

Opinion Piece

How to feed the world without destroying the environment

Last month during an emergency meeting on the Horn of Africa organized by FAO upon request of the G20 French presidency, the French Agriculture Minister, Bruno Le Maire, emphasized global leaders' duty "to ensure food security"¹ in the lead up to the Somali famine. He called attention to the lack of coordination among those providing aid, and demanded immediate action. He also reiterated the French government's recent demand that the G20 nations prevent the 21st century "from becoming the century of hunger."

But in the spirit of the G20 Action Plan on food prices volatility and on agriculture, Le Maire points to a problem that poses far greater obstacles: *The need for a long-term, solution to global hunger. And that will require a revolution.*

It is well recognized famine is not only caused by drought and crop failure. The main culprits are bad governance, supply distributions, and lack of safety nets. Solve these and famine's reach and impact drop rapidly. Solutions for addressing the intractable problems Le Maire cites are also well known, but scaling them up requires radical change and a new way of looking at the world.

We know what it will take to feed future populations. By 2050 we will need to provide for some nine billion people (UN forecasts 9.3 billion by 2050 and 10 billion by 2100). This means producing 70% to 100% more food than we do now. How can this be done?

A new report, released at World Water Week in Stockholm this week, entitled "*Ecosystems for Water and Food Security*"² warns of the urgent need to reconsider to the methods used to boost crop yields, at a time when food production already accounts more than 70 percent of fresh water used in some river basins.

The Ecosystem Services Approach called for in the report is revolutionary in that it recognizes as fundamental the benefits that ecosystems provide to people's livelihoods. Within these ecosystems, soil, water, tree cover, crops, fish, and livestock have multiple functions and interact in multiple ways. This approach also recognizes that, just as you need to connect the dots to understand ecosystems, you must connect people across disciplines, sectors and national boundaries.

Produced by the United Nations' Environment Program (UNEP), and the International Water Management Institute (IWMI) with contributions from 19 other collaborators including the CGIAR Challenge Program on Water and Food, the report argues that only by adopting this approach can we balance a growing global population's demand for food, water and energy. It will provide a framework for helping farmers and communities prepare for the impact of unpredictable climate, market fluctuations, and social and political upheaval. It will also allow for careful planning in the use of water resources so we maintain the health of the ecosystem

¹ <http://www.bbc.co.uk/news/world-africa-14271539>

while addressing the needs of local users. In this way, communities can save their people from suffering the effects of short-term disaster.

In the river basins of the Andes, for example, increasing demand for food production must contend with the effects of climate change, water scarcity and a drop in soil fertility.

Upstream users value the water for irrigation and ecotourism and also have a spiritual affiliation with the ecosystem, while the hydropower companies need a steady stream to support electrification of the growing urban population downstream. Large-scale farms and agro-industry also need increasing supplies of water.

Together they have started to explore the potential for sharing benