markets must be protected at the borders, with linear and transparent mechanisms that respect the multifaceted role of agriculture. In De Schutter's words, we must *"shield agricultural producers"* (De Schutter, 2009a). The current debate on protectionism must be reconsidered in these terms. We will turn to this further in Part 2.

Cultivating inequality

Western agricultural policy has adopted an industrial model, with the presumed intention of exporting and a mission to 'feed the world'. This has favoured intensive and unsustainable production, and enabled products from developed countries to compete unfairly on the international market. Subsidies in industrialised countries are usually (mis)directed towards intensive farms (that rely on high use of energy and chemical inputs, and are socially and environmentally costly), or to artificially supporting the exports of some industrial sectors. The European Union used to be the largest provider of subsidies for exports: even though they decreased from € 7.7 billion in 1995 to € 3.7 billion in 2003, the total cost to European taxpayers amounted to € 45.8 billion between 1995 and 2003. France was the main recipient of these funds, getting more than 21% of the EU total in order to subsidise cereals, beef, milk and sugar (Boulanger, 2005). The United States provides enormous internal subsidies to its cotton, wheat, maize, soya and rice producers, with similar impacts. As the United States is a major exporter of many of those commodities, production subsidies inevitably affect international prices. Various forms of export credits further distort international markets. These practices lead to

'dumping' at the expense of small and medium-scale farmers, and not only in the developing world. Multinational corporations take advantage of this situation, using the opportunities and room for manoeuvre provided by these policies, often with the complicity of local political and economic elites (e.g. see Goldsmith, 1997). Such opportunities include cheap agricultural commodities, tax and duties reductions, cheap labour in delocalised processing plants and lower environmental standards.

The most famous of all agricultural policies is probably the European Common Agricultural Policy (CAP), introduced in the 1960s to guarantee the continent's food security. It incorporated some instruments introduced in the United States by Roosevelt to govern the agricultural markets. From the start, the CAP sought to obtain two complementary results: (1) to contain the prices of foodstuffs and thus put a brake on rising wages for workers; and (2) to avoid an uncontrolled exodus from the countryside by guaranteeing reasonable incomes for farmers. Within half a century these policies had transformed the European Union (EU) into the principal agro-food power on the planet, through the investment of important amounts of taxpayers' money.

But who benefits from the CAP? Not necessarily all European farmers. Unequal distribution of EU subsidies has profoundly altered the productive regimes and socio-economic balance of the countryside. Rather than guaranteeing a decent life for farmers and an income comparable to that of other sectors, EU subsidies have largely benefitted the biggest land owners. For instance, the greater the economic size of the beneficiary farm, the greater the subsidies received and the greater the part played by EU subsidies in the total income of the farm. Official data from France show that in 2006, 56% of CAP subsidies ended up in the coffers of 20% of the 390,000 beneficiary farms, while just 1% went to the 20% of the farms receiving the lowest sums (French Ministry of Agriculture, 2008; and see Box 4).

Box 4. Subsidies: who wins?

The multinational poultry group Doux heads the list of CAP subsidy beneficiaries in France, reporting the receipt of €62.8 million in subsidies in its 2006 annual report (Vucheva, 2009). In Italy, which received €5.5 billion in CAP subsidies for around one million farms in 2007, 69% of the payments went to the top 10% of recipients (Farmsubsidy.org, undated). Consequently Italy is a *"nest of EU 'farm subsidy millionaires'"*, boasting four of the top five millionaire European companies in the list of over 700 who receive more than one million euros a year from the CAP (Vucheva, 2009). The CAP supports entire industrial sectors in Italy, such as sugar. For example, the Italia Zuccheri Spa sugar processing company received almost €140 million in 2008. In the same year, Eridania Sadam Spa pocketed another €125 million, while Maccarese Spa – part of the Benetton family estate – received €1.2 million in EU support for agricultural production alone.

Similarly in Italy, according to the Italian National Institute of Agrarian Economy (INEA) in 1997 (with data in Lira, not euros):

> *"In the case of grain growers, subsidies count for more than three quarters of the income of those companies receiving more than 150 million per year, as compared to less than 10% of that of those receiving less than 5 million. In the case of tobacco, subsidies are on average even higher than the gross income, particularly in those companies that absorb an average of more than 100 million per year".* (INEA, 1998)

It is also clear that as labour intensity increases, the less support there is. INEA data show that those who received EU subsidies of not more than 5 million Lira received on average only 1.2

million Lira per unit of labour, compared to the 46.9 million Lira per unit of labour paid to those receiving more than 150 million Lira per year. That is to say, smaller farms received 40 times less money per unit of labour (INEA, 1998).

Even today the CAP continues to rain (money) where it's already wet, through the so-called 'single payment scheme' which sees the same farms being given the same amounts of money that they were receiving prior to the 2003 reform of the CAP.

Does that mean that those who call for turning off the tap of public finance to agriculture are right? On the contrary, and as we discuss in Part 2, this is the moment to reinforce the role, instruments and tools of public agricultural and food policy, but to reorient them in order to sustain a socially and environmentally virtuous production system.

Under the West's industrial model for agriculture, getting involved in the globalised economy is often seen by the mainstream as the way out of the development trap. The developing world, it is said, must open itself up to the market. Small-scale peasant production is seen as archaic and inefficient, holding back the economic development of society. Its disappearance is synonymous with progress and modernity. Socially the peasant is derided as an irrational economic subject, lacking the spirit of entrepreneurship.

From this point of view, development will be achieved through economic modernisation, by giving priority to industry and the tertiary sector, and allowing the functional marginalisation of the primary sector. Farming communities must be forced to evolve from peasants, to farmers, and eventually to agricultural entrepreneurs. But there is no alternative social or employment plan for those who lose out in this evolutionary process: those expelled from the countryside who cannot, or will not, become reincorporated into the non-agricultural sectors.

Economic efficiency and productive scale are assumed to be necessary for agricultural development. This means maximising yields, bigger farms integrated into the market for inputs and products, and the free circulation of agricultural commodities between markets. The gulf between 'peasant' and 'farmer' is thus established: between the person who lives and works on the land, and the person who is involved in economic activity, according to a more modern iconography. These different poles of rural society are usually recognised as pre-capitalist and capitalist. Governed by a different 'rationality' and by unequal economic criteria, over time they have established a sort of coexistence. On the one hand, there is the rural population with little capacity to take part in the productive system, assigned to the function of a reserve labour force. On the other hand, there is modern agriculture, fully integrated into and adapted to agro-industrial needs, on a mission to absorb and dissolve the peasantry which is seen as acting as a brake on efficiency.

But the idea of food as a commodity fails to take into account that part of the planet's work force who live and work in the fields and on the seas. They are the first to suffer from this paradigm, which has led to increasingly fragile communities, food systems and economies, the costs of which – in political, economic and social terms – are beginning to be seen. As agricultural labour is progressively substituted with capital in order to obtain ever greater volumes, the result is social exclusion, rural desertification and a productive sector incapable of producing and distributing enough food. But when the international market implodes, the relevance and centrality of farmers and local markets becomes clear.

Land as a global asset

> *"Today's food and financial crises have, in tandem, triggered a new global land grab. On the one hand, 'food insecure' governments that rely on imports to feed their people are snatching up vast areas of farmland abroad for their own offshore food production. On the other hand, food corporations and private investors, hungry for profits in the midst of the deepening financial crisis, see investment in foreign farmland as an important new source of revenue. As a result, fertile agricultural land is becoming increasingly privatised and concentrated."* (GRAIN, 2008a)

One symptom of the structural weakness of the agro-food system and the need for many countries to secure food supply is the global rush for agricultural land. Many national food security policies are based on obtaining rights to fertile land beyond national borders. Land has become increasingly attractive to financial investment by cash-rich states and corporations.

Foreign land has long been used by investors to produce tropical goods, or out-of-season fruit and vegetables for domestic markets. In this way, land is taken away from production for local markets, and many developing countries become 'contractors of fertility' (and net importers of food – see above). The appropriation of foreign land is also a response to domestic demands for security (food, energy and financial). GRAIN, a nongovernmental organisation (NGO), has created a database mapping this takeover of land resources and has had many cases reported to it (GRAIN, 2008a; 2008b).

Land is also subject to considerable speculative and investment activity by non-agrarian sectors. Hedge funds are throwing significant quantities of money into acquiring agricultural land (Box 5). These investments are made in developing countries or in countries undergoing economic 'transition', because in the developed world land has become a luxury good. In the USA, for example, an acre was worth US$ 1,400 in 2004 and US$ 4,500 in 2008 (Ladurantaye, 2008).

Box 5. Land as a global asset

In January 2007 Pergam Finance, a hedge fund based in Paris, announced investments in land in South America. In the US, Hancock Agricultural Investment Group acquired agricultural land worth US$100 million in 2006, increasing their total holdings by 13% to US $865 million. Macquarie Bank, the largest Australian real estate agency, plans to spend up to one billion Australian dollars on ranches in Australia for a new agricultural fund (Wilson, 2007). Financial brokerage companies are clearly looking to land values in order to diversify portfolios and generate profits: BlackRock Inc., partly owned by Merill Lynch, has prepared an agricultural hedge fund of US $200 million, $30 million of which is destined to the acquisition of wheat futures and agricultural holdings. Morgan Stanley has bought 400,000 hectares of land, and the Russian Renaissance Capital has bought 300,000 in Ukraine, while the Swedish finance group Black Earth Farming now controls 331,000 hectares of fertile land in Southern Russia (Hildyard, 2008).

The hunt for land has, almost everywhere, caused a rise in land values. This not only makes the foreign land rush all the more fierce, but also makes access to land for the local peasant populations more difficult. Coupled with the dominant industrial model of agricultural production, which leads to a growing concentration of land ownership, peasant farming and communities are being pushed further onto more marginal and less fertile land. This phenomenon is common to both developed and developing countries: the right to produce is getting ever further out of reach for peasant farmers and the rural population,

concentrated in the hands of investment funds, foreign governments and major transnational land owners.

Furthermore, the area of fertile land is limited. While not all arable lands are used to their full potential, what remains to be cultivated is mostly of poor quality, often arid or semi-arid, better suited as pasture and for raising livestock. Local populations are expressing growing concern over the expropriation of cultivable lands which they would like to have available as security for their own future economic and food production needs. Governments, however, seem more interested in fresh capital and investments in production or infrastructure. In some cases, national governments are also under pressure from the financial institutions (not least the European Bank for Reconstruction and Development) to relax land ownership laws. Despite such pressure, Brazil is tightening the rules banning the acquisition of land by foreigners except with a national partner, and reinforcing the laws on transparency over foreign-held shareholdings. *"These restrictions and the accompanying uncertainty of how they will be applied in practice may be discouraging U.S. investment in Brazilian land"*, complains the US Department of State (2012).

Feeding animals with food and land

> *"The livestock sector emerges as one of the top two or three most significant contributors to the most serious environmental problems, at every scale from local to global"* (FAO, 2006b)

The above quote comes from a 2006 FAO report – *Livestock's Long Shadow* – a landmark study of the industrial model of livestock farming, analysing all aspects of its impact on food, environment, health and climate (FAO, 2006b). The report, which we draw on extensively here, is a thorough analysis of the logic and aberrations of the international meat, egg and dairy industry.

Humanity's basic food is grain, but of the 2,344 million tonnes of grain produced in 2012, an estimated 1,073.4 million tonnes, or less than half, fed human beings directly (FAO, 2012b). Where did the rest go? The remaining half goes to animal feed (789.8 million tonnes) and other uses (461.5 million tonnes), which mostly means agrofuels and seed production. With massive growth in the demand for meat, and industry's new-found enthusiasm for agrofuels, there is a growing conflict over the destination of food resources: a competition between human consumption, livestock farming and fuel (see next section).

The livestock sector is important from many perspectives. It amounts to 40% of global agricultural GDP; it employs or provides income and protein to 1.3 billion people, mostly the rural poor; and it contributes one-third of the protein consumed by humanity.

Global human land use is dominated by livestock farming. Around 33% of arable land is devoted to growing animal feed and forage. If we add pasture, a total of 70% of all agricultural land is used for feeding livestock, totalling 30% of the Earth's ice-free land surface. Livestock is also the source of 18% of greenhouse gas emissions; more, in CO2 equivalents, than that of the transport sector. It releases 37% of all methane (which is 23 times more damaging than CO2 in terms of global warming) and 65% of nitrogen oxide (296 times more damaging than CO2; FAO, 2006b).

Pastoral activity is to be found in almost every corner of the globe, having accompanied the development of civilisation. Livestock farming is extremely diverse and its impact varies. In areas where there is limited demand, low-impact subsistence farming prevails, with only a small part destined for sale. In areas with high demand for meat more industrialised and intensive livestock farming is common, with much greater environmental and social impact. Only 8% of meat comes from animals at

pasture; the rest comes more or less equally from mixed and intensive farms (FAO, 2006b).

The 20th century has seen the development of 'industrial' livestock farming systems, characterised by high concentrations of livestock in confined spaces, the use of powerful feed additives and veterinary pharmaceuticals, and the selection of a few breeds with high productivity. The positive relationship between raising livestock and other agricultural activity has been completely altered as a result. Traditionally, livestock were fed on foodstuff grown on the farm, maintaining a close relationship between agricultural and pastoral activity and using resources that had little or no other value, like vegetable waste. The growth and intensification of the sector has progressively disconnected livestock raising from agricultural land. Livestock farming has become an energy-intensive and polluting activity that often produces food that is unhealthy, or even harmful (Union of Concerned Scientists, undated). For example, antibiotics and hormones are intensively used; diets are designed to force unnaturally rapid growth, thus also increasing vulnerability to disease; microbial infections frequently occur, and so on. More often than not these methods originated in developed countries, but with the 'livestock revolution' of the end of the last century, they are now being adopted in many developing countries (Delgado, 1999).

One argument in favour of the intensification of livestock farming is that it responds to the needs of developing countries to be able to access good sources of protein at low prices. Another argument is that the use of cereals as livestock feed acts as a buffer for fluctuations in the availability of food for human beings. But one of the most worrying effects of industrial livestock farming is the drain it causes on food resources. For example, 1,250.1 million tonnes of feed concentrate were used in 2005.

Livestock farming in the EU is, to a large extent, structurally industrialised. It favours the concentration of farms and dependence on external sources of energy and feed. The Blair House Agreement of 1992 between the US and the EU committed Europe to a structural deficit in plant protein: under the agreement, oil and protein crops such as soya, rape and sunflower are limited to little more than 5 million hectares out of a total 130 million hectares of agricultural land in the EU, 70% of which are already dedicated to feeding animals, whether as pasture or forage (CPE, 2003). This decision, to give up self-sufficiency in European vegetable protein production, was driven by the EU's eagerness to conclude a GATT agreement with the US. However, it could be considered short-sighted. Europe consumes 47 million tonnes of soya – the principal source of protein for livestock farming – of which only 12 million tonnes are produced in EU countries (DG Agri, 2007). The result is a structural dependency on imports and an exposure to genetically modified organisms (GMOs) since most of the soybean exported to EU is sourced in American countries like the US, Brazil, Argentina and Paraguay which have widely adopted transgenic varieties of the crop (Box 6). This is despite European citizens' opposition to the cultivation and incorporation of GMOs into the food chain. China is another example of this growing dependency, as it has recently become a net importer of soya (ironically a species indigenous to China) for use as additional protein in countless pig and poultry farms.

It is easy to foresee the same dependence on imported animal feed arising in Southeast Asia, due to the region's growing industrialisation of livestock farming over the past few years. The industrial model is being pursued at all costs, with the same damaging effects on diet, the environment, levels of industrial concentration, and dependence on imported animal feed.

Box 6. The story of soya in Argentina

Soya is now the king of animal feed. Global production was estimated to reach 267.5 million tonnes in 2012/13, mostly grown in the United States (82 million tonnes), Brazil (82 mt) and Argentina (49 mt) (USDA, 2013). The consumption of soya in livestock farming has increased in recent years at a rate even faster than the increase in livestock production itself, testimony to how the use of soya has significantly increased per unit of meat produced (FAO, 2006b). The soya monoculture extends throughout South America, displacing rural populations as it spreads. Most if not all of it is currently transgenic because it simplifies crop management. Roundup Ready soy is genetically modified to tolerate Roundup (glyphosate) herbicide, but reliance on this technology has led to the emergence of herbicide-tolerant weeds. As a result, increased quantities of glyphosate, as well as older and more damaging herbicides, have to be used and are often sprayed from planes, affecting rural communities, polluting the soil and ground water, and threatening biodiversity. Sales of glyphosate in Argentina increased from 5.4 million litres in 1994 (before the début of GM soya), to more than 100 million litres just ten years later (Stucki, 2004). Glyphosate has become a major source of pollution which contaminates surface water and aquifers, threatens human health and kills other vegetation. Communities living near soy plantations report health problems which include continuous headaches, skin rashes, stomach problems, increased rates of miscarriage and babies born with malformations (FoE, 2008).

The success of genetically modified soya is explained by the 'hunger' for protein that the livestock industry creates; what happens on the demand side is generally reflected on the supply side. Argentina serves as a good example of the revolution that took place in the livestock sector. The EU relies on Argentina for 61% of soymeal imports (van Gelder *et al.*, 2008, cited in FoE, 2008). The increase in GM soya in the country led to a rapid transition from pasture to soya cultivation. In 2005 soya represented around one-third of national exports (in value) against a mere 3% for beef and leather, which, until a few years ago, had represented a hugely important part of the agricultural and overall Argentinean economy. This phenomenon was accompanied by a doubling of the amount of land under soya in only ten years. Large-scale plantations are effectively forcing small-scale farmers off their land. According to government figures a total of 250,000 hectares of forest are cleared annually, with 80% of this making way for soy and cattle farming in the biodiversity-rich Chaco (FoE, 2008).

The international livestock supply chain is slowly expanding. At the beginning of this century, between 20 and 25% of animal feed was being traded between different countries, while the proportion of meat internationally traded rose from 7% in 1980 to 11.7% in 2006. The figure for milk rose from 9% to 12.7% over the same period (FAO, 2009). Big agro-food corporations dominate the meat and milk trade in both the developed and the developing world, benefitting from economies of scale, specialisation and vertical integration.

The livestock sector enjoys constant growth in global demand, driven by the developing world, particularly regions such as Southeast Asia. Rapid demographic growth, massive urbanisation and increasing incomes result in greater demand for meat, partly

as an emulation of Western lifestyles that associate quality of life with the consumption of animal products. Recent rises in average meat consumption in the region have already been significant: from 14 kilograms per person in 1980 to 28 kg in 2002, representing a rise from 47 to 137 million tonnes. China is responsible for 57% of this leap – the Chinese have gone from consuming 25kg of meat per person a year in 1995 to 53kg in 2008 (The Pig Site, 2008). Milk consumption rose in the same period by 118%, with India responsible for a quarter of that rise; India has become a net importer of dairy products (FAO, 2006b). By contrast, in the United States, meat consumption, though stable, is set at more than 100kg per capita (123kg per person in 2006; FAO, 2006b). A large part of this is beef, requiring more intensive use of cereals and plant protein in its production than poultry and pork, which are favoured in Asia.

This growth is sustained by the low price of meat and milk, resulting from a combination of factors: historically low animal feed prices; the externalisation of the environmental and social costs of industrial livestock farming; and the support offered by governments, international financial institutions and development agencies to the livestock sector. But not all the areas in which intensive livestock farming has been developed are able to sustain it, either because of the effects on the environment, or for lack of 'raw materials' as food for livestock.

According to FAO projections, meat production is set to double globally between 2000 and 2050, from an average of 229 million tonnes in 1999-2001 to a projected 465 million in the middle of this century (Bruinsma, 2003). In the same period milk production is expected to leap from 580 to 1,043 million tonnes. Notwithstanding, it has to be acknowledged that *"most developed countries have largely completed the transition to livestock based diets, while not all developing countries – for instance India – will likely shift in the foreseeable future to levels of meat consumption typical of western diets."* Similarly, *"many developing countries will be slow in adopting western type livestock-based diets. Some major countries, like China and Brazil, have moved rapidly in that direction. But they are probably bound to slow down as they reach higher consumption levels"* (Alexandratos and Bruinsma, 2012). The developing world is not just a consumer of meat and dairy, but also produces large quantities: China, India and Brazil together supply two-thirds of the meat and more than half of the milk that does not come from Western nations. These three countries, however, play characteristically different roles in the international grain and livestock market. While China consumes ever greater animal feed and meat imports, India continues to concentrate on the production of milk on a small and medium scale, using local forage resources and crop waste. Brazil, like other South American countries, is expanding its animal feed and livestock export sector. It has become one of the primary exporters of poultry, growing from 430,000 tonnes in 1995 to 2.7 million in 2006 (GRAIN, 2008b).

In developing countries, livestock farming is rapidly converting to raising animals such as poultry, pigs and fish from aquaculture. Unlike ruminants, these animals exert less pressure on agricultural land and supplies of cereal and other feed crops. Fish farming, at least from the point of view of feed, appears to be particularly sustainable. In terms of the weight conversion, it is the most efficient form of production. It takes 1.7 kilograms of feed per kilogram of Tilapia meat, for example, because fish are cold-blooded animals (and therefore have lower energy requirements), and because they do not have a heavy bone structure. The energy returns required to produce a calorie of beef or mutton (9 calories of feed) are higher than those needed to produce a calorie of egg or milk (4.5 calories of feed; Beintema *et al*., 2008).

In 2008, 756 million tonnes of cereal were consumed as animal feed, 2% more than the year before. To this total we must add 350 million tonnes of protein-rich crops and 150 million tonnes of roots and tubers. Maize and barley are the main cereals fed to livestock (more than 60% of their total consumption). The use

of other cereals varies not only according to the type of animal being raised (animal feeds based on cereals are the core diet of pigs and poultry), but also as a function of local agriculture. Barley and wheat prevail in Canada and Europe, whereas maize represents the principal livestock food in Brazil or the US, reflecting the make up of their respective agricultural systems.

As a result of the spectacular growth in demand for animal products, the FAO estimates that demand for cereal for animal feed will increase by around a billion tonnes between the end of the 1990s and 2030 (Bruinsma, 2003). Is this really sustainable? The FAO report Livestock's Long Shadow (FAO, 2006b) draws the following conclusion:

> *"The findings of this report suggest that [the livestock industry] should be a major policy focus when dealing with problems of land degradation, climate change and air pollution, water shortage and water pollution and loss of biodiversity. Livestock's contribution to environmental problems is on a massive scale and its potential contribution to their solution is equally large. The impact is so significant that it needs to be addressed with urgency".*

Agrofuels: flooding the food production engine?

> *"When the initial preparations for the 2008 issue of The State of Food and Agriculture began, two years ago, there were high expectations surrounding liquid biofuels as a resource that could potentially mitigate global climate change, contribute to energy security and support agricultural producers around the world. Many governments cited these goals as justification for implementing policies promoting the production and use of liquid biofuels based on agricultural commodities. Since then, there has been a marked change in perceptions of biofuels. Recent analysis has raised serious questions regarding the full environmental impacts of producing biofuels from an already stressed agricultural resource base".* (FAO, 2008h)

The interrelationship between food and energy is not new, as fossil fuels have for a long time been used for agricultural ends such as mechanical traction, heating for greenhouses and irrigation. They are also used in the production of fertilisers and pesticides, transport, storage and processing. This is the *"oil we eat"* (Manning, 2004), a major characteristic of the intensive agriculture established after the Second World War. Part of the biomass produced in the fields is also used for the generation of heat and energy on farms. The recent food price rises were in part generated by rising energy prices, as fuel has become indispensable to producing a significant part of the food in circulation on the planet. Moreover, while food and energy policies have traditionally travelled different roads, in recent years their paths have crossed significantly with the arrival on the scene of agrofuels and the addition of fuel to the food-feed contest.

Rising fossil fuels prices have heightened excitement about the prospect of bioenergy or agrofuels (renewable energy made available from materials derived from biological sources, see Box 7). Agrofuels are sold to us as a viable contribution to the struggle against the greenhouse effect, despite all evidence to the contrary (see below). Growing agrofuels is taking up significant and increasing quantities of land resources and – more directly – food resources.

"In less than one decade, world biofuel production has increased five times, from less than 20 billion litres/year in 2001 to over 100 billion litres/year in 2011", says prof. Swaminathan, in the preface of *Biofuels and food security. A report by The High Level Panel of Experts on Food Security and Nutrition*. The market is led by the United States, which produces more than 52 billion litres, followed by Brazil with more than 21 billion (in both cases almost entirely bioethanol) (HLPE, 2013). The European Union was instead projected to consume 22.8 billion litres in

Box 7. What are agrofuels?

Fuels of plant origin are dubbed biofuels. Social organisations and, more and more frequently, official sources, prefer to describe them as agrofuels, to indicate the agricultural origin of the biomass destined to provide energy, and to underline the competition between food and fuel. Different types of agrofuels are produced from different plant sources.

Bioethanol is an alcohol obtained from the fermentation of agricultural products rich in carbohydrates and sugars, such as cereals (maize, sorghum, wheat, barley), sugar crops (beet and sugar cane), potato and fruit. Bioediesel, on the other hand, is obtained from the refining of oil from rape, soya, sunflower, jatropha, palm or other plants that produce seeds with a high oil content.

2012 (mostly biodiesel), according to the European Commission (European Commission, 2010).

Europe, together with the United States, has one of the most developed agrofuel industries thanks to incentives offered to the sector in the form of subsidies and low import tariffs, and binding targets for the mixing of biofuels with petrol-based fuels.

Brazil has a policy of mixing petrol with ethanol dating from around 1920. Following the petrol crisis of the mid-seventies the National Programmes for Ethanol (ProAlcool) were launched, creating the conditions for the development of a large-scale ethanol industry without the need for government subsidies. This was based on obtaining agrofuels from sugar cane in an economical and energy-efficient way (but through monocultural plantations, also using slave labour). In the United States, the area under crops destined for biofuel grew notably under the second Bush administration (which also signed an agreement with Brazil in March 2007 to increase the production of ethanol). In the US, maize is the chief crop used for bioethanol production. The industry has grown thanks to substantial financial and credit incentives combined with binding targets set by the government in 2007 under the Renewable Fuel Standard. The aim is to produce 36 billion gallons of biofuel by 2022, up from 9 billion in 2008. Incentives include a financial credit of US $0.51 per gallon of ethanol, an import tariff of US $0.54 per gallon on ethanol and a financial credit of one dollar per gallon for biodiesel. These incentives induced Lester Brown to comment that *"the irony is that US taxpayers, by subsidizing the conversion of grain into ethanol, are in effect financing a rise in their own food prices."* (Brown, 2008).

The European Union, in addition to proposing policies for reducing the excise duty on agrofuels, has placed a tariff of €0.192/litre on ethanol (€0.727 per gallon) and a duty of 6.5% on biodiesel. These low duties are intended to encourage the import of biodiesel from developing countries. Without these imports it would not be possible for European countries to meet the 2010 target under the 2003 Biofuel Directive of a 5.75% mix of biofuels with oil derivates, and of 10% by 2020 under the 2009 Renewable Energy Directive. These targets are currently the subject of fierce debate within EU institutions and among the member states' governments. They could be reviewed and lowered in the near future if governments manage to resist the agricultural and oil lobbies which have fought to defend the incentives.

Europe's aim of reducing energy dependence on oil-producing countries and achieving environmental sustainability cannot be met by its own agricultural resources. A significant part of European biodiesel will be produced from Brazilian soya and palm oil from Indonesia and Malaysia, where deforestation is already destroying precious habitats and threatening plant and animal biodiversity. New plantations will have a detrimental effect on the climate, along with the livelihoods of populations living in the forests, such as the Dayak people (Potter, 2008).

The direct impact of agrofuels on food security was clearly established in a study by a senior World Bank economist after the World Bank's index of food prices increased 150% from January 2002 to February 2008 (Mitchell, 2008). He ascribed this increase to a confluence of factors, the most important of which was the large increase in biofuel production in the US and EU:

> *"Without the increase in biofuels, global wheat and maize stocks would not have declined appreciably and price increases due to other factors would have been moderate. The export bans and speculative activity would not have occurred because they were responses to rising prices. Higher energy and fertilizer prices would still have increased crop production costs by about 15 percent in the U.S. and lesser amounts in other countries with less intensive production practices. The back-to-back droughts in Australia would not have had a large impact because they only reduced global grain exports by 4 percent and other exporters would normally have been able to offset this loss. The decline of the dollar has contributed about 20 percentage points to the rise in food prices. Thus, the combination of higher energy prices and related increases in fertilizer prices, and dollar weakness caused food prices to rise by about 35 percent from January 2002 to February 2008 and the remaining three-quarters of the 140 percent actual increase was due to biofuels and the related consequences of low grain stocks, large land use shifts, speculative activity and export bans".* (Mitchell, 2008)

This report was partly buried, but made public by *The Guardian* newspaper (Chakrabortty, 2008). The link had already been drawn by the FAO in June 2007, when it announced record spending on food imports (more than US $400 billion in 2007, an increase of 5% compared to the preceding year) and blamed this partly on the rising price of cereals and vegetable oils used in the production of agrofuels (FAO, 2007b).

These causes and consequences need to be evaluated in detail. According to Mitchell's analysis, in the United States agrofuels used the equivalent of 25% of national maize production in the 2007/08 season and 11% of the global harvest. Close to 7% (9 million tonnes out of 132) of the world's vegetable oil production in 2007 went to the production of biodiesel. Between 2004 and 2007 that use grew annually by 15%, compared to a more or less consistent 4.2% rise in the use of vegetable oil for food. Over the four-year period, that amounted to more than 20 million tonnes more vegetable oil consumed overall. This growth has had a domino effect on both food and animal feed. In the United States, the amount of land dedicated to maize increased by 25% in 2007/08, while the land under soya cultivation fell by 16%, accompanied by a 75% fall in soybean reserves and an 80% rise in prices. These are drastic changes for the agricultural system, which is generally very slow to change. Wheat reserves have also fallen to their lowest level in 60 years in the United States, and prices doubled in just 10 months. Similar drops in grain production and reserves took place in wheat-exporting areas such as Argentina, Canada, the European Union, Kazakhstan, Russia and the Ukraine, with increased cultivation of oleaginous seeds (such as rape) for biodiesel and less land dedicated to grain. Across all these states from 2002 to 2007 the land dedicated to growing rape increased by 6.4 million hectares while the area dedicated to sunflowers grew by 2.3 million hectares. This land could otherwise have been used for the cultivation of grain, and it is estimated that around 80 million tonnes of wheat could have been produced instead over those five years. This would have more than compensated for the drastic fall of 56 million tonnes in cereal reserves (see Box 9), and would, in part, have moderated the resulting price explosion.

According to the FAO, *"Despite the limited importance of liquid biofuels in terms of global energy supply, the demand for agricultural feedstocks (sugar, maize, oilseeds) for liquid biofuels will continue to grow over the next decade and perhaps beyond, putting upward pressure on food prices"* (FAO, 2008h). It

underlines that *"Other policy measures driving the rush to liquid biofuels, such as mandated blending of biofuels with fossil fuels, as well as tax incentives, have created an artificially rapid growth in biofuel production. These measures have high economic, social and environmental costs and should also be reviewed."* (FAO, 2008i).

With the emergence of the food crisis, many governments and actors in the agro-foods system have begun to change the course of agrofuel policy, although so far this is mainly in the form of declarations rather than directives, policies or regulations. The finger is being pointed at the incentives sustaining agrofuels. In Europe they now talk about sustainability criteria in order to minimise the environmental and social impacts of agrofuels. The World Bank and the IMF have called for a review of incentives while the companies involved call for work to be done on 'second generation' biofuels that they believe will not compete with food production (although competition for land use will remain, and there may also be other unforeseen consequences). These biofuels are obtained from cellulose material mostly derived from pulp tree plantations, thus avoiding the need to resort to foodstuffs. They enjoy a better image among the public although they are still in the experimental stages, and are unlikely to be the whole solution in the near future. Expecting future generations of technology to solve the problems of the current one is something agrofuels have in common with nuclear power (where the fourth generation will supposedly be deployed in all its safe and sustainable glory), or genetically modified organisms (where the second and third generations – like Godot, always on the point of arriving – will make more nutrients available for the planet, as well as create plants that tolerate drought or incorporate pharmaceuticals or vaccines). Indeed, the second generation of agrofuels could be made available thanks to the next generation of GMOs – fast growing trees that can be transformed into fuel using engineered micro-organisms or synthetic enzymes (Box 8). Second generation biofuels are marketed as not requiring agricultural land, coming from biomass grown on land unsuitable for agriculture. This is already possible with some plants used for the production of first generation

Box 8. Agrofuels and GMOs: sinister bedfellows

The green petrol agenda is not driven by an ecological conversion of governments worried by global warming, but by major corporations seeing an opportunity for profit. Some of these are already active oligopolies on the oil markets, with close ties to the automobile sector. Alongside the oil and car industry, the major cereal and oleaginous seed market operators, the biotech multinationals and finance capital are also lobbying fiercely (Witek, 2010; van Gelder and German, 2011). The links now being forged between the traditional energy multinationals and those traditionally involved in agro-foods are illustrated by the case of Pat Woertz, current Managing Director of Archer Daniel Midlands (ADM), one of the world's biggest agricultural trading companies. She took over that post in May 2006 after leaving the Vice Presidency of the Chevron Corporation (one of the world's largest oil companies), to give greater impulse to the firm's agrofuels policies. ADM leads the listings in the production of agrofuels by a long way, with a productive capacity of 1,070 million gallons a year. It is followed by VeraSun Energy Corporation with 580 million, US Bioenergy with 310 and Hawkeye Renewables with 220 (Man Investments, 2008b).

Monsanto, ADM and many other large corporations have invested a great deal in promoting the cultivation of GMOs for the production of ethanol. In fact, to use the words of one of the sector's US trade publications, *"genetically modified crops and biofuels are made for each other"* (Evans, 2008). In effect, many supporters of genetically modified crops look to agrofuels to open the way for GMOs into food markets which have so far proved resistant to the technology. The appetites of biotech in that direction continue to be strong, as is shown by the acquisition of Aly Participaçoes, a Brazilian group specialising in sugar cane, by a Monsanto operated seed firm (Cercle Finance, 2008).

Box 9. Declining food reserves?

In 2008 the FAO estimated food stocks and reserves to be 19.4% of the volume of annual global consumption (FAO, 2008j); the World Watch Institute put the figure at 14% (Halveil, 2008), and the US Department of Agriculture at 17% (USDA, 2008). These different figures reflect the different responsibilities and vested interests of the bodies producing them, but, despite the variations between them, these figures are alarming. Whatever the real state of reserves – and whether they are controlled by public institutions, traders or the processing industry – it should be remembered that the serious famine of the mid-seventies was generated by a significant drop in reserves, which fell to 55 days of global consumption. This caused the price of cereal, already much higher in real terms than it is today, to double. It is thought that when reserves fall below 60 days' worth of global consumption the volatility of cereal prices becomes very hard to govern; in 2007, reserves stabilised at 54 days (Brown, 2008).

Although various commentators and political leaders have pointed the finger at problems of supply (not enough food or, perhaps more accurately, food resources not being directed towards primary needs), scarcity of reserves is not simply down to the inability of the primary sector to generate sufficient foodstuffs. Indeed, since the 1970s, the annual availability of cereals has remained between 300 and 350 kilograms per person, a little less than 1kg of cereals per day for every human being. Increases in yield for the main agricultural crops have largely kept up with the rate of demographic growth. Total productive capacity is enough to feed 12 billion individuals, as shown by Jean Ziegler in 2008, when he was United Nations Special Rapporteur on the Right to Food (United Nations General Assembly, 2008).

Tensions in the agro-food systems must therefore be considered as the result of distortions on the demand side, such as increased consumption by humans, animals and machines, and financial speculation.

biofuel, such as jatropha, using areas considered marginal. However some of these lands may be underused deliberately, particularly in pre-desert areas, because of the fragility of their ecosystems and their lack of soil fertility. Industrial production would expose them to over-exploitation and degradation. Cultivating agrofuels on marginal lands could also contribute to the eradication of underutilised or orphan food crops, as well as to the expulsion of populations, also considered marginal, from these areas.

However, the contribution of future generations of agrofuel technology is as yet unsure. According to estimates by Currie (2007), the principal source of agrofuels will continue to be grain, and no non-food biomass will be able to substitute for it.

With their massive impact on food prices, intensive land and energy consumption, insignificant or even negative impact on climate change,[2] marginal contribution to energy self-sufficiency, neocolonial attitudes and dependence on other questionable technologies, agrofuels seem to be the plant-based equivalent of shooting ourselves in the foot. Jean Ziegler (the previous UN Special Rapporteur on the Right to Food) calls them a '"*crime against humanity*"' Lederer, 2007).

2 Agrofuels contribute to climate change through greenhouse gas emissions from massive land use change, such as deforestation or conversion of peat lands to palm oil plantations, and potentially combined with the transoceanic transport of agrofuel raw materials.

It is not surprising that, even before the food crisis, there were calls for a moratorium on agrofuels and a halt to the subsidies that keep them competitive.

Market speculation in food as a commodity

> *"There is no question that the US bio-fuel policy which, by the way, is now being copied in other parts of the world including the EU, has to take its share of the blame. But it is by no means the only reason for the food crisis. The next culprit on my list is our very own industry - investors of all kinds. (...) Pension funds, hedge funds, mutual funds and private investors have all allocated more and more to commodities and, in recent months, demand growth has been explosive. It is estimated that the aggregate value of commodity-linked index funds now exceeds $200 billion, a very significant number in a not very large market".* (Jensen, 2008a)

In the days of front page headlines dedicated to the food crisis, the *Financial Times* quoted Lenin who, during the serious food shortages of 1918 stated that "speculators must be shot on the spot" (cited in Jackson, 2008). The *Lancet*, a reputable medical and scientific journal, also condemned the role of speculative activity on the financial markets in causing food price rises and aggravating problems of malnutrition (Pace et al., 2008).

In April 2008, the FAO published its periodic report on prospective harvests, which stated that: *"FAO's first forecast for world cereal production stands at a record 2 164 million tonnes, 2.6 percent up from last year's crop, which was the previous global high"* (FAO, 2008d). Despite these record yields, in the same springtime weeks betting by financial speculators on agro-food commodities – buying and selling futures based on predicted scarcities – created an artificial price rise. According to the FAO, price volatility in April 2008 was more than 30% higher for maize, 40% higher for soya and 60% higher for wheat than would be expected given the fundamentals of the market (FAO, 2008k). The market was being manipulated. The freedom and lack of restraint with which traders were able to play with the price of cereals and oleaginous grain were important components of rising indexes. At the start of 2008, the Belgian bank KBC invited savers to invest in their insurance funds with the slogan *"Take advantage of the rising prices of food commodities!"* (cited in *Courrier International*, 2008). This was met with a barrage of criticism, led by Jean-Claude Juncker, head of the EU Ecofin finance ministers, who called such operations "rapacious" and "criminal" (7Sur7, 2008).

Despite opening up to financial markets, the agro-food commodities sector had remained substantially protected from aggressive market speculation throughout the 1990s. Investments in the sector were not sufficiently profitable due to the low and falling price of agricultural goods on the real market. The first signs of a change in this situation were to be seen around 2000, with the bursting of the 'new economy' bubble. On that occasion investors took large amounts of money out of the equities market, deflating that bubble, and put it into the real estate sector, inflating yet another bubble. With the explosion of the subprime mortgage crisis in the US, investors sought refuge in commodities, above all energy and food. Due to the deregulation of markets in raw materials futures, and the massive decrease in interest rates (from 5.25% in September 2007 to 2% in March 2008) yet another 'bubble' was created.

Hoardings and holdings?

Speculation is not just the work of financial traders who gamble with the future of food security and energy supply on the exchanges. It is also the work of corporations who manipulate the market, consciously managing reserves, keeping them steady and well stocked, removing produce from the market, playing with currency fluctuations, keeping prices artificially low at harvest time when farmers have to sell their produce, only to

store it to stimulate price rises. In Indonesia, in a period of rising soya prices in January 2008, La Via Campesina condemned Cargill Indonesia for holding 13,000 tonnes of produce in their warehouse in Surabaya, waiting for prices to reach their peak (La Via Campesina, 2008a).

When prices are rising, the holders of raw materials have an interest in slowing the release of stocks into the supply chain. Ocean-going ships slow down; conservation of produce in controlled conditions in the warehouses is prolonged. These supplies are not necessarily counted as stocks, and therefore cannot contribute to releasing the vice-like grip of the speculators.

Little comfort can be gleaned from the contributions by a series of agencies and international organisations on the analysis of price volatility carried out for the June 2011 G20 summit under the French presidency. They recommended that, *"G20 governments demonstrate leadership in on-going WTO DDA negotiations, moving immediately to strengthen international disciplines on all forms of import and export restrictions, as well as domestic support schemes, that distort production incentives, discourage supply in response to market demand, and constrain international trade of food and agriculture products.'* (Recommendation 4). And *"G-20 governments support the scale up of efforts to provide vulnerable households (including producers), communities and governments with effective, market-based risk management options. G-20 governments support the scale up of a broader set of fiscal risk management services which include facilitation of commodity hedging"* (Recommendation 9; G20 Agriculture Ministers, 2011). This position grants legitimacy to financial speculation, which they absolve of any responsibility for aggravating price volatility and price rises for agricultural goods. The experts charged by the French President at the time, Nicolas Sarkozy, to write a document on price instability, go so far as to propose "brokerage services to facilitate access to (risk management) instruments' or 'index-based weather derivatives"(Jacquet, 2011) in order to benefit farming communities in developing countries. In short, they suggest facilitating the penetration of financial agents into the rural world even if it is difficult to imagine the marginalised rural communities safely operating in the insurance or derivatives markets. If such folly were not so potentially damaging, it would be laughable.

Many of these recommendations were well received at a meeting of G20 agriculture ministers in Paris on 22nd and 23rd June 2011:

> *"We commit to five main objectives for this Action Plan: (i) improve agricultural production and productivity both in the short and long term in order to respond to a growing demand for agricultural commodities; (ii) increase market information and transparency in order to better anchor expectations from governments and economic operators; (iii) strengthen international policy coordination in order to enhance confidence in international markets and to prevent and respond to food market crises more efficiently; (iv) improve and develop risk management tools for governments, firms and farmers in order to build capacity to manage and mitigate the risks associated with food price volatility, in particular in the poorest countries; (v) improve the functioning of agricultural commodities' derivatives markets, this objective is being pursued through the work of Finance Ministers and Central Bank Governors".*
> (G20 Agriculture Ministers, 2011)

With such emphasis on the role of finance, it is difficult to see how such a recipe would help to put a brake on unrestrained speculation in the markets for food and fertile lands.

Industrial food

> *"The essential purpose of food, which is to nourish people, has been subordinated to the economic aims of a handful of multinational corporations that monopolize all aspects*

of food production, from seeds to major distribution chains, and they have been the prime beneficiaries of the world crisis. A look at the figures for 2007, when the world food crisis began, shows that corporations such as Monsanto and Cargill, which control the cereals market, saw their profits increase by 45 and 60 per cent, respectively; the leading chemical fertilizer companies such as Mosaic Corporation, a subsidiary of Cargill, doubled their profits in a single year" (d'Escoto Brockmann, 2008).

That food is big business is no great discovery. The Fortune 500 list of corporations includes around 100 multinationals active in agro-business and retailing. The list was long dominated by Walmart, currently second, for whom the food business is a booming and high-performance sector (CNN Money, 2013).

The agro-food system has been characterised in recent years by increasing consolidation. Many agro-industrial sectors have been or are being restructured and this has led to companies exerting greater control over the logistics and distribution of food downstream of primary production. This process is taking place within the framework of a growing concentration and 'globalisation' of the supply chain, capable of exercising profound influence on economic activities, food regulations, consumer preferences and diet.

The agro-food supply chains include agricultural activity, food processing, the distribution system and the sectors that provide services and inputs. This latter equips farmers with seeds, fertilisers, pesticides and – in more highly capitalised agriculture – machinery, plant equipment for greenhouses and stalls, and fuel. The agro-food system should not therefore be understood as simply 'from field to plate', as it is romantically described. It also includes businesses whose market is the farmers themselves. These are traditionally profitable sectors that have benefited from policies providing incentives for the modernisation of agricultural production. In countries affected by the Green Revolution, and more so in developed countries, many historical farm subsidies favoured the use of fertilisers and pesticides or improved seeds.

The industrialisation of agriculture thus creates a new and thriving market for products aimed at growers and livestock farmers. The industries that exploit this market have historically operated in the (agro)chemicals sector and, since the end of the 1980s, have expanded to include seeds – the focus passing from chemistry to biology. The giants of the seeds and pesticides market are Monsanto, Syngenta, DuPont, Basf, Bayer and Dow. All these companies have dramatically increased in size, earnings and product portfolios, following one of the biggest processes of mergers and acquisitions in industrial history. This principally took place over a 15-year period that saw its most intense activity in the 1990s. Only a few companies emerged out of the process, forming a clear oligopoly.

The non-governmental organisation ETC (*Action Group on Erosion, Technology and Concentration)* produces a periodic update on levels of industrial concentration in the seeds industry. In 2009, the US corporation Monsanto was way out in the lead with almost US $7.3 billion in sales, followed by DuPont (US; $4.6 billion), Syngenta (Switzerland; $2.5 billion) and Limagrain (France; $1.2 billion); the combined value of the three top companies was equivalent to 53% of the commercial seeds market. The top 10 multinationals in the sector total $20 billion and 64% of global sales. This has risen from 49% only two years earlier, and 37% in 1996, when Monsanto did not even appear on the list (ETC Group, 2011). This is a worrying level of concentration not just for those who care about the future of the planet's agrarian and food systems, but also for fans of the free market and competition. In this section we examine some of the implications of industrial food for food security.

Seeds of profit

Although powerful, the formal seed market is limited in its reach. Most of the seeds used by farmers around the world are derived from informal systems and do not originate from these companies. According to a study of the seed market by the International Seed Federation (ISF), the practice of saving part of the harvest for resowing is widespread, as is the exchange of seeds (free or otherwise) between farmers (ISF, 2005). These practices, defined as 'illegal' by the report, are not limited to developing countries nor to those considered to be agriculturally backward. In China, certified seeds (that is to say, industrial seeds registered in an official catalogue of varieties) are used for just 27% of all rice planted, 24% of maize, 22% of wheat and 13% of beans. In the developed world, where processes of industrialisation are well established and where the regulations on intellectual property rights are more strictly observed, the figures are higher, but not dramatically so. In France, 58% of wheat seed is acquired on the formal market, compared to 65% in the United States. In Canada it is only 17% (with barley at 21%). In Germany the formal market accounts for 54% for all cereal seeds (including maize which is almost all hybrid, preventing the practice of resowing due to the loss of vigour in successive generations following the first harvest) and 44% for potatoes. Italy stands out as for its uncharacteristic respect for regulations and the market: 90% of soya, 80% of barley, 90% of durum wheat and 70% of bread wheat sown is grown from seeds acquired on the formal market.

Use of seeds bought on the official markets results in the loss of customary practices linked to resowing part of the harvest, such as the observation of the best plants or fruits and their selection for the next season, as well as community-level seed swaps which help consolidate social liaisons. It also prevents the use of varieties strongly linked to the agricultural practices and the peculiarities of the territory of production, if they are not (or are no longer) included in the official register of varieties. The practice of reusing seeds in the 14 countries examined in the ISF study represents a loss of income to the seed industry of US $6.7 billion in sales, to which should be added US $470 million in lost royalties (ISF, 2005). There is therefore considerable interest among seed companies in forcing the widespread adoption of stringent regulations on intellectual property rights and increasing those already in force (Box 10).

Box 10. Patents on life

If seeds are the pillar on which the entire agro-food system (and now also the agro-energy business) rests, patents are the strategic motor for guaranteeing control of the sector, as demonstrated by many of the patent applications deposited at the WIPO (World Intellectual Property Organisation), the EPO (the European Patent Office), and the USPTO (United States Patent and Trademark Office). An examination of these patents reveals how the interpretation of what is patentable and what is not, is often stretched.[2] Many patents on plants and animals claim exclusive rights to entire species – see for example the pig 'invented' by Monsanto (Monsanto Technology LLC, 2005), or the varieties of maize with higher oil and oleic acid content for which DuPont claimed patent rights independently of having carried out the research and development activity (EPO, 2005). Such claims are sometimes contested; the latter was stopped by an appeal lodged by Greenpeace and the German NGO Misereor, with the European Patent Office appeal body subsequently agreeing that the claims were too far-reaching. Such attempts are not just about recognising and protecting inventions and research – they aim to gain control over food production.

Seed 'n' spray

The same companies that dominate the seed market control the pesticides market (essentially herbicides, fungicides and

insecticides). According to the ETC Group, Syngenta is the leading company with US $8.5 billion in sales and 19% of the total market; followed by Bayer (US $7.5 billion); Basf (US $5 billion); Monsanto (US $4.4 billion); Dow (US $3.9 billion); and DuPont (US $2.4 billion). The total top 10 market in 2009 reached US $39.5 billion, 57% of which was controlled by the top four multinationals and 89% controlled by the top 10 (ETC Group, 2011).

Thanks to GMOs (Box 8), the connection between agro-chemicals and seeds has acquired new significance. Take Monsanto, market leader in the agro-biotechnology market: the multinational introduced glyphosate (commercialised under the name Roundup) onto the market in 1976. It was an extraordinary commercial success, with sales growing by 20% a year, registering US $9 billion in sales in 1995, and generating half of the company's US $985 million profits (Kempf, 2003). So successful in fact, that the company's industrial strategy has been built around that product. Monsanto's US patent on Roundup expired in 2000 with the prospect of massive losses in income from sales of that herbicide, whose active ingredient from that point on was open to commercialisation by other companies. This fuelled the decision by Monsanto to engineer plants that tolerate the application of Roundup and to contractually require that farmers buy both the genetically modified seeds (sold under the brand name Roundup Ready) and the herbicide (see Box 6).[3] It is no coincidence that a large part of the acreage devoted to GM crops is under plants engineered to tolerate herbicides, of which the Roundup Ready varieties are the most prevalent.

The food crisis and price rises have represented manna from heaven for Monsanto, which watched its profits grow by 44% in 2007. Its maize seeds registered a profit rise in the last quarter of 2007 from US $360 million to US $467 million; profits from Roundup rose from US $649 million dollars to US $1 billion (Daily, 2008). DuPont saw a 19% profit increase in seeds alone and Syngenta increased profits by 28% in the first three months of 2008 (GRAIN, 2008d). Other seed companies have subsequently been bought up by these giants with the aim of acquiring their share of the market, research activity, share values, patents and seed varieties. This expansion continued as the food crisis developed until the financial crisis hit, at which point both share prices and profits began to fall. Monsanto's share price fell from around US $115 in mid-December 2007 to $73 a year later, after peaking at $140 in mid-June 2008. Bayer fell from $62 to $39, peaking at $65 in February 2008. Basf remained constant, between $40 and $50, until June 2008 when share prices began to fall, reaching $20 at the end of October. Syngenta was at $290 in December 2007. A year later it stabilised at $200, but came close to $350 in June.[4] In other words the food crisis, which reached its peak in mid-2008, was a windfall for the shareholders of those companies, until the axe of the financial crisis fell heavily on a sector characterised by constant debt.

Co-operating for control

The convergence of agro-chemical and pharmaceutical technology has united the interests of different productive sectors. Co-operation between multinational groups aims to construct economies of scale in the research and development of new technological packages, reinforce targeted sectors of activity, and consolidate control of markets with differing values and potential. These strategies may undermine competition within sectors or the independence of different elements of the supply chain.

Agreements between large multinationals are multiplying. Monsanto has a licence agreement to use Syngenta's genetic

3 See the terms of the euphemistic "Technology Use Agreement": www.percyschmeiser.com/TUA.pdf.

4 Our figures are based on the Italian Yahoo finance database: http://it.finance.yahoo.com/; (data for December 2008).

Box 11. The ABCD dominating the food industry

ADM (Archer Daniels Midland) was founded at the start of the 19th century in the United States and is one of the largest processors and distributors of foodstuffs in the world, with activities that also extend to storage and transport. Its principal operations involve the initial processing of soya, maize and wheat, the three principal crops in the United States, and the company operates in close collaboration with the US co-operative sector. They have also followed this strategy in Europe in association with the big co-operatives of the largest countries on the continent. ADM has 27,000 employees and operates in 60 other nations with more than 250 plants, and sales that reached US $36.6 billion in 2005.

Bunge is headquartered in the US, but is of European origin and has a strong presence in South America. It was founded in 1818 and is now the leading company in some agro-food sectors, with operations that extend all the way down the supply chain, and to many countries across the globe. With more than 25,000 employees and 450 plants in 32 different states, Bunge is particularly active in the international trade of raw materials of agricultural origin, and in the initial stages of processing. The country where they have the most structured presence is Brazil, where they lead the fertiliser market and are the principal agent for soya exports.

Cargill is a US company founded in 1865 by William Cargill and still under the control of family shareholders. A supplier of agricultural products and services in the agriculture and food sector, in 2005 it had 160,000 employees in 67 countries, of which 15,000 were in Europe, where the company set up shop in 1953. The power of this company derives from its presence at every stage of the processing and trade of grain. The company has pursued an expansionist strategy involving vertical supply chain integration and diversification. It is currently the leader in a number of markets, from steel to cotton to meat, but it has also developed in other areas that have become fundamental, such as agricultural services and financial management.

Dreyfus (the Louis Dreyfus Group) is a holding with headquarters in Paris. It is particularly active in logistics and maritime traffic, a speciality for the company since the mid-19th century. It is currently one of the top ten companies for commodities destined for processing. Its principal activities revolve around international trade in agricultural and industrial products, but also extend to the refining of petrol, trade in crude oil and gas derivatives, and the property sector. With the exception of two companies of the group quoted on the Paris stock exchange, the holding is still controlled by the heirs of Louis Dreyfus.

Source: Information collected from the company websites and from Green, R. and Hervé, S. (2006) *IP - Traceability and grains traders : ADM, Bunge, Cargill, Dreyfus*; INRA-LORIA Cahier n° 2006-03. INRA-LORIA, France.

technology (PR Newswire, 2008), and Basf has announced collaboration with Monsanto (BASF and Monsanto, 2007). Bruinsma (2003) also highlights the tendency for multinationals to co-operate in integrating their agro-chemicals and seeds activities: *"Chemical firms were looking for partners in the seed industry to protect the value of their intellectual property rights (IPR) in patented herbicides. The consolidation process between the agrochemical and the seed industry is currently being extended to a third stage, as the life science companies broaden their reach through strategic alliances with major trading companies such as Cargill or ADM"* (Bruinsma, 2003). In effect the entire agro-food system is subject to attempts to control it through commercial and productive integration, and – thanks to the use of contract farming – along the length of the supply chain (De Schutter, 2011). This limits the bargaining power of the agricultural sector and increases its vulnerability.

Stealth corporations...

While Monsanto, Basf or Bayer are quite well known for some of their products, and for the publicity surrounding GMOs, some multinational companies operating post-harvest are largely unknown to consumers. They concentrate, move and partially process the agricultural harvest from the farm gate. Here we refer to them as the 'ABCD' of agriculture: ADM, Bunge, Cargill and Dreyfus, the leading companies in agricultural trading (Box 11).

... with increasing global reach

The main objective of the international grain merchants is to increase their market share and the scale of their operations. Their strategies focus on the creation of economies of scale, in trade, logistics and processing. They operate with low margins in a market where short-term price fluctuations can have a particularly significant impact. For such multinationals, the pursuit of these goals requires integrating risk management (using insurance and shareholdings as a lever) and research policies, as well as constantly improving storage and transport logistics (essentially maritime). With globalisation facilitating trade between companies (and between their different structures or affiliates), they are able to play with fluctuations in demand, prices, and the value of the dollar, and take advantage of the variations in subsidies, fiscal norms and labour and environmental legislation across the world.

Cereals and oleaginous seeds represent these companies' core business. They are increasingly also specialising in the initial processing of agricultural produce (particularly in the case of oleaginous plants). This enables them to establish themselves in the more lucrative food ingredient markets and achieve greater margins. As with the seed companies, the sector has undergone profound reorganisation. In addition to a number of bankruptcy cases, a series of mergers and acquisitions has created massive industrial conglomerates, of which the ABCD are the ultimate expression. By 2003, more than half of the global market for the initial processing of these commodities was controlled by the quartet, with ADM, Bunge and Cargill each controlling shares of between 16% and 19% and Dreyfus taking a smaller 7% (Green and Hervé, 2006).

The industrial and financial reorganisation of the sector results from a drive to internationalise companies which are already well established in strategic producer countries (and therefore exporters), such as Brazil, Argentina and the United States. They are also establishing themselves in strategic consumer markets, such as Europe, the United States, and Asia. Investment in Asia (primarily Japan, China and India) is the most recent development, and the most dynamic, due to the growing demographic and economic potential of the region. These companies have recently built industrial infrastructure and a number of storage and initial processing plants in these countries, progressively transforming them from importers of processed goods to importers of raw materials. Half of Cargill's

labour force is employed in the developing world where the multinational is planning investments in both the supply and procurement of foodstuffs.

Food concentrate for everyone

The control exercised by the major agro-food groups is a global phenomenon. In the United States it has been quantified, and the figures may anticipate scenarios for the rest of the world (Hendrickson and Heffernan, 2007). In addition to vertical concentration (the control by a single company or a cartel of companies of several links in a supply chain), there is horizontal concentration (control of single agricultural commodities). Horizontal concentration is measured using the concentration ratio (CR): the level of concentration of the largest businesses in single compartments of the sector. For most agricultural commodities the concentration ratio for the top four companies (CR4) is between 50% and 83%. In the case of agricultural inputs (such as fertilisers, pesticides and machinery), it is even higher. According to data from the University of Missouri (Hendrickson and Heffernan, 2007), the CR4 for beef preparation is 83.5% (Tyson Foods butcher 36,000 head of cattle per day, Cargill 28,300, Swift & Co. 16,800 and National Beef Packing 13,000). For pork it stands at 66% with Smithfield Foods butchering 102,900 pigs a day, Tyson Foods 72,800, Swift & Co. 46,000 and Cargill 36,000. For chicken it is 58.5% but Pilgrim's Pride and Tyson Foods alone control 47% of the market. For turkey it is 55%. In the milling industry the CR3 (for the top three companies) is 55% for wheat flour (Cargill, ADM and ConAgra, in that order) and for soya it is 71% (ADM, Bunge and Cargill). The supply of agricultural inputs is also concentrated in the hands of a few industrial entities; in the case of maize, 58% of the market is controlled by just two companies (DuPont/Pioneer and Monsanto). It's not just the United States: in Brazil agricultural inputs are even more concentrated, with the CR4 for fungicides and insecticides 90% controlled by Bayer, Syngenta, Uniroyal and Basf. In South American countries Cargill and Bunge also dominate the fertiliser market and tie their sales to the acquisition of harvests, forcing farmers to source inputs from the same companies that will buy the fruits of their labour. In Brazil, the initial processing of soya is 57% controlled by the ABCD and 68% of the refining processes for soya oil are in the hands of just Bunge, Cargill and ADM (Hendrickson and Heffernan, 2007).

Concentrating animals

Scarcely noticed by the general public, the livestock industry is similarly concentrated in the hands of very few globalised companies. Based on data published by the multinationals themselves, and using information on the international trade in animal products and derivatives, the League for Pastoral People (a network of organisations supporting pastoralists) has revealed alarming levels of economic concentration:

> *"Poultry and pig factories integrated into corporate value chains are fast growing in Asia and Latin America, and poultry factories are sprouting up in many African countries as well. The four globally active poultry breeders (Erich Wesjohann Group, Hendrix Genetics, Groupe Grimaud and Tyson) have established multiplication and distribution systems for their hybrid lines in all these areas. Farmers cannot breed the hybrid lines, but need replacements for each production cycle, and this dependency – often contractually exclusive – has fostered an extreme concentration. With the help of hybrid pig lines there is a rapid concentration taking place in the pig breeding industry, which is also spreading its multiplication and distribution systems worldwide. The achievable rates of return have attracted seed corporations like Monsanto to invest in livestock genetics. Exclusive access to gene and information technologies is also fostering further concentration, including cattle genetics. The global market*

leaders of pig, cattle and shrimp genetics all are subsidiaries of one livestock biotechnology corporation, Genus plc." (Gura, 2008)

Nevertheless, high levels of concentration in livestock production and processing do not necessarily mean high levels of profitability. A UK FoodGroup study revealed that at least for Europe *"the large supermarkets are the main governors of the UK poultry chain, as production is mainly own brand and the supermarkets have almost 90% of the market by value"* (Vorley, 2003).

