REPORT

Toward Food Sovereignty For All

The United Church of Canada

The Concept and Principles of Food Sovereignty

Food sovereignty—or people's food sovereignty—centres on the idea that people must reclaim their power of decision-making in the food system by rebuilding the relationships between people and the land, and between producers and consumers. At the same time, it "calls for a fundamental shift in focus from food as a commodity to food as a public good. As such, it can once again assume its central role in strengthening communities, ecosystems and economies" (PFPP, 2011, p. 9). Michel Pimbert (2008) notes that food sovereignty is "best understood as a transformative process that seeks to recreate the democratic realm and regenerate a diversity of autonomous food systems based on equity, social justice and ecological sustainability.". La Via Campesina, an international movement of small-scale farmers, speaks of food sovereignty as the "right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and the right to define their own food and agriculture systems" (italics added) and thus focuses on the empowerment of people to create a food system appropriate for their needs. Food sovereignty recognizes both the role of women as the primary producers and preparers of food throughout much of the world as well as the value of Indigenous agricultural systems and traditional knowledge in food production.

The seven key principles or pillars of food sovereignty endorsed and lifted up in this report are:

- Focus on Food for People
- Value Food Providers
- Localize Food Systems
- Put Control Locally
- Build Knowledge and Skills
- Work with Nature
- Recognize That Food Is Sacred

[Note: These principles are annotated on pp 12-14 later in the report.]

Executive Summary

The United Church of Canada has a long history of research, advocacy, policy, and project work related to food and food systems. The church believes that global food systems should be about making sure that everyone in the world has enough to eat, wherever they live and on whatever scale, from subsistence plots to large-scale farms. Unfortunately, this is not a good description of the industrial food system that dominates North America, Europe, and, increasingly, the world. If it were, then there would be no hungry people, no bankrupt farmers, no food banks, and no food aid. Nor would industrial farming be a substantial contributor to global climate change, soil erosion, aquifer depletion, and the loss of biodiversity. A recent survey has shown that most United Church global partners agree that at the root of global food insecurity and hunger is the global industrial food system that promotes corporate control, externalizes environmental and socio-cultural costs, and supports class exploitation. The world needs, they say, a more just global food system. Food security, the right to food, and food sovereignty are concepts used to advocate for such a system.

In reflecting on food from the perspective of our faith, we can draw on rich biblical and theological traditions. In all that Jesus said and did, he proclaimed the reign of God. The original word for "kingdom" or "reign" in Aramaic, *malkuta*, can be understood as the "ruling principles that guide our lives toward unity" and wholeness. In terms of a food system, the *malkuta* evokes the idea of a more organic and ecological way of producing sustenance, one that respects the "verdant potential of the earth" (Douglas-Klotz, 1990), which takes responsibility by demonstrating care for creation and ensuring sustenance for all and which empowers local communities to produce sufficient nutritious, culturally-appropriate food to satisfy their needs.

One emerging vision of a food system that embodies principles of food sovereignty—that of "agro-ecology"—offers a compelling alternative to today's dominant industrial food system. Agro-ecology could revitalize rural communities in the global South *and* North. It could be the catalyst to transform the global food system, leading to a more resilient system of food production that resembles not the linear chain characteristic of the industrial food system but a complex interwoven web of food provision.

Background

In 2005, the General Council Executive called on the church to "renew and deepen" its work "on issues of sustainable agriculture within the wider context of deepening our understanding of sustainable community—both denominationally and ecumenically, and both in Canada and globally." In 2009, the 40th General Council also called for the creation of a study resource to "become aware of the local planning process," increase awareness and involvement in "local land-use issues, foster connections between local food producers and consumers, understand food production from 'seed to plate,' outline possibilities for local food consumption, and ground this work in our call to live in community and be stewards of the Earth." As well, General Council called for "a vision to reconnect urban and agricultural communities; promote sustainable food production; and help communities become more self-reliant." (For additional background on United Church policy that supports the thrust of this paper, see "A Retrospective of United Church Policy on Food, Fisheries and Agriculture" appended to this paper.)

