Oxfam: The future of agriculture Who will feed us all?

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If we are to survive climate change, we must adopt policies that let peasants diversify the plant and animal varieties on our menus. Only they have the know-how and patience to find out what plants and livestock will thrive where. A fundamental change in the regulatory machinery is needed.

There has been a Pavlovian conviction that agricultural technology can meet our future food needs - and a pathological denial that industrial agriculture has contributed to today's food crisis. Now, with climate change, the Global South's food insecurity has morphed into a shared global challenge. Even soil-rich nations may not have the weather, water and other resources to feed themselves in 2050. Policy-makers are conventionally offered two options: the high-tech industrial food chain largely viewed as hyper-productive and efficient; or, the touchy-feely agro-ecological food web – the choice between the eco-foodie/fair traders' 100 kilometer diet or agribusiness's beltbusting 100 kilogram diet. The "smart menu," of course, looks for the illusive middle ground – the best science while trading fairly and feeding sustainably.

"Is the food web just foodie romanticism?"

I am arguing that we are in a common and continuing food crisis; that the development 'community' is at the wrong starting point; that we don't know very much; and, that we have to espouse the policies and practices of the peasant organizations that, today, provide humanity with at least 70 per cent of the food we eat.

Is the food web just foodie romanticism? We tried to gather the facts that would prove the contribution of peasant provisioners (to describe both rural and urban food providers who are mostly outside the industrial food chain). But data on farm size and estimates on the number of rural peasants, for example, was at least a decade old and far from convincing. And, of course, farm calculations exclude hunting, gathering, fishing, and urban peasant production. In the end, we concluded that at least 70 of the food the world actually consumes every year is provisioned by rural and urban peasants. We could also conclude that only peasants have access to the technologies and resources we will all need in order to eat in 2050.

Our 70 per cent estimate is inadvertently corroborated by the fertilizer industry who worry that somewhere between 40 per cent and 60 per cent of the world's food is grown without their synthetic chemicals. This is peasant production – farmers who either don't want or can't afford industry fertilizers. But, of course, many smallholders do use fertilizer so perhaps another 10 per cent or more of the world's actual consumed foods are produced by peasants who do use chemicals.

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Beyond this, a significant share of the world's food supply – conservatively, 15 per cent - comes from hunting and gathering – including artisanal inland and coastal fishers. Add to this the estimates that somewhere between 15 and 20 per cent of our food is produced in urban gardens and the suggestion that at least 70 per cent of consumed foods comes from rural and urban peasants seems modest.

Looking at the question from the other end - the industrial food chain – strengthens the case. While the quantities are enormous, according to recent FAO studies, at least a third of food produced is wasted either during production, transportation, processing or by rotting in the fridge. Then, calculate how much of our fishmeal and grain is fed to livestock or automobiles.

We lose food before it can rot. What's more, in OECD states (and increasingly in the global South) about a quarter of consumed calories are "waisted" - consumed unnecessarily, contributing to obesity.

The unavoidable conclusion is that the industrial food chain is hugely ineffective. It only partly feeds people in the industrialized countries and has little left over for the rest of the world. The industrial food chain only gives us 30 per cent of our necessary consumption.

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The table below summarizes and updates our 2009 report, "Who Will Feed Us?" available at www.etcgroup.org. Reference sources are available in this report and an upcoming sequel.

The first policy principle in any crisis is not to mess with what works. The second principle is to be led by those most affected – the peasants. They are the folks who are growing the food and have access to the diversity we will need to survive the challenges ahead. That is why the recently-reformed UN/FAO Committee on World Food Security (CFS) is becoming so important. Not only do we have all the governments and multilateral agencies around the table, civil society organizations and peasant movements are also there. The only thing peasants can't do is vote.

"Africa's enslaved peasants smuggled almost 50 crops when they were shipped to the Americas."

Peasants bring unique resources to the table and need support to deploy them. Within the first century of the colonial era – without trains or telegraphs – much less blogs or Twitter - peasants adapted Mayan maize to almost every growing region of Africa, while Asian peasants accomplished the same success with sweet potatoes. Meanwhile, Africa's enslaved peasants smuggled almost 50 crops when they were shipped to the Americas.

The Columbian exchange of 500 years ago was preceded by an Arabic transfer and, before that, the Silk Road and the mud trail kept moving crops and livestock between and among Eurasia and Africa. More recently, in 1849, the US began shipping free packets of experimental seed to settlers to kickstart crop production west of the Mississippi. By 1897, more than 20 million packets of exotic experimental seed were being sent to settlers every year. The highly successful seed experiment only ended in the late 1920s when seed companies realized that public sector distribution was interfering with private sector profits. To address climate change, we need this kind of seed exchange once again. Over the past six decades, peasants have donated at least two million locally-bred plant varieties for storage in the world's major gene banks. Peasants are also the breeders and protectors of almost 8,000 rare livestock breeds of 40 species. Gene banks, as a policy priority, must multiply the peasant varieties and make them freely available to peasant organizations upon request.

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If we are to survive climate change, we must adopt policies that let peasants diversify the plant and animal species and varieties/breeds that make up our menus. Plants and livestock are going to have to move around so that they can be used under the conditions in which they can thrive. There are, of course, phytosanitary considerations; support will be needed from FAO and perhaps from the Biodiversity Convention.

The only people with the know-how and patience to experiment with crops and livestock are peasants. Peasants will require a fundamental change in the regulatory machinery – including intellectual property regimes - so they can exchange and develop seeds/breeds among themselves around the world.

The rest of us urgently need to come together across all of the food web to see how we can collaborate. As cell phone technologies spread across every continent, our collective capacity to exchange information makes it possible for all of us to keep up with the innovative energies of peasants.