One impact of industrial concentration and the intensive raising of pigs, cattle, poultry and rabbits is extremely limited genetic diversity. A third of the world's pork, half the world's eggs, two-thirds of its milk and three-quarters of chickens for meat are produced from varieties specifically selected for industrial exploitation, which show extreme genetic uniformity (Gura, 2008). The German industrial group EW (from the name Erich Wesjohann) is the world leader in the market for laying and broiler chicken germplasm. In April 2005, EW acquired Aviagen, the world leader in the chicken and turkey meat market. The fusion between the biggest poultry biotech company and the biggest producer on the poultry market has created a company that dominates the genetics of egg-producing chickens, providing the germplasm used in 68% of the global production of white eggs and 17% of brown eggs (Gura, 2007).

Ageing giants

The food industry (understood here to mean the companies that process foods and develop their own brand names) is also characterised by multinational companies that dominate the sectors in which they operate. Nestlé and Unilever, among others, reported dramatic increases in profits during the food crises. Nestlé (US $83.6 billion in takings between food and drinks in 2007), Pepsico ($39.5 billion), Kraft ($37.2 billion), Coca Cola ($28.9 billion), and Unilever ($27 billion) are the market leaders in processed foods (ETC Group, 2008b). They have famous brands, aggressive commercial policies, and bombard us with advertising. They saw the food crisis coming, and in anticipation began to hoard agricultural commodities. This actually contributed to rising prices, allowing them to reap the benefits when the price rises got out of control (GRAIN, 2008d).

However, the concentration of their share of the market is significantly less than that of the companies at the initial and the final stages of the supply chain: the top 10 processing companies held just 26% of the market in 2007. Their power over the chain of production has decreased especially when compared to the period from the end of the Second World War to the 1980s. In the past 20 years or so, they have seen their power over prices, shelf placement and brand image become eroded, particularly by the large organised distributors (LODs), such as supermarket groups, that have taken over the supply chain.

The reign of the supermarkets

In the distribution sector the process of concentration of market control has been going on across the world for more than a decade. This has been accompanied by geographical expansion and vertical integration into the upstream supply chain. This transition has left the LODs wielding significant power over the supply chain.

The American retailer Walmart is the undisputed global leader of the major food distributors with annual sales in 2012 of US $443.9 billion, 10,130 stores, and activities in various countries (although the United States is by far their most important market). Behind Walmart comes Carrefour (France; $113.1 billion, 9,672 outlets in almost 40 countries); Tesco (Great Britain; $103.5 billion, 6,234 outlets) and Metro (Germany;

$92.8 billion, 2,187 outlets).[5] The general retailing market is dominated by companies that have reached dimensions that habitually surpass national borders, making them the champions of global competition. In Switzerland, Ireland, and Scandinavia the top five distributors claim more than 80% of the national market in food distribution. The major European countries show lower percentages, although they still range between 70% (Germany) and 45% (the UK). In the Mediterranean countries the figure is around 30% and levels of concentration tend still to be limited. In Italy the CR4 is at 36% (Coop, Auchan, Carrefour and Conad), whereas in Scandinavia the three largest supermarket chains control between 78% and 95% of the market (ANCC-COOP, 2006).

Most of the growth of the European distribution groups, and thus of all the big continental distributors, is down to their hypermarkets and superstores, with sales of $497 billion in 2010 (an increase of 22.8% on 2005), followed by supermarkets with $411 billion (+17.8%; ANCC-COOP, 2006).

Expansion in the distribution sector is happening in both a physical and economic sense. The French and German stores have the greatest physical area per person, with a respective 256 and 232 square metres of supermarket floor per thousand inhabitants (ANCC-COOP, 2006). Commercial spaces are expanding, acting as a kind of black hole that sucks in small shops, dominates the design of urban space and promotes mass consumption.

In a period of economic stagnation, food price inflation and declining purchasing power is giving a boost to discount stores (sales up 33% in 2010) and wholesale 'cash & carries' (up 28.9%) (ANCC-COOP, 2006).

5 Our figures are based on Supermarket News; Top 25 Global Food retailers 2012: http://supermarketnews.com/top-25-global-food-retailers-2012

The supermarket chains are beginning to operate new strategies that also offer public relations opportunities. For instance, Walmart announced that they will offer US $400 million worth of 'local' produce (acquired within a 150 km radius) – albeit out of US $340 billion of total sales of food and other consumer goods (Walmart, 2008). This was designed to improve their image and follow market trends, as well as reducing energy and transport costs in order to maintain the sector's high performance. It also made them the biggest purchaser of local foods in the United States (Calabresi, 2008).

In developing countries the proliferation of supermarkets has come in waves:

1. The first wave at the beginning of the 1990s was primarily focused on South America, East Asia and South Africa with rates of growth that led to the major distribution chains occupying up to 50-60% of food trade by the middle of the last decade.

2. The second wave invested in Central America and parts of Southeast Asia, beginning in the mid-1990s when the LODs controlled a mere 5% of the market. They now control 30-50%.

3. The third wave took off at the turn of the century and hit three large and potentially profitable countries: China, India and Vietnam, where 'modern' trade has already come to control between 30 and 50% of distribution. In China the number of supermarkets has grown from 2,500 in 1994 to 32,000 in 2000 (Hu et al., 2004), and is continuing to rise (Box 12).

4. A fourth wave is getting under way in countries with widespread poverty, such as Bangladesh, Cambodia and parts of Africa, whose demographic trends make them interesting prospects for the food trade. It is thought that the full deployment of this (last?) wave will take place over one or two decades (Reardon and Gulati, 2008).

Supermarkets and food insecurity

The amount of power wielded by the LODs is more than a question of economic democracy along the supply chain or within the distribution sector. It affects the planet's food security both directly and indirectly. LOD supply contracts specify the timing and mode of delivery for produce, and impose detailed criteria that agricultural and livestock farmers and processors must meet for the product and – sometimes – the productive process. These requirements are becoming standard for the whole industry, with entire areas of production specialising in restocking the supermarket chains wherever they are, according to a system of 'just-in-time' delivery typical of the manufacturing industry (Lawrence, 2004; Schlosser, 2001). An FAO annual report on the global state of food insecurity examined the effect of the expansion of the transnational supermarket chains on the welfare of peasant communities in the Global South, and the risks of exacerbating the precarious conditions of access to

Box 12. China and the invasion of the multinationals

In 1992, there were no international supermarket chains present in China. Ten years later almost 50% of food distribution in urban areas was performed by supermarket chains locked in a fierce struggle for the biggest slice of a constantly expanding and profitable pie (FAO, 2004a). The key players are Walmart and Carrefour, and the Chinese authorities are beginning to ask themselves what advantages this battle between foreign multinationals really offers the country or its leadership. Walmart was, up until now, also known to be the biggest single buyer of Chinese goods, to the tune of US$27 billion, amounting to 9% of US imports from China (Whitehead, 2008). It now seems that the US multinational wants not only the workers of the Asian giant, but also its consumers.

The Beijing authorities are worried about the future of their entire national agro-food system. Realising they risk becoming increasingly dependent on the import of strategic commodities,[a] some Chinese are angry about their growing exposure to all the strategic links in the domestic supply chain. One hard-hitting newspaper article on the *Chinaview* website blamed malicious policies and the obstinate pursuit of profits for the 2008 grain market crisis (Yuxia, 2008). Others report the concerns of the Chinese government about the level of control multinational companies have gained in China's internal food supply, and recognise this as being responsible for the inflationary spiral affecting food:

"Even the most moderate Chinese observers maintain that the situation must be got under control: five years ago the ABCD took control of the Chinese soya oil industry. Today there are ever more insistent voices claiming that international investment banks, led by Goldman Sachs, could acquire a large slice of the pig industry in provinces such as Hunan Fujian, with an investment of between 200 and 300 million dollars. Goldman Sachs already controls Shuanghui and Yurun, two of the most important meat producing industries. However, the main target for the accusations of Chinese consumers and competing operators is Wilmar International: with 71 food production plants, the Singapore-based company (controlled by the American ADM) alone holds 50% of the edible oils market in China, the price of which in has risen from 36 to 90 yuan per barrel in the past year" (AGI China, 2008).

While it may not be true that when China sneezes the rest of the world catches a cold, these Chinese examples illustrate the rapidly changing balances of power taking place in agro-food systems across the planet.

a. In 2011/12 China imported 5,500 million tonnes of corn (USDA, 2012).

food some poor rural communities face (FAO, 2004a). Olivier De Schutter, UN Special Rapporteur on the Right to Food, also noted that the economic benefits for rural communities are far from clear: *"Small and unorganized farmers, in particular, facing large corporations both as suppliers of intrants and as buyers of their produce, are in such a weak bargaining position that they may hardly benefit from the increase of prices on the global markets."* (De Schutter, 2008).

In supermarkets in many of these developing countries, processed or semi-processed foods – which represent around 80% of their sales – are sold at prices lower than those offered by small traders. This not only attracts consumers but accustoms them to innovative food and encourages them to reject traditional food staples. Small and medium-sized shops can be swept away by the competition of the major supermarkets.

For fresh produce (representing 10-15% of sales) these supermarkets use specialised wholesalers who mediate the relationship between the farmer and the retail outlet. Only those producers with good transport links can be involved, placing these markets out of the reach of small peasant farmers. Small farmers are not the only ones to lose out in this system: rigid quality and health standards require investments in equipment that is not always economically feasible for farmers, forcing them into debt or aggravating existing levels of debt.

The very long chains which bind

If we imagine the supply chain as an hour glass with at least 1.3 billion farmers at one end and 7 billion consumers at the other, the middle consists of the companies that commercialise the foodstuffs (principally the four ABCD companies) and the international supermarket chains. This is the real bottleneck that filters the flow of food goods and where power over food is concentrated.

The long and vertically-integrated supply chain has the power to impose its own standards on all areas of food production. While less than half of the food produced and consumed in the world passes through this system, involving a significant minority of the planet's farmers, it nevertheless makes the rules and determines what we should eat (see next section). It shapes public policy and involvement in supporting production and defining hygiene standards. These policies are proposed and brought into effect by autonomous governments, but sometimes elected elites function as though they were members of the boards of directors of the food corporations. The same applies to researchers and scientists and the mainstream media, who claim this agro-food system to be the only possible way of operating and the most effective for guaranteeing local and global food security. The responsibility for existing food problems therefore goes beyond the boardroom of the TNCs.

These supply chains are also long in other ways. They are long in a geographical sense – the distance food travels ('food miles') and the amount of CO_2 emissions produced. They are also long in the sense that they multiply the number of stages of handling

Box 13. A supply chain with poverty at both ends

The prices paid by consumers, be they exceptionally high or structurally low, do not translate into adequate income for food producers. They are absorbed by transport logistics, the agro-foods industry and the big retailers. This happens everywhere in the world. Industrial food dominates supermarket shelves, cafeterias and dining tables. According to one study, an average Italian family spends around €467 a month on food and drink. More than half of that, €238, goes to commerce and services, €140 (30%) goes to the food industry, and only €89 (19%) goes to agricultural undertakings (Coldiretti, 2007). This illustrates well how 'value' accrues along the length of the food supply chain.

and processing. They are long in an economic sense, as real or fictitious value is added at each step along the supply chain (Box 13); and they are long in a cultural sense, distancing consumers from their food and widening the information gap between them and the farmer.

Western food habits: a poor act to follow

Urban populations, and particularly the middle class, are experiencing a significant change in dietary regimes in almost every corner of the world. These changes are reflected in the logic of the supply chain, which, in turn, influences eating patterns. More and more meals are eaten outside the home by urban populations (who now outnumber those living in rural areas). This expands the processed food market, and further lengthens the supply chain. On this subject, the FAO speaks of two distinct tendencies: the convergence of food regimes and changes in habits (FAO, 2004). Convergence refers to the growing similarity of diets across the globe, based on a restricted number of basic cereals (wheat and rice), combined with meat, dairy products, oils, salt and sugar, and a simultaneous reduction in the consumption of fibre. Changes in habit are attributable to changing rhythms of family life, with more meals consumed outside the home and the purchase of brand name products from supermarkets. In Latin America and in Asia this tendency has been "phenomenal...the share of food sales made through supermarkets more than doubled" (FAO, 2004a) in the last 20 years. There is an emulative process in the developing world that seeks to mimic the Western idea of quality of life, giving rise to changes in food and consumption styles (Delgado et al., 1999).

The Western world is not a good example to follow from a nutritional point of view. The apparent variety of food goods consumers can find on supermarket shelves triggers purchasing habits that search for novelty. Between 1990 and 2000 more than 16,000 new food items were displayed in US supermarkets, for example. This apparent richness went hand in hand with the impoverishment of the nutritional value of these foods, homogenising diets and undermining balanced eating habits. The process also accompanied a sharp increase in obesity problems, particularly among the poorest, since the most affordable foods are also the most fatty, salty and high in calories.

The US Center for Disease Control and Prevention has an animation on their website which shows, year by year since 1985, how the number of obese adults has risen in the various states of the union (CDC, 2012). In 2009/10, 35.7% of US adults were obese (CDC, 2012). The phenomenon also affects children and adolescents, but is less of a problem for the more affluent (Bréville, 2012). The implications of this high rate of obesity include serious health problems and high social and economic costs. Moreover, this runs parallel – and often coincides – with the unexpected number of food-vulnerable people. According to USDA figures, 14.9% US households, close to 15 million people, are food insecure at least some time during the year, including 5.7% with very low food security (i.e. disrupted eating patterns when the household lacked money and other resources to obtain food) (Coleman-Jensen et al., 2012).

The Mediterranean diet – based on the consumption of fresh fruit and vegetables – is often invoked as the ideal to follow. Yet, according to an FAO study, in recent decades this diet *"…has been abandoned little by little and is today in a moribund state"* in the very countries where it originated (Schmidhuberl, 2008). Italy, Greece and Spain are also seeing a large part of their population consuming too much fatty, salty and sweet food. According to the European Commission, the proportion of overweight and obese people in the adult population varied in 2008/09 between 36.9% and 56.7% for women and between 51% and 69.3% for men in 19 of the 27 EU Member Countries for which data are available (Eurostat, 2011). Fourteen million European children were overweight in 2004 and 3 million were obese, according to the International Obesity Task Force (IOTF, 2004).

Expensive waste

In the United Kingdom, as in other parts of the developed world, 7 million tonnes of food are thrown away every year (DEFRA, undated). Over time, food waste at the production, storage and manufacturing stages has been substituted by food waste in homes and by retailers and caterers, whose bins are the end destination for a significant part of all food sold. This reflects another transition that has been taking place for some decades. In Italy in 1970 domestic consumption of food, drink and tobacco products amounted to around 40% of spending. Today those same products are estimated to make up just 18.8% of the shopping basket of a typical Italian shopper (Istat, 2008). This loss of economic relevance brings with it a tendency to be less aware of the consumption and 'use' of food. This tendency has continued even in times of recession and crises in spending power.

Shock agronomy: a tired old production paradigm

Along with food, energy and finance, 2008 was also a year of crisis for the political and economic paradigms on which mercantilism and liberalism have depended for decades. Capitalism as we know it has been shaken, with state interventions to the order of hundreds of millions of dollars required to save the credit system. Nevertheless, the tremors caused by successive destabilisations of productive systems and physical markets seem to have provided an occasion for consolidating and reinvigorating the existing trajectory. As Naomi Klein argued in *The Shock Doctrine* (Klein, 2007), there is always someone able to profit from the instability created by more or less unexpected shocks and the vulnerability they generate, using it to drive home their own political and economic agenda. In the case of the primary sector, this can be translated in terms of technological intensification of productive activity. Today's promise of productive intensification is built on an agenda that mixes old ingredients with new technologies: genetic engineering; the extension of the Green Revolution to Africa (see below); a new wave of chemicals for pest control; the artificial creation of a formal market for seed varieties generated and controlled by the seed industry; and the expropriation of agricultural research from public institutions (to be taken over by philanthropic organisations). Taken together these measures can be understood as a new 'shock therapy' or, more precisely, 'shock agronomy'.

The chimera of a Green Revolution for Africa

Despite the fact that criticisms of the Green Revolution are now commonplace in scientific and political literature (Box 14), the approach maintains its fascination. With the recent food crisis the issue has again been revisited in classical, popular terms: with so many mouths to feed and in the face of the inadequacies of the food producing system, only a modernisation of the productive system and a new technological drive will save us. As such, the quantity of production is totemic and the quality of consumption (what is consumed, and by whom) is mere detail.

Until a few years ago, calls to support African agriculture, and with it a large part of the African population, were essentially ignored. However, a growing number of organisations and institutions are making progress in promoting and sustaining this cause. The World Bank, the NEPAD (New Partnership for Africa's Development), and the Rockefeller, Gates and Clinton foundations have all referred to a 'new Green Revolution for Africa'. The key to this strategy is AGRA, the Alliance for the Green Revolution in Africa, headed by the ex-Secretary General of the United Nations, Kofi Annan, and sponsored mainly by the Gates and Rockefeller Foundations, which announced initial funding of US $150 million (*Philanthropy News Digest*, 2008).

The aim of AGRA is to implement a development programme that increases agricultural production in Africa through the same Green Revolution package of inputs ('improved' seed varieties, fertilisers, pesticides, irrigation), but using the market and taking

Box 14. The fallout from the Green Revolution

The Green Revolution, which reached its height in the 1960s and 1970s, initially increased productivity and the amount of food available in the regions where it was applied (particularly South and East Asia and Mexico), although no significant advantages were seen in Africa. Targeted rural communities were given a 'technological package' consisting of chemical fertilisers, chemical pesticides, 'improved' seeds and irrigation systems. The aim was to facilitate the structural transformation of productive activity.

However, over time this model has been shown to have negative social, ecological and agronomic consequences, as well as proving to be unable to guarantee benefits for the poorest farmers, for whom these transformations never became a reality. Many studies have shown how the Green Revolution 'technological package' has generated unsustainable costs and serious debt problems for farmers (see for example: Manning, 2001; Fowler and Mooney, 1990; Shiva, 1991; Holt-Gimenez *et al.*, 2006). The Green Revolution has not stood the test of time, and the growth in production began to slow down in the 1980s, when the first signs of its environmental impact also began to emerge. The progress of the early years was followed by complications due to soil erosion and the appearance of pesticide resistance, leading to a toxic spiral involving rising costs, the poisoning of farmers and food, and serious damage to ecosystems. These impacts were initially underestimated, but have worsened over time and today are at the centre of planetary concerns over the degradation of natural resources, the spread of persistent and toxic molecules, the erosion of genetic resources, and the emission of greenhouse gases.

This damage, still with us today, is aggravated by emerging concerns around the use of genetically modified seeds. As the UN Economic and Social Council states, *'the Committee is deeply concerned that the extreme hardship being experienced by farmers has led to an increasing incidence of suicides by farmers over the past decade. The Committee is particularly concerned that the extreme poverty among small-hold farmers caused by the lack of land, access to credit and adequate rural infrastructures, has been exacerbated by the introduction of genetically modified seeds by multinational corporations and the ensuing escalation of prices of seeds, fertilizers and pesticides, particularly in the cotton industry'* (UN Economic and Social Council, 2008). In India alone, 16,632 farmers are reported to have committed suicide in 2007 (NCRB, 2007). Most of these deaths took place in the states of Maharashtra and Andhra Pradesh where the agronomic failure of genetically modified cotton crops has been more marked than in other states on the subcontinent.

into account the conditions and typical agricultural constraints on the African continent (soil fertility, lack of water, very poor farmers with little involvement with formal markets, the need to rebuild technical assistance, etc.).

A private revolution

AGRA aims to reinterpret the course of the Green Revolution in an attempt to reduce the failures and make use of the lessons of past decades. Nevertheless, it is clear that the operation also aims to open up the growing African market, particularly to agricultural inputs. The private sector is now the real master of development, albeit under the guise of major 'charitable' donors. In the past, public research and the sharing of scientific, technical and product knowledge allowed the dissemination of germplasm and the transfer of skills between international research centres and those in developing countries, supported by public extension services. Nowadays the dynamic of intellectual property surrounding technology and the resulting products subordinates the processes of rural development to the needs of the private sector. The philanthropic foundations funding AGRA are thus responsible for opening the way for the penetration of industrial interests into new markets.

The AGRA website states that *"…AGRA does not fund research on, or testing of, GM crop varieties. None of the seed produced by its grantees is GM. However, the Gates Foundation and The Rockefeller Foundation have both been active funders of GM crop research, and the Gates Foundation today funds a large ($25 million) GM maize research project aimed at developing drought-tolerant maize"* (AGRA, 2013). Even without making the transition from the 'Green' to the 'Gene' revolution, the former remains orientated to the adoption of a restricted number of varieties, often hybrids, pushing the agricultural system towards a market approach to access to seeds, and thereby altering the traditional practices of selection and reproduction on the farm. In developing countries over the past 30 years the vast majority of smallholder farmers' seed demands are met by sources at farm and community level. As even recognised by Biotechnology Trust Africa, the majority of farmers in Africa mainly get their seeds from informal channels which include farm-saved seeds, seed exchanges among peasants or the local grain and seed market: *"These channels contribute about 80-100% of seed supply depending on the crop and country"* (Wekundah, 2012). This system uses a broad range of local varieties, ensuring agro-biodiversity and dynamic conservation through use. The Green Revolution, on the other hand, relies on a few varieties of uniform genetic profile, used in monocultural plantations, requiring constant irrigation and relying on the control of weeds and parasites through increasing doses of pesticides. This creates an artificial ecosystem and produces fragile and needy plants and animals.

Fertilising the revolution

One of the greatest constraints to increasing yields – in any crop system – is the basic fertility of the soil. The principal pillar of the Green Revolution for Africa is massive increases in the availability of fertilisers so as to redress the balance of nutrients in the soil. An African summit on fertilisers was held in Nigeria in 2006, sponsored by national and international donors and attended by many African leaders, to encourage the use of fertilisers in a region characterised by a significant stagnation in the fertiliser market. This showed that the application rate of chemical fertilisers in Sub-Saharan Africa is around 9 kilograms per hectare, compared with 76kg/ha in North Africa, 89kg/ha in Latin America and 148kg/ha in Asia and the Pacific. The summit proposed a strategy for creating favourable market conditions for the trade and use of fertilisers: increasing the number of salespeople in Africa, creating a system of credit guarantees for inputs, making subsidies available to farmers, creating regional

distribution centres, and developing a financial plan to carry out these actions (IFAD, undated).

However, such dependence on the massive use of chemical fertilisers appears unwise. The recent food crisis has in particular led to a dramatic increase in the cost of many inputs, especially chemical fertilisers. Chemical sources of nitrogen (the main plant nutrient) rely on an industrial process that transforms the nitrogen present in the atmosphere, but which is dependent on the use of fossil fuels. This makes fertiliser prices vulnerable to fossil fuel prices: for example, rising energy prices resulted in the global price of fertiliser soaring by 170% between 2006 and 2008.

A recipe based on massive inputs of chemical fertilisers also seems out of step with developments in soil science over the last few decades. For a long time, this discipline has consolidated an approach to fertility that is not limited to the chemical fertilisation of fields, but which also looks at plant nutrition in terms of the soil's organic content and its physical and biological structure, along with good cropping practices such as rotation, green manure, composting and manuring. These give value to the cycle of organic substances and the capacity of plants to capture solar radiation. In many African regions soils are subject to desertification and erosion and are more vulnerable to the loss of organic matter due to harsh climatic conditions. These conditions would not be improved, and are even likely to be worsened, by chemical additives. As Ndiougou Fall, the then President of the Network of West African Peasant Farmers' Organisations (ROPPA), commented at the 2006 summit in Nigeria, *"although we acknowledge that this is a fertilizer summit, we do feel that the focus of the summit should be more on soil fertility management...we think that an appeal for an African Green Revolution is not right: a series of 'rainbow evolutions' are needed, adapted to the circumstances of various regions of Africa and the farmers of Africa"* (cited in Lobe, 2007).

Shocking but ineffective

Productive intensification through shock agronomy is highly costly. It isn't just the production of fertilisers that is fossil fuel-intensive: pesticides, mechanisation, irrigation systems and the drying, milling and transport of grain are all based on oil. Promoting energy-hungry agriculture makes no economic sense if it does not integrate the environmental imperative of energy sustainability. If oil will no longer be able to substantially replace labour, as it has gradually done so over the last century, we must go back to valuing the human presence in productive activity. Peasant agriculture and traditional fishing are a coherent response to these problems.

The call for a new Green Revolution in Africa is based on a paradigm that has been tried, tested and proven to be inefficient and counterproductive. It takes a universalist and reductionist approach based on the top-down transfer of technology on a large scale. The model requires that many functions linked to research, development and the commercialisation of technological innovation take place far from the farm, in an attempt to specialise production and promote economies of scale in the agro-industrial system. The peasant community is stripped of its planning and decision-making power.

As in the past, this technological approach leads to neglect. Neglect of soil fertility, previously protected and enriched by inter-cropping and crop rotation or manuring. Neglect in the management of natural resources, and the diversity and complexity of species and ecosystems. Neglect of informal seed systems, with the resultant reduction in agro-biodiversity. The original Green Revolution only saw notable increases in productivity where the conditions for profiting from the process of intensification were ideal (farms with considerable amounts of land and capital resources, with access to markets for inputs and produce).

Development centred on growth inevitably places its emphasis on increasing the value of production rather than on social inclusion or the ecological compatibility of productive systems. In farming, the result is that a large part of the affected community, not only subsistence farmers, are marginalised and forced to abandon the land for the cities in search of employment.

Dealing with market instability or climate chaos requires considerable flexibility in managing resources, adaptability, autonomy and diversity. This is not possible if farmers are held hostage by a technological package or integrated into a rigid agro-industrial system.

By focusing on productive intensification at all costs, and ignoring issues of environmental and social sustainability, shock agronomy seeks to use the food crisis to advance and enhance the industrial model of agriculture responsible for the crisis in the first place.

The way forward for African farming? The view from the World Bank

One of the keenest followers and promoters of shock agronomy is the World Bank, which in 2007 dedicated its annual report to agriculture after 25 years of completely ignoring the primary sector (World Bank, 2007). That report celebrated the Green Revolution as a great and progressive strategy, emphasising various positive aspects (improved yields, reduced prices – meaning benefits for poor citizens – and great steps in scientific research). They hailed it as a demonstration of how (public) investments in agriculture can transform it into a dynamic sector and promote overall development. The initial failure of the Green Revolution in Africa is explained by the context, and not by the inappropriateness of the approach. In reality, the reasons why the African context did not prove favourable are not only to be found in the hostility of climatic and economic conditions, but also in the policies that followed decolonisation and the dismantling of public interventions in agriculture imposed by the World Bank and the IMF's own structural adjustment programmes (Box 3). The World Bank report states that *"agricultural extension services, after a period of neglect, are now back on the development agenda, with a sense of excitement about many of the emerging institutional innovations"* (World Bank, 2007), yet national and regional agricultural services had in fact been mercilessly dismantled following the dictates of the international financial institutions.

The World Bank report emphasises one particular issue: the potential for biotechnology to help countries in the developing world and poor peasant farmers in particular. An important chapter is dedicated to scientific and technological innovation, mainly genetic engineering. The chapter closes with a specific, in-depth examination of transgenics (called 'precision breeding') under the heading *"Capturing the benefits of genetically modified organisms for the poor"*. The message that emerges is that innovation in agriculture is essentially based on intervening in the genome of plants or animals through the arsenal offered by biotechnology. The report recounts how the development of this potentially pro-poor technology is facing delays due to the lack of public investment and the lack of private sector interest. It describes how private companies concentrate on their own interests, which are incompatible with those of the economically insolvent. It advocates overcoming the growing divide in research and development between industrialised and developing countries. Public institutions and public research should intervene to remedy this imbalance in order to help the developing world access a 'pro-poor' supply based on biotechnology for minor crops which are important for food security, but which are of little commercial interest.

The Bank proposes increasing the scientific and technological profile of agriculture in developing countries through public-private partnerships (PPP), where the private sector brings

its knowhow and the public sector provides the resources, above all to cover the dissemination costs of the technological innovation and the financial transactions relating to intellectual property. Given that in the developing world 94% of agricultural development R&D is carried out by the public sector (World Bank, 2007), this kind of strategy could prove convenient, above all for the penetration of products and intellectual property instruments owned by the private sector. This sector is not required to make investments nor take commercial risks, because of the participation of philanthropic initiatives, such as those promised by the Gates or Syngenta foundations, which are explicitly cited in the report.

Public-private partnerships are not, however, a simple consortium between well-intentioned actors. They are a strategy for capitalisation, a cashing-in on an agricultural research sector where corporations have profoundly modified the internal workings of various markets, concentrating decision-making power and control of industrial assets through a series of mergers and acquisitions.

How the World Bank interprets the synergy between the public and the private is well illustrated in a summary table in the report,[6] which compares the points of strength of the for-profit sector with those of national public agricultural research institutions and international ones, specifically the 15 Consultative Group on International Agricultural Research (CGIAR) centres of which the World Bank is co-sponsor. In an ideal world, according to the Bank, the multinational companies (specifically the biotechnology companies), would make available their genes, their capacity for biotech research, access to international markets, access to capital, economies of scale and expertise on intellectual property rights, while national and international public research institutions would contribute germplasm (that is to say, the reservoir of genetic diversity stocked in the seed banks), the infrastructure for improving varieties, the transfer of new genetic characteristics to the varieties adapted to local conditions, dissemination, access to bilateral/multilateral donors and – interestingly – reputational integrity. Unfortunately this report came just as the CGIAR's institutional donors began to reduce regular programme funding in favour of ad hoc trust funds geared towards specific programmes in which they show particular interest. This is weakening the capacity and the autonomy of the CGIAR network and its 15 centres, so much so that some of them are in danger of failing. This can be seen as one of the results sought by 'shock agronomy': to make public structures increasingly fragile in order to make them permeable to private interests.

The report further stresses that technological advances must take place alongside a renovation of the institutions and the system of governance. The following quote is illuminating:

> *"Introducing transgenics requires a cost-effective and transparent regulatory system with expertise and competence to manage their release and use. Open information disclosure, labelling, where feasible, and a consultative process are critical for harnessing public support for transgenics. Strong regulatory capacity does not necessarily mean stringent standards on risks. On the contrary, competent regulators can keep information requirements for approval at an appropriate level to ensure safety, based on knowledge of the trait and the ecosystem into which it will be introduced. High regulatory barriers may impose high costs on society by restricting or slowing access to beneficial technologies. High barriers may also restrict competition in seed markets and reduce options for farmers, because public research organisations and national seed companies may not be able to pay the high cost of regulatory clearance (estimated at more than $1 million for the first Bt cotton varieties in India). In setting the*

6 Table 7.2 on page 171 (World Bank, 2007).

regulatory standards, decision makers must weigh public risk perceptions and degrees of risk tolerance, which differ among societies. (…). Risk assessment must also consider the consequences and risks of not using transgenics". (World Bank, 2007)

In other words, there is a need to build a system of governance for GMOs that will pacify public opinion and create a market for GM foods.

GMOs: genetically monopolising organisms

Genetically modified organisms (GMOs), often invoked as the panacea of the food crisis,[7] are structurally unable to make a positive contribution. Like it or not, the importance of GMOs has inexorably increased in the debate over the future of food and agricultural research. In just a few years 'GMO' has become one of the most controversial acronyms, peppering arguments surrounding food, agriculture, the environment, health, the economy, politics, and the rights of farmers, consumers and citizens.[8] Considering their short commercial history, which began in 1996, GM crops and foods seem to have caught the attention of public opinion like few other technological innovations, certainly in the agro-foods sector. However, unlike the other major technological innovations that emerged at the turn of the millennium, such as in information technology or medical diagnostics, plant genetic engineering has been unable to deliver on its promises. which has 89% of the world's land planted with GM crops – 41% in the United States alone (James, 2012). The technology is limited to four crops (soya, maize, cotton and oilseed rape) and to two agronomic characteristics, herbicide tolerance – the most prevalent – and resistance to insects. The capacity of genetically modified seeds on offer remains the same as at their commercial launch.

This stagnation in the development of GMOs can be explained by two complementary factors:

1. The need to recover the onerous research and development costs that come with bringing a genetically modified variety onto the market (estimated at more than €100 million or US $100-200 million for 10-12 years of experimental activity; Ferri, 2008). This restricts companies to concentrating on genetic modifications that will be attractive to well-capitalised farmers.

2. The largely hostile attitude of consumers to genetically modified foods, which has limited GMOs to a few commodities principally destined for animal feed or textiles. Products destined for human consumption such as genetically modified wheat,[9] rice, tomatoes or potatoes, have failed to find commercial markets. Other strains offering better nutrition, drought or salt tolerance, or more resistance to pathogens were announced, but never appeared on the market.

Despite the technological leap that genetic manipulation represents, transgenic agriculture is on a continuum with the intensive productivist agriculture that preceded it. It is strongly dependent on external inputs and is alien to the agro-ecological system; it aims to minimise labour and the human surveillance

7 This was seen, for example, in the Italian press at the height of the crisis in articles such as: "More expensive food? GMOs are the solution" (Corriere della Sera, 9 March 2008); "GMOs or famine. Europe at a crossroads" (Nazione-Carlino-Giorno, 28 April 2008; "No to GMOs? A luxury we cannot afford" (Il Sole 24 Ore, 30 April 2008b); "GMOs, hunger can't wait" (Il Sole 24 Ore, 30 April 2008b); "From GMOs an answer to hunger" (Il Tempo, 5 May 2008)[authors' translation].

8 These rights include farmers' rights to save and resow their harvest; consumers' right to know and to make informed choices; and citizens' rights to live in a GMO-free territory. All these 'rights' are threatened by GMOs or – more correctly – by the rules that surround and legitimise them.

9 For a more in-depth look at the failed attempt to commercialise GM wheat, see Colombo (2006).

of crops, and it increases capital requirements (or, in the absence of capital, debt) to support investments in technology; and it standardises agricultural production so as to increase efficiency in the subsequent phases of industrial processing. Like other agro-industrial innovations of recent decades, it is subject to serious debate over its ecological and health impacts, and has been the focus of several serious scandals.

Agro-biotechnology also brings with it some new elements that increase concerns about the future of food and the right to food. For example, contract farming (the mechanism that ties farmers to agribusiness firms in terms of quantity, timing and quality of supply) was developed to respond to the demands of the major distribution chains. With genetic modification, contract demands have become even more rigid. As we have seen in North America, contracts for the acquisition of seeds include new constraints for the farmer (such as buying specific herbicides), and guarantee new rights for the owners of the technology, allowing them to conduct triennial inspections of the growers' fields and storage facilities in order to ensure that there are no violations of the seeds' patent protection.[10]

The characteristics of genetically modified plants suggest that these crops would follow a similar escalation of hostilities in the pest battle as seen with pesticides. Scientists (and farmers) are increasingly reporting the emergence of resistance in targeted organisms (such as caterpillars developing resistance to the Bt toxin produced by modified plants), or of toxic or lethal effects on non-target organisms (such as other insects that either do no harm or are beneficial). There are similar cases of weeds becoming tolerant to the herbicides applied to the engineered crops, which is a major concern and a serious problem for the agro-ecosystem.[11] Attempts to deal with these phenomena by inserting new gene varieties into the plant genome are establishing a technological arms race that closely resembles the 'toxic spiral' typical of the agro-chemical era.

The scientific community is aware of these problems, but has difficulties in reaching a consensus. Confrontations over the consequences of the genetic manipulation of living beings first emerged in 1975 at the congress on recombinant DNA in Asilomar, California, where the implications and dangers were discussed for the first time; it was clear from that point on that it was necessary to share the research with society to a certain extent (Kempf, 2003). Involving the public raises certain dilemmas: while public participation may mean there is less support, if the public is excluded they may oppose the technology altogether and create open conflict with a technology that already runs the risk of becoming ghettoised.

Why GMOs cannot feed the poor

The debate on GMOs often raises the issue of its role in solving world hunger, but will GMOs really feed the poor? Support for the recourse to biotechnology in the fight against hunger is based on two main assertions. The first is that there is a gap between agricultural production and population density (or between the growth in production and the growth in population). The second is that biotechnology represents the best and quickest solution to closing that gap. This is the epitome of the technical and developmental approach.

The argument that we need a 'hyper-technological' strengthening of crop yields to tackle world hunger has little substance. Even if there were a need for a significant increase in production, and even if GMOs were capable of increasing global supply

10 There are several versions of these contracts available. A possible commented source is RAFI-USA (undated).

11 See for example: Powles (2008); Heinemann and Kurenbach (2008); Mertens (2008) and Jensen (2008b).

(something that current evidence does not support), access to that food would still not be adequately guaranteed. The social, political and economic inequalities that cause food insecurity and poverty still would have not been addressed. In the rural world, which houses most of the world's hungry, people do not just lack access to food. They also lack access to the resources with which to produce food: land, water, energy, credit, technical support, primary and specialist education, local markets, storage and infrastructure. Last, but by no means least, they lack access to genetic resources, i.e. seeds. In the absence of these indispensable preconditions for agricultural production, hunger becomes chronic in the very places where food should be easily produced and readily available. This prevents the rural poor and hungry from gaining any value from the possible positive contributions of new technology (Colombo, 2004).

What is certain is that the GM crops cultivated today were not conceived to meet the needs of feeding the poor, not least because they are principally destined to feed animals, not human beings. According to the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD, see Part 2 below), GMOs do not reduce production costs, and they are not destined to play a positive role in a sustainable agenda from a social or environmental point of view. Even Martin Taylor, President of the Swiss multinational Syngenta and a member of the British Government's Council for Science and Technology, has admitted that GMOs cannot resolve the food crisis, at least not immediately. He describes how the industry has opted for the commercialisation of a packet of biotech products that are highly lucrative but of "scarce environmental benefits", developed for the most part for the climate and agriculture of the Northern Hemisphere, and points out that it will take at least 20 years for new varieties suitable for the developing world to be developed and tested (cited in Adam, 2008).

In recent years pressure on African countries to adopt GMOs has increased, targeting the highest institutions in the region. This is demonstrated by the ministerial conference on GM agriculture in Burkina Faso in 2004 and in June 2005 in Bamako, Mali (IISD, 2004). Burkina Faso recently decided to authorise the commercial cultivation of GM cotton (but see Box 15). GM cotton is the vanguard of the introduction of biotech agriculture to the Sahel but it may not be followed by more crops; as the FAO has pointed out, there is very limited research and experimentation into GM plants or animals for arid environments that might be of interest to the peasant farming communities of the region (Fresco, 2003).

Because of the prevalence of hunger on the continent, Africa is often made the poster child for GMO propaganda. In November 2005, 33 journalists from Burkina Faso, Ivory Coast, Mali, Niger and Senegal attended a training course in Niger entitled *Media Coverage of Agricultural Biotechnology: Networking and Opportunities in West Africa*. The explicit intention was to train representatives of the Sahel press to herald the potential of genetic engineering in a region where *"the backwardness of researchers and African countries in the field of modern biotechnology does not facilitate accurate comprehension of this scientific practice"*, as one of the participating journalists reported (Ouédraogo, 2005). One lecture was given by Josette Lewis, head of the agricultural biotechnology effort of the US Agency for International Development, USAID, considered by many as a front for many multinational corporations.

The actors of food governance and their script

In order to understand how the planet's food production systems are governed, it is necessary to consider some essential questions. Where are agro-food policies decided? In whose interests? What are the respective decision-making mechanisms? What democratic control of these is possible? Who is assigned the task

Box 15. African farmers' common-sense approach to GMOs

Limits to GM technology are not the only obstacle to making the biotechnology promise come true. African farmers' organisations, which are steadily growing and becoming more organised, have underlined this fact. The ROPPA (Network of West African Peasant Farmers' Organisations) made it clear to the 2004 ministerial conference on GM agriculture in Bamako that, *"what concerns us is that they would have us believe that with GMOs our problems are over: recurring drought, the pressure of parasites (diseases, insects, weeds); low soil fertility; acidity and salinity; water and wind erosion; difficulty of access to innovation and finance; difficulties in commercialising the harvest; price volatility, and unfair competition on national, regional and international markets"* (ROPPA and RECAO, 2005). These are the real constraints facing producers in the Sahel. ROPPA proposed four points to the meeting in Bamako: (1) establish a wide-reaching popular debate involving consultation of all affected subjects; (2) set up lasting and nationally-controlled (sovereign) mechanisms for financing research; (3) strengthen the capacity of research structures and of agricultural councils; and (4) adopt a five-year moratorium in order to give producers and farmers' organisations time to inform themselves and participate in the decision-making processes. In Europe, this last proposal – the moratorium – would be viewed as extreme, and would be punished by the WTO. It is nevertheless viewed by African farmers' organisations as an act of simple common sense.

Source: ROPPA and RECAO (Bamako, 21st-24th June 2005) *Intervention des organisations paysannes et des producteurs à la conférence régionale sur les biotechnologies en Afrique de l'Ouest.*

of translating those decisions into different economic, social and political realities?

States and inter-governmental institutions aspire to leadership in the governance of agriculture. However, multinational companies are also competing for this role, both directly and indirectly through more socially acceptable philanthropic foundations or public-private partnerships. They also work discreetly within the system, and the negotiations over the Codex Alimentarius serve as a good example of the way they operate.

The Codex Alimentarius

In the global governance of agro-food systems, an obscure but extremely important role is played by the Codex Alimentarius, a body created in 1962 by the FAO and the World Health Organization (WHO). Its mandate is to create a set of standards and guidelines for the production and sale of foodstuffs, in order to facilitate international trade and improve food safety conditions for consumers. With the birth of the World Trade Organization (WTO) in 1995, the Codex (whose offices are in Rome, at the FAO) assumed a more pressing relevance because of its role in the Dispute Settlement Understanding (DSU), which is the arbitrating body usually referred to as the 'WTO Tribunal'. From 1995 to the end of 2008, 113 cases were heard relating to agro-foods at the DSU.[12] For many of these, the Codex is the principal technical instrument used to bring cases before the tribunal. Negotiations on standards and guidelines that take place at the Codex (without the media attention that WTO meetings tend to attract) are long and difficult, as can be seen in the conflict over labelling of genetically modified foods which began in 1993 and was only concluded in 2011 following clashes of interests and policies between Europe and the United States.

12 Our figures are based on consulting the WTO Index of disputes issues on their website: www.wto.org/english/tratop_e/dispu_e/dispu_subjects_index_e.htm, March 2009.

By regulating aspects of food safety at an international level, the Codex risks surreptitiously undermining member countries' food sovereignty, forcing the uniformity of processes and products based on their adherence to standardised production and trade procedures. The Codex comprises more than 200 standards for commodities and foodstuffs, and several thousand maximum residue limits for pesticides, contaminants, food additives and veterinary drugs.[13] These extremely detailed technical regulations today constitute a working reference for member states, and even for the few countries that do not adhere to the Codex but which are implicitly required to conform to its standards in order to ensure commercial outlets for their food exports.

A key problem is that agro-industry is directly and explicitly involved in defining these standards within official government delegations. Large retailers are also paying increasing attention to the creation of these regulations as they impose modes of production and storage and processing systems, customs and trade practices at a global level.

Philanthro-capitalism

Another actor has also recently taken a seat at the food governance table, backed by two important credentials: money and reputation. Philanthro-capitalism – the new way of doing philanthropy, bringing managerial competences and a strong capitalist agenda along with cheques – is the rising star of the international governance system, both in agro-foods and health policy (Bishop and Green, 2008). The general reduction of economic support for multilateral efforts between governments[14] has resulted in the consolidation of an alliance involving inter-governmental agencies, major corporations and philanthropic institutions such as the Gates, Rockefeller, Syngenta or Clinton foundations. These foundations contribute to shaping governmental and intergovernmental agricultural policy, placing particular emphasis on pushing agricultural technologies. At the 2008 FAO High-Level Conference on World Food Security (FAO, 2008l), some government delegates specifically named the Gates Foundation as a great strategic resource for supporting and financing future projects. The ETC Group, on the other hand, describes this as the "star system" that deploys its *"topdown techno-fix in the worst Microsoft tradition"* (ETC Group, 2008b).

The FAO is not the only United Nations body where the philanthropic siren is singing. The World Food Programme (WFP) has also formed a partnership with the Gates and Buffett foundations within the framework of the Purchase for Progress (P4P) initiative. This has a budget of US $75 million (out of US $612 million spent by the WFP in 2007) to acquire foodstuffs destined for direct food aid in developing countries. The Gates Foundation will put US $66 million dollars into the P4P, and the Buffet Foundation US $9.1 million (Bill & Melinda Gates Foundation, 2008).

The foundations' overall impact is ambiguous. For instance, the very same day on which the WFP publicised the P4P news, the Italian newspaper *La Stampa* reported that *"the finance guru Warren Buffett invests 5 billion dollars in Goldman Sachs, with a vote of confidence on both the bank and the credit-saving plan carved by Paulson-Bernanke […] With respect to yesterday's price, on paper Buffett has already earned 437 million. His operation is also good for Goldman Sachs, that in the European listings shows a leap of 9,7%"* (La Stampa, 24th September 2008). Goldman Sachs is an investment bank involved in a number of speculative operations in agricultural goods and the food industry (for example, buying up a considerable part of the Chinese livestock industry). In 2003 Buffet himself described

13 Our figures are based on consulting the website of the Codex Alimentarius on 'official standards': http://www.codexalimentarius.org/standards/list-of-standards/en/.

14 As shown by the reiterated intergovernmental discussions on zero real or zero nominal budget growth for the FAO during its latest conferences.

these operations as *"financial instruments of mass destruction"* (cited in IATP, 2008).

We are not suggesting that it would be better if these philanthropists spent their time playing golf rather than speculating in finance or industrial monopolies, and giving the 'small change' to benefit the poor. However, something is clearly not working when philanthropic altruism in the interests of the hungry is supported by investing in speculative markets, or in shares in fast food. When the economic and food crisis hit, the Gates Foundation reacted by increasing their holdings in McDonald's from 4.9 million shares in September 2008 to 6.4 million in December, and in Coca Cola from 1.7 to 5.7 million shares (Fi, 2009).

The FAO: peeling the onion

> *"The space where the issue of food is discussed at the international level used to be concentrated in one agency, the FAO. This space has been fragmented, since the last food crisis, into many different institutions that all have their say over food and agriculture. (…) Exactly those who bear the heaviest responsibility for this crisis (WTO, WB and IMF) will dominate the new structures".*
> (La Via Campesina, 2009)

In the midst of all this, the FAO has become a battleground over who will govern and dominate it, and what form it should take in the future. This confrontation particularly affects developing countries, and, to an even greater extent, the social movements that have led the struggle for food sovereignty over the past 15 years.

For example, in April 2006 Canada, Australia, Japan, the UK and Germany sent a formal letter to the Director General of the FAO. In it they made, as the main donor countries, strong recommendations to him on the role of the organisation, in terms that were far from polite or diplomatic (McKeon, 2009a). The letter effectively proposes the total subversion of FAO rules: removing decision-making power from the governing bodies (the Conferences and the Council where member states are represented with one vote each), and giving it to the 'donor countries club'. In recent decades, these donor countries have already completely altered the FAO budget, cutting funds from the regular budget (which sustains those priorities for interventions and actions to support development, voted for by all the member states), and increasing the capacity of the so-called trust funds. These funds enable each donor country to finance the actions it is interested in or which it considers to be a priority, according to a kind of 'wedding list' logic: I will finance you if you buy what I have specified in the deal indicated. This is the same mechanism of powerful binding conditions imposed on countries by the World Bank.

According to speeches by the US and EU delegations at many sessions of the FAO's governing bodies, the European Union and the United States would like to see the FAO reduced to a technical body that does the regulatory work relating to food security and trade, or as a research institution that provides figures. They believe that it should not get involved in work in the field, and should abstain from supporting programmes for impoverished agriculture or initiatives proposed and implemented by local social organisations or local communities. They would remove its ability to technically assist countries that, for example, want to make their farming more ecologically sustainable, like those in South America that are genuinely willing to support smallholders in their agroecological practices through targeted investments in training or technical assistance; or to implement the types of land reform agreed at the inter-governmental conference on Agrarian Reform and Rural Development in Porto Alegre, Brazil (see Box 21 in Part 3). According to this model, the FAO would no longer be a UN agency for agricultural development, nor would it have the capacity to assist developing countries in defining their

agricultural, food and rural policies. This would be the exclusive role of bilateral co-operation, perhaps through specialised agencies similar to the old institutes for the colonies. Co-operation would then take place within the framework of 'aid for trade', imposing strong conditions on countries, limiting their political autonomy and placing conditions on their development model.

An historical perspective

Such initiatives for establishing control over the FAO are not recent, but date back to its foundation. The FAO was formed in 1945, under the aegis of the emerging United Nations. The first Director General, Sir John Boyd-Orr, a farmer and nutritionist and winner of the 1949 Nobel Peace prize, attempted to convert the organisation into a global arbitrating body protecting farmers and the right to food. However, he was obstructed by the powerful cereal-exporting countries and an international cartel of grain merchants. During the 1950s and 1960s the FAO became an uncontested institutional leader, respected by everyone concerned with agriculture and food. It produced statistics on commodity production, distribution and prices, and also offered a forum for negotiating treaties and defining standards and regulations. In the first ten years of its existence, its mandate clearly included food security, science and technology, technical aid and development. Its role, both regulatory or executive, was clearly understood.

With the end of colonialism and the arrival of a new global economic order, the countries of the OECD (Organisation for Economic Co-operation and Development) began to dismantle the 'global ministry for agriculture' one piece at a time. This process was made easier by the absence of the USSR, which, at the height of the Cold War, was not interested in becoming a member.[15]

15 Russia only entered the FAO system in 2006. This was an important addition, bringing new assets to the governance of the institution, along with new and solid funds and a quota of personnel to be integrated into the body.

During the 1970s and 1980s the OECD 'club' forced the withdrawal of the FAO from the highly-political management of rural and agricultural finance and food aid, as well as from the scientific apparatus that guides agricultural research. In the midst of the 1974 food and oil crisis, the OECD and OPEC (Organization of Petroleum Exporting Countries) countries signed an agreement to scale back the FAO mandate, expropriating its activities related to credit for small and poor farmers and creating IFAD (the International Fund for Agricultural Development), which began operations in 1977. Like the World Bank, IFAD has a governance system based on weighted voting, giving considerably more influence to donor countries than under the classic UN rule of one state, one vote.

In 1961, following a series of food crises and shortages, the FAO and the United Nations General Assembly created the WFP (World Food Programme). This followed the new US policy of encouraging the donation of agricultural surplus to countries facing food difficulties, approved by Public Law (PL) 480 in 1954. The WFP was managed by the FAO, which co-ordinated and controlled its activities, but at the beginning of the 1980s it acquired independence. The WFP is today the biggest humanitarian agency in the world and the principal multilateral buyer of food commodities. It is currently in an operative transition as a result of surplus reductions, which industrialised countries used to dump through humanitarian channels.

During the same period, agricultural research was also taken away from the FAO. In 1971, the Ford and Rockefeller foundations, which financed the Green Revolution, made an agreement with the World Bank's President of the time, Robert McNamara, to create the CGIAR (*Consultative Group on International Agricultural Research*). Backed by their funding for this system, the 'donor countries club' was now able to direct agricultural research policies, and guarantee access to the germplasm banks held by the research centres that form part

of the CGIAR. These are the largest and most irreplaceable collection of seeds on the planet. The FAO has the merely ceremonial role of patron of the CGIAR system; agricultural research effectively has been taken out of the hands of the multilateral United Nations system and placed under the aegis of the World Bank. Even in their current state of crisis, the 15 CGIAR research centres have a bigger budget than the FAO and twice the workforce (ETC Group, 2008b).

Many observers would like these competences and their functional co-ordination to be harmonised within the UN framework with stronger connections with FAO activities. One of these observers is the Canadian organisation ETC. It proposes a *"new Roman forum for food, agriculture and rural development"* that would bring the CGIAR back into the United Nations system, integrating it with the FAO in a profoundly restructured, organic and functional relationship with IFAD and the WFP (ETC Group, 2009). But influential governments and the principal international institutions, including even the UN and its leadership, continue to limit the FAO's role and mandate to a core of 'depoliticised' functions.

The FAO and other United Nations agencies are isolated and marginalised by attempts to repackage their responsibilities into ever more dispersed forms. An example of this is the Task Force on the Food Crisis, convened by the UN Secretary General Ban Ki Moon at the height of the 2008 surge of food prices to co-ordinate action by the UN and Bretton Wood institutions. Although they may be inefficient, the UN agencies have the mandate and expertise to implement agricultural and rural development programmes; their emasculation seems to be an attempt to redefine the balance of power amongst the actors of global food governance away from rural development towards commercial interests.

A document co-signed in March 2008 by the Director of the International Food Policy Research Institute (IFPRI – the CGIAR centre with the strongest links to the World Bank) is illuminating in this respect. Recognising that *"the increasing globalization of the agrifood system calls for collaboration across country borders to adequately address new opportunities and challenges"* (von Braun and Islam, 2008), the document proposes priorities for global food governance. The first of these is the development of research with guaranteed intellectual property rights (that is to say, patents and GMOs). The second is another familiar duo of the liberal doctrine: 'trade and standards'. These are the bases on which to *"stimulate a dialogue on what the future global institutional architecture and governance of agriculture, food, and nutrition might look like and how it might be achieved. A focused discussion at the global level seems overdue"*.

The IFPRI document however appears to favour a democratic extension of global food governance: *"expand the current system to explicitly engage the new players in the global food system—the private sector and civil society, including large private foundations—together with national governments in new or significantly reorganized international organizations and agreements. Given that the global food system is in reality no longer governed only by governments, this inclusive approach seems worthwhile now"*. They go on to look at concrete suggestions, including setting the preconditions for Ban Ki Moon's proposed Task Force on the Food Crisis: *"one approach to implementation might be to establish a superstructure (for example, a panel appointed by the UN leadership) to guide changes in the global governance of agriculture, food, and nutrition across the existing specialized institutions and organizations"*.

However, although these reactionary moves have not yet succeeded, they can be read as signs of hope and indicators of a more dynamic role for the FAO. A fundamental step towards this new philosophy could be the reform of the FAO itself, with the application of the first ever Independent External Evaluation

(IEE) of the FAO in 2007. In November 2008 in Rome a Special Session of the FAO Conference welcomed the IEE's conclusions and promised to follow up its more than 100 recommendations and priorities. These recognised that the world needs the FAO, but it must be more relevant, effective and with more precise priorities. It also noted that reform should be complemented with an increase in funding (FAO, 2008n), reversing more than a decade of cuts to the FAO's general budget, which has prevented it from maintaining an adequate level of political and in-the-field capacity. The countries that contribute the most financially to the FAO have questioned whether it will be able to maintain its role as a neutral space in which governments can define the guidelines for global agricultural and food policy. Equally for us, another fundamental issue is whether the FAO can maintain its neutral role as a place in which civil society organisations, NGOs and movements can invest autonomously and not be co-opted into a structure that only appears to offer equal standing. This would help democratise at least part of the UN system.

Given this, can we place our hopes on a reformed and more democratic FAO, with restored authority and capacity for intervention, fulfilling the fundamental functions of food governance? The motivations behind this hope are illustrated by Ibrahima Coulibaly, President of the CNOP (National Co-ordination of Farmers' Organisations in Mali). In his speech to the plenary meeting of the FAO's Special Session of November 2008 to discuss the future of the institution he said:

> *Today there is a fundamental need for a change of direction to protect the very stability of the world; small food producers are the heart of the solutions that might work. Only when those small producers have access to the means of production (land, irrigation, credit), but also, and above all, local markets protected from dumping and from the perverse effects of food aid, and to remunerative prices and incomes that enable them to live a dignified life, will we see everyone having access to food. The moment has arrived to create and put into practice responsible and coherent agricultural policies based on the universal human right to food and on the rights of each country to achieve its own food sovereignty. No state should be responsible for feeding other states. Food sovereignty is an inalienable right of peoples and nation....*
>
> *...The reinforcing of the coordination between the United Nations Agencies is a good sign for the setting up of a system of well-balanced global governance, avoiding the multiplication of political spaces for negotiation around the challenges posed by hunger. In that sense, we are watching with some concern the process of setting up a "global partnership for food and agriculture"[16] that will not aid the progress of the United Nations Agencies based in Rome. The multinationals and the interests of the minority should be taken off the agenda of global governance when they threaten the equilibrium of the rest of the world (Coulibaly, 2008).*

It is difficult not to agree with the good sense and long-term vision of this Malian farmers' leader. We return to this theme of the global governance of food and agriculture in Part 3.

16 Here the speaker is referring to an initiative of the UN Secretary General launched at the height of the food crisis (editor's note).

Part 2. A fruitful future for food

Each nation must have the right to food sovereignty to achieve the level of food sufficiency and nutritional quality it considers appropriate without suffering retaliation of any kind ("Profit for few or food for all": **NGO Forum**, *1996).*

The destabilisation of the global food system that took place in 2007 and 2008 presents an opportunity to reconsider our economic priorities. Today agriculture contributes 6% to world economic activity, compared to 31% from industry and 63% from services (Central Intelligence Agency, 2012). On the eve of the global economic and financial crises agriculture contributed only 4% of global GDP, in comparison to 32% and 64% for the two other sectors (Central Intelligence Agency, 2008). Should primary production really be considered a minor and archaic economic sector – the Cinderella of the world's economy? Should it not instead be valued as the most extensive use of the Earth's ice-free land and the principal source of income for the majority of the world's workers (the 1.3 billion farmers that made up 40% of the total active population in 2010)?[17]

The food crisis and the subsequent financial turmoil have highlighted the special nature of the wealth created by agriculture. These riches are intimately connected to a right that should be inviolable, and which is the antithesis of the intangibility and elitism of the paper economy. Unlike finance, food is universal and indispensable for physical survival. This 'economy of the stomach' has powerful links to the land; most of the food grown is still closely linked to culture and territory. Almost everywhere in the world, and for almost all men and women, food remains the expression of the natural environment and the system of values from which it takes its form and substance.

The agro-foods sector was instead written off in the 20th century as a mere primitive economic activity, disarticulating the social value of food. Compared to the advanced tertiary sector and the 'new economy', it was considered useful only for guaranteeing the daily satisfaction of nutritional needs. However, it is now recovering its strategic role. Following decades of policy makers being uninterested in the rural world, food and its providers are regaining centre stage in international priorities. Agriculture and farmers are once again being seen as key players. For example, the first point in the Final Declaration of the G8 Agriculture Ministers, signed in Italy in April 2009, places *"Agriculture and food security at the core of the international agenda"* (Agriculture Ministers of the G8 countries, 2009). This ministerial was unprecedented – no previous G8 meeting had included a specific session on agriculture. The G8/20 club has no binding resolution capacity, but a strong moral power to orient policies. This statement highlights a change in perception and policies (at least in terms of rhetoric).

However, this renewed attention to the primary sector also carries the risk of asking more from agriculture and farmers than they can or want to give: providing food, fibre and energy; protecting the countryside; and maintaining biodiversity, natural resources, land and traditions. Which agriculture do we want, and for what ends? Agriculture (or fishing or rearing animals) essentially means food. Food means individual and collective survival. It also means

17 FAOSTAT domain on population, http://faostat3.fao.org, accessed 28 November 2012.

culture. Man is what he eats, as Feuerbach says,[18] but perhaps he is also what he does with his food. And that is not always a gratifying reflection if we consider the one-third of food that we dump in garbage bins or convert to petrol.

For some time, agricultural production has been a contested area, both in the real economy, where diverse industrial sectors – including non-food sectors – are competing for the harvest, and in the intangible sphere of the imagination. As Tim Lang, Professor of Food Policy at City University in London says, the agro-food system is undergoing a period of flux and change and of *"wars over the future of food"* (Lang and Heasman, 2004). This is the result of battles at the heart of society over the future of agriculture, industry and technology, chemicals, transport and energy. There are competing, if not conflicting, ideas about agricultural policy, the agro-food economy and agrarian research. The stakes here are extremely high: control of food resources is not just a matter of business; it is about national sovereignty, individual and collective rights, and control of resources that are fundamental to the human race: water, land and biodiversity. There are great tensions over these issues and there is great pressure for change. However, there is also considerable pressure to maintain the *status quo*. It is in this light that we must view the argument that the food crisis was just another short-lived economic episode and that there is therefore no need for corrective measures. On the contrary, the food crisis is a symptom of a structural problem. Current, and more importantly, future agro-food systems (and economic, social, environmental and energy policies) must now be redefined accordingly. We need new institutional responses, and a new way of seeing the system of food production and consumption, and the structures that define it.

In this conflict we are taking sides: we support the farmers, fisherfolk, pastoralists and indigenous peoples in their efforts to define a profoundly innovative role for themselves. In building this new agro-food agenda for the planet, representatives of this movement need to understand which forces and actors they should be confronting on issues not only of agriculture and food, but also of energy, climate change, human rights and peace.

The questions of access to land, seeds, markets, supply chain relationships and commercial, fiscal and hygiene laws all need to be understood within the framework of food sovereignty (described below). If *"Sovereignty belongs to the people"*, as stated in Article 1 of the Italian Constitution, then food sovereignty belongs to producers and consumers everywhere. Invoking food sovereignty means defending the right of individuals and communities to provide for their basic needs against the assaults of the market.[19] In this second part of the book we look at the steps needed to reconnect people with their rights to food. This will involve:

- Making the right to food sovereign
- Rethinking knowledge and research
- Valuing the small farm
- Breaking out of the productivist obsession
- Enshrining the right to food in global policy
- Reforming public policy
- Giving back control
- Changing the climate, changing agricultural policy

18 Ludwig Andreas Feuerbach, in an essay titled "Concerning Spiritualism and Materialism" (dated 1863/4).

19 We understand the 'market' not only as the so-called global market, but also as an ideological concept: the market as the only basis of the economy, as the transformation of goods and knowledge into money, as the eradication of solidarity exchange, as the negation of the plurality of markets, as the regulation of access to resources, and as the cardinal reference point for politics.

Making the right to food sovereign

> *Food sovereignty is not just a vision but is also a common platform of struggle that allows us to keep building unity in our diversity. We believe that access and control over natural resources, food production, and the increase of decision-making power are three main themes that bring us together. Land, Territory and Dignity Forum (2006)*[20]

In 1996, during the official FAO World Food Summit, almost 1,000 representatives from social and non-governmental organisations met in Rome in a parallel forum (see Appendix 2). They denounced the lack of courage shown by the Summit's objective of merely halving the number of hungry people in the world and criticised the strategies proposed for achieving that objective. This led social movements and organisations to set out on a path of thought and action revolving around the concept of food sovereignty.

Food sovereignty goes beyond food safety and security. The individual focus of food safety and security reduces the citizen to the role of a consumer acquiring food at a given price, trusting the product is safe and the process is guaranteed. The concept of food sovereignty, on the other hand, seeks democratic participation in the control of food and the resources necessary to produce it (Pimbert, 2009; Food First, 2005; Declaration of Nyéléni, 2007; Nyéléni Europe, 2011). It defines the social, environmental, economic and agricultural policies that underpin agrarian systems that guarantee the right to food. It values regional diversity and specific agricultural systems, and restores responsibility for them to local systems of political representation (see Box A.1 in Appendix 1 for more details, as well as Appendix 2).

20 Text available at http://www.fian.org/recursos/publicaciones/documentos/voluntary-guidelines-for-good-governance-in-land-and-natural-resource-tenure/pdf

The issue of food sovereignty is not just an issue for social organisations or isolated individuals at the UN. It is also becoming an issue for governments and key inter-government bodies, and is becoming fundamental to their approach to food and food production. Food sovereignty has been incorporated into the constitutions or agricultural policy of Bolivia, Ecuador, Mali, Nepal, Nicaragua and Venezuela (La Via Campesina, 2008b). In May 2008, Belize, Bolivia, the Dominican Republic, Ecuador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Saint Vincent and Grenada, and Venezuela held a summit entitled *Food Sovereignty and Security: Food for life*. Its final declarations identified agrarian policies tailored to small and medium-scale peasant farms as the way out of the food crisis.

The food crisis has demonstrated that food sovereignty needs to be placed on the wider agenda. Between 2007 and 2008, following the panic caused by spiralling price rises and the resultant internal tensions, Argentina, Kazakhstan, Pakistan, Russia and Ukraine all introduced limits or bans on wheat exports equivalent to one-third of international trade. In the case of rice the situation was even more severe: Cambodia, China, India, Indonesia, Egypt and Vietnam all closed their borders to rice exports, leaving only US and Thai rice on the international market. Such uncoordinated and disjointed interventions are not, in themselves, a statement of food sovereignty. However they do illustrate the urgency with which we need a new international agenda that addresses the issues brought to the fore by the movement for food sovereignty.

Rethinking knowledge and research

The IAASTD – a watershed in agricultural research

One of the most ambitious and authoritative efforts undertaken by international institutions on the issue of agricultural knowledge and research questions the technology-driven trajectory of agricultural development (IAASTD, 2008). From

2002 onwards, in response to requests from social and farming organisations, the World Bank and the FAO began to consider the need for a global assessment of agricultural understanding and its scientific and technological basis. This led to a world-wide study, the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), launched in Nairobi in 2004. The project was sponsored by the World Bank, the FAO, the United Nations Development Programme and Environment Programmes (UNDP and UNEP), UNESCO and the WHO and supported by around 60 countries including China, India, Brazil, France and the UK. The aim was to design a development plan for agriculture and agricultural research. Contributions were received from around 400 researchers and experts from different fields over a four-year period, in which they studied and reviewed the available scientific literature. The resulting reports were peer reviewed by other researchers, following the principles used for scientific publications.

The aim of the work was to respond to the concerns raised in the Millennium Development Goals (MDGs), particularly MDG1: to reduce hunger and extreme poverty, and to create a framework for sustainable development. The methodology of the study went beyond the confines of science and technology to consider the wider context of agricultural producers and the other users of the productive process, and the role of institutions, governments and markets.

An IAASTD working group[21] drew 22 conclusions about how science, technology and broader agricultural knowledge can promote productivity in the primary sector and contribute to food security (IAASTD, 2008). The final document states that though science and technology may have a contribution to make, they cannot resolve problems that have their origins in intricate political, social and economic dynamics. Indeed, according to the findings in the report, the emphasis on increasing yields and productivity, has, in many cases, had negative results in terms of environmental sustainability and the preservation of ecosystems. This is accompanied by social impact, when farming communities living in marginal territories are forced to move on in search of new land, further from areas provided with (at least minimal) infrastructure. This aggravates pre-existing difficulties and gaps. *"In general, regions with severe trade disadvantages, biophysical constraints and marginalized social groups have benefited least from innovations in AKST.*[22] *Furthermore, the distribution of AKST benefits has accrued unequally to those who already hold agricultural assets – land, water, energy resources, markets, inputs and finance, training, information and communications."* According to the IAASTD, increasing the amount of technological research and development activity geared towards agro-ecological science would respond to environmental concerns and at the same time increase productivity: *"Formal, traditional and community based AKST need to respond to increasing pressures on natural resources, such as reduced availability and worsening quality of water, degraded soils and landscapes, loss of biodiversity and agro ecosystem function, degradation and loss of forest cover and degraded marine and inshore fisheries"*. The report finds that in the past, most of the scientific and technological policies and practices applied to agriculture took the approach of simple technological transfer. However, people involved in the agro-foods sector need to participate in selecting approaches that are appropriate to their specific circumstances. The aims of sustainability and development must define these choices. Research should be based on the common objective

21 The group comprised Nienke Beintema (the Netherlands), Deborah Bossio (USA), Fabrice Dreyfus (France), Maria Fernandez (Peru), Ameenah Gurib-Fakim (Mauritius), Hans Hurni (Switzerland), Anne-Marie Izac (France), Janice Jiggins (UK), Gordana Kranjac-Berisavljevic (Ghana), Roger Leakey (UK), Washington Ochola (Kenya), Balgis Osman-Elasha (Sudan), Cristina Plencovich (Argentina), Niels Roling (the Netherlands), Mark Rosegrant (USA), Erika Rosenthal (USA), and Linda Smith (UK).

22 AKST: agricultural knowledge, science and technology.

of producing food without destroying natural resources. Agricultural and research policies should be capable of sustaining collective knowledge and orientating it to the maintenance of ecological capital. *"Many of the challenges [we are] facing currently and in the future will require more innovative and integrated applications of existing knowledge, science and technology (formal, traditional and community-based) as well as new approaches for agricultural and natural resource management"* (IAASTD, 2008).

Towards participatory research

Agricultural research needs to meet a number of different objectives if it is to develop production methods that are capable of responding to high levels of agro-ecological variability and heterogeneous social, political, cultural and economic factors. The variety and diversity of rural contexts means that standard or reductionist technological recipes are inappropriate. Approaches need to be specific to the place where they will be applied, and capable of incorporating knowledge brought by local farmers themselves. The participation of the local community in planning, decision making, experimentation, dissemination and so on is fundamental to developing techniques and advancing knowledge.

The issue of producer participation in the experimental process is also taken up in an isolated paragraph of a World Bank report on agriculture (and is in stark contrast with the philosophy of the chapter dedicated to innovation; World Bank, 2007). Research in 'participatory breeding' (the selection of varieties and breeds with the involvement and participation of agricultural and livestock producers) was pioneered by the geneticist Salvatore Ceccarelli (Ceccarelli and Grando, 2006) and is currently producing results in a number of Middle Eastern and African countries where there is considerable involvement of rural communities in the development of varieties of cereals and pulses. It is also reaching out to European farmers through a number of formal and informal research and breeding activities (SOLIBAM, undated; Farm Seed Opportunities, undated). Experience is showing that the rates of adoption for these varieties far outstrip those of varieties listed in the official registers, which were obtained through much longer processes far from the farmers' fields.

Investment in such 'agro-ecosystemic' research, which values and integrates local knowledge, should be supported both academically and financially. Applying the principles of sustainability in the field requires more than just a set of regulations and agronomic techniques. It requires an analysis of the agro-ecosystem, the agricultural community and the supply chain that must integrate with it. Usually, not enough weight is given to the considerable knowledge and experience of agricultural communities. This is due to a number of causes: the absence of a clear inventory of that knowledge, the lack of a rigorous assessment of the results obtained from grassroots experience, poor communication between the agricultural community and researchers, and above all, the failure of researchers to accept real leadership from the farmers themselves. Producers feel their capacities are not recognised by local research and technical assistance institutions, and this damages the productive potential of the system. This failure slows the process of achieving genuinely sustainable agriculture.

This participatory approach is reflected in a range of alternative agro-ecological initiatives[23] which show how agriculture that respects the environment and rural communities can succeed. But such a collective approach to agricultural research is incompatible with private intellectual property rights as used by multinational corporations. Indeed, to prevent the scientific community becoming dependent on patentable research to finance their work, public institutions and decision makers will

23 See: Pretty (2003) and Pretty et al. (2006).
See also : http://globalalternatives.org/

have to assign maximum priority to supporting (financially and culturally) participatory forms of research.

It is no surprise that the IAASTD intentionally omits genetically modified organisms from the options it proposes; having clearly identified the key potential of agro-ecology and small farmers, the 400 researchers and experts participating in the report considered GMOs to be of little interest for the future of agriculture.

Making more of multi-functionality

> *"Over the last century, the agricultural sector has typically simplified production systems to maximise the harvest of a single component, generally ignoring other supporting, provisioning and ecological functions and services. When these practices have been associated with policies that provide resource price-distorting incentives, this has often led to the degradation of environmental and natural resources"* (Beintema et al., 2008).

The mission of agriculture is, by its very nature, multi-functional. Its roles include producing food, fibre and biomass, protecting biodiversity, maintaining natural resources, preserving the landscape, maintaining hydro-geological equilibria, and structuring social relations in rural areas. If agriculture is ill-conceived or badly managed, it can cause dysfunctions in many of these areas. However, whatever the other functions exercised by the primary sector, it should remain rooted in the basic task of generating foodstuffs.

The IAASTD experts concluded that business as usual is not a viable option. The multi-functional nature of agriculture is fundamental, as is the knowledge of peasant farmers about their local context. Ignoring this has been inherent to the failures of the technologies employed in the past and of the ways in which these technologies have been designed, transferred and adopted.

The IAASTD report points out that the term 'multifunctional' applied to agriculture has perhaps, in the past, implied issues of trade and protectionism, but that the concept should in fact be understood in terms of *"the inescapable interconnectedness of agriculture's different roles and functions. The concept of multifunctionality recognises agriculture as a multi-output activity, producing not only commodities (food, feed, fibres, agrofuel, medicinal products and ornamentals), but also non-commodity outputs such as environmental services, landscape amenities and cultural heritage"* (IAASTD, 2008). The central focus of agricultural research should be on agriculture that is multifunctional in agro-ecological terms. This should be understood not only as a technical approach to primary production, but also as a necessity for constructing vibrant rural economies.

The IAASTD stresses that if we are to develop and expand multifunctional agriculture with the participation of small and medium-scale farmers, we need new legislative frameworks and economic arrangements that allow individuals and communities with scarce economic resources to secure access to credit, markets and productive resources such as land and water:

> *"Opening national agricultural markets to international competition can offer economic benefits, but can lead to long term negative effects on poverty alleviation, food security and the environment without basic national institutions being in place... The small-scale farm sector in the poorest developing countries is a net loser under most trade liberalisation scenarios...the globalized food system affects local food systems that support the livelihoods of the poor. Low prices for commodity imports – in contrast to prices for processed food – can be favourable for poor consumers in net food-importing developing countries (given appropriate institutional arrangements), but imports at prices below the cost of local production undercut national farmers and rural development".*
> (Beintema *et al.*, 2008).

The result is the need to recognise *"farming communities, farm households, and farmers as producers and managers of ecosystems. This shift may call for changing the incentive systems for all actors along the value chain to internalise as many externalities as possible"* (Abate et al., 2008). (underlined in the original). Giving more power and responsibility to farmers over issues such as managing soil fertility, water, and biological and natural resources means they need to participate in decision-making systems. It is now time to create the political, scientific and cultural spaces to enable that.

Valuing the small farm

The efficiency of agrarian systems has always been calculated as a function of productivity per worker (as taught in agricultural colleges). In these terms, industrial agriculture knows no competitor: in 2006 it was estimated that agricultural productivity in the least developed countries (LDCs) was 46% of that in developing countries and 1% of that of developed countries. Growth in productivity in the LDCs was 18% between 1983 and 2003, as against 41% in the rest of the developing

Box 16. The value of short circuits and proximity markets

If we look at food from a planetary perspective we can see, even today, that it is enormously diverse in its production and consumption, distribution and processing, cultural values, and the resources available to guarantee its purchase. Furthermore, the food consumed by the rural half of humanity is different from that of the urban half. It is not that they only eat in the countryside what they grow there, but it is clear that a good part of food consumption in rural areas is strongly anchored to the territory where it is produced. The same applies to a large extent to an important share of urban food consumption in industrial, emerging and developing countries, even if policies and initiatives to reconnect cities with their surrounding rural areas or to design urban plans and new distribution systems to serve this purpose are still at their infancy. Despite powerful propaganda efforts by the mass media, governments and corporations, most of the food consumed in the world does not, in fact, travel far and is not subjected to too many industrial steps. It is these so-called short production and consumption circuits that still guarantee food for the majority of the world's population.

There are also well-deserving initiatives emerging such as 'zero mile' food, farmers' markets, direct sales, community supported agriculture (CSA) or box schemes. Such local or proximity markets maintain a crucial place in a large part of the planet's agro-food systems, guaranteeing a livelihood for local producers, and a food supply shaped by the culture of a wide range of producers. The importance of having a wide distribution of small- and medium-scale producers becomes clear when prices rocket and governments rush to close their borders to exports and secure their own reserves. Short circuits and internal markets are suddenly shown to be not just relevant, functional and sustainable, but necessary. The recent food crisis has raised awareness of this for now, but there is a danger that the memory will fade, allowing the old model of long supply chains to regain the upper hand despite being expensive, inefficient, fragile, energy-hungry and damaging to the climate.

countries and 62% in developed countries, widening the gap even further (de Schutter, 2009a). *"In this context, the idea of establishing a level playing field is meaningless"* (de Schutter, 2009a). But there are other measures of productivity. Peasant farming, small-scale, family farming, agro-ecology, or however it is defined, has been shown to be more productive than industrial methods per unit of land, and even more so per unit of exogenous energy . (Pretty, 2005; Pretty and Hine, 2001; Altieri, 1995). It is therefore efficient in terms of two finite and limited resources: land and fossil fuels. Industrial farming is efficient in terms of labour – an abundant resource. The custodians of the neoliberal doctrine would call this a diseconomy.

In family agriculture, labour is generally more decisive than capital investment. It generates employment as well as ensuring human involvement in agricultural production. This human presence is indispensable if we are to respond to climate and market fluctuations; it therefore merits social, political and financial support. Without such support, the social, political and economic crisis of rural areas profoundly alters soil and water cycles, causing the alarmingly rapid reduction of ecological niches in which species and traditional varieties find refuge. The germplasm of these niche varieties is vital for any agrarian strategy that wants to maintain its flexibility and adaptability in the face of rapid environmental and economic change.

Family agriculture also helps deal with failures of the market (Box 16). The recent crises of neo-liberal economics and globalisation will mean redesigning the role and function of the agro-food system. Local and internal markets need to be protected, in the best interests of those who produce food as well as of those who consume it. We need to go beyond the caricature that portrays peasant agriculture and food sovereignty as a closed and autarchic system of self-sufficiency by recognising its role in social inclusion and in sustaining food webs.

Peasant agriculture, in its many diverse forms and contexts, produces the majority of food consumed today. It provides for the local circulation of foodstuffs, particularly for that part of humanity that is growing poorer. We need to find a way to return farmers, fisherfolk and pastoralists to the centre of a fruitful relationship with all of society, and assure them a leading role in the definition of institutional, social and economic policies that value their heritage, ethics and citizenship. Recognising a leading role for food producers leaves room for the adoption of more respectful agriculture based on solidarity. After a long period of regression in their position, food producers are now leading the way to reclaim cultural, political and economic spaces, creating the foundations for the consolidation and security of agro-food, social and economic systems.

The mistake of restructuring

It has been argued that agriculture characterised by small and very small farms needs to be restructured, however painful this may be, in order to create economies of scale, specialisation, concentration, and vertical integration. These are deemed necessary for farmers to compete in ever more interconnected markets. However, small farms are not a deadweight or a hangover from the past. They are the guardians of technical experience, they make agriculture more autonomous and more economical in terms of energy and consumables, and they can be integrated more easily into 'short circuit' processing and local markets (Box 16). The question is not therefore how to create social policy that will help these kinds of farms to slowly and quietly disappear. On the contrary, it is about creating agricultural policies capable of recognising and promoting these producers because tomorrow they will be needed. They will guarantee food sovereignty in a proximity economy equipped with valid and effective tools for facing up to the impacts of climate change. The question is, therefore,

how to reverse that apparently natural Darwinian selection (but in fact planned and promoted) which is driving small farms to extinction.

Breaking out of the productivist obsession

How do we nourish a global population that, although growing less rapidly than before, will nevertheless reach 9 billion by 2050? Or respond to global changes in diet based on consuming more meat? Or compensate for the increasing amounts of food waste produced globally? Or satisfy the thirst for agrofuels and the hunger for biomass? Or link the use and management of natural resources to the struggle against climate change?

The dominant analysis of food and agriculture stresses that production and productivity must be encouraged in order to avoid shortages as the world population grows. Farmers must be called upon to maximise yields and output, and researchers must offer innovative instruments that provide ever increasing performance. Unfortunately such thinking is short sighted and subjects agrarian systems to ever increasing pressures without paying any attention to the destination of the food produced. In 2011 the FAO sounded the alarm over the quantity of food being wasted: *"roughly one-third of food produced for human consumption is lost or wasted globally, which amounts to about 1.3 billion tons per year. This inevitably also means that huge amounts of the resources used in food production are used in vain, and that the greenhouse gas emissions caused by production of food that gets lost or wasted are also emissions in vain."* (Gustavsson et al., 2011)

In recent years, a new narrative of 'sustainable intensification' in the primary sector has been emerging in publications and at international conferences. The concept has been synthesised by authoritative sources (such as Reaping the Benefits, Royal Society, 2009) and refers to increasing agricultural yields without affecting the environment. This sea change may offer the opportunity for a definitive recognition of a type of agriculture that is respectful of its environmental, climatic and social ramifications.

However, what is understood by the sustainable or ecological intensification of agriculture varies greatly. The same words can be used to describe a hyper-technological process, or for genuine ecological rebalancing. There are a growing number of initiatives by chemical and biotech companies who present themselves as part of the solution; technological packages emphasising efficiency in fertilisation, irrigation and genetics, and betting everything on technological intensification.

Organic agriculture demonstrates that there are alternatives, and is just one example of how one might break out of the obsession with productivity. Like many other low-input systems, organic farming demonstrates how less carbon-intensive agriculture can supply adequate quantities of healthy food. Unlike the purely technological approach, this eco-functional intensification works through natural processes, by amplifying conditions of synergy and resilience, whilst guaranteeing food production (Box 17).

Enshrining the right to food in global policy

We must mobilise around a new and creative vision offering lasting and sustainable solutions to the structural crisis. This is certainly not provided by sporadic emergency interventions to support the latest economy in crisis, or by the dismantling of all regulation in the name of free trade. Instead, a first step could be to make the right to food a binding principle for UN member countries. From this, coherent policies should naturally emerge.

The right to food is not an abstract enunciation, but an intrinsic right of every woman, man and child, and recognised as such in the 1948 *Universal Declaration of Human Rights*. It was later incorporated into the International Covenant on Economic, Cultural and Social Rights in 1966 and ratified by 156 states,

Box 17. Comparing organic with conventional: a lesson in resilience

In a 30-year long agricultural experiment, the Rodale Institute measured crop yields for corn and soya beans, impacts of drought on crop yields, fossil fuel requirements, economic costs and benefits, changes in soil carbon, nitrogen accumulation and nitrogen leaching for three different systems: organic animal-based, organic legume-based, and conventional. The experiments took place in Kutztown, Pennsylvania on 6.1 hectares. The results of first five years (1981-1985) showed the yields for corn to be significantly higher for the conventional system than for the two organic ones. After this initial period, yields showed no statistical difference between conventional and organic systems and after five drought years, average corn yield for both organic systems was 28-34% higher than conventional yields. Studies like these Rodale trials show not only that organic yields equalled conventional yields, but also that organic crops were more resilient to climatic vagaries.

Source: Pimentel, *et al.* (2005). Environmental, Energetic, and Economic Comparisons of Organic and Conventional Farming Systems. July 2005. *Bioscience* 573. Vol 55 No.7

which remain bound by its provisions. The process culminated in 2004 with the adoption of the *Guidelines on the Right to Food* by the 191 member countries of the United Nations Food and Agriculture Organization (FAO, 2006a). These guidelines introduced practical recommendations for how to make the right to food a reality. Today, at least 20 states recognise this right in their constitutions, including Brazil, South Africa and India.

The universality of the right to food implies that each individual should, at all times, be able to have access to food or to the means to provide it for themselves. This definition is based on the understanding that hunger and malnutrition are caused not only by lack of food, but by poverty and the lack of access to healthcare, education, employment and clean water. In this context, poverty should not be solely seen as a deprivation of income, but as a deprivation of basic capabilities, ranging from education to mobility, from participation to health, from nutrition to civil rights, from communication to education. Human rights are, in this sense, interconnected and interdependent concepts. This approach allows men, women and children to be considered as individuals with rights, rather than the objects of relief and aid work. It places an obligation on governments to ensure their populations' access to food without discrimination and to protect this access from violations by third parties, be they companies or supranational institutions. In this latter sense, the right to food is all about rights for food producers, and is underpinned by the economic, ecological and social vitality and diversity of the peasant world. These peasants' rights received a formal recognition in September 2012 when the United Nations Human Rights Council adopted a landmark resolution which asks national governments to establish programmes and policies to improve rural livelihood and to protect peasants (United Nations General Assembly, 2012).

The right to food has often been neglected in policies for economic development. Whereas governments have been complacent with those who have made vast profits by speculating mercilessly with our food, the income of agricultural producers remains significantly lower than that of people employed in urban areas. This paradox helps turn rural areas into incubators of hunger (80% of the world's hungry live in the countryside, according to FAO statistics; FAO, 2004). The right to food should be integral to agricultural and food policies and to the logic of production and distribution. In the words of Olivier De Schutter, the UN Special Rapporteur on the Right to Food, *"...For the realisation of the right to food, there is no alternative but to strengthen the agricultural sector, with an emphasis on small-scale farmers."* (De Schutter, 2009b)

In a newspaper article in 2008, his predecessor Jean Ziegler suggested a road map for international agricultural and economic policy, including: adoption of instruments to regulate speculation; a ban on the transformation of agricultural produce into biofuels; changes to the agricultural policies of the World Bank, the IMF and the WTO to prioritise investments in vital staple products and in local production; and consistent international policies recognising the importance of the right to food. This would be a first, and far from revolutionary, step.

This approach is substantially shared by the UN Committee on Economic, Social and Cultural Rights which, at a meeting during the period of rising food prices, called on states to adopt urgent measures: *"Limiting the rapid rise in food prices by, inter alia, encouraging production of local staple food products for local consumption instead of diverting prime arable land suitable for food crops for the production of agrofuels, as well as the use of food crops for the production of fuel, and introducing measures to combat speculation in food commodities"* (UN Economic and Social Council, 2008).

Olivier de Schutter, Jean Ziegler's successor as the UN Special Rapporteur on the Right to Food, said the food crisis had been *"the proof that the current system no longer works"*, showing that it is *"irresponsible to expect that the response to such a crisis lie in the liberalisation of commerce"*. Instead, *"it is necessary to subordinate the WTO to Human Rights which should prevail over the rights of global trade'* (Gagné, 2008). As part of his mandate, de Schutter organised a number of meetings to verify how the negotiations and implementation of WTO agreements affect the quest for the right to food. At the end of these he delivered a report on the mission to the United Nations General Assembly (and to the secretary of the WTO). That report makes it clear how an approach to international trade based on the right to food shifts the perspective from added economic value, that is to say, trade benefits for a country as a whole, to the impacts of trade on those who are most vulnerable and facing conditions of food insecurity. Among the recommendations included in the report, states are invited to *"Limit excessive reliance on international trade in the pursuit of food security and build capacity to produce the food needed to meet consumption needs, with an emphasis on small-scale farmers."*(De Schutter, 2009b) In some speeches, de Schutter relates the issue of the right to food to food sovereignty and to the management of supply through national commercialisation agencies as an effective strategy for guaranteeing non-volatile prices that pay farmers well and guarantee access to food for consumers.

Thus both de Schutter and the IAASTD clearly emphasise re-launching the role of small- and medium-scale agriculture and local trade as the linchpins for dealing with the problems of agriculture and food. This is the area of work in which to concentrate the political and economic actions and investments of the food producers' organisations and the non-governmental organisations that accompany their struggles.

Reforming public policy

This is the moment to reinforce the role of public agricultural and food policy in order to achieve a socially and environmentally sustainable production system. Public finance must protect and promote agricultural models that are better adapted to the interests of consumers and farmers, and that are capable of restoring an ecologically sustainable and cohesive social fabric. Public money and public policies, particularly trade policies, should support an agro-ecological model of production to supply national and regional markets, as these are the real and fundamental economic spaces for trade in agriculture and food.

Getting it right

It is not a question of sustaining local production regardless of how food is produced. Laws such as those proposed by the

Regional Council of Veneto in Italy to introduce preference for regional products in cafeterias, private restaurants and large-scale food distributors, make no reference to the way in which those products were produced (Consiglio regionale del Veneto, 2008). The localised approach has no value if it is not accompanied by a sustainable and more socially-just agricultural model. A better approach was taken by the Regional Council of Lazio, also in Italy, which, *"with a view to promoting food quality (…) contributes to the acquisition of the products of the Mediterranean diet and, in particular, regional organic produce, that forms part of the typical and traditional diet (…) for use within the collective restaurant services"* (Lazio, 2009). Certainly autarchy or isolationism are not answers to the issues at stake. It is the socio-environmental relationship, and not the territorial location per se, that counts when it comes to choosing food and creating the policies to maintain specific food production.

The transfer of public funds through agricultural policy – a practice in progressive decline in developed countries and practically non-existent in the developing world – cannot and should not be limited to a purely compensatory economic function. The distribution of these funds should integrate two clear objectives: the social (income and employment), and the spatial (land and environment). Public subsidies to agriculture should prioritise activities guaranteeing a decent level of income and quality of life for food producers, thereby allowing them to meet society's expectations in terms of food production, employment, and environmental conservation.

Protecting internal markets

These interventions to support and guide agricultural systems should be combined with policies that protect internal markets. Subsidies are limited to those economies that can afford them, and WTO rules inhibit countries from giving additional resources to support agricultural producers. However, protecting the national market through duties and import quotas is a mechanism that is potentially available to virtually every country in the world. This allows them to calibrate imports to internal needs not met by national production, and to generate currency for state coffers. Such policies must manage supply to ensure that prices are at a level that ensures remuneration for farmers while making food accessible to consumers, to avoid structural surpluses. As we saw in Part 1, the markets of developing countries have suffered from a variety of subsidised imports over the past 30 years, as well as forms of dumping (sale at prices below the cost of production), enforced reduction of tariffs, and food aid from external production surpluses that encourage new tastes and preferences. All this creates unfair competition, especially in the internal markets, which have the real impact on the local agricultural community.

Giving back control...

"Eating is an agricultural act", we are reminded by Wendel Berry, writer, farmer, and ambassador in the US for 'zero miles' food (Berry, 1990). But it is not just agricultural. It is a fishing and pastoral act, too, and also intrinsic to human nature and deeply rooted in the cultures of indigenous peoples. It is an act that draws on and combines millennia of wisdom connected to the production and consumption of food. Producers and consumers are often depicted at loggerheads over the price and quality of food, but the food crisis has shown them to be two poles in the same challenge, the terms of which are clearer than ever today. Communities and peoples are built around their cohesion and their values, an affinity with a given territory, of which food constitutes a basic pillar in terms of both livelihoods and identity. That makes those who sow, raise, catch and harvest the food that nourishes the world key players in the construction of the relationships and alliances that underpin society's well-being and security.

Food producers demand dignity and recognition, but they also ask for political legitimacy for their role, through a social

contract with the rest of society, made up of duties and rights. This contract should support the production of good quality food in adequate quantities and in equilibrium with the territory. It should also ensure a dignified quality of life for the rural population, and a culture of respect and integrity for their territory. This contract could be acceptable to all the small-scale food producers, be they Canadian small-scale farmers, traditional Thai fisherfolk, nomadic shepherds of the Iranian steppe or indigenous populations gathering their food in the Indonesian forests. This objective cannot be achieved without a debate involving all those concerned. Establishing a public debate on the agriculture of tomorrow means allowing civil society and farmers to participate in social dialogue, with the aim of creating a community of solidarity and shared interests. This does not mean philanthropy or charity, but participatory action by people travelling the same path and facing common struggles, conscious that their differences are surmountable through dialogue.

...to pastoralists

> *"The desert is not a desert because I live there".*
> (Quote from a Tuareg shepherd in 1991 during a meeting of civil society in Paris in preparation for the Rio Summit on the environment).

As we outlined in Part 1, several hundreds of millions of people live almost exclusively from traditional livestock husbandry. Collective use of grazing lands is crucial for those rural poor who have a few animals or small herds. In many regions nomadic farming remains the best way to produce food sustainably in ecosystems where so-called modern agriculture would be completely impracticable. It brings life to those ecosystems (Box 18). Pastoralism remains the most economical and sustainable way to raise animals, not only in marginal regions, but also on the rich American prairies. Specific policies are therefore necessary to support small and medium-scale livestock farming. Significant investment is needed in agricultural research

Box 18. A declaration for the rights of pastoralists

"We regard migratory pastoralism as an adaptive production strategy assuring the economic survival of hundreds of millions of people, as well as a way of life contributing to the sustainable management of natural resources and the conservation of nature. Pastoral livelihoods are based on seasonal mobility and common property of natural resources (particularly rangelands), regulated by customary law and practices, customary institutions and leadership, all making use of local and indigenous knowledge. In many societies, governments have "nationalised" and confiscated rangelands, forests and other natural resources on which pastoralists depend, removing them from community care, control and property and alienating nomadic pastoralists from their natural rights.

Despite the crucial contribution of nomadic and transhumant pastoralism to livelihoods and to national economies, and its role in preserving the fragile ecosystems of the planet, in many countries we are not receiving the necessary attention and support. We are subject to discrimination and social exclusion. In some countries we are subject to dispossession of natural resources, forced or induced sedentarisation and displacement, ethnic cleansing and ethnocide, in direct violation of human rights, and as a consequence of conflicts and adverse and ill-designed policies, legislation and development programmes….[which are imposed on us). We call for respect for] pastoralism and mobility as distinctive sources of cultural identity, integrity and rights."

Source: Segovia Declaration of Nomadic and Transhumant Pastoralists (14th September 2007), La Granja, Segovia, Spain

conducted by pastoralists who best understand the needs of these modes of production.

As demanded by small-scale farmers, herders also need suitable land legislations to support their peculiar livelihood, including policies that enable specific transhumant access to territories. Land reform is thus a key issue for traditional pastoralism, too. If we are to reverse the detrimental tendency of 'development' initiatives of recent decades aiming to settle nomadic pastoralists, we need to review the basis of land ownership and even indeed the concept of 'national' states and borders. The focus should turn from 'land ownership' to 'land use'; a somewhat subversive challenge to most powerful elites, be they in Iran, Mongolia, France or Italy.

Nomadic pastoralists in arid and semi-arid areas are already suffering from climate change, which is altering soil fertility and the richness of pasture, as well as the availability of water for the herds. Collective rights that have allowed movement and ensured the survival of these traditional forms of raising livestock are more than a simple question of justice. They are a way of adapting to and mitigating the effects of climate change.

Box 19. A way forward for pastoralism

The representatives of the pastoralist world have expressed the desire to take on a range of challenges and they have a clear idea of how crucial alliances are to the pursuit of their claims. They affirm that:

"…it is not possible to conserve animal diversity without protecting and strengthening the local communities that currently maintain and nurture this diversity. We want livestock keeping that is on a human scale. We defend a way of life that is linked deeply with our cultures and spirituality and not just aimed at production. We are building our capacities to organize ourselves to counter the pressure to conform with the industrial model. We are adopting the framework of food sovereignty which was developed by small farmers' movements and others, who face many similar problems stemming from industrial agriculture, and which is already starting to be recognized by several governments. We will continue to further develop alternative research approaches and technologies that allow us to be autonomous and put control of genetic resources and livestock breeding in the hands of livestock keepers and other small-scale producers. And we will organise ourselves to conserve rare breeds. We are committed to fighting for our lands, territories and grazing pastures, our migratory routes, including transboundary routes. We will build alliances with other social movements with similar aims and continue to build international solidarity. We will fight for the rights of livestock keepers which include the right to land, water, veterinary and other services, culture, education and training, access to local markets, access to information and decision-making, that are all essential for truly sustainable livestock production systems. We are committed to finding ways of sharing access to land and other resources with pastoralists, indigenous peoples, small farmers and other food producers according to equitable, but controlled, access. Ownership, knowledge and innovation at the community level are often of a collective nature. Therefore local knowledge and biodiversity can only be protected and promoted through collective rights. (...) States should recognise the customary laws, territories, traditions, customs and institutions of local communities and indigenous peoples, which constitute the recognition of the self-determination and autonomy of these peoples".

Source: Wilderswil Declaration. 2007. Wilderswil Declaration on Livestock Diversity; Wilderswil, Switzerland

Raising livestock, like other agricultural activities, is also about the relationship between man and nature. A living interaction has developed between people and their animals that structures social life and the relationship between generations, even at the edges of cities where society is otherwise often based on mercantile values. Livestock farmers often speak of their animals as if they were people, or when facing the deaths of animals conduct rituals which have their roots so far back that they have been forgotten. Maintaining farmers' dignity comes before obtaining a good price for the sale of the animals themselves.

However, as we saw in Part 1, the policies developed in the course of the past half century have been based on the animal-as-machine, producing protein, milk, wool, leather or fur. Civil society organisations who met at an FAO-organised Interlaken Conference on animal biodiversity[24] identified the system of industrial livestock production as one of the principal factors destroying sustainability, pastoralist cultures and biological diversity (Box 19). They call for a radical transformation of livestock farming, based on protecting the collective rights of livestock farmers, the environment and food sovereignty. They propose a completely different vision from the official document approved by governments at the same conference which contains no mention of the responsibility of industrial livestock farming for the destruction of the genetic heritage of domestic animals (Commission on Genetic Resources for Food and Agriculture, 2007).

...to those who harvest the seas

Recent estimates indicate that in 2010 there were 54.8 million people engaged in capture fisheries and aquaculture, mostly using traditional fishing methods. Many of them earn no more than a dollar a day from fishing and have no other source of income (FAO, 2012). Fishing and aquaculture have been growing even faster than agriculture, due to the expansion of fish farms in the developing world. Four out of five of these fish farmers are found in Asia. China, India and Thailand are among the top 10 producers and exporters of fish on a global scale. Approximately 16.6 million people were engaged in fish farming in 2010 (97% of them concentrated in Asia), making up 30% of all people employed in the fisheries sector. This is a large increase over 1990, when the share was 13% (FAO, 2012c). Seventy million people are also employed in post-catch activities (FAO, 2008m). Catching seafood and collecting seaweed also involve other workers (both on boats and in land-based initial processing activities).

The total number of fishing vessels globally in 2010 was about 4.36 million, 60% of which were engine-powered. Although 69% of vessels operating in marine waters were motorised, the figure was only 36% for inland waters. Only about 2% of the motorised fishing vessels are industrialised fishing vessels of 24m and longer, while over 85% of them are less than 12m in length (FAO, 2012c). Some of these fishing boats are so small that they are launched from the beach without a motor, and without the need for a harbour. These are the tools of life and labour for the artisanal fisherfolk. These fisherfolk play a crucial role in guaranteeing food security for local communities. They provide a food source rich in protein and other essential nutrients, often in circumstances of limited access to food for those most vulnerable. They are the first link in a long social, cultural and economic chain that contributes to the health and well-being of local communities and society as a whole, making fishing more than just a productive activity. It also represents cultural identity and way of life (surrounding diet, spiritual beliefs, rituals, traditions and value systems) anchored in the social organisation connected to fishing and the aquatic territories where it takes place. Artisanal fishing directly contributes to domestic food security, with women playing an important role in marketing

24 The first International Technical Conference on Animal Genetic Resources for Food and Agriculture, 3-7 September 2007, Interlaken, Switzerland.

locally and in providing for their families. Fishing can substitute for or be integrated with other economic activities whenever these fail or are in difficulty.

Artisanal fishers face many challenges. Fish stocks are being exhausted and marine and freshwater habitats degraded. Fish are highly perishable and it is hard to access the technology and energy (ice, wood for smoking, refrigeration equipment) needed in order to preserve them. Artisanal fishing competes with other users of aquatic or coastal resources, such as industrial fishing, tourism and real estate ownership, intensive aquaculture, industrial activity and urban expansion. These millions of fisherfolk – living on the poverty line and at the margins of the economy – do not coexist happily with the prosperous commercial operators. There is a real and fierce conflict for access to the sea and to fish stocks that are being seriously degraded by destructive industrial fishing. Destructive practices such as dragnet fishing, industrial aquaculture and intensive krill fishing represent a serious threat to the livelihood of traditional fisherfolk, so much so that many of them are calling for these forms of exploitation of the water and its fish stocks to be banned (FAO, 2008o).

Artisanal fishers also have to compete with export-oriented markets that may act to both physically and economically reduce fish availability and accessibility for local communities. Climate change has devastated water cycles and altered salinity levels in certain areas, and is increasing the frequency of extreme weather events, which are particularly dangerous for fishing communities. It is also modifying habitats and the distribution of fish, as well as damaging ecologically important environments such as coral reefs.[25]

25 Brian O'Riordan (December 2008), abstract from the contribution sent for this book.

....to indigenous peoples

> *"The denial of the Right to Food for Indigenous Peoples not only denies us our physical survival, but also denies us our social organization, our cultures, traditions, languages, spirituality, sovereignty, and total identity; it is a denial of our collective indigenous existence".* (Indigenous Peoples' Consultation on the Right to Food (17-19th April 2002), Atitlàn Declaration)

At least 80% of the planet's biodiversity is found in territories currently inhabited by indigenous people. There are at least 370 million indigenous people (United Nations, 2008), comprising no fewer than 5,000 different groups spread over 70 different countries. Seen as relics of the past, they are either idolised or exterminated and their resources seized. In many cases, they are still denied their basic human rights.

However, the unique cultural relationships indigenous peoples have with the natural world, particularly with respect to food, land, water and seeds, make an important contribution to the debate on agricultural and food production. Awareness of this unique viewpoint has grown during recent internal discussions among indigenous communities. In April 2002, the International Indian Treaty Council (IITC)[26] co-ordinated a global consultation of indigenous peoples on the right to food in Atitlán, Guatemala, which brought together 125 delegates from 28 countries from different regions of the world (see Section A.6 in Appendix 1 for more details). The *Atitlán Declaration* affirms the cultural value of indigenous agriculture and food systems, including the ceremonial practices underpinning indigenous sustainable agriculture (Atitlán Declaration, 2002).

26 The International Indian Treaty Council (IITC) is an indigenous peoples' organisation on the American continent, working in the field of sovereignty and self-determination for indigenous peoples and the recognition and protection of their rights, treaties, cultural traditions and sacred lands.

Box 20. Inefficient – or sustainable?

The Chepang are one of Nepal's 59 indigenous peoples. They use alternate cultivation (khoriya) on steep and difficult lands, and in rough climatic conditions. They farm land for a period, and then leave it fallow for a longer period during which it is colonised by plants that regenerate the soil fertility. International technicians and local authorities, instead of recognising the environmental and social sustainability of this practice, consider it to be inefficient, accusing the indigenous peoples of squandering natural resources. They create sterile development programmes that force these populations into abject poverty, threatening their very survival.

Source: Gurung, G.M. 1990. Economic modernization in a Chepang Village in Nepal. In: Mikesell, S.L. (ed.) *Occasional Papers in Sociology and Anthropology.* Vol 2. Tribhuvan University, Kathmandu, Nepal.

For centuries colonisers have tried to force indigenous peoples to become sedentary farmers following the European model. Such efforts overlooked indigenous capacity to 'cultivate nature': to live with nature, and from it, in abundance, sometimes in extremely difficult agroecological conditions. Modern agricultural science has tried every means, from disdain to false scientific proof, to destroy the ancestral practices of indigenous peoples. There are many well-known and often-cited examples (see Box 20 for one example).

For those indigenous peoples who are shut into reserves, traditional sources of food are no longer available. They acquire dietary habits based on agro-industrial produce that is especially inappropriate for populations whose constitutions are adapted to more frugal diets – for example, bison meat and beef are very different in terms of fat content. These transitions have a significant impact on health, due to difficulties in digesting and assimilating these different animal proteins. It is enough to visit a reserve in the United States or Canada to realise that obesity and diabetes are extremely widespread. Centres for the care, cure and prevention of these 'industrial diseases' are common in such communities.

This is not what indigenous peoples were promised: *"The privilege of hunting, fishing, and gathering the wild rice, upon the lands, the rivers and the lakes included in the territory ceded, is guaranteed to the Indians"*;[27] *'The exclusive right of taking fish in all the streams, where running through or bordering said reservation, is further secured to said confederated tribes and bands of Indians'*.[28] In November 1996, Chief Wilton Littlechild, Ermineskin of the Cree Nation, reminded heads of states of these promises during his speech to the World Food Summit in Rome: *"Our ancestors in some areas have secured our traditional ways and food systems in Treaties. These international agreements were signed for 'so long as the grass grows the rivers flow and the sun shines'"* (Littlechild, 1996).

The most original contribution indigenous peoples have made in defining a new paradigm for agricultural development is the specific way in which they frame the question of the right to food. They see it not as an individual need to be met, often now through charitable food aid, but as a collective right to be respected that recognises the sovereign right to land and territory. Land is not only a physical space, but also a place of memory and with a future made of the sum of its living and inanimate beings, wind, light, sky and soil – a place to safeguard for future generations. As stated in a United Nations declaration: *"Indigenous peoples have the right to maintain and develop their political, economic and social systems or institutions, to be secure in the enjoyment of their own means of subsistence*

27 US Treaty with the Chippewa Nation (1837).

28 US Treaty with the Yakima Nation (1855).

and development, and to engage freely in all their traditional and other economic activities." (United Nations, 2007, Article 20, paragraph 1). We should all be grateful for the skill and wisdom of the indigenous peoples and their maintenance of past practices, knowledge and culture because they are particularly relevant to the challenges facing food and agriculture today.

Changing the climate, changing agricultural policy

The impact of greenhouse gas emissions on climate is now beyond doubt: the earth's temperature will rise dramatically throughout the coming century (IPCC, 2007). Food production in the future will have to deal with increasing frequency and severity of extreme climatic events, combined with greater pressure from parasites and plant and animal diseases. Together, these will have a serious impact on agricultural production and food security. According to the IPCC (the Inter-governmental Panel on Climate Change), climate change will increase the number of undernourished people. However, the precise implications remain unclear: predictions of rainfall rates, the likely frequency of extreme weather events, and regional changes in weather patterns cannot be made with certainty.

The impact of climate change on agricultural yields, fishing, pastoral and forestry activities will vary in different parts of the world. For example, temperate regions are expected to enjoy longer crop seasons and therefore enjoy a productive advantage, although this is likely be upset by changes to rainfall patterns and increasing desertification, as is already occurring in Southern Europe and in some littoral areas of Southern Italy.

Agriculture will have to face several challenges. Farmers are being asked to change models of production since it is a major contributor to greenhouse gas emissions. The IPCC conclude that agriculture accounts for 10-12% of all anthropogenic greenhouse gases, including around 47% of methane and 58% of nitrous oxide (Smith, 2007). The main mitigation potential lies in radically reducing land use change (especially deforestation) and the industrial livestock sector, but also in building the capacity of agricultural soils to sequester CO2 through building organic matter. This potential can be realised by employing sustainable agricultural practices, such as those practised by organic farmers. Examples of these practices are the use of organic fertilisers and crop rotations, including legume leys and cover crops. Mitigation is also achieved in organic agriculture through the avoidance of open biomass burning, and the avoidance of synthetic fertilisers, the production of which causes emissions from fossil fuel use (Muller *et al.*, 2012).

Yet unlike mitigation, adaptation to climate change is highly context-specific: climate change will bring different challenges in different places, and the nature of the impacts will in part depend on the local natural and physical environment. In this respect, peasant farming offers the expertise and diversity required for such context-specific adaptation. Most common peasant practices already involve building soil organic matter through mixed farming, cover crops, smart rotations and other agroecological strategies. These increase water retention capacity, thus reducing vulnerability to drought, extreme precipitation events, floods and water logging. Adaptation is further supported by the agroecosystem diversity typical of small scale farms; such diversity provides resilience and is key to reducing production risks associated with extreme weather events. All these advantageous practices, though not exclusive to organic agriculture, are core parts of the organic production system. To deal with climate chaos we need to combine existing farmers' best practices with a strengthened research capacity. Public policies and investments have to address both, reversing the social erosion of farmers and promoting innovation for the common good.

Part 3
New shoots: signs of hope to carry us forward

The financial and economic crisis we are currently experiencing confirms that the market – and with it the neo-liberalism that has dominated policy up to now – is not capable of regulating the world. This opens the possibility for a new dominant philosophy, where multilateral policies can be considered as instruments of global governance. It seems that we are in dire need of a space in which governments finally assume their responsibilities through a neutral dialogue with civil society organisations (the other fundamental component of the mechanism of governance).

The governments of the major industrial powers and the big corporations have dominated the direction of agricultural policy over the last few decades. But the recent crises have triggered a new public debate on the nature and the future of food. Civil society movements and organisations have played a decisive role in this debate, seeking a systematic reformulation of food and agricultural policies. The work done by civil society campaigns on specific issues such as pesticides, animal welfare, GMOs, access to land, the WTO, free trade agreements, fair trade and many others, provide a rich basis for such a reformulation.

The way forward would be to address all these issues together in a thorough rethink of food production and distribution. Small-scale food producers in the developed and developing world have responded to the dominance of the industrial model in many ways; many of these offer pertinent alternatives to today's dominant, unsustainable model of agriculture. Small-scale food producers, through their local and international organisations, are increasingly effective advocates of such sustainable practices.

There are two signs of hope that are emerging from these crises, and which form the subject of this final part: (1) a global, civil society movement to promote the concept of food sovereignty; and (2) the creation of mechanisms allowing the most vulnerable, invisible and silent part of society to address the institutions of global governance directly.

The IPC: a civil society platform for food sovereignty

Between 1996 and 2002, a number of organisations (representing different groups such as farmers, environmentalists, altermondialists, human and civil rights defenders) that had been involved in the 1996 World Food Summit and the anti-neoliberal mobilisations of Seattle, Cancun and Geneva, considered how to create a common platform from which to promote food sovereignty and food as a fundamental human right. These discussions took place without any central structure to co-ordinate them or give them direction, but were driven by the conviction and passion of often small or embryonic organisations.

It was clear that they needed to create something original. In 2002, during the NGO/CSO (civil society organisations) and social movements' Forum for Food Sovereignty in Rome, the basis of a common platform was defined. It was named the International Planning Committee for Food Sovereignty, later shortened to the International Committee for Food Sovereignty or simply IPC. Two key documents spelt out its analysis and mission: a political declaration (NGO/CSO Forum, 2002a) and an action plan (NGO/CSO Forum, 2002b). The overarching

theme was food sovereignty; the main working areas were identified as the right to food, access and control of natural resources, agro-ecology, and agro-food trade. The IPC is a network of organisations and therefore is based on autonomy and self-organisation; its structure avoids centralisation. It facilitates the emergence of social representation without directly representing any organisation or specific social sector. It does not substitute nor impede any direct relationship between individual organisations and the FAO or any other international institutions.

So, what does the IPC do? *"The IPC [defines] its role as facilitating discussions among NGOs, CSOs and social movements and their dialogue with the FAO"* (Diouf, 2003). It is an instrument for discussion and collaboration, first and foremost among civil society organisations. It is given added legitimacy by the common cause of promoting food sovereignty, particularly with the FAO. As an international network, the IPC brings together various organisations representing small and medium-scale agricultural and livestock farmers, fisherfolk, agro-food workers and indigenous peoples, as well as NGOs. Together these represent hundreds of millions of food producers seeking to join the debate on global governance of food production.

None of the United Nations agencies has ever tried to build a direct dialogue with the civil society movements. In most international institutions, dialogue usually takes place through NGOs, usually chosen on the basis of their media visibility or capacity. Thus the humanitarian NGOs are taken to represent all of civil society, undermining any principle of representation. The task for the IPC is therefore to open the political space within the FAO for all popular organisations and movements. The aim is to increase effective democracy, not only bringing new groups into the UN's charmed circle, but also their concerns, methodologies and militancy. This ambition would appear relevant: a 2005 study of 24 UN bodies found that only three (the International Labour Organization, the FAO and IFAD) have created significant relationships at a global level with popular organisations other than the NGOs; only one, the FAO, has also established these at a national level (McKeon, 2009a).

Creating the space for dialogue with the FAO

The principles regulating the IPC's work need recognition and respect. That means reinforcing the institutional space for dialogue between the FAO and civil society organisations, extending that political dialogue from the centre to the periphery (the regional and national headquarters of the FAO), and co-operation with social organisations on the ground and in the work of the agency itself. In 2003, the then Director General of the FAO – Jacques Diouf – proposed, in what was to become a formal understanding between the FAO and the IPC, *" that such relations be defined as follows (…) FAO accepts the principles of civil society autonomy and self-organisation on which the IPC bases its work and will apply them in all of its relations with NGOS/CSOs. FAO appreciates the IPC's decentralised method of work and the direct involvement of social movements and organisations representing the food insecure, rural people, food producers, and consumers"*. More significantly, he goes on to say, *"FAO recognises the IPC as its principal global civil society interlocutor on the initiatives and themes emerging from the 'World Food Summit: five years later' and the NGO/CSO Forum of June 2002"* (Diouf, 2003).

This document therefore clarifies something that continues to create confusion about the role of NGOs within the United Nations system. Liberal governments have pushed the UN to lump together popular organisations with those representing private companies, usually multinationals, and to treat them as equally representative. Before the agreement with the IPC, a farmer representing small sub-Saharan farmers was expected to sit down with a proponent of the fertiliser industry, also recognised as an NGO, and together establish a position, for

example on sustainable agriculture. The document states instead that *"Both parties concur with the need to distinguish between the interests of social movements/non-profit NGOs and those of private sector associations, and to make separate interface arrangements for those categories of organisations ... The four major themes of the Forum [on Food Sovereignty, 2002, Rome] will form the basis for the relationship between FAO and the IPC, it being understood that the two parties have different roles to play with regard to these themes: the right to food and to food sovereignty; local population's access to management of, and control over, local resources; small-scale, family-based agro-ecological methods of food production; and trade and food sovereignty"* (Diouf, 2003). By recognising the agenda of organised civil society, the FAO has accepted food sovereignty as a concept and a platform and is engaging with civil society on that basis. It is possible to imagine the FAO going beyond simply recognising popular organisations to offering them direct support, *"FAO will support the effective participation of social movements and NGOs/CSOs in policy processes at local, regional and global levels within the limits of its mandate. FAO confirms its commitment to reinforcing its institutional capacity to face emerging issues in an interdisciplinary fashion with the participation of civil society actors"* (Diouf, 2003). The right to food and food sovereignty thus become elements of a joint endeavour at a regional and national level between civil society organisations and movements – facilitated by the IPC – and the FAO. However imperfect in practice, this is important because many farmers' movements do not enjoy recognition in their own countries or are victims of repression. The IPC has obtained a specific commitment from the FAO to take up the issue of land reform (see Box 21); the FAO has committed itself to *"developing modalities for ongoing discussion on this theme"* (Diouf, 2003). This was deepened in 2006 when the collaboration produced its best results to date at the International Conference on Agrarian Reform and Rural Development (ICARRD) (see below). Another consequence of the agreement between the FAO and the IPC is the start of a regional plan of action on agro-ecology to support Latin American small farm production, thus laying the foundations for a revision of the dominant agricultural model.

The IPC undertakes most tasks through constructive dialogue. However, it can also be confrontational when necessary. For example, just three weeks after the publication of an FAO document on the state of agriculture dedicated to agro-biotechnology and favouring GMOs in 2004 (FAO, 2004b), more than 1,000 organisations had signed a protest document launched by the IPC, a *casus belli* that threatened to bring an end to the credibility of the FAO as a neutral organisation and its dialogue with the IPC. There is also the barely disguised attempt to push the WTO to abandon the agreement on agriculture and return regulation of international agricultural trade to the United Nations, particularly the FAO and UNCTAD (the United Nations Conference on Trade and Development). A first step in this direction can be found in the FAO-IPC agreement, in which they undertake to conduct a series of in-depth case studies *"on the impact of liberalisation on food security in developing countries"* (Diouf, 2003). The FAO has accepted the direct participation of social organisations in its technical assistance and capacity-building programmes for international trade. The result has been a series of in-depth FAO studies predicting that market liberalisation, export orientation and structural adjustment policies will produce a growing crisis in rural areas and increase food insecurity (Sharma, 2003). Such conclusions, and the awareness-raising and training activities undertaken by the FAO, have resulted in resistance to more trade liberalisation and to the dismantling of the remaining border protection mechanisms in a block of developing countries at the Doha Round of the WTO: this led first to the collapse of the Cancun WTO ministerial meeting in September 2003, and later to a halt in the entire negotiation process.

Building alliances

The stalling of the WTO negotiations meant that the various movements that represent small-scale food producers needed to go beyond abstract solidarity to transform the right to food sovereignty into an articulated platform for struggle for a diverse variety of social organisations. They needed to overcome the division between the developed and developing world and concentrate on the clash between models of production and social organisation. This enabled European family agricultural organisations to act in solidarity with African small-scale farming organisations against the economic partnership agreements that the EU wants to impose on its ex-colonies.

A fundamental phase in this process of building alliances was the Nyéléni Forum of 2007 (see Appendix 2). Organised by civil society movements and supported by the IPC, the forum was called for by La Via Campesina. It was a collaboration among different movements, in which the experience of the IPC enabled the different components to work together and respect each other's autonomy.

The conquest of political space by small food producers' organisations is never a permanent one. Governments are constantly reopening discussions and challenging the spaces already won. However, the wind seems to have changed, for the moment, bringing with it aspirations for an effective democratisation of the world's institutions. A United Nations report traces the course of a substantial dialogue with civil society, and sees its emergence as a milestone of our times (United Nations General Assembly, 2004). Global governance is no longer simply the domain of governments. The growing participation and influence of non-state actors is reinvigorating democracy. Civil society organisations are, at the same time, initiating some of the more innovative approaches to tackling emerging global threats. Because of this, *"effective engagement with civil society and other constituencies is no longer an option - it is a necessity in order for the United Nations to meet its objectives and remain relevant in the twenty-first century"* (United Nations General Assembly, 2004).

A research project geared towards improving the relations of the United Nations with popular organisations has identified the IPC as one of the most promising experiences of interaction between civil society and the UN and the only initiative autonomously organised by civil society movements themselves.[29]

In 2011 and 2012 IPC members held a series of consultations and meetings on the functioning of the future IPC following the global governance framework evolution and the establishment of a Civil Society Mechanism (see next section). IPC member organisations concluded that the IPC network remains crucial and should be the central space at international level for small-scale food producers' organisations. It serves the dual goal of pushing the food sovereignty agenda and strengthening organisations and movements through joint actions and activities. Analysing and strategising through the IPC will allow for more effective mobilisation and action at the international level, but also at regional and national level, and especially with FAO, IFAD, the Committee on World Food Security and its civil society mechanism (see below) and national governments.

A new way of functioning was also agreed: a General Meeting and a Central Operational secretariat based on a rotation system will steer political initiatives, while a core support team will remain in Rome. To complement and decentralise the activities there is a network of focal points made up of social subjects (farmers, pastoralists, fisherfolk and indigenous peoples) from different areas of the planet.

29 Personal communication with Nora McKeon, co-ordinator of the project on behalf of the office for NGO liaison of the United Nations.

Box 21. Land ahoy!

Land reform, and more generally the question of land ownership and power relationships in rural areas, is one of the most important issues for the agricultural sector. It is important for the territorial, social and political equilibrium of all states, particularly those where agriculture employs the majority of the population and/or accounts for a significant part of the national income. Land reform policies are reflected in the number of farms, their size, the number of farmers, the relationship between owners and paid employees, the percentage of rural compared to urban population, and the market structure and destination for the agricultural produce. The question of land has also been at the centre of conflicts over class, ethnicity and states.

Land reform is also crucial in the pursuit of the right to food. The UN Commission on Human Rights clearly expressed this when he said that *'the primary obligation to realize the right to food rests with national governments. At this level, access to land is fundamental, and agrarian reform must be a key part of government strategies aimed at reducing hunger. In many parts of the world, people are struggling to survive because they are landless or because their properties are so small that they cannot make a decent living. Agrarian reform must be just, fair, and transparent … [and] more attention should be paid to the alternative models proposed by civil society, particularly the concept of food sovereignty. Access to land and agrarian reform, in particular, must be key elements of the right to food'* (Zeigler, 2002 quoted in Rosset, 2006).

The IPC has been fundamental in bringing these issues back onto the agenda of international institutions. The IPC's action plan proposes pushing the FAO to define land reform as one of its priorities (NGO/CSO Forum, 2002b). This objective disappeared from global institutional and regulatory debates around 30 years ago, removed in favour of programmes of access to land through the market promoted by the World Bank. The issue first reappeared at the International Conference on Agrarian Reform and Rural Development (ICARRD) in 2006 in Porto Alegre. For more on land reform, see Box 22.

To summarise, the IPC is the fruit of the struggles being fought by food producers' organisations and NGOs that have been working for years on issues of rights and protecting resources and communities. It is important that some of these struggles and reflections be given voice in this book, through the direct contribution of some of the civil society organisations and movements that are engaged in the struggle for food sovereignty around the world.

Appendix 1 collects together the words of some of these organisations, summarising their key issues and claims. They represent African and global peasants; pastoralists and civil society organisations in the Middle East; small and medium-scale traditional fisherfolk; indigenous people and rural women

Reforming the Committee on World Food Security (CFS)

The Committee on World Food Security (CFS) is the United Nations' forum for reviewing and following up policies on world food security. It also examines other issues which affect the world food situation, such as land reform (Box 22). It was established following the food crisis of the mid 1970s, on the recommendation of the 1974 World Food Conference.

Members of the CFS have recently agreed a wide-ranging reform that aims to make it the foremost inclusive international and intergovernmental platform dealing with food security and nutrition and to be a central component in the evolving Global Partnership for Agriculture, Food Security and Nutrition (see below).

In the CFS reform process in 2009, Member States recognised the right of CSOs to *"autonomously establish a global mechanism for food security and nutrition which will function as a facilitating body for CSO/NGOs' consultation and participation in the CFS"* (FAO, 2009c Rev 2, para. 16). A proposal for the establishment of this civil society mechanism (CSM) was endorsed by CSOs at the Civil Society Consultation in Rome in October 2010 and acknowledged by CFS Member States during the 36th Session of the CFS in the same month: (CSM, undated a; CFS, 2010a)

> *"…the reformed CFS… will constitute the foremost inclusive international and intergovernmental platform for a broad range of committed stakeholders to work together in a coordinated manner and in support of country-led processes towards the elimination of hunger and ensuring food security and nutrition for all human beings"* (CFS, 2010b).

The CSM is reaching out to hundreds of CSOs in all continents, sharing information on global policy debates and processes, promoting civil society consultations and dialogue, supporting advocacy and facilitating the participation of a diverse range of CSOs at the global level, in the context of the CFS (CSM, undated b).

As one of the leading behind-the-scenes players has written:

> *"The CFS had been retooled to act as an authoritative global policy forum deliberating on food issues in the name of defending the world population's Right to Food. The geopolitical and economic interests surrounding the negotiations were monumental, with the agri-food corporations and the stringent defenders of free trade among the most muscular contenders. They were pushing for an alternative scenario, a Global Partnership for Food, Agriculture and Nutrition in which – in the absence of any clear governance mechanism – decisions risked being taken by the usual suspects: the G8 (dressed up for the occasion as a G20) channelling funds through the World Bank with financial and corporative operators perpetuating their uncontrolled cavorting. (…) For the first time in the history of the UN system, representatives of small-scale food producers and other civil society organizations, along with private sector associations and other stakeholders, would be full participants and not just observers of the inter-governmental process"* (McKeon, 2009b).

The reformed CFS should not be celebrated yet. So far, during its brief 'new' existence, it has yet to show verifiable results. There is resistance to this reform from some governments (e.g. Canada, New Zealand, Australia, Japan), as well as from parts of the bureaucracy of specialised agencies and institutions who feel their power being threatened by the arrival of civil society with its agenda for real change. However the CFS represents an extremely interesting space and there are two areas that may benefit from recent developments: the building of expertise on the issue of food (in)security; and the implementation of the Global Strategic Framework (GSF).

The CFS and food security expertise

One of the new elements of the reformed CFS is the High Level Panel of Experts (HLPE), whose mandate is to produce expertise and analysis to support decision making on the prevention and resolution of food insecurity. Its creation has brought together scientific and informal knowledge in the fight against hunger. The HLPE is made up of a group of multidisciplinary experts, including representatives of national and international research

centres and civil society organisations acting in their individual capacity. The result is a consortium of heterogeneous knowledge and experiences not limited to the usual fields of formal research.

This is an important step towards recognising that knowledge can be found across all areas of the planet, in different disciplines and fields and by different social groups. It is a continuous process of creation and reformulation. It is necessary to integrate critical points of view and empirical evidence, which are fundamental for creating an organic body of knowledge, information and analysis. That is all the more significant when the problem of food insecurity is at the centre of attention. The contribution of stakeholders further ensures the credibility and legitimacy of the process.

The Global Strategic Framework

Another new CFS pillar is the Global Strategic Framework for Food Security and Nutrition (GSF) (CFS, 2012). Its approval at the 2012 CFS session represents an important achievement for

Box 22. The CFS and land tenure

Land is a very hot issue, and the CFS offers a space for arbitration in the presence of civil society organisations. This forum was where the *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security* (VGGTs) (FAO, 2012d) were negotiated during more than two years of tense discussions. They were finally adopted in May 2012. These guidelines were one of the CFS's responses to the aggravation of the global food crisis following the surge in food prices in 2007/08 and to the massive land grabbing occurring at global level. They acknowledge that the lack of secure access to and control over land, water, fisheries and forests for local communities is one of the main factors contributing to the global food crisis. These rights, in turn, are intimately connected to numerous economic, social and cultural rights, such as the right to adequate food, housing, health and work.

The social organisations and NGOs that work within the CFS on the voluntary guidelines have a clear understanding of the issue. CSOs have asked that the CFS guidelines include provisions which hold market mechanisms, and public and private investments and concessions, to strict, legally enforced regulations that safeguard civil rights to territory and land, water, fisheries and forests. The voluntary guidelines do not contain all that the CSOs wanted: they are a first step and address some important points, such as that *"responsible investments should do no harm, safeguard against dispossession of legitimate tenure rights holders and environmental damage, and should respect human rights"* (FAO, 2012d). The process involved, which is unique to UN negotiations, gave civil society and especially small-scale food producer representatives, the opportunity to participate at all stages, to draw attention to the real issues they face and to make concrete amendments to the final text. *"It has been shown that such a process has the capacity to bring a wide variety of social actors to the debate and to seek solutions to difficult and contentious issues, such as tenure of land, fisheries and forests. This approach should be emulated by the entire UN system"* (CSM, 2012). With the successful completion of the voluntary guidelines negotiations, the CFS has clearly shown that it has the capacity to bring a wide variety of actors to the debate and to find solutions to one of the most difficult and delicate issues we face today, that of access to natural resources for food production.

civil society organisations. The GSF is an overarching framework for strategies, policies and actions on food security and nutrition. This is a step forward in promoting new governance on food, agriculture and nutrition, where states' obligations to protect, promote and fulfill their population's right to food are reaffirmed.

Despite the fact that the GSF is not a legally-binding document, the recognition in the voluntary guidelines (see Box 22) of the right to food reaffirms a human rights approach to food and nutrition policies (FAO, 2005). What is new is that the GSF recognises the lack of decent work and insufficient purchasing power for low-wage workers and the rural and urban poor as one of the root causes of hunger. It states that *"formal employment and the assurance of a minimum living wage are keys for workers food security and nutrition"* (CFS, 2012; paragraph 34). This also helps the food sovereignty movement to broaden its vision from a sometimes too-narrow focus on farmers only.

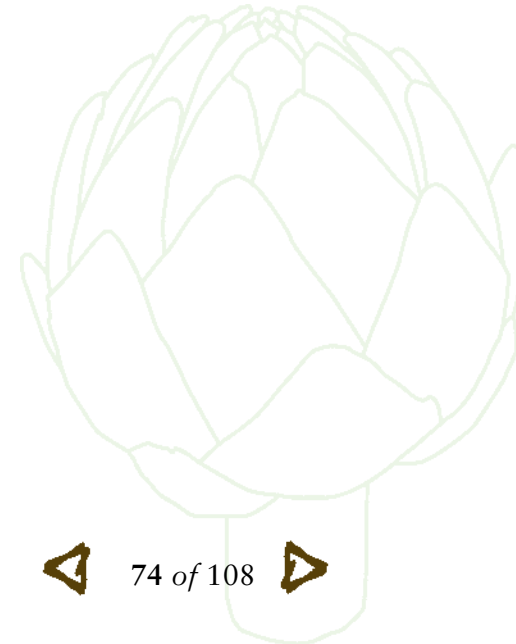
A final word

All these small acts are adding up to a counter-tendency. Small-scale farmers are no longer relics of folklore but are finally being recognised as fundamental to feeding a large part of humanity and even increasing productivity (United Nations, 2011). Agro-ecology is acknowledged as a model of agricultural development that is conceptually linked to the right to food and that is capable of offering real results in ensuring that right (De Schutter, 2010). The issue of access to land for farmers and landless peasants is back on the international development agenda.

There are also increasing changes to research paradigms, bringing new approaches to agricultural science that value local, traditional and informal knowledge. Furthermore, the restructuring of the global governance of food and agriculture is seeing civil society organisations playing a crucial role and gaining authority and recognition as participants in the work and decision-making processes of the CFS. These organisations are also being recognised as holders and providers of knowledge and expertise within the CFS High Level Panel of Experts (HLPE) (CFS, 2010b). Civil society movements appear to be working with renewed energy in the quest for food sovereignty. At the Nyéléni Europe Forum in Austria in August 2011, more than 400 participants from 34 European countries discussed how to "resist, transform and build" our food and agricultural system. The Nyéléni Europe Forum was launched to give impetus to a growing broad social movement that puts food and agriculture at the centre of its interests. It was an attempt to strengthen these movements and to co-ordinate the work done at local or international level. The Forum was a catalyst for reinforcing collective objectives and to gather the richness of testimonies and experiences on what food sovereignty means in very practical terms. It has been a real 'Foodstock' for the 21st century (Nyéléni Europe, 2011).

None of this would have been possible if anonymous and unknown women and men, organised in small or large civil society organisations, in the fields and on the seas of the developed and developing world, had not obstinately built a powerful process for change. They effectively brought together many simultaneous struggles and initiatives on many levels, including the institutional. In the quest for change one must be capable of contesting, countering, and refuting, but also of imposing oneself at the 'negotiating table' where decisions are made. This change in attitude has not gone unnoticed: government representatives or even journalists no longer ask *"what are you protesting against?"*; instead they ask *"what do you propose?"*. This recognises that the movements have the capacity to propose initiatives, modes of production and policies. For that to be possible and effective there must be a consultation process between the diverse components of civil society in order to identify a clear vision and equip a delegation capable of

negotiating rules, methods, timeframes and content. The strength of the dialogue does not therefore lie in the lobbying capacity of a few actors, as is normally the case. Nor does it lie in the visibility of a few prestigious leaders. It lies in the strength and participation of stakeholders from diverse social backgrounds. This strength is born of resistance and the construction of alternatives to the dominant model. It is seen in the day-to-day battle to defend the very dignity of the women and men who work the land and the seas. This is a force that has consolidated itself over the past quarter of a century: invisible, silent but powerful, and – hopefully – unstoppable.



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Appendix 1: Signs of wisdom from the planet

The IPC is the fruit of the emergence of, and the desire to share, reflections and struggles being fought by food producers' organisations and some NGOs that have been working for years on issues of rights and protecting resources and communities. It is important that some of these struggles and reflections be given voice in this book, through the direct contribution of some of the social organisations and movements that are conducting the struggle for food sovereignty around the world.

We have asked some of them to contribute by summarising, in a few paragraphs, some key issues and claims. Those of African and global peasants; of pastoralists and civil society organisations in those areas of the world in constant turbulence, referred to in Europe as the Middle East; of small- and medium-scale traditional fisherfolk; of indigenous people struggling for recognition from international institutions (and by the rest of humanity); and of rural women who are at the centre of dynamics of food production and processing. We also include a contribution from FIAN, one of the most authoritative NGOs on the issue of protecting human rights, dealing in-depth with the issue of the recognition of the right to food and its relationship with the issue of access to land. What follows is brief look at how the different territories of the planet and the diverse social subjects can converge towards common analysis and common struggles.

A1. International policies to support peasant based food production for local markets

Paul Nicholson[30]

There is an ongoing debate about the so-called 'global governance' of the agricultural sector. With the food price crisis hitting urban populations, a crisis that has been going on for many decades has now reached global proportions. Global governance is the catch word for many of the discussions taking place. But what is it all about? In the end it is not about how to define food and agricultural policies at the international level. The WTO has started to do this and the effects of their trade liberalisation policy have been disastrous. Millions of peasant have had to leave agriculture and are now part of the urban poor suffering from the crisis.

What has to be done then?

First of all local and national policies have to be reinstated to support peasant-based production and protect local and domestic markets. This space has been dramatically eroded by the structural adjustment policies imposed by the World Bank and the IMF, as well as the trade liberalisation imposed by the WTO.

On the ground, peasant-based agriculture is still there and still providing food for the large majority of the world's population. This production has to be supported and protected against the aggressive invasions of transnational companies (TNCs) that have a clear interest in destroying the sector and transforming peasants into slum dwellers and dependent agricultural workers or contract farmers so they consume TNC products instead of producing food for their families and communities.

30 Paul Nicholson is a member of EHNE (Euskal Herriko Nekazarien Elkartasuna), a farmers' organisation based in Spain, and former member of the International Co-ordinating Committee of La Via Campesina.

National policies based on food sovereignty must be adopted by governments, which must regain their role in the public domain. Governments should impose market policies, control imports and exports, protect and stabilise domestic markets and prevent TNCs from stealing control of land, seeds and water.

Governments have to actively support access to productive resources through genuine agrarian reforms, protection of peasants' rights over their seeds, and a rolling back of the privatisation of water.

What should be the role of international institutions?

First of all it has to be made clear that policies based on food sovereignty and the right to food are basic rights, and should not risk being dismantled through the imposition of international policies, especially trade or investment policies.

The UN agencies (FAO, IFAD, WFP, CGIAR) have to pick up their original mandate and orientate all their support towards protecting the space for national governments, facilitating their actions. This means for example that they should set clear rules to stop dumping, avoid food aid that destroys local production, forbid the privatisation of seeds, animal genetic resources and water and give financial support to agrarian reform programmes and more general programmes of education and other basic services.

La Via Campesina is involved internationally in sustained mobilisations against the WTO, World Bank, IMF, free trade agreements and the TNCs to try to reduce their influence. In addition to this it is necessary to support national and local governments that want to implement policies based on food sovereignty. This is done through dialogues that allow an exchange of experiences and support for national peasant organisations in negotiating adequate national agricultural policies with their governments. La Via Campesina also operates at an international level, pressuring UN agencies and the governments that make the policies to take up their mandate and set the right policies and initiatives. For example following up on the crucial ICARRD Conference on Agrarian Reform (see Box 21), or strengthening peasants' rights to seeds as stated in the FAO treaty on genetic resources of agrarian interest (FAO, 2009d).

At the international level many actors have an interest in controlling and limiting our influence, to make us ineffective. This is true of the TNCs and big commercial farmers that want to introduce their industrial model and their technologies, and governments of industrialised counties that in a large part support policies of liberalisation and privatisation. However, the same can be said of some of the international NGOs that still claim to speak on behalf of peasants and at the same time have interests in massive food aid.

One example of how these actors seek to impose themselves and make our presence ineffective is so called 'stakeholder dialogue', set up to force all the groups and actors to sit around the same table. It usually includes governments, the private sector, UN agencies, the WTO, the World Bank and representatives of civil society. Through this mechanism a non-existent consensus could be imposed between for example La Via Campesina and Monsanto. The CSD (Commission on Sustainable Development) and GFAR (Global Forum on Agricultural Research) were both set up this way. The problem is that civil society sits at a table without having any real negotiating power. By signing up to a consensus achieved in this way means we are instrumentalised in order to lend legitimacy to policies that go directly against our interests.

The World Bank-driven International Land Coalition (operating out of the IFAD offices in Rome) was set up in the same way to channel and structure social protest around land and surreptitiously introduce World Bank concepts of agrarian reform. It distributes large amounts of funds in the form of projects, partly to our members. The recipients were thus integrated as members of the Popular Coalition for the

Eradication of Hunger, as the ILC was called that time. However there was nothing popular about this initiative.

A new way of articulating social movements and NGOs has emerged through the International Planning Committee for Food Sovereignty – the IPC – described in Part 3 of this book. For La Via Campesina, the IPC represents the opportunity to collaborate with other movements to advance our strategies. At the same time it is crucial to protect our autonomy in order to achieve effective impact. Through the IPC we have been working especially to influence the FAO, the main space in which the IPC operates.

The IPC is a facilitating mechanism that does not talk on behalf of nor represent the organisations that participate in it. The IPC has contributed to a stronger presence of social movements, peasants, fisherfolk, pastoralists and indigenous peoples in the global debate. A lot of work still has to be done to further strengthen these movements to improve our participation and coordination in such a way that we not only raise our voice at FAO but also encourage and support struggles at local and national level. The International Forum for Food Sovereignty at Nyéléni in Mali in 2007 brought together all the key movements working on food sovereignty and laid the foundations of an agenda for what lies ahead (Box A.1). The battle for food sovereignty must take place first of all at the local level and for this we need full national and international support!

A2. Agriculture and food in West Africa

Ibrahima Coulibaly[31]

Agriculture is clearly a priority today, not only for developing nations, but also in the big international institutions. The reason for this is simple: it was enough that the world came close to disaster as a result of the vertiginous rise in agricultural prices, leading to bread riots in the Third World and the weakening of purchasing power in rich countries. This shook the ideological positions of those who would have us believe in a completely liberalised market capable of governing everything, for example the WTO and supporters of the free trade agreements. The crisis has enabled us to understand that liberalisation, at least for the markets in food products, has now gone too far.

The rise in agricultural prices is, according to most serious analysts, principally the consequence of speculation on the financial markets. Many of the funds speculating on the exchanges descended on the food sector following the bursting of other once profitable bubbles, leading the world into disaster. It is clear that rising food prices did not enrich farmers, but they did contribute to hunger among consumers. The only winners were the owners of big capital who played without scruples on the exchanges, putting the very security of the world in which they also live at risk.

But was this situation really unforeseeable? For at least two decades farmers' organisations from all continents have been calling for solidarity. Agricultural prices do not enable producers to live a decent life, they prevent the generation of value and the possibility of reinvesting in the tools of production. Farmers are continuously impoverished by the imposition of policies that

31 Ibrahima Coulibaly is President of the CNOP (National Coordination of Farmers' Organisations in Mali) and member of the Coordinating Committee of La Via Campesina and the ROPPA (Network of West African Peasant Farmers and Food Producers).

reflect the disdain with which agriculture is treated, and which have led to the collapse of the rural sector.

The World Bank and the other institutions that have obliged entire continents to neglect agriculture must bear considerable responsibility for this situation. They now find themselves crying mea culpa, and calling for investments in the agricultural sector that, in any case, would be of little use. What we need are peasant farmers who can live off their labour, but that is impossible without a minimum of protection and guaranteed income.

For a long time farmers' organisations around the world have been calling for a review of national and regional agricultural policies based on growing cash crops for export, to the detriment of staple foods for the people. They call for customs barriers to be reinstated (as their dismantling has led to a depression in local agricultural markets, favouring low cost imports); the reconstruction of national emergency food reserves; and mechanisms that ensure prices for producers so as to revitalise local food production. Such an approach is still far from being implemented; however, fractures are emerging within the ranks of the promoters of the free market.

The farmers and agricultural organisations of West Africa now hope to overcome the effects of three decades of dangerous policies that have led to the ruin of local markets for food products, the dismay of peasant farmers, the exodus from the countryside to the cities and migration to rich countries. It is possible to heal these wrongs and we say that Africa can feed itself,[32] but this only is possible if courageous agricultural and trade policies are brought into play.

West African farmers' organisations are discussing the policies in question with counterparts such as the CEDEAO (the Economic Community of West African States) in order to push for their priorities. These discussions should lead states to implement policies based on food sovereignty; on a rejection of further liberalisation and the refusal to sign free trade agreements; on the promotion of agricultural production geared towards local markets; on protection at the borders, particularly using a common tariff; and on the correct implementation of regional agricultural policies.

Peasant farmers' organisations also expect that policies without a future will no longer be adopted. Example include the strong pressure being put on West Africa to adopt GMOs, the expansion of crops such as jatropha for agro-fuels and the conversion of the agrarian system in the direction of a new Green Revolution, which has no chance of success in the agro-ecological conditions of the region.

32 *Afrique nouriccière* is the manifesto of the Francophone African farmers' organisations.

A3. Rural women and the struggle for rights and empowerment

Sarojeni V. Rengam[33]

Peasant and indigenous women contribute tremendously to food and agricultural production through their labour, knowledge and nurturing capacities. They are involved in all aspects of agriculture – sowing, nurturing and protecting crops from pests; harvesting; selecting and preserving seeds for the next crop; soil enrichment; using local ecological resources in a balanced way and regenerating those resources. Through learning by experience, and experimenting and innovating when faced with problems, they have developed a vast amount of knowledge and varied skills in agriculture over generations, and have provided food security to millions of families.

Their knowledge goes far beyond farming into the inter-related areas of food, clothing, medicine and health care that have their origins in plants and animals. They have developed techniques for storing, processing and preserving food; worked out varied recipes to suit the climate, seasons and health conditions; developed local medicines and methods for curing common ailments in the household and livestock; and developed methods of making textiles and clothing. They have thus created a rich and holistic culture, blended well with the local ecology.

The conservation of biodiversity and plant genetic resources is now widely recognised as crucial to food security. Women have a particular responsibility to feed and nurture their families and so have developed a special knowledge of the value and diverse use of plants for nutrition, health and income. Women's knowledge in agriculture includes preparation of seeds, which requires a capacity to visually select seeds, fine motor co-ordination, and sensitivity to climatic conditions. For example, sowing and seed selection requires a good understanding of seasons, the climate, the requirements of the plant, weather conditions, microclimatic factors, soil enrichment, physical dexterity and strength.

In addition to working in the fields, women have to ensure fuel, fodder, water, and food, and look after the emotional needs of their families. The nurturing, caring and reproductive responsibilities have never been computed economically, but are an essential and significant proportion of women's workload, as well as being integral to the quality of life of a community.

However, in the context of current globalisation strategies for control and dominance, women are severely discriminated against and seen as irrelevant and unproductive by highly productivist and capitalistic forms of exploitation. This gender discrimination is rooted in the organised oppression of peoples through class, caste, race and ethnicity. Today, three-quarters of the 1.2 billion people in extreme poverty live in rural areas and a great majority of them are women. Rural women rarely own land, lack access to financial and social assets, have fewer opportunities to improve their skills and knowledge, and are rarely able to access public decision-making processes. Women are often denied access to health and public services. Women work long hours for lower wages. Nevertheless, rural women are the main food producers in Asia. They are also responsible for preparing food for the family but often they are the last to eat and eat the least. These gender biases result in women in the rural sector being undernourished and malnourished, and thus more vulnerable to various health problems.

Most women work until late into their pregnancies but are not given any special care; neither do they receive extra food or rest. Malnutrition, hard labour and occupational exposure to chemicals and other hazards can all exacerbate the health

33 Sarojeni V. Rengam has been Executive Director of PAN Asia and the Pacific (the Pesticide Action Network) since its founding in 1992. She was a member of the Coordinating Committee that organised the Asian Rural Women's Conference in 2008, and continues to work for the recently-launched Coalition of Rural Women in Asia. She is a focal point for the IPC in Asia.

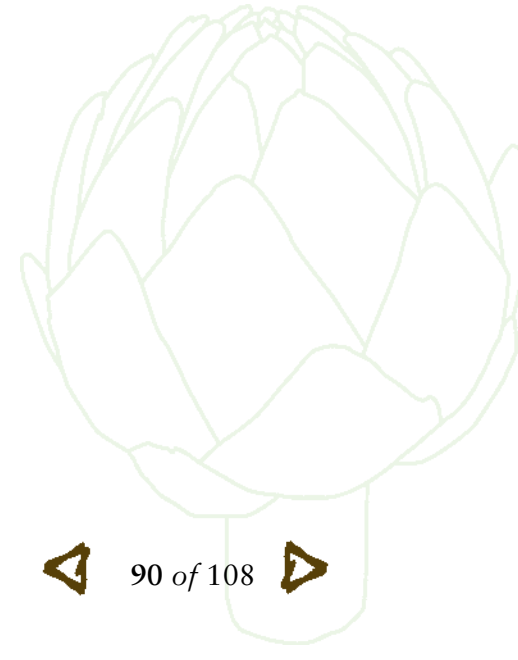
problems of rural women. However, women's occupational hazards in agriculture have either been ignored or rarely studied

Securing women's rights to land and productive resources has been the clarion call of rural women and their movements, together with peasants and landless labourers. This will require not only giving land rights to the landless, but also the necessary support to ensure their food and economic security. With rights to land, peasant women can make decisions on how the land is used, and the kind of sustainable agriculture that they would choose. Without control over land, peasants – both women and men – cannot invest in improving the soil, plan the crops that they will grow, or make long-term plans to improve their economic situation. As Carmen Turla-Bueno of the Federation of Peasant Women (AMIHAN) has said eloquently, "Our struggle for land is a struggle for our lives".

The concentration of land in only a few hands – above all at the expense of women cultivating on a small scale – undermines the security of peasant families. It restricts them to concentrating on cash crops, increasing the deprivation of women and salaried workers, particularly young people. The new market-oriented farming systems mean low wages, and long and back-breaking labour for women. They also have in increased health risks from the intensive use of pesticides and other chemicals in export-oriented cash crop farms and plantations. Loss of control over crucial resources like seeds, which were mainly women's special domain, reduces their available income.

The impacts of these globalisation processes, supported by patriarchal institutions, continue to deny women their rights, and are destabilising and uprooting whole families and communities. In this financial crunch, food consumption is reduced along with expenditures on education and health care. Women and girls are the first to be deprived. Finally, women are increasingly facing violence as a result of the so-called 'war on terror' which is being used to suppress people's resistance through state initiated or state supported violence, and the enactment of laws curtailing civil and political liberties.

The struggle for rural women's empowerment is the struggle for women's rights and equality: the rights of women to productive resources, safe working conditions, health and reproductive rights, and food sovereignty. Rural women are organising themselves against oppressive systems such as patriarchy, globalisation and corporate agriculture, imperialism, feudalism, fundamentalism and militarisation. This liberation also includes the struggle from oppression within families. In 2008 more than 600 women from 23 countries in Asia and the Pacific met to unite their voices and struggle for their rights and their empowerment and to reinforce their individual struggles. Together they launched the Asian Coalition of Rural Women. There is a growing movement of rural women involved in asserting their rights as farmers and agricultural workers and to spread an agro-ecological model and defend food sovereignty. This is an encouraging gathering.



A4. Civil society and nomadic pastoralists in Central and Western Asia and North Africa

Maryam Rahmanian[34]

The IPC platform has always been, in theory, a platform for the global political struggles of all social movements to achieve food sovereignty. However, the reality is that not all the movements (whether they are organised by sector or by geographical area) have shown the same capacity to organise themselves and to develop a global political analysis and strategy. This is the case for West and Central Asia (some of you will be more familiar with the term 'Middle/Near East' but we reject this colonial term) and particularly for nomadic pastoralists. The differences in capacity have historical reasons and it is important to understand them, but it is also important for the IPC to easily make space for these new actors, and to quickly draw them into the dialogue on the global governance of food and agriculture. This is an important point that works in the interests of both those actors that are firmly "inside" the IPC platform and those that are on the margins or "outside".

The challenges are many. For example, in the region of West and Central Asia and North Africa (WESCANA for short), the actors that we have so far been able to mobilise are almost exclusively small and recently established NGOs, exclusively urban and characterised either as 'intellectuals' or the middle class.[35] This composition of actors is, of course, a result of the region's history and current situation, which is characterised by extremes of wealth and poverty, ongoing occupations and wars, and undemocratic governments that are, to varying degrees, interested in showing themselves to be democratic...all in the context of relatively vast oil reserves in a "peak oil" world.

To understand the challenges that this presents, let us imagine the example of a small NGO in Oman, established three years ago by volunteers living in the city to work with rural women on medicinal plants. How does such an organisation understand the political strategies of a global platform of struggles for food sovereignty which is long established with a leadership that has a very strong background based on decades of struggle? The same question could be asked of an NGO established by the battered remnants of one or other group of leftist activists from the 1960s and 1970s, who have given up the idea of building political movements and believe that the only possibility for social change is to work at a local level to improve peoples' lives in concrete ways, be that in Cairo, Beirut or Tehran. Beyond the initial sense of euphoria that they feel, that the 'revolution' is not dead, but is growing in the rural areas of the world – will they be able to use the strengths of their past, while overcoming its limitations?

Another example is in the pastoralists' world, which of course is not a single or unified world in any way. Pastoralists are characterised by strong customary institutions and by the fact that everywhere in the world (they are to be found in all continents but particularly in Africa and Asia) for the past 50-100 years they have been weakened by an attack on their livelihoods and cultures, the most important element of which has been a restriction or total denial of access to their territories. It is important to note that many pastoral tribes identify themselves as indigenous; even when they do not, they clearly have strong commonalities with indigenous peoples, not least of which are the shared concepts of territory and collective rights.

34 Maryam Rahmanian has worked since 2001 at the Centre for Sustainable Development and Environment, a small NGO in Iran. Since 2002 she has been a regional IPC focal point for West and Central Asia and North Africa, particularly working on pastoralist issues.

35 It must be stressed that the work of the IPC in the region, carried out by its regional focal points, has been until now limited to organisations that have a specific interest in food and agriculture, that are independent enough to develop critical views of their own national governments, and by default have the language and networking capacity to work by email in English or French.

It is clear that there are small but growing efforts to organise pastoralists in their own organisations from local to global levels. In many cases this organisation is made possible by money destined for "sustainable pastoral livelihoods" through outside donors, mediated through local or foreign NGOs. The motivation for this is mostly the reality of the enormous environmental, economic/livelihoods and conflict/security problems occurring in places where pastoralists have been robbed of access to their territories. The added impacts of desertification and climate change, and the fact that many pastoralists find themselves in some of the most politically sensitive war zones of the world (Afghanistan, Somalia), has meant that the issue of 'sustainable pastoralism' has an increasingly secure place in the preoccupations of donors and development agencies.

So the political and economic landscapes in which NGOs in WESCANA, or the pastoral organisations throughout the world find themselves, makes it difficult for them to see beyond the mountains of project proposals, aid money and NGO meetings, past the prison bars of their own repressive regimes, the bombs of other repressive regimes, and the mass graves of the failed political struggles in their histories. It is therefore difficult to achieve a view of the whole planet with its many inter-linked struggles and to the importance of creating spaces for developing a common struggle that allows for a diversity of struggles, moving towards developing a common political strategy.

Each region and constituency – and even each organisation and each individual – will relate to one of the spaces that make up the IPC and shape it in different ways and at their own pace. The process of dialogue and understanding that this requires is of course already taking place and the opportunity exists, in principle, for new actors to emerge and join the IPC.

The challenge on one hand is to increase the quantitative and qualitative pace of this process of dialogue and learning, both within one group of actors and also between them. We need to take time to think in a very self-critical manner about how effective we have been so far and how we must work differently to take advantage of the opportunities presented by the changing economic and political climate. This requires a high level of trust and sense of unity and solidarity amongst us, which must be developed and earned over time and through working with each other on concrete issues.

But on the other hand we cannot afford the luxury of focusing all of our energy on this time-consuming process. Some things take time while other things can and must be done quickly. Important actors within the IPC emphasise that a democratic and intergovernmental platform of decision-making on issues related to food and agriculture is indispensable, because of the current climate major changes now taking place at this intergovernmental level. This work cannot wait, and therefore we need to organise ourselves to get it done.

Box A.1. Definition of Food Sovereignty (from the Declaration of Nyéléni 2007)		
Food sovereignty is the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems. It puts the aspirations and needs of those who produce, distribute and consume food at the heart of food systems and policies... It defends the interests and inclusion of the next generation. It offers a strategy to resist and dismantle the current corporate trade and food regime, and directions for food, farming, pastoral and fisheries systems determined by local producers and users. Food sovereignty prioritises local and national economies and markets ... Food sovereignty promotes transparent trade that guarantees just incomes to all peoples as well as the rights of consumers to control their food and nutrition. It ensures that the rights to use and manage lands, territories, waters, seeds, livestock and biodiversity are in the hands of those of us who produce food. Food sovereignty implies new social relations free of oppression and inequality between men and women, peoples, racial groups, social and economic classes and generations.		
Six Principles of Food Sovereignty (T*hese six principles are interlinked and inseparable: in implementing the food sovereignty policy framework all should be applied*)		
	Food Sovereignty:	**is FOR**
1	**Focuses on food for people:**	Food sovereignty puts the right to sufficient, healthy and culturally appropriate food for all individuals, peoples and communities, including those who are under occupation, in conflict zones, at the centre of food, agriculture, livestock and fisheries policies.
2	**Values food providers:**	Food sovereignty values and supports the contributions, and respects the rights, of women and men, peasants and small scale family farmers, pastoralists, artisan fisherfolk, forest dwellers, indigenous peoples and agricultural and fisheries workers, including migrants.
3	**Localises food Systems:**	Food sovereignty brings food providers and consumers closer together, putting them at the centre of decision-making on food issues; protects food providers from the dumping of food and food aid in local markets; protects consumers from poor quality and unhealthy food, low quality food tainted with genetically modified organisms.
4	Puts control locally:	Food sovereignty places control over territory, land, grazing, water, seeds, livestock and fish populations on local food providers and respects their rights. It recognizes that local territories often cross geopolitical borders and ensures the right of local communities to inhabit and use their territories.
5	**Builds knowledge and skills:**	Food sovereignty builds on the skills and local knowledge of food providers and their local organisations that conserve, develop and manage localised food production and harvesting systems, developing appropriate research systems to support this and passing on this wisdom to future generations.
6	Works with nature:	Food sovereignty uses the contributions of nature in diverse, low external input agroecological production and harvesting methods that maximise the contribution of ecosystems and improve resilience and adaptation, especially in the face of climate change; it seeks to "*heal the planet so that the planet may heal us*".

A5. The battle of fisherfolk for aquatic resources

Brian O'Riordan[36]

Artisanal fishing includes a plethora of actors, both men and women, who either work from the beach, remaining relatively coastal, or else head out to sea from ports. They may be highly visible, or it may be that their activities are not properly taken into account in social and economic policies. Fisherfolk may also include groupings from indigenous peoples, local communities, or even migrant populations, rural communities and urban populations. The challenge facing the organisations representing this constituency is to ensure that the diversity of 'fisherfolk' is adequately represented, and that the diverse voices of fisherfolk can be heard equitably in decision-making platforms.

Fisherfolk organise themselves in several ways and at various levels to engage in productive, commercial, political, trades union and democratic processes. Their organisations reflect their diverse array of sometimes conflicting interests and activities and include vessel owners associations, crew syndicates, trade unions of workers and community-based organisations. These diverse realities express radically different issues in terms allocating fishing access rights and engaging in the management of fishery and fishery related activities.

A particular problem facing fisherfolk therefore is how to speak with a coherent voice; not only because of their wide array of differing interests, but also due to the increasing heterogeneity within the fisheries sector. Increasingly owners and workers of highly commercial, mechanised, intensive forms of fishing, such as trawling, are lumped together with subsistence level and small-scale fishers. Thus artisanal fisherfolk may find themselves negotiating with political institutions alongside industrial processors and traders whose activities are geared towards export markets, although they have radically different access to the water and to the markets.

The rights claimed by fisherfolk

The struggle over aquatic resources forms part and parcel of the struggle of fisherfolk to secure their human rights, including social, cultural, political and economic rights. It has as much to do with access rights to fishery resources as it does with land tenure, to decent working and living conditions, and access to health, education and public services.

The Bangkok Civil Society Statement (FAO, 2008o) highlights this, noting that the human rights of fisherfolk are indivisible and that the development of responsible and sustainable small-scale and indigenous fisheries is possible only if their political, civil, social, economic and cultural rights are addressed in an integrated manner.

The Bangkok Civil Society Statement also highlights that all rights and freedoms apply equally to all men and women in fishing communities, where women make a vital contribution to maintaining the resilience of small-scale fishing communities; and that the dependence of fisherfolk on aquatic and coastal natural resources is shaped by the need to meet life and livelihood, and to secure their well-being, as well as to express their cultural and spiritual values. There is, without a doubt, a complementarity and interdependency among fisheries-related activities and fishing communities. The health and well-being of coastal communities is inextricably linked to that of aquatic ecosystems. Fisherfolk have a keen understanding of the ecosystems to which they relate. This is manifested, for example, in the diversity, selectivity and ecological sophistication of the craft and gear used. Small-scale fishing communities also feature institutional arrangements

36 Brian O'Riordan has been working on fishing for thirty years, first in the production line, and later to support small-scale fishers in developing countries. He is also the Secretary of the ICSF (International Collective in Support of Fisherworkers), an international NGO that promotes fair and sustainable fishing systems, giving particular support to small-scale artisanal fishing.

that emphasise use rights, greater equity, and quick conflict resolution. Taken together, these aspects constitute an important store of social capital within such communities.

The struggle of fisherfolk over aquatic resources includes struggles with the natural elements: fishing is one of the most hazardous of human activities. Furthermore, in the struggle to secure their rights to access and use aquatic resources to meet their needs for life and livelihood, fisherfolk are faced with the threat of privatisation of aquatic resources and coastal lands, and the granting of concessions for industrial aquaculture, waste dumping, and the aggressive development of coastal tourism. They must also face the implementation of fishery management systems based on unfair individual transferable quotas (ITQs), and Marine Protected Areas (MPAs) that ignore the rights of traditional fisherfolk. The struggle over aquatic resources is fundamentally a struggle to secure human rights.

The role of consumers

Consumers can play an important role in supporting these demands. There is perhaps no sector more affected by globalisation than the fisheries sector, with over 40% of the global fish catch entering international trade concentrated in three main markets (Japan, the USA and the European Union). It must be borne mind that the interests of consumers in these markets may not coincide with those of fisherfolk. Consumers are faced with a complex and diverse range of decisions when choosing fishery products, and they are bombarded with bewildering amounts of product information. In this context they often pay little attention to the concerns of fisherfolk, or to the source of supply, catching technique or issues of fair trade. Companies are engaged in consumer information campaigns aimed at reassuring consumers that their products are healthy, tasty and good value for money. They may also stress the environmental and social sustainability of their products. These claims are often spurious, vague, ambiguous or debatable.

Ecolabels and Fair Trade labels are being promoted as tools through which consumer choice may be influenced to favour sustainability and equitable trade. But in many cases, the claims made by the promoters of such labels have also been challenged. For example, ecolabels have been applied to fish products from both capture fisheries and aquaculture, and from industrial and intensive production systems.

As stated in the Civil Society Bangkok Statement, area-specific labelling that identifies socially and ecologically sustainable fisheries should be promoted. Consumers need to be educated in the particular characteristics of the fishery product. Civil society needs to persuade consumers to choose locally-produced fishery products that can be identified with fisherfolk and their sustainable and equitable practices.

A6. Indigenous peoples' participation in the United Nations

Saúl Vicente Vásquez[37]

For many years we, as indigenous people, have been fighting for the recognition of our rights as 'peoples' within the spaces represented by the United Nations, particularly through the UN Commission for Human Rights, now known as the Human Rights Council.

This process has seen four important turning points. The first was the struggle begun by our indigenous brothers more than 30 years ago to get the United Nations to open a space where indigenous peoples could be heard. This initial struggle achieved a recommendation from the Economic and Social Council in 1971 for a study to be conducted into indigenous peoples. The conclusions of this study were a first step for continuing the struggle for the recognition of our rights.

The second moment came with the creation of the Working Group on Indigenous Populations (which years later was to change its name to the Working Group on Indigenous Peoples or WGIP). Formed in 1982, this group produced the first consensus document between indigenous peoples, UN experts and government representatives: the Project for a United Nations Declaration on the Rights of Indigenous Peoples. This was adopted in 1993. During the same period, C169 – the ILO Convention concerning Indigenous and Tribal Peoples in Independent Countries (1989) – was also approved, and in 1994 the first International Decade of the World's Indigenous Peoples was deliberated by the UN General Assembly. The mandate of this decade was the adoption of a Declaration on the Rights of Indigenous Peoples and the creation of a permanent forum for indigenous peoples within the UN structure. During this period the WGIP provided important studies, particularly on the relationship between indigenous peoples and the Earth, their natural resources, and the issue of intellectual property rights. At the same time, the working group developed cases against the dispossession and repression that indigenous peoples suffer the world over.

The third important moment was the 10-year period between 1994 and 2004, during which an ad hoc working group actively reviewed, in between the sessions of the UN Human Rights Committee, the draft UN Declaration on the Rights of Indigenous Peoples. Despite 10 years of intense debate, no consensus was reached on the declaration. However, in 2000 the UN Permanent Forum on Indigenous Issues was formed, and a second International Decade of the World's Indigenous Peoples was approved. The post of Special Rapporteur on the Human Rights and Fundamental Freedoms of Indigenous Peoples was created in 2001. This third period is also notable for the great contributions made by indigenous experts on a range of issues that were discussed in the ad hoc working group, such as the right to free determination, the free and informed consent of indigenous peoples, and numerous declarations made by indigenous peoples and organisations at meetings in which their considerable capacities and practical and theoretical contributions on the issue of the rights of indigenous peoples were very important.

The fourth period is the second International Decade of the World's Indigenous Peoples: this saw the UN General Assembly finally adopt the UN Declaration on the Rights of Indigenous

37 Saúl Vicente Vásquez is an indigenous Zapoteca from Juchitán, Oaxaca in Mexico. He is the leader of the organisation *Unidad de la Fuerza Indígena y Campesina* (UFIC – Unity of Indigenous and Peasant Strength). He also represents the International Indian Treaty Council (IITC) in Mexico. He is member of The United Nations Permanent Forum on Indigenous Issues (UNPFII), an advisory body to the Economic and Social Council (ECOSOC) *tasked* with focusing on the issues of Indigenous Peoples' Right to Food and Cultural Indicators. He currently acts as an International IPC Focal Point for indigenous peoples.

Peoples in 2007, an historic moment that marks a milestone in the struggles of indigenous peoples for the recognition of their human rights.

Throughout this entire process we, as indigenous peoples, saw the need for our presence at all the sessions of the diverse United Nations institutions. We understand that the recognition of the rights of indigenous peoples is a cross-cutting issue relating to all the institutions and issues dealt with at the United Nations. The International Indian Treaty Council (IITC), which is currently a focal point for the IPC, therefore participated in a number of UN meetings and forums.

As well as actively participating in the principal international negotiating forums, since 1999 the IITC has served as a focal point for indigenous people at the meetings of the Convention on Biodiversity (CBD) and Sustainable Agriculture and Food Systems, where it focused attention on the unique cultural relations that indigenous peoples have with the natural world, based on our food, land, water, seeds, etc. For example, indigenous peoples worked with various members of civil society to build bridges for effective participation with other groups during the *Dialogue on Land and Agriculture* at the Eighth *Session* of the CBD in 2000. As a result, the governments at the session concluded that it was necessary to hold future talks, and invited the FAO to facilitate the continuation of this dialogue during the World Summit on Sustainable Development. The IITC therefore worked with the meeting of the Sustainable Agriculture and Food Systems to facilitate the participation of indigenous peoples in the plenary session of the 16th session of the FAO Committee on Agriculture (CoAG) and in the CoAG Forum on Sustainable Agriculture and Rural Development.

During this era, the embryonic IPC invited the IITC to act as a focal point for indigenous peoples, in particular to facilitate the preparation and participation of indigenous peoples at the World Food Summit +5, and in the NGO-CSO Forum for Food Sovereignty in 2002. In April 2002, as part of preparations for these two events in Rome, the IITC co-ordinated a global consultation of indigenous peoples on the right to food in Atitlán, Guatemala. This involved 125 people from 28 countries. Indigenous farmers, hunters, traditional fishers and others discussed their concerns, priorities and proposals, and produced the Atitlán Declaration (Atitlán Declaration, 2002). The declaration reaffirmed – among other things – the cultural value agriculture and food systems have for indigenous peoples, and the importance of indigenous cultures and ceremonial practices for the conservation of their food and sustainable agricultural systems. In June 2002, 16 delegates from seven countries arrived in Rome to participate in the FAO summit and in the Forum for Food Sovereignty. Here they reaffirmed the conclusions and the proposals of the Atitlán Declaration and of the treaties of many other indigenous peoples that underline the necessity to recognise the right to free determination as a vital requirement for food sovereignty, as well as the value of the inextricable binomial that is indigenous food systems and their related cultural practices.

In November 2002, the Director General of the FAO formally met with the IITC to explore the possibility of new collaborations for implementing the recommendations made by the indigenous peoples in the Atitlán Declaration. As a result of this meeting the IITC committed to co-ordinating another consultation process. This process concentrated on creating 'cultural indicators' as a contribution to global food security policies. The Cultural Indicators document (Woodley et al., 2006) was produced by indigenous peoples' representatives as part of the 2nd Global Consultation on the Right to Food and Food Sovereignty organised by the IITC in 2006, in Bilwi, Puerto Cabezas, Nicaragua.

Through the IPC, the IITC has been able to achieve greater visibility for their proposals for the recognition of the rights of indigenous peoples in the context of the FAO and the struggle for

food sovereignty. For example, we have been able to combine our concept of the right to territories with the struggle by peasant farmers and pastoralists' for access to land. We have also been able to combine our idea of collective and cultural rights with the fight by pastoralists, peasant farmers, and fisherfolk for respect for their animal and plant genetic resources. The Atitlán Food Sovereignty Declaration is compatible with the declarations of the peasant farmers' movement, which made it possible to consolidate the broader Nyéléni Declaration.

The willingness expressed by various organisations to accept different social sectors, with their differing levels of articulation, as peers and equals, has facilitated the co-ordination of different knowledge, activities and approaches at the IPC pace, reinforcing the struggle for food sovereignty. In the context of the United Nations, the achievements of the IPC at the FAO are considerable. In international spaces like the UN these processes require a lot of time. It took the indigenous movement more than 20 years to obtain the adoption of the UN Declaration of Indigenous Peoples Rights.

It is necessary to continue strengthening our presence in the FAO as a space for the struggle to achieve food sovereignty. However, it should not be the only space where social movements participate. Above all, peasant farmers and traditional fisherfolk are now fighting for a UN Declaration that recognises their rights as peoples who provide a large part of humanity's food. The movement for food sovereignty, just like the movement of indigenous peoples, needs to seek the capacity to intervene in other UN forums and institutions in which the future of natural resources, lands and territories will be discussed. These are the original components of our Mother Earth. As one indigenous brother pointed out, "we should not fight only to legislate for human beings, we must also legislate and fight to protect our Mother Earth."

Diuxi xquídxepé laátu biche cá, ne bizaána cá

Many thanks, brothers and sisters.

A7. The Human Rights Way Towards Food Sovereignty

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The principle of food sovereignty, advanced in international debates by La Via Campesina during the civil society forum of 1996, has since received the attention the UN Special Rapporteur on the Right to Food, academics and various civil society networks. Definitions seem to be getting more and more elaborate, and one of the latest, prepared for the 2007 Nyéléni Forum in Mali, adds the interesting category of "food sovereignty-holders" under the phrasing of "legitimate democratic communities". This avoids confining the concept to food sovereignty for states and giving it a macro-economic dimension.

If one wants to conceptualise food sovereignty and to promote it through human rights, one can say that food sovereignty, together with food security (including quantitative, dietary and cultural food adequacy, economic, social and sustainable food accessibility, as well as food safety), are the two components necessary to realise the human right to adequate food. Food sovereignty could in fact be considered the component which makes the right to food a human right. In a given society, food sovereignty builds upon fundamental principles of human rights, namely participation, non-discrimination, transparency and accountability. Food sovereignty also has its roots in the freedom of choice and the right to self-determination of communities and peoples over food and nutrition issues, as guaranteed in the International Covenant on Economic, Social and Cultural Rights, part of the universally-recognised United Nations Bill of Human Rights.

38 FIAN International is a human rights organisation that advocates for the right to food, with sections in more than 50 countries. They expose violations of people's rights to food and strive to secure access to productive and food resources for the people. See www.fian.org.

One of the strongest arguments for food sovereignty is that no intergovernmental organisation should interfere with popular and democratic decisions concerning vital policy sectors such as food or social and basic services. On the contrary, these decisions should be taken with the consultation of the most vulnerable in order to make sure that measures will reach them. This is particularly true for food production. However, it is also relevant to choices made about food consumption, consumer protection and nutrition policies, social safety nets, as well as access to water, credit and extension services.

Achieving a new binding instrument at the international level will take a lot of time and energy. However, we can make an immediate start by demanding food sovereignty through existing human rights instruments. For example, existing (human) rights standards in international law already benefit from monitoring and advocacy mechanisms. On the other hand, there are still gaps in the protection of the human rights of rural peoples, particularly the landless and peasants. Since 2003, La Via Campesina – supported by international human rights NGOs like FIAN – have been advocating a convention on the rights of peasants. The potential positive impact of this initiative for food sovereignty should not be underestimated.

Furthermore, it should be clear that the political struggle for food sovereignty can by no means be replaced by the use of human rights mechanisms and existing standards of international law. Nevertheless, the right to food and the strategy proposed here could greatly contribute to the struggle for food sovereignty.

The work of La Via Campesina's Human Rights Commission in Geneva has shown that peasants are often victims of gross violations of their human rights. When they struggle for the right to adequate food and/or for agrarian reform, they are not considered to be defending their rights. Instead they are criminalised and marginalised yet further. Whenever rural people claim their rights, they face violence and harassment from the

oppressors, putting at stake their right to life, personal integrity, a fair trial and equality before the law. La Via Campesina and FIAN, together with other CSOs and NGOs, have been trying to systematically use existing mechanisms to protect human rights defenders. The single most important mechanism at an international level is the Special Rapporteur on the situation of Human Rights Defenders for the UN Secretary General. The former representative, Mrs Hina Jilani, was very instrumental in recognising people struggling for economic, social and cultural rights (including local communities fighting against forced evictions for instance) as human rights defenders to be protected.[39]

The right to food can therefore greatly contribute to the struggle for food sovereignty, although it is clear that the political struggle to achieve the latter cannot be substituted with a recourse to mechanisms for promoting human rights and to existing international law.

Access to and control of natural resources such as land, water, seeds and biodiversity are a crucial civil society demand in the struggle for food sovereignty. Achieving real improvements in the access to and control of those resources requires genuine agrarian reform. Peasants' organisations worldwide, together with NGOs and CSOs, have been advocating for more than a decade for a genuine and comprehensive agrarian reform dictated by the pursuit of human rights as a necessary step towards achieving food sovereignty and the right to food. Market-driven land reform as promoted by the World Bank has demonstrated its limits and even its negative effects on the eradication of extreme poverty and chronic malnutrition in rural areas. Furthermore, the production and rural development models proposed by small food producers represent agriculture with peasants, and fisheries with artisanal fishers. Those models were the subject of intense discussions at the 2006 International Conference on Agrarian Reform and Rural Development (ICARRD). Civil society and supportive states have been calling for a proper follow-up to the ICARRD, proposing concrete steps and instruments. However, the follow-up process is currently facing strong resistance from certain states, above all those of the European Union.

39 In March 2008, the Human Rights Council appointed Mrs Margaret Sekaggya to the post.

Appendix 2: The evolution of the food sovereignty movement

It is useful to here take a brief tour through the evolution that has transformed that utterly marginalised part of society made up of those who cultivate, fish, raise and harvest food – both in industrialised countries and in those considered to be developing –, into a fundamental actor in the battles against economic liberalism and, more specifically, against neoliberal attempts to reorganise agricultural production according to a single, inevitable social and productive model.

A fundamental moment in this process was the forum held by NGOs and social organisations in Rome from the 11th to the 17th November 1996, in parallel to the FAO World Food Summit. La Via Campesina was then still a 'young' international movement of peasant farmers that was a long way from achieving the recognition of recent years. In the document that was later to form part of the final declaration of the forum, it wrote: "peasant farmers and small-scale producers should be able to intervene directly in the formulation of agricultural policies at all levels, including at the FAO's World Food Summit from which we have been excluded. The UN and its associated Agencies should democratise themselves in order to make this possible" (La Via Campesina, 1996).

At the turn of the century, the question of autonomy and the leading role to be played by organised social movements on food and agriculture was already being clearly stated. At that time, movements were proposing neither structures nor working methodologies, limiting themselves to making demands without saying how or who. They drew their experience from NGO counter-summits taking place in parallel with meetings of the large, intergovernmental bodies. The World Social Forum, which first took place in 2001 in Porto Alegre, Brazil is a good example. At such events it is difficult to identify and select participants, and their presence is essentially reliant on their capacity to self-finance or on the financing of single delegations. This produces an over-representation of developed countries and the scarce participation or invisibility of an entire continent – Africa. Each of these events has had one or more speakers, usually without much consideration of the question of representation. Spokespeople are perceived by the institutions and the mass media to be 'representatives of the poor' or of other extremely diverse movements created by extremely diverse societies.

Rome 1996: a key moment

In contrast, participation at the 1996 Rome NGO Forum of 1996 took an innovative form. Numerical quotas were established and the number of delegates per continent was fixed in advance in order to guarantee majority participation from the countries of the developing world and a proportional division of the populations of the different continents. To this 'demographic' consideration was added a preference for food producers' organisations, particularly farmers. The plenary of the Forum therefore included representatives of more than 850 organisations, mostly from the developing world, of which more than 240 were from Africa.

The forum was a difficult undertaking in which organised civil society came together, not so much to sign declarations, as to build a platform of work and struggle and seek the support of all of society, bringing hunger out of the ghetto of humanitarian emergencies in order to create democratic and structural responses. Until then, farmers and other food producers were at best taken into consideration by the governments of the United Nations, relegated out of productive structures and social systems by modernisation through development aid. They were denied any place in modern society other than as a vestige of the past or as the socially excluded, to whom policies were applied in the fight against poverty. They were never considered social actors, an integral part of today's and tomorrow's society,

capable of subjectivity and of playing a leading role. *"A central element in the elaboration and discussions that developed in the process of preparing for the Forum, and later in the course of the Forum itself, was the ability to imagine a world in which other values exist, other criteria, other priorities that are not those set by the rules of the market dictatorship. The Forum was an opportunity to touch that world and prove that it exists"* (Centro Internazionale Crocevia, 1997). Not illusions, but realism and specific actions.

The Forum brought into relief the different aspects and diverse interrelationships of the current struggle between the rich – in the form of the authoritarian practice of power – and the poor – in terms of the absence of citizenship and certain rights. The life stories that the delegates brought with them, particularly those linked to social conflicts over problems of access to food and land, clearly showed that the enormous majority of the planet's population – poor in financial terms – is rich in natural and cultural resources. It has its own peculiar rationality, different from the dominant reasoning governing industrial development and economic growth. This is the new demarcation, dividing those who are rich in resources but utterly poor in terms of rights, and those who, having very limited resources at their disposal, as is the case in the most industrialised countries or with the transnational corporations, attempt to privatise resources to their own advantage.

By refusing to consider food security as a simple, quantitative question, the social organisations present at the Forum indicated the need to abandon the approach of simplification and homogenisation belonging to the culture of Man's domination over Nature. They clearly identify the need to construct responses that include those excluded from the dominant development model, as a tool in the battle against the rationale imposed by that dominant model. To do this, they fiercely defend their own role, which can only be effective if there is real respect for certain basic and elementary human rights such as the right to food.

In effect, the title of the declaration of the 1996 NGO Forum – *Profit for Few, or Food for All* – is an affirmation of the choice to be made:

> *"The globalisation of the world economy, along with the lack of accountability of transnational corporations and spreading patterns of overconsumption, have increased world poverty. Today's global economy is characterised by unemployment, low wages, destruction of rural economies, and bankruptcy of family farmers. Industrialised agriculture, intensive animal husbandry methods, and overfishing are destroying traditional farming, poisoning the planet and all living beings. Subsidized exports, artificially low prices, constant dumping, and even some food aid programmes are increasing food insecurity and making people dependent on food they are unable to produce. The depletion of global grain stocks has increased market instability, to the detriment of small producers".* (NGO Forum, 1996)

Unfortunately this critique remains relevant today. It goes on to say that *"We propose a new model for achieving food security that calls into question many of the existing assumptions, policies and practices. This model [is] based on decentralisation."* Food sovereignty made its first appearance at the Rome Forum of 1996, a principle that was quickly adopted across the globe, above all because *"Food can not be considered as a commodity"* (NGO Forum, 1996).

Social organisations call for and make commitments. They defend their responsibility to take a leading role in food security strategies. With their actions they affirm to governments and to the FAO the principle that social actors, women, peasant farmers, indigenous peoples and fisherfolk are not the enemies

within, to be defeated, nor are they dispossessed in need of aid. They are citizens who defend real rights to build their own future with their own hands.

The spokesperson of the Forum at the FAO Summit expressed to the governments, the World Bank, the IMF and the FAO itself the need to clarify whether to counter or even attack and repress these aspirations. Before the heads of state and governments convened at the FAO for the World Food Summit, the delegates of the Forum expressed what had been decided:

> *"We are absolutely convinced of the need for effective participation and of the deep involvement of the populations who live and work in rural territories, who fish in the rivers and seas, who give life to the forests or deserts, otherwise neither the FAO nor the governments can face strategies of security and pacification, prevent biblical transmigrations or irreversible destruction to ecosystems. We need to guarantee rights for these subjects, principally for effective access to crucial natural resources such as land, water and biodiversity. Guaranteed and unconditional access free from the obligation to transform those resources into commodities. We want to remind you that access to food consumables is a less and less real right for a growing part of humanity that, deprived of financial resources struggles to survive in the metropolitan areas. These 'aspiring consumers' are the other face of food security because they are the first victims of structural adjustment and of the redefinition of global production processes. In their defence the declarations and the efforts undertaken at global summits and conferences can have little effect if there is continued demolition of states and of the pact of solidarity that links the citizens of a country or of the planet as a whole".* (Centro Internazionale Crocevia, 1997).

The 2007-08 food crisis gave new impetus to a neoliberal approach to food production. The intensification of production through bio-technology and other techno-fixes, global market integration, and financial mechanisms were promoted as answers to price volatility and climate change.

But, as the issues of food availability and access caught the world's attention, interest grew in the role of those who produce and provide the food we eat. It emerged that traditional and peasant approaches to food production, and local markets as a means of food distribution, provide a viable and more sustainable approach to designing a fairer and more resilient food system. This recognition has led to calls for more support and greater representation for smallholders in the global food debate.

The last decade has seen global crises in finance, energy and the economy. But only the prolonged food crisis resulted in riots, reminding us of the historic link between the struggles for food and economic justice. This book focuses on the root causes and power games behind the global food crisis and what this means for reforming the global food system.

The Reclaiming Diversity and Citizenship *Series seeks to encourage debate outside mainstream policy and conceptual frameworks on the future of food, farming and land use. The opportunities and constraints to regenerating local food systems based on social and ecological diversity, human rights and more inclusive forms of citizenship are actively explored by contributors. Authors are encouraged to reflect deeply on the ways of working and outcomes of their research, highlighting implications for policy, knowledge, organisations and practice. The* Reclaiming Diversity and Citizenship *Series is published by the Agroecology Team at the International Institute for Environment and Development.*

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