To move this work forward, a food policy working group was formed and United Church partners in Canada and overseas were consulted to enrich and deepen perspectives and analyses. Drawing on these reflections, together with research from a wide variety of sources, a background paper was written to provide a framework and set of principles to serve as a foundation for policy development. While this report focuses primarily on farming, and to a lesser extent, fisheries, it acknowledges that other important forms of food production exist—including traditional systems of hunting, gathering, and farming—that still provide an important source of food for many in the world.

The Essential Nature of Food

Like air and water, food is essential to all animal life on Earth, including humans. Yet, unlike air, food takes considerable effort to cultivate, harvest, and process. Much of human ingenuity and work has traditionally been employed to gather, grow, trade, and prepare food. Even today, about half of all working people globally are farmers, and over 95 percent of them live in the global South. About half of farmers and food providers in the global South—particularly small landholders—are women. Providing food is by far the largest and most important global economic activity, employing more people and involving more transactions than any other.

But while food is indeed in part the fruit of human labour, it is more than that. Food comes from other living creatures—humans consume life in order to live. Food production depends not only on water, air, and minerals, but on healthy soil full of microorganisms together with the fungi, plants, and animals that create and maintain the conditions necessary to cultivate food. Humans always produce food in concert with other living creatures.

So, while food is a necessity and requires human work, it is also a gift of the Earth and the Creator. From an ethical perspective, it can be argued that food, as both a necessity and gift, should be shared in such a way that all have sufficient food to live, grow, and thrive; at the same time, those who work to produce, exchange, and prepare food also need to receive that which they need to live. So, while food will inevitably be traded, bought, and sold like other goods, it is much more than a mere commodity.

A Global Food System in Crisis

In the Accra Confession, the World Alliance of Reformed Churches (2004) affirmed that "the economy exists to serve the dignity and wellbeing of people in community, within the bounds of the sustainability of creation." In this perspective, if food is to be bought and sold, it must be done in such a way so as to ensure that all humans have sufficient, safe, nutritious, and culturally appropriate food to enable them to live healthy and active lives. Food cannot simply be a product used to generate profits regardless of costs—especially if these profits are gained at the expense of the well-being of other humans and other creatures that share the Earth with us. Yet, within our modern industrial food system, this is exactly the challenge that we are facing today.

It would be reasonable to assume that a food system is about feeding people about making sure that everyone has enough to eat—wherever in the world they might live and on whatever scale, from subsistence plots to large-scale farms. In such a system, farmers and gardeners would grow food and it would be the job of processors and distributors to make sure that the food that is grown and harvested gets to the people who need it. All people would have adequate access to healthy food and all who work to produce, distribute, and prepare food would be able to enjoy a dignified livelihood. Those producing food would endeavour to grow it in a sustainable fashion by protecting soil and water, conserving energy, recycling nutrients, and respecting other living creatures.

Unfortunately, this is not a good description of the industrial food system that dominates North America, Europe, and, increasingly, the world. If it were, then there would be no hungry people, no bankrupt farmers, no food banks, and no food aid. Nor would industrial farming be a substantial contributor to global climate change, soil erosion, aquifer depletion, and the loss of biodiversity.

Characteristics and Assumptions of Our Modern Food System

The global industrial food system is designed to maximize corporate profits. Indeed, this is the fiduciary (legal) responsibility of a corporation. Food is simply the means to that end—a commodity to be bought and sold like any other. Yet, food has the advantage of being a human necessity. As such, a market for food is always assured, and as population increases, markets are bound to grow over time. By producing food in different parts of the globe according to each locality's comparative advantages (including favourable climates and low labour costs) and using relatively cheap transportation to ship products to markets where the highest prices are available, profits can be further enhanced. If doing so means paying low wages, externalizing costs to surrounding ecosystems, and exploiting other living creatures, this is not—from the point of view of profit generation—a problem. It is simply the cost of doing business. Yet, while this system may be very successful in terms of generating profits, it is far less effective at providing adequate food, generating dignified livelihoods, and ensuring ecological sustainability.

