Changing a dysfunctional food system: Towards ecological food provision in the framework of food sovereignty

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The dysfunctional food system that results in a billion hungry people and more than a billion obese people needs fundamental change. This includes a different governance structure and a model of production and consumption that at its centre has the provision of healthy food, produced sustainably and as locally as possible. The paper describes options, including governance by the reformed Committee on World Food Security, that include the implementation of the findings of the International Assessment of Agricultural Knowledge, Science and Technology for Development and the call for ecological food provision in the framework of food sovereignty, as called for by social movements including Vía Campesina.

Keywords: local food, agroecology, food sovereignty, Via Campesina, biodiversity

> We already grow enough food to nourish nine billion people, probably 15 billion people, in fact, for we eat only about one third of those crops (Pearce, 2011).

Most of the undernourished people in the world are themselves small-scale food providers and their families

THE DYSFUNCTION OF THE FOOD SYSTEM results in nearly a billion people being undernourished (FAO, 2009). They are hungry because they do not have the means to produce food for themselves or purchase it. The majority, about three-quarters, are small-scale food providers, workers and their families who live in rural communities (IFAD, 2002) where agriculture provides a livelihood for nearly 90 per cent of people (World Bank, 2007). They are unable to grow sufficient food or earn enough income from their production and labour to meet their food and health needs. Sixty per cent are women and a quarter are children (FAO, 2006).Women are the principal providers of food for their families and communities, playing central roles in food production, processing and preparation. They are subject to multiple forms of social, economic and cultural discrimination, which prevent them from having equality in access to food and control over productive resources and natural wealth (Eradicate Hunger & Malnutrition, 2009).

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> The present situation of hunger has its primary source in modes of production that have made small-scale farming generally non-viable, relegating it, at best, to subsistence agriculture. Unable to compete, relegated to the poorest soils – the hilly, the arid, and the erosion-prone – small-scale farmers have been pushed to the margins: they were valued neither as a political constituency since they were unable to mobilize effectively, nor as an economic sector since they had no access to the global supply chains and were not a source of foreign currency. They were forgotten from public policies because they were considered irrelevant (De Schutter, 2009a).

Small-scale farmers have been pushed to the margins

At the same time more than a billion people are encouraged to consume too much of the wrong foods and suffer varying degrees of obesity. This rising trend is leading to a pandemic of type II diabetes. According to the World Health Organization (WHO, 2004), approximately 177 million people have diabetes worldwide and this number is expected to reach 370 million by 2030. For example, in the UK there are estimates that without mitigating actions, more than half of all adults will be obese by 2050, with a consequent increase in costs for society (Aylott et al., 2008).

For a normal, healthy lifestyle of an average person, each needs to consume about 2,400 kcal of food per day (Mourey, 2008). There is, and has been since global concerns about hunger were articulated in the 1996 World Food Summit, enough food produced to provide each person with more than 2,700 calories per day. With the addition of the calories in food diverted to animal feed (and latterly for industrial biofuels), the amount theoretically available rises to about 3,600 calories per day (FAO, 1995). Also, up to half of all food is wasted, through on-farm and post-harvest losses, processing wastage and food discarded by consumers and distributors (Eradicate Hunger and Malnutrition, 2009).

Up to half of all food is wasted

The problems of hunger can thus be summarized as: 1) inequitable distribution (De Schutter, 2009a); 2) significant wastage of edible crops that are lost in-field or are thrown away by rich consumers (Foresight, 2011), or fish returned dead to the sea as 'bycatch' or discards (FAO, 2011); 3) the diversion of edible crops and fish to livestock feed (Fairlie, 2010); 4) the burning of edible crops as biofuels for cars and so-called 'green energy' (World Resources Institute, 2008); and 5) modes of production that have made small-scale food provision generally non-viable (De Schutter, 2009a). Hunger and malnutrition are chronic structural problems and are worsening in the wake of the food price, financial, energy and climate crises hitting particularly hard those who depend on markets affected by global prices for their access to food.

Small-scale food provision

Globally, food provision is dominated by small-scale providers. (Given the wide range of activities by women and men, small-scale peasant and family farmers, pastoralists, fishers, forest dwellers, indigenous peoples, workers and others in providing food through production, harvesting, gathering, on-farm processing etc., the terms 'food provision' and consequently the term small-scale 'food providers', are used in this paper. These terms were used in the synthesis report of Nyéléni: Forum for Food Sovereignty, see Nyéléni, 2007b). An estimated 70 per cent of the global population, or nearly 4.7 billion people, are fed with food provided locally, mostly by small-scale farming, fishing or herding (ETC Group, 2009). Eighty-five per cent of the world's farms are holdings of less than 2 hectares, worked by local and indigenous peoples. Frequently quoted figures place the number of small-scale farmers at 1.5 billion people. However, recent analysis (ETC Group, 2009) points out that small-scale food providers also include:

70 per cent of the global population is fed with food provided locally

- 190 million pastoralists who raise livestock;
- 100 million artisanal fishers or people who are engaged in processing half of all fish caught for human consumption;
- 800 million people who are involved in urban farming, 200 million of which are producing for urban markets;
- at least 410 million people who derive much of their food and livelihoods from forests.

Predominantly, it is women who farm smallholdings

Predominantly, it is women who farm smallholdings, look after livestock in the homestead and prepare fish to feed their families. Increasing numbers are also involved in gardening or part-time farming. Such large and diverse populations make an accurate assessment of numbers difficult. However, it is clear that there are, including all members of a family, around 2–3 billion people in rural, coastal and urban areas who are engaged in food provision to some degree, feeding themselves and a further 1.7–2.7 billion people through local food webs, markets and traders. The importance of small-scale food provision in securing the world's food is therefore clear and has been frequently acknowledged (OECD, 2006). But marginalized rural and coastal households also include about 75 per cent of the world's hungry people. Frequently, they attempt to produce enough food for themselves and for local markets in conditions that are harsh and with little external support. In the absence of effective storage facilities, or under pressure to raise income, excess produce is sold shortly after harvesting, achieving whatever price is available from local buyers. What little money that is made can be used to buy produce at market, at higher prices, to supplement household food supply (De Schutter, 2009a).

Large-scale food production

At the other end of the food production spectrum lies large-scale agriculture, livestock production and fisheries. Large and increasingly globalized enterprises combine agricultural and agro-chemical inputs (fertilizers, pesticides, herbicides and antibiotics) and compliant seeds, sourced from the world market, to produce food that is itself intended to be traded nationally and globally. Intensive large-scale livestock production follows a similar pattern and large-scale and extractive industrial fisheries and aquaculture are also driven by global markets.

Agricultural exports have increased steadily since the 1960s

Agricultural exports have increased steadily since the 1960s. Export trade in cereals, for example, has grown in value from less than US$50 bn to more than $700 bn today, with an increasing share originating from developed countries (UNEP, 2009). Food is produced for a market that demands standardized commodities for processing or marketing and sale. Despite farming only 14 per cent of global arable land (ETC Group, 2009), large-scale producers thrive within liberalized global commodity markets, and use their economic power to ensure their interests are reflected in successive trade, finance and food and agriculture reforms that have structured the terms of international and national food policies (Tansey, 2008). Inputs, primary production, transport, storage, processing and distribution are all controlled by an ever-decreasing number of companies that exploit the opportunities for profit within a global supply chain (ETC Group, 2008).

Inputs, primary production, transport, storage, processing and distribution are all controlled by an ever-decreasing number of companies

This form of agriculture is defined by Greenpeace (2009) as:

- a focus on maximizing production and productivity of individual commodities and products;
- monocultural agricultural practices, depending on chemical (fertilizer, herbicide and pesticide) and fossil fuel input;
- externalization of environmental, social and other costs not priced on the market;
- concentration on national and international markets and their control.

Here, agricultural outputs are treated as commodities, subject to an industrial model of production that is capital intensive, substituting machinery and purchased inputs for human and animal labour (IAASTD, 2008c). Agriculture is seen as a business like any other, in which enhanced growth, profitability and labour productivity are sought through the application of technology and economies of scale, and success is measured against returns in other forms of short-term investment. 'Agriculture is not a business like any other, it beats to the drum of biology' (Tudge, 2004).

Equity and sustainability

Global production of edible commodities has increased under the influence of the industrial model, but with uneven impacts. For example, since 1961, in the time it has taken for the world's population to double, cereal production volumes have tripled but the numbers of hungry people have also increased. In this period, the 'Green Revolution' disseminated technologies (irrigation, chemical fertilizers, pesticides and herbicides and compliant varieties of crops, and mechanization) for increasing yields of food commodities in high-potential areas of some developing countries. For example, in South Asia per capita production of food grains increased by 9 per cent between 1970 and 1990 but the number of hungry people also increased by the same figure, 9 per cent. Over the same period, micronutrient-rich pulse production dropped by 20 per cent as diverse traditional foods were replaced by the production of only a few species and varieties. In South America, per capita food increased by 8 per cent, but was accompanied by a 19 per cent increase in hungry people (De Schutter, 2009a). Thus, the impact of the Green Revolution in increasing yields did not translate into less hunger, even in the regions where the amount of food available per person increased (UNEP, 2009).

The impact of the Green Revolution in increasing yields did not translate into less hunger

The Green Revolution model of technology-centred, capital intensive production is at the heart of today's industrial approach to agriculture and is supported through policies that seek to address hunger through increasing commodity production and international trade. In developing countries, this production model is overlaid on unequal land and water access patterns that often have historical roots: for example where colonial (and now modern) land policy has granted title for plantations or large-scale agriculture, displacing small farmers onto marginal lands. The focus on those working the most productive land has been repeated in the dismantling of extension support and price protection. The combined effect is a system that has increasingly impoverished small-scale farmers, has persistently eroded soils and their fertility, plant and animal biodiversity, fishery stocks and the availability of clean water (UNEP, 2007). In Africa, 65 per cent of agricultural lands are degraded owing to a combination of soil erosion, salinization, nutrient depletion and desertification – the combined effect of industrial agriculture's unsustainable practices and the gradual degrading of the marginal lands on which the poor are forced to depend. Worldwide, the rate at which arable land is being lost to soil degradation is increasing and by 2000 stood at 30–35 times the historical average (UNEP, 1999).

65 per cent of agricultural lands are degraded owing to soil erosion, salinization, nutrient depletion and desertification

Nearly 2 billion hectares (and 2.6 billion people) are affected by significant levels of land degradation. Fifty years ago water withdrawal from rivers was one-third of what it is today: currently 70 per cent of the

freshwater withdrawal globally is attributable to irrigated agriculture, which in some cases has caused salinization. Approximately 1.6 billion people live in water-scarce basins. Inappropriate fertilization has led to large dead zones in a number of coastal areas and some lakes, and inappropriate use of pesticides has led to groundwater pollution, and other effects. Unless fishing patterns change radically, there could be a total collapse of marine fish stocks by 2050 (All Party Parliamentary Group on Agriculture and Food for Development, 2010). Finally, this food system also accounts for 30 per cent of all human-induced greenhouse gas emissions (Baumert et al., 2005).

An exclusive focus on productivity has undermined the very resources on which food production depends

As IAASTD puts it, the often unforeseen consequences of an exclusive focus on yields and productivity have undermined the very resources on which food production depends. Box 1 highlights the importance of agricultural biodiversity as the basis for productions systems. The ecosystem impacts of a system focusing on productivity rather than biodiversity – loss of soil fertility, soil erosion, agricultural biodiversity and a breakdown in agroecological functions – have

Box 1. Agricultural biodiversity

Agricultural biodiversity is not simply the diversity of genetic resources: the seeds, livestock breeds and fish varieties that have been selected for production by farmers, herders, fisherfolk and other natural resource users. It also includes the species that support these primary food species (e.g. pollinators, predators and soil microorganisms) and the diversity of agroecosystems themselves. It embodies the knowledge and skills – the technology – of countless generations of food producers over thousands of years (Mulvany, 2001). The development of agricultural biodiversity is embedded in evolving agricultural landscapes, created by indigenous peoples and local communities, that have been shaped by the dynamic interaction of people and nature over time. These landscapes, rich in biodiversity and cultural and spiritual values, embody human ingenuity and are continually evolving (Brown and Kothari, 2011). The development and use of agricultural biodiversity is one of the most fundamentally important technologies used by people throughout the world: it is the basis of our food system and is the dominant type of biodiversity in terrestrial ecosystems. Until the advent of industrial agriculture 150 years ago, this agricultural biodiversity and the production systems in which it was used could be exchanged freely. However, such technology is being captured by corporations, a few of whom now own, and are modifying for their own ends, the majority of seed and animal genetics used in agriculture. The narrowing genetic base that results serves the needs of industrial agriculture and livestock production, based on and using relatively few species. This causes a huge reduction in agricultural biodiversity, especially seed varieties: in the past century, more than 90 per cent of seed varieties have been lost from farmers' fields, one livestock breed becomes extinct each month, and many fish species are endangered. Yet, it is only through increasing agricultural biodiversity in diverse food production systems that it will be possible to adapt these and make them more resilient, especially in the face of climate change. These diverse food production systems also use less fossil fuel for growing crops and raising livestock and for processing, transport and marketing. They also sequester more carbon in their humus-rich soils.

In the past century, more than 90 per cent of seed varieties have been lost from farmers' fields

resulted in poor crop yields, land abandonment, deforestation and ever-increasing movement into marginal land, including steep hillsides (IAASTD, 2008b).

Democratizing science and technological research and development (R&D)

Unequal sharing of resources in land and water is also accompanied by unequal attention to the information and research needs of small-scale food providers. To redress this balance Pimbert (2007) makes the following recommendations:

Citizens' commissions for science and technology futures should be set up

- Use citizen panels, consensus conferences, citizen juries, future scenario workshops and referendums to capture the full diversity of interests and values in deciding on strategic research and funding priorities in the social and natural sciences, the allocation of resources and technological risk assessments. Citizens' commissions for science and technology futures should be set up to guide and connect research, training and policy institutions. These deliberative and inclusive democratic procedures will clearly need to be linked into the formal policy process through appropriate reforms that allow citizens to more directly frame policies and regulations. Recent experiences also suggest that these forms of participatory democracy can help reframe policies on the future of food and farming to reflect broader social interests and goals rather than narrow corporate interests and elite expertise.
- Open up decision-making bodies and governance structures of R&D organizations to allow wider representation and greater transparency, equity and accountability in budget allocation and decisions on R&D priorities. There is a dire need for much wider and more gender balanced representation in these institutions by different citizens: small farmers, fisherfolk, small food processors, retailers and consumers. These bodies set the agenda for the design of policies and technologies for food and farming. They are immensely powerful in that they broadly decide which policies and technologies will ultimately be developed, why, how and for whom. And yet the governance of science and technological R&D is presently largely dominated by men who are increasingly distant from rural realities and moving closer to corporations.
- Reorganize conventional scientific and technological research to encourage participatory knowledge creation and technological developments that combine the strengths of farmers and scientists in the search for locally adapted solutions and food systems. Effective and interdisciplinary partnerships are needed to link natural and social sciences with indigenous knowledge

The means and ends of R&D should be primarily shaped by and for citizens through conscious negotiation

to address needs and problems in specific local settings that are typically marked by complex and dynamic change. An important goal is to ensure that knowledge, policies and technologies are tailored to the diversity of needs and the situations in which they are to be used. This must be on the basis of an inclusive process in which the means and ends of R&D are primarily shaped by and for citizens through conscious deliberation and negotiation.

- Ensure that knowledge, genetic resources and innovations remain accessible to all as a basic condition for economic democracy. Decisions to issue patents on knowledge embodied in products and processes, and national intellectual property rights legislation require more comprehensive public framing of laws and policies based on deliberative and inclusive models of direct democracy.

The IAASTD's recommendations for farming in the future

The International Assessment of Agricultural Knowledge, Science and Technology for Development (2008a, b, c and d) was co-sponsored by the UN Food and Agriculture Organization (FAO), Global Environment Facility, UN Development Programme, UN Environment Programme (UNEP), UN Educational, Scientific and Cultural Organization, WHO and the World Bank. It was the first such international study, approved by 58 governments in 2008. Its 22 findings concluded that unless agriculture, and the way society engages with food, agriculture, livestock production and fisheries, is fundamentally changed, it will not be possible to feed the projected 9 billion world population, ensure equity and sustain the planet.

Agroecological farming and grazing methods makes agriculture more resilient, adaptive and capable of eliminating hunger in the long term

Recognizing the threats and analysing future options to sustain production, IAASTD confirms that biologically diverse, agroecological farming and grazing methods, especially those practised sustainably by small-scale food providers, in particular women, makes agriculture more resilient, adaptive and capable of eliminating hunger and rural poverty in the long term. The study emphasizes the importance of agricultural knowledge, science and technology to the multifunctionality of agriculture and its intersection with other local to global concerns, including loss of agricultural biodiversity and agroecosystem functions, increasing resilience to climate change and the concentration of ownership of land and water resources and of the food chain.

IAASTD found that an increase and strengthening of agricultural knowledge, science and technology (AKST) towards agroecological sciences will contribute to addressing environmental issues while maintaining and increasing productivity. On genetically modified crops, IAASTD found that yield impacts are highly variable, often with increased use of agrochemicals and reduced yields per unit area.

It does not rule out further work on biotechnologies but it recognizes that genetic modification, using proprietary genes and technologies, in particular, has done nothing so far to avert hunger and poverty and it is speculative to assert it will in the future (Heinemann, 2009). IAASTD also confirms that policy and institutional failure has limited the use of sustainable practices and has allowed concentration of power in the food system and speculation on food commodities. It could be argued that this is the fundamental underlying reason why people are malnourished, farmers are poor and the price of food is rising. In particular, unfair trade agreements are identified as causes of current economic problems, especially for small-scale farmers.

Unfair trade agreements are identified as causes of current economic problems

Towards ecological food provision

The conclusions of IAASTD are, of course, not new. Any smallholder farmer organization or movement, for example the international peasant movement, La Vía Campesina, will say that these have been their messages for decades; but their voices have been marginalized. What is new is that following four years of rigorous evidence gathering and analysis by scientists, IAASTD has confirmed the sound experience of small-scale food providers and their organizations.

Civil society organizations (CSOs) met in Rome in parallel to the FAO Food Summit in November 2009. They supported the findings of IAASTD, something that was notably absent in the official summit in which world leaders were mostly calling for more of the same policies and technical solutions (e.g. more fertilizers, pesticides and genetically uniform seeds) that lie at the root of the social and ecological crisis that contributed to the food crisis.

At the Forum for People's Food Sovereignty Now! in November 2009, CSOs repeated their commitment to provide the world's food and resolved to:

Civil society organizations are committed to strengthen their interconnecting rural–urban food webs

- strengthen and promote their ecological model of food provision in the framework of food sovereignty;
- call for a reframing of research, using participatory methods, that will support their ecological model of food provision;
- strengthen their interconnecting rural–urban food webs, building alliances that will link small-scale food providers, processors, scientists, institutions and consumers.

These approaches are also more resilient to adverse conditions. A 2011 report of the Special Rapporteur on the Right to Food to the UN Human Rights Council focused on 'Agroecology and the Right to Food'. It concluded that policies which support agroecology can contribute to supporting adaptation to and mitigation of climate change. At the same time they can increase yields and incomes in rural areas, with

powerful multiplier effects on rural economies, as well as bring about significant improvements in nutrition (De Schutter, 2011).

An increase and strengthening of AKST towards agroecological sciences will contribute to addressing environmental issues while maintaining and increasing productivity. Formal, traditional and community-based AKST needs 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 agroecosystem function; degradation and loss of forest cover; and degraded marine and inshore fisheries. Agricultural strategies will also need to include limiting emission of greenhouse gases and adapting to human-induced climate change and increased climate variability (IAASTD, 2008b).

Agricultural strategies must include adapting to climate change and variability

The international community recognizes the challenges and has committed to tackling them. However, despite the accumulated evidence of the failures of industrialized approaches and the contrasting positive practices of small-scale food providers supported by those of IAASTD, that chart a different, sustainable and equitable way forward, institutions and governments continue to invest in and roll out industrialized approaches, promoting the proprietary technologies they depend on. The scientific challenge is therefore to move away from a reductionist approach and towards ecological food provision, one that embraces complexity and diversity, sustainably using technologies that are freely available for the majority of small-scale food providers. Figure 1 illustrates the challenge of how to move towards more ecological methods of food provision. On the one hand, there is pressure to adopt an unsustainable pathway with simplification of agricultural systems supported by increased inputs dependent on fossil fuels (from point B to point A). On the other hand, there is a sustainable pathway towards more ecological food provision with increased productivity per unit of land or water (from point B to point C). The scientific challenge is to support the latter sustainable pathway rather than the former unsustainable pathway and also to support the transition from simplified systems towards more complex ecological systems (from point A to point C) without resulting in a catastrophic collapse in productivity, lower than existing levels (point X) before production can be restored. The political challenge is therefore for governments to regulate and reduce the negative impacts of industrial food systems and defend, support and promote ecological food provision, using natural wealth that may not be commodified. Although there are increasing attempts to privatize it, they should adopt policies within the food sovereignty framework in order to safeguard the world's food supply (UKFG, 2010).

There is a sustainable pathway towards more ecological food provision

Various initiatives are being pursued by IAASTD and CSOs to move to a further phase of work: these range from local processes to repeat

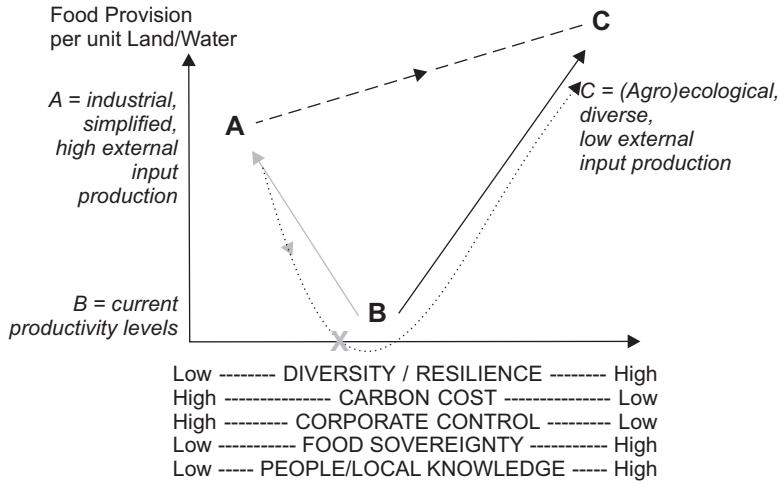

Figure 1. Raising productivity through ecological food provision methods

assessments within national contexts, to proposals to include the methodology to support the High Level Panel of Experts (HLPE) of the reformed Committee on World Food Security (CFS) and as an input to determine the priorities for the 'Green Economy' that will be debated in the Rio+20 process, which culminates in 2012.

Those in power have not implemented IAASTD's long-term, radical, technical and institutional actions

IAASTD was approved at the height of the food price crisis, yet those in power have not implemented the long-term, radical, technical and institutional actions that have been found necessary. Perhaps this is because IAASTD does not prioritize proprietary technologies that will pay rent to the agrochemical corporations that own and market them (UKFG, 2010).

Reformed governance systems

The governance of food and agriculture is becoming more democratic: after a decisive meeting in Madrid in January 2009 (the High Level Meeting on Food Security For All), in which Southern governments and CSOs prevailed against the pressure of the G8 for a 'global partnership', the CFS reform process got under way in April 2009. It took the unusual step of opening up to all governments and other concerned actors, including civil society.

Organizations of smallholder food providers from the global South, facilitated by the International Planning Committee for food sovereignty, and NGOs made a fundamental contribution, interacting with governments on an equal basis. In the end, despite their diversity, the majority of the participants came to feel a sense of ownership of the reform proposal, which was adopted by acclamation during the 35th Session of the FAO CFS on 17 October 2009.

Some important features of the reform document of the Committee on World Food Security (FAO, 2009) are as follows:

- It recognizes the structural nature of the causes of the food crisis and acknowledges that the primary victims are smallholder food providers.
- It recognizes civil society organizations – small-scale food providers and urban movements especially – as full participants for the first time in UN history. It authorizes them to intervene in debate on the same footing as governments and affirms their right to autonomously self-organize to relate to the CFS.
- It enjoins the CFS to negotiate and adopt a Global Strategic Framework (GSF) for food strategy providing guidance for national food security action plans as well as agricultural investment and trade regulations.
- It empowers the CFS to tackle key food policy issues, take decisions, and promote accountability by governments and other actors.
- It arranges for CFS policy work to be supported by a High Level Panel of Experts in which the expertise of farmers, indigenous peoples and practitioners is acknowledged alongside academics and researchers.

The Committee on World Food Security recognizes civil society organizations as full participants for the first time in UN history

The first session of the new CFS, in mid-October 2010, proved that this forum can make a difference in practice as well. The inaugural meeting was preceded by a two-day consultation in which civil society delegates prepared their positions and endorsed the mechanism for relating to the CFS that had been autonomously designed in consultation with networks around the world.

The civil society delegates and allied governments ensured inclusion of key issues such as financial speculation and landgrabs, and solutions such as food reserves, market regulation and protection and the voluntary guidelines on land tenure that FAO is developing in broad consultation with governments and civil society in all regions. These will be finalized for adoption by the next session of the CFS. Small-scale food providers and civil society organizations have played a decisive role in opening up this democratic space (adapted from McKeon, 2011).

Small-scale food providers have played a decisive role in opening up this democratic space

Towards food sovereignty

Food sovereignty is being developed, discussed and implemented as a counter-proposal to the development paradigm built on liberalized international agricultural trade, trade-based food security, and industrial agriculture and food production by well-resourced producers. Food sovereignty has become the new policy framework

for challenging current trends in rural development and food and agricultural policies that do not respect or support the interests and needs of small-scale food providers, local consumers and the environment (Windfuhr and Jonsén, 2005). At Nyéléni 2007: Forum for Food Sovereignty, the ideas were developed further and actions were proposed. Two outcomes from the forum were the Nyéléni Declaration and the Synthesis Report (Nyéléni 2007a, b, c). The core principles of food sovereignty (see Table 1) derived from that forum cover all dimensions of a system that will provide food in the long term, rather than for short-term profits. It focuses on food for people rather than internationally tradable commodities. It values small-scale food providers rather than eliminating them. It localizes food systems rather than dependence on inequitable global trade. It puts control locally instead of in the hands of unaccountable corporations. It builds knowledge and skills that conserve and develop local food production and rejects technologies such as genetically modified organisms. It works with nature in diverse agroecological systems rather than energy-intensive production methods that damage the environment and contribute to global warming.

'Food sovereignty' focuses on food for people rather than internationally tradable commodities

The definition of food sovereignty from the Nyéléni Declaration, 27 February 2007, is:

> 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 rather than the demands of markets and corporations. 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 prioritizes local and national economies and markets and empowers peasant and family farmer-driven agriculture, artisanal fishing, pastoralist-led grazing, and food production, distribution and consumption based on environmental, social and economic sustainability. 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 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 (Nyéléni, 2007a).

Food sovereignty promotes transparent trade that guarantees just incomes to all peoples

Table 1. Six principles of food sovereignty. These six principles are interlinked and inseparable: in implementing the food sovereignty policy framework all should be applied

Food sovereignty	*Food sovereignty is for*	*Food sovereignty is against*
1 Focuses on food for people	The right to sufficient, healthy and culturally appropriate food for all communities ... at the centre of food, agriculture, livestock and fisheries policies	The proposition that food is just another commodity or component for international agri-business
2 Values food providers	The rights of women and men, peasants and small-scale farmers, pastoralists, artisanal fisherfolk, forest dwellers, indigenous peoples and agricultural and fisheries workers, including migrants, who cultivate, grow, harvest and process food	Policies, actions and programmes that undervalue them, threaten their livelihoods and eliminate them
3 Localizes food systems	Bringing food providers and consumers closer together; putting providers and consumers at the centre of decision-making on food issues; protecting food providers from the dumping of food and food aid in local markets; protecting consumers from poor quality and unhealthy food, inappropriate food aid and food tainted with genetically modified organisms	Governance structures, agreements and practices that depend on and promote unsustainable and inequitable international trade and give power to remote and unaccountable corporations
4 Puts control locally	Placing control over territory, land, grazing, water, seeds, livestock and fish populations on local food providers and respects their rights. They can use and share them in socially and environmentally sustainable ways which conserve diversity; it recognizes that local territories often cross geopolitical borders and ensures the right of local communities to inhabit and use their territories; it promotes positive interaction between food providers in different regions and territories and from different sectors that helps resolve internal conflicts or conflicts with local and national authorities	The privatization of natural resources through laws, commercial contracts and intellectual property rights regimes
5 Builds knowledge and skills	Building on the skills and local knowledge of food providers and their local organizations that conserve, develop and manage localized food production and harvesting systems, developing appropriate research systems to support this and passing on this wisdom to future generations	Technologies that undermine, threaten or contaminate these, e.g. genetic engineering
6 Works with nature	Using the contributions of nature in diverse, low external input agroecological production and harvesting methods that maximize 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'	Methods that harm beneficial ecosystem functions, that depend on energy-intensive monocultures and livestock factories, destructive fishing practices and other industrialized production methods, which damage the environment and contribute to global warming

Source: adapted from Nyéléni (2007b)

The social movements of small-scale food providers have formulated joint strategies and an agenda of actions to realize and promote food sovereignty, to resist policies and practices that undermine it and to strengthen the movement. More institutions could support this movement to realize the more equitable food sovereignty policy framework, but the approaches used by the institutions will need to be embedded in, and accepting of, a new agenda for a change of paradigm, methodology, power relations and politics (Mulvany and Arce Moreira, 2008).

References

All Party Parliamentary Group on Agriculture and Food for Development (2010) *Why No Thought for Food? A UK Parliamentary Inquiry into Global Food Security,* p. 12, London, http://www.ukcds.org.uk/_assets/file/publications/why-no-food-for-thought.pdf.

Aylott, J., Brown, I., Copeland, R. and Johnson, D. (2008) *Tackling Obesities: The Foresight Report and Implications for Local Government* [online], Faculty of Health and Wellbeing, Sheffield Hallam University, available from: www.idea.gov.uk/idk/aio/8268011 [accessed 30 March 2011].

Baumert, K.A., Herzog, T. and Pershing, J. (2005) *Navigating the Numbers: Greenhouse Gas Data and International Climate Policy* [online], World Resources Institute, Washington, DC, available from: www.wri.org/publication/navigating-the-numbers [accessed 30 March 2011].

Brown, J. and Kothari, A. (2011) 'Traditional agricultural landscapes and community conserved areas: An overview', *Management of Environmental Quality* 22: 139–53.

De Schutter, O. (2009a) 'The Right to Food and the Political Economy of Hunger', *26th McDougall Memorial Lecture* [online], Rome, 18 November, available from: ftp://ftp.fao.org/docrep/fao/meeting/018/k6518e.pdf

De Schutter, O. (2011) *Agroecology and the Right to Food* [online], Report for the UN Human Rights Council March 2011, available from: www.srfood.org [accessed 30 March 2011].

Eradicate Hunger & Malnutrition (2009) 'Policies and Actions to Eradicate Hunger and Malnutrition', Eradicate Hunger Drafting Committee [online], November 2009, available from: http://www.eradicatehunger.org/ [accessed 30 March 2011].

ETC Group (2008) 'Who Owns Nature?' *Communiqué* Issue 100 [online], available from: www.etcgroup.org/upload/publication/707/01/etc_won_report_final_color.pdf [accessed 30 March 2011].

ETC Group (2009) 'Who Will Feed Us?' *Communiqué* Issue 102: 4, available from: http://www.etcgroup.org/upload/publication/pdf_file/ETC_Who_Will_Feed_Us.pdf [accessed 30 March 2011].

Fairlie, S. (2010) *Meat: A Benign Extravagance*, Permanent Publications, East Meon, UK.

Food and Agriculture Organization (FAO) (1995) *World Agriculture Towards 2010*, FAO, Rome.

FAO (2006) *The State of Food Insecurity in the World*, FAO, Rome.

FAO (2009) *The State of Food Insecurity in the World*, FAO, Rome.

FAO (2011) *Reducing Post-Harvest Losses* [online], available from: www.fao.org/fishery/topic/12369/en [accessed 30 March 2011].

Foresight (2011) *The Future of Food and Farming. Final Project Report: Synthesis Report C7: Reducing Waste* [online], Department for Business, Innovation & Skills, London, available from: www.bis.gov.uk/foresight/our-work/projects/current-projects/global-food-and-farming-futures/reports-and-publications [accessed 30 March 2011].

Greenpeace (2009) *Agriculture at a Crossroads: Food for Survival* [online], available from: www.greenpeace.org/international/en/publications/reports/agriculture-at-a-crossroads-report/ [accessed 30 March 2011].

Heinemann, J. (2009) *Hope not Hype: The Future of Agriculture Guided by the International Assessment of Agricultural Knowledge, Science and Technology for Development* [online], available at: www.twnside.org.sg/title2/books/Hope.not.Hype/hopenothype.pdf [accessed 30 March 2011].

International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) (2008a) *Agriculture at a Crossroads: Global Report*, Glossary [online], IAASTD, available from: www.iaastd.net [accessed 30 March 2011].

IAASTD (2008b) *Agriculture at a Crossroads: Global Summary for Decision Makers* [online], available at www.iaastd.net [accessed 30 March 2011].

IAASTD (2008c) *Agriculture at a Crossroads: Synthesis Report,* available at www.agassessment.org, or www.agassessment-watch.org [accessed 30 March 2011].

IAASTD (2008d) *Agriculture at a Crossroads* [online], the Reports of IAASTD, available from: www.agassessment.org [accessed 30 March 2011].

International Fund for Agricultural Development (IFAD) (2002) 'The Rural Poor', in *World Poverty Report*, IFAD, Rome.

McKeon, N. *(2011) 'A new governance for food and agriculture' (draft).*

Mourey, A. (2008) *Nutrition Manual for Humanitarian Assistance*, International Committee of the Red Cross, Assistance Division.

Mulvany, P.M. (2001) *Knowledge for Sustaining Agricultural Biodiversity* [online], UNEP-Biodiversity Planning Support Programme Thematic Studies, Integration of Biodiversity into National Agricultural Sectors, UNEP, Nairobi, available from: www.unep.org/bpsp/HTML files/TS-Agriculture3.html [accessed 31 March 2011].

Mulvany, P.M. and Arce Moreira, M. (2008) *Food Sovereignty: A Farmer-led Policy Framework* [online], available from: www.future-agricultures.org/farmerfirst/files/T3b_Arce_Mulvany.pdf [accessed 31 March 2011].

Nyéléni (2007a) *Declaration of the Forum for Food Sovereignty* available from: www.nyeleni.org/IMG/pdf/DeclNyeleni-en.pdf [accessed 7 April 2011].

Nyéléni (2007b) *Synthesis Report of Nyeleni 2007: Forum for Food Sovereignty* available from: www.nyeleni.org/IMG/pdf/31Mar2007NyeleniSynthesisReport-en.pdf [accessed 7 April 2011].

Nyéléni (2007c) *Report of Nyéléni 2007: Forum for Food Sovereignty* available from: www.nyeleni.org. [accessed 7 April 2011].

Organisation for Economic Co-operation and Development (OECD) (2006) *Promoting Pro-Poor Growth: Agriculture*, OECD, Paris: 31.

Pearce, F. (2011) 'The Last Thing Our Hungry World Needs is More Food', MailOnline, available from: www.dailymail.co.uk/debate/article-1353810/Beddingtons-perfect-storm-Last-thing-hungry-world-needs-food.html#ixzz1DBomRu70 [accessed 31 March 2011].

Pimbert, M. (2007) *Transforming Knowledge and Ways of Knowing for Food Sovereignty* [online], IIED, London, available from: www.iied.org/NR/agbioliv/documents/FoodSovereigntyBio-CulturalDiversity.pdf [accessed 31 March 2011].

Tansey, G. (2008) 'Global rules, local needs', in G. Tansey and T. Rajotte (eds), *Future Control of Food: A Guide to International Negotiations and Rules on Intellectual Property, Biodiversity and Food Security*, Earthscan, London/IDRC, Ottawa: 213.

Tudge, C. (2004) *So Shall We Reap: What's gone wrong with the world's food and how to fix it*, Penguin Books, London.

UK Food Group (UKFG) (2010) *Securing Future Food: Towards Ecological Food Provision* [online], UK Food Group, available from: www.ukfg.org.uk/Securing_future_food.pdf [accessed 31 March 2011].

United Nations Environment Programme (UNEP) (1999) *Global Environment Outlook*, Earthscan, London.

UNEP (2007) *Global Environmental Outlook: Environment for Development*, UNEP, Nairobi, Kenya: 92–106, 171–73.

UNEP (2009) *The Environmental Food Crisis: UNEP Rapid Response Assessment*, UNEP, Nairobi, Kenya: 79–80.

WHO (2004) 'Diabetes Programme' [online], WHO, Geneva, available from: www.who.int/diabetes/facts/world_figures/en/ [accessed 31 March 2011].

Windfuhr, M. and Jonsén, J. (2005) *Food Sovereignty: Towards Democracy in Localised Food Systems*, Practical Action Publishing, Rugby, available from: www.practicalaction.org/docs/advocacy/foodsovereignty_fian.pdf [accessed 31 March 2011].

World Bank (2007) *World Development Report 2008: Agriculture for Development*, World Bank, Washington, DC.

World Resources Institute (2008) *Food or Fuel? The Bioenergy Dilemma* [online], available at www.wri.org/stories/2008/08/food-or-fuel-the-bioenergy-dilemma.

Further reading

IPC (2008) Declaration of the Terra Preta Forum, Rome, June 2008. Available from: http://www.foodsovereignty.org/Portals/0/documenti%20sito/Resources/Archive/Forum/2008/2008-en-Final%20Report%20Terra%20Preta.pdf

Mulvany, P.M. (2001) *Knowing Agricultural Biodiversity* [online], available from: www.unep.org/bpsp/Agrobiodiversity/agrobiodiversity%20thematic/knowledgesystems.pdf [accessed 31 March 2011].

Mulvany, P.M. (2005) 'Corporate control over seeds: Limiting access and farmers' rights', *IDS Bulletin* 36: 68–73, available from: http://www.future-agricultures.org/pdf%20files/9559%20IDS%20P68-73.pdf [accessed 14 April 2011]

Scoones, I. (2009) 'The politics of global assessments: The case of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD)', *The Journal of Peasant Studies* 36: 547–71, available from: http://bit.ly/dBwNnJ [accessed 31 March 2011].