Agriculture, in many respects, can be seen as one of the last ongoing frontiers of the industrial revolution. Until the end of World War II, most farming in the world was organic (free of pesticides and antibiotics), quite labour intensive, largely local (with the exception, perhaps, of certain plantation-grown crops), based on mixed-farming methods that recycled animal and crop wastes, and characterized by growing a diversity of crops that were rotated (or inter-cropped). However, it is important to acknowledge that the drive toward export agriculture (tea, coffee, rubber, spices, bananas, etc.) and the reorganization of subsistence farming to plantation agriculture was already well underway through the global colonial enterprise. The colonial project, with its twin commercial and political goals, succeeded in organizing food production to meet the profit-oriented needs of its masters well before the industrial chemical revolution. Over the past 60 years or so, however, industrial farming has firmly taken root first in North America and Europe, but increasingly in all parts of the globe. This new model of agriculture uses a variety of chemical inputs (fertilizers and pesticides), seeks out economies of scale involving larger and larger plots of land farmed using machinery, employs specialized farms concentrating on one or a few crops or species of livestock, and uses increasingly uniform varieties of seed and breeding stock. In many ways, the industrial food system has moved from raising crops and animals on farms to "manufacturing" food using highly specialized processes in operations that resemble outdoor and indoor factories.

The industrial food system affects people and the wider community of life in myriad ways. The sheer number of interconnections between food and issues of social justice and ecological sustainability mean that it is impossible to explore all these interactions. However, it is possible to summarize some key destructive characteristics of the industrial food system, along with some of its underlying assumptions:

- The increasing concentration of power and control in the hands of relatively few transnational corporations—effectively transferring control of global food systems away from local communities and concentrating power in ever-fewer hands.
- High-intensity use of water, energy, and chemical inputs and, as a result, high ecological costs in the form of water depletion and pollution, chemical contamination, and greenhouse gas emissions.
- A distorted sense of efficiency emphasizing high quantitative outputs and low monetary costs (partially the result of hidden subsidies), unfair trade rules, low wage labour, the exploitation of animals, and the externalization of costs to surrounding ecosystems.
- The use of industrial modes of production involving economies of scale, specialization, comparative cost advantage, and capital-intensive monocultures.
- The amassing (sometimes called "land grabbing") of arable land in the Global South and North by land speculators and for the growth of non-food crops, thus reducing access to land to small-scale farmers.
- High health costs in terms of the poor nutritional quality of the food produced as well as problems and diseases associated with pesticide and antibiotic use.

- High social costs in terms of the displacement of labour and the destruction of local—particularly rural—communities due to a distorted idea of progress emphasizing "having more" rather than "living well."
- A globalized system based on monoculture and long-distance transportation that undermines the resiliency of local food systems as well as both food security and food sovereignty. Instead of prioritizing food for local needs, exports of food to those willing to pay the highest price and monetary profits are prioritized.
- A distribution system that emphasizes mass-marketed processed foods for profit maximization rather than the production of whole, nutritious, and culturally appropriate food for all—resulting in hunger and malnutrition for hundreds of millions and overconsumption for hundreds of millions more.
- An emphasis on short-term profits and quantitative output rather than longterm sustainability, resulting in an extractive rather than sustainable food system.
- An emphasis on uniformity and monocultures that also leads to the loss of traditional food varieties, local knowledge, and Indigenous food systems.
- The commodification, domination, and subduing of life itself—including the patenting of genes and seeds, the maltreatment of animals, and the exploitation of human beings. Associated with commodification is the idea that humans can "improve" life by mechanistically and through reductionism controlling it for their own ends (by breaking down and manipulating the parts rather than working holistically).

In the previously mentioned partner survey, most United Church partners "strongly appreciated that, at the root of global food insecurity and hunger, is the global industrial food system based on a neo-liberal economic model that promotes corporate control, externalizes environmental and socio-cultural costs, and supports class exploitation" (2011 Report on the Consultation with Partners on Food Policy). On the basis of our partners' own analysis, and examining the above characteristics and assumptions, the global industrial food system can be understood as a pathological system that functions under the logic of empire, insofar as it "forces and facilitates the flow of wealth and power from vulnerable persons, communities and countries to the more powerful" and insofar as it is a system that "crosses all boundaries, strips and reconstructs identities, subverts cultures, [and] subordinates nation states" (WARC, 2004).

In Crisis There Is Hope

Yet, despite the many debilitations of the modern industrial food system, there is hope. Throughout the world, a swelling mass of people are questioning, challenging, and forsaking the industrial-corporate food system and its control over their lives. Some of them—particularly women and traditional peoples—still practice Indigenous forms of agriculture or at least remember their childhood on smaller mixed farms. Others are exploring new, more ecological and communitybased forms of food production like agro-ecology and permaculture. These are the people engaged in the creation of local food systems—starting with their own—designed to enable farmers and artisanal fishers to make a living, to provide food free of agrotoxins and genetically modified organisms (GMOs), to nurture rural communities and urban-rural networks, and to eliminate the need for food banks and food aid. Such local food systems work in harmony with nature, preserve and encourage biodiversity, and respect and support the recovery of Indigenous foodways, including hunting, gathering, and fishing.

A strong characteristic of this 21st century people's movement is its spiritual motivation and holistic outlook. Materialism and a devotion to 19th-century industrial science that sees the whole as no more than the sum of its parts (the basis of genetic engineering) and creation as nothing more than "natural resources" are rejected by this movement. Instead, food and the soil, air, water, and living organisms that nurture its production are considered to have a sacred character for which we should be grateful. Instead of seeing nature as stingy, inadequate, threatening, and in need of "improvement," the Earth Community is understood primarily as bountiful and abundant. This situates this food movement closer to an Indigenous spirituality—as well as modern deep ecological thought—than the religious outlook that has often predominated Christian theology since the Enlightenment.

Through its endorsement of the Accra Confession alluded to earlier, and in subsequent policy, the United Church has rejected such imperial systems, including all systems characterized by "the unregulated accumulation of wealth and limitless growth that has already cost the lives of millions and destroyed much of God's creation" (WARC, 2004).

In contrast, the World Council of Churches calls for an economy working on the logic of *agape* that "affects all dimensions of life" and includes:

"...having food, clothing, shelter, education, work, and health. It includes social belonging, relationships, social tasks and care...self-consciousness and self-

realization, experiencing and celebrating community as well as the gift's participation. Fullness of life—the abundant life offered by Jesus—encompasses these. At the same time, *agap*e emphasizes the value of resistance and the search for alternatives, whenever and wherever meaningful life is reduced to profit and economic growth at the cost of the necessary requirements of the earth community and its relationship to God." (WCC, 2005, p. 14)

Theological Reflections

In reflecting on food from the perspective of our faith, we can draw on rich biblical and theological traditions. In Genesis, humans are portrayed as creatures formed from the soil itself. The traditions of Sabbath and Jubilee speak of the idea that land belongs to God, that animals must be treated with respect, and the Earth itself deserves rest. Jesus proclaims the reign of God, which is a profound critique of all systems of domination and exploitation, and at the same time teaches an integral theology of food in both word and action.

Theologian Walter Brueggemann (1999) reflects on how the Bible begins in the first chapter of Genesis with a "liturgy of abundance." This theology of abundance may seem at odds with a world where so many go hungry, and yet there is in fact more than enough food for all. The problem is one of distribution, of sharing the fruits of creation justly and caring for the Earth that is the fountain of this abundance. Brueggemann goes on to note that it is Pharaoh who "introduces the principle of scarcity into the world economy" when he tries to control and monopolize the food supply in Genesis 47—something that we could also understand as the beginnings of the logic of domination and empire. The Book of Exodus, in turn, "records the contest between the liturgy of generosity and the myth of scarcity—a contest that still tears us apart today." In many ways, the increasing control of corporations and richer nations over the world's land, seeds, and food could be seen in this light. Industrial agriculture could also be seen as a way of forcing the land to yield its fruits by an act of domination, rather than nurturing the gift of life inherent in all of creation.

In Jesus' life and teachings, stories, events, and images related to food and eating are a recurrent theme. Jesus' parables speak of yeast and bread; seeds, growing plants, and harvests; fish; and banquets. Jesus' first miracle involves wine at a wedding feast, and several of his parables use banquets as a metaphor for the reign of God itself. The miracle of the loaves and fishes teaches trust in sharing and in God's abundance. Jesus describes himself as "the bread of life" and shares bread and wine in the last supper as signs of the new covenant. The word that Jesus would have used for bread in Aramaic—*lachma*—derives from the same root as the word for wisdom—*hochma*—and can be understood metaphorically as "embodied wisdom" (Douglas-Klotz, 1990). This reveals a deep insight—that our food, fruit of creation and of thousands of years of selective breeding, embodies the wisdom of human culture drawing on the greater wisdom of the Earth itself. At the same time, in the Lord's Prayer, Jesus teaches that this bread must be shared and generated each day without hoarding—demonstrating a radical trust in the abundance of the Creator and all of creation.

In all that Jesus said and did, he proclaimed the reign of God. The original word for "kingdom" or "reign" in Aramaic, malkuta, can be understood as the "ruling principles that guide our lives towards unity" and wholeness. The word's ancient roots portray the image of a "fruitful arm poised to create" or "a coiled spring ready to unwind with all the verdant potential of the earth... The ancients saw in the earth and all around them a divine quality that takes responsibility and says 'I can'" (Douglas-Klotz, 1990, p. 20). As such, it conveys a much more organic and ecological image than English (or Greek) translations might at first indicate, something metaphorically closer to a kindom than a kingdom. In many ways, the malkuta's sense of creativity, empowerment, and earthiness—ideas that often come through clearly in Jesus' parables—are the antithesis of the logic and practice of empire. In terms of a food system, the malkuta evokes the idea of a more organic and ecological way of producing sustenance, one that respects the "verdant potential of the earth," which takes responsibility by demonstrating care for creation and ensuring sustenance for all, and which empowers local communities to produce sufficient nutritious, culturally appropriate food to satisfy their needs.

"Food Sovereignty": A Framework for the Way Forward

Food security, the right to food, and food sovereignty are all concepts used to advocate for a more just food system, and each has some value. "Food security exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (1996 World Food Summit). While this is one worthy goal of a just and sustainable food system, it does not necessarily address deeper questions of social justice or ecological sustainability. In particular, this principle does not even begin to suggest *how* such a goal might be met.

Alternatively, many groups and organizations calling for changes to the current food system advocate for the "right to food." At first, this approach seems a promising way to call for adequate, safe, nutritious, and culturally appropriate food for all people. On the positive side, promoting the right to food acknowledges that food is more than simply another commodity to be bought and sold—it is needed to sustain life itself and all people, no matter what their economic circumstances may be, deserve an adequate diet. Yet, the language of rights may be inadequate to challenge the power of the large corporations, state actors, and wealthy individuals who increasingly control global food systems since rights claims do not necessarily address inequity and structural injustice.

The demand for rights may be accommodated by the powerful in exchange for the recognition of their authority; but the granting of rights does not carry with it any assurance of fulfillment of the actual demands. While a state or the United Nations may declare that all have a right to food—or a right to land, water, or clean air—what does this mean if there are no corresponding obligations, responsibilities, or financial commitments to ensure that such a right is respected? What if the right to food is in conflict with the desire of a state to increase exports and foreign exchange earnings? Unfortunately, it is all too easy for the "right to food" to become little more than an empty promise that never leads to transformative action.

In contrast, food sovereignty—or people's food sovereignty—centres on the idea that people must reclaim their power of decision-making in the food system by rebuilding the relationships between people and the land, and between producers and consumers. At the same time, it "calls for a fundamental shift in focus from food as a commodity to food as a public good. As such, it can once again assume its central role in strengthening communities, ecosystems and economies" (PFPP, 2011, p. 9). Michel Pimbert (2008) notes that food sovereignty is "best understood as a *transformative process* that seeks to recreate the democratic realm and regenerate a diversity of autonomous food systems based on equity, social justice and ecological sustainability.".

In one sense, food sovereignty affirms the idea of food security and the right to food. Yet it goes further. La Via Campesina, an international movement of small-scale farmers, speaks of food sovereignty as the "right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable

methods, and the right to define their own food and agriculture systems" (italics added) and thus focuses on the empowerment of people to create a food system appropriate for their needs. Food sovereignty recognizes both the role of women as the primary producers and preparers of food throughout much of the world as well as the value of Indigenous agricultural systems and traditional knowledge in food production.

Pillars of Food Sovereignty

In the report "Resetting the Table: A People's Food Policy for Canada" (People's Food Policy Project, 2011), authored by Food Secure Canada, Canada's civil society food movement has proposed—based on an extensive national consultative process—seven key pillars or principles that should undergird a Canadian (and, we can say, global) food system based on the concept and principles of food sovereignty. The pillars were formulated working from the base document of the Nyeleni Forum for Food Sovereignty (Mali, 2007, www.nyeleni.org/spip.php?article290) which was designed "to develop a collective and global strategy to ensure that the right of peoples to food sovereignty is recognized as a specific and full right, and that its defense is legally binding for states and guaranteed by the United Nations." The pillars speak of a food system that would do the following:

1. Focus on Food for People

In the perspective of food sovereignty, food—along with the land, knowledge, seeds, and water needed to produce it—are understood primarily as sources of life, not as "natural resources" or as mere commodities to be bought and sold for profit. The fundamental goal of a healthy food system, then, is to provide sufficient, safe, healthy, nutritious, and culturally appropriate food for all people—regardless of their economic or social circumstances—not to generate profits.

2. Value Food Providers

All those who work to provide food—farmers, fishers, gatherers, and hunters—as well as those who transport, distribute, and prepare food, should enjoy safe and dignified working conditions and earn an adequate livelihood. Socially and culturally, the place of those who provide food should be valued. This implies that adequate services and education should be available for all food providers,

particularly those in rural areas who may have traditionally been neglected by governments.

3. Localize Food Systems

In this vision, local producers seek to grow, cultivate, raise, and gather food first and foremost for local and regional needs. The scale of production is such that farmers and other producers can earn a dignified livelihood, but not so large that a few individuals (or corporate entities) gain significant power over others or over essential resources. Indeed, local populations and producers maintain control over the land, water, and seeds needed to produce sufficient safe, healthy, and culturally appropriate food for all.

4. Put Control Locally

Food sovereignty similarly involves moving control of the food system away from large corporations and other forms of central control to local people. Theologically, this could be understood in terms of moving from the logic of empire to that of the "I can" of the reign of God. In practical terms, it also implies the need for local participatory decision-making over key policies and resources affecting food production.

5. Build Knowledge and Skills

In a system valuing food sovereignty, social justice, and ecological sustainability, knowledge that contributes to creating a better food system—including growing, preparing, and preserving food—is shared freely and respectfully. At the same time, traditional and Indigenous knowledge is valued and preserved.

6. Work with Nature

Food systems should—to the greatest degree possible—work in harmony with local ecosystems and mimic natural cycles in nature so that clean water, healthy soil, and biodiversity are fostered and protected. Food systems need to be designed in such a way as to minimize inputs of water, energy, and other external inputs. The use of synthetic chemicals that can damage human or biological health—particularly agrotoxins like pesticides (insecticides and herbicides)—should be avoided.

7. Recognize That Food Is Sacred

Food sovereignty—building on Indigenous insights—"understands food as sacred and part of a web of relationships with the natural world that sustains culture and community" (PFPP, p. 9). Food is recognized as being an essential part of human culture and human community. As such, while it is a physical necessity, it is more than a physical necessity—it is an embodiment of culture, traditional wisdom, and celebration.

Envisioning Alternatives to the Industrial Food System

For those of us raised in a society where industrial modes of food production have become dominant, the vision of systems embodying the above principles of food sovereignty may at first seem to be utopian and impractical. Yet, human societies—probably since the beginning of the agricultural revolution 10 millennia ago—have struggled to create just and sustainable food systems. Perhaps none have managed to do so perfectly, but some have had much more success than others. It will be important to maintain diverse methodologies, since no one food system is likely to fit the needs of the world's diverse peoples, ecosytems, and political and economic contexts. It is also important to respect and learn from "peasant" subsistence agriculture, which is often rooted in principles of food sovereignty and represents a dignified way of life, despite efforts by proponents of modern industrial agriculture to dismiss it as inefficient and backward.

One emerging vision of a food system embodies the principles of food sovereignty. It is called "agro-ecology," and it offers a possible alternative to the industrial food system.

"Agro-ecology is highly knowledge-intensive, based on techniques that are not delivered top-down but developed on the basis of farmers' knowledge and experimentation" (De Schutter, 2010b, p. 6). It assumes that most crop and livestock breeding must take place at a local level to create food varieties uniquely adapted to specific ecological conditions.

In Canada and around the world, a wide variety of civil society organizations are studying, developing, and promoting agro-ecological practices, including many United Church partners. For example, Christian Care in Zimbabwe has had great success in adapting and implementing agro-ecological farming practices to reduce costs and increase yields with local farmers. Ecumenical Coordination for Service in Brazil also supports agro-ecological projects, and the Rural Reflection Group in Argentina promotes agro-ecology as an alternative to industrial farming. Other examples can be cited.

Can these agro-ecological food systems, however, really produce enough food to meet the needs of all people in the world? Oliver De Schutter (2010b), the UN Special Rapporteur on the Right to Food, examined this question in a special report on agro-ecology to the UN Human Rights Council. De Schutter concluded that not only does agro-ecology greatly boost productivity (by an average factor of over 100 percent in rural Africa), but it can also reduce rural poverty (by simultaneously boosting production and reducing the need for costly external inputs), improve nutrition (by growing more diverse and nutritious food), and contribute to ecological sustainability (including adaptation to climate change and water conservation).

While agro-ecological practices are more labour-intensive than industrial farming methods—particularly during the initial implementation stage—agro-ecology creates an authentically efficient system that naturally resists plagues and pests, and also creates better working conditions for farm labourers by eliminating the need to use agrotoxins and creating a more pleasant working environment (for example, through the introduction of trees that provide shade).

Agro-ecology requires the socialization of knowledge, in particular collective learning where farmers and other food providers share their knowledge and insights. This knowledge intensity aligns closely with the principle of empowering local farmers and food providers while building local knowledge to strengthen people's food sovereignty. De Schutter also notes that, "in principle, agro-ecology can benefit women most, because it is they who encounter most difficulties in accessing external inputs or subsidies" (2010b, p. 19) albeit to a significant extent this also depends on how agro-ecological education programs are conceptualized and implemented.

Agro-ecology also attempts to work with nature, often beginning with "protracted and thoughtful observation" to design systems that reduce needless labour and that integrate the functions of both animals and plants. "Polyculture" is frequently employed using multiple crops in the same space (many of which may be perennials) and layering different canopies to form an intense, synergistic system of companion plantings.

Agro-ecological methods not only reduce greenhouse gas emissions by decreasing energy use and eliminating the need for chemical fertilizers and pesticides, but they can also help sequester carbon in soil. Farmers changing to organic, no-till methods typical of agro-ecology can sequester 0.5 to 2 tonnes of organic matter per hectare per year; this amount can be tripled by employing perennial polycultures, rotational grazing, and similar practices.

While agro-ecology should not be seen as a magical solution to global climate change, it is clear that transforming our food production systems can play a significant role in both reducing human greenhouse gas emissions and sequestering carbon in soil, especially if agriculture focuses on local food production, reduces or eliminates chemical fertilizers and pesticides, and employs organic methods that sequester carbon in the soil. Given that between roughly half of all human greenhouse gas emissions originate in the agricultural sector, the ecological importance of moving toward the kinds of sustainable farming practices embodied in agro-ecology can hardly be underestimated. Similarly, given that up to 92 percent of freshwater is used in the agricultural sector, the potential for reducing water usage and pollution is very significant.

With nearly half of all humanity working in agriculture—the great majority of whom are small landholders and farm workers—the potential of agro-ecology to increase both incomes and well-being seems immense. Agro-ecological systems can eliminate exposure to dangerous chemicals while simultaneously boosting productivity, reducing dependence on costly external inputs, and increasing incomes. By relying on saved seeds, encouraging selective breeding adapted to local conditions, and sharing ecological knowledge, agro-ecology also has the potential of empowering local food providers and facilitating decentralized control of food systems while providing more diverse, nutritious, and healthy food for all. In turn, this could revitalize rural communities—in the global South *and* North—and lead to a more resilient system of food production that resembles not a simple linear chain, but rather a complex interwoven web of food provision.

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ADDENDUM

A Retrospective of United Church Policy on Food, Fisheries, and Agriculture

Some key ideas and principles from relevant church policy that should be kept in mind in working on food include:

• The church endorses sustainable agriculture that is ecologically sound (improving soil fertility and providing safe, nutritious foods while minimizing external inputs), economically viable (ensuring an economy enabling producers to thrive), socially just (meeting the basic needs of all and encouraging the participation of women, youth, Indigenous people, and farm

workers in decision-making), and humane (respecting all life, sustaining healthy communities, and emphasizing agriculture over agribusiness) (*Sustainable Agriculture*, 1990).

- The church calls for the protection of family farms and calls on governments at all levels to discontinue programs that subsidize, promote, and support large corporate agricultural development (*Family Farms*, 1990). The church urges Conferences to support and study community-based land trusts to support family farming (*Land Trusts*, 1992).
- The total allowable catch of threatened fish stocks should be reduced, wastage should be regulated, drift net fishing should be eliminated, the use of dragnets should be limited, and other measures should be taken to ensure both a sustainable fishery and sustainable fishing communities (*Fishing*, 1990).
- To be both people-oriented and ecologically sound, all development strategies must be founded on a just economic order, with priority for the world's poor. At the same time, the rights of future generations and biodiversity must be protected, lifestyles of high material consumption must yield to the provision of greater sufficiency for all, and all development decisions must both aim to prevent ecological damage and respect the rights of both affected individuals and groups to participate in decision-making (*One Earth Community*, 1992).
- All living organisms, and the genetic heritage shared by all life, have an intrinsic value that precedes their utility and commercial value. The rights of farmers, other food producers, and food conservationists to save seeds, breed livestock, and develop new food varieties should be protected and should not be undermined by any claims of intellectual property nor by the use of new genetic modification technologies or related legal instruments (like technology use agreements) (*Genetically Modified Food—General Principles*, 2003).
- In assessing the use of technologies, special attention must be paid to their potential (and actual) effects on the vast majority of human society that is impoverished, exploited, or excluded. Respect for all creation means that the precautionary principle must be applied to ensure that actions do not seriously harm the greater web of life of which humans are a part. In particular, as many Indigenous peoples teach us, we must try to foresee the consequences of our actions unto the seventh generation that will follow. Short-term advantage and profit must not be the main criteria for assessing an action, but rather the

long-term effects that might result (*Genetically Modified Food—General Principles*, 2003).

• Governments have the responsibility to protect the safety of food, encourage sustainable farming practices, respect the important role of local producers and their communities, ensure that all—particularly the poor—have access to nutritional food, ensure the rights and safety of farm workers and fisherfolk, protect biodiversity as well as Indigenous knowledge and farming practices, regulate and prohibit the importation of GMOs until they have been proven safe, and regulate agribusiness to ensure it contributes to the common good (*What Does God Require of Us? A Declaration for Just Trade in the Service of an Economy of Life*, 2004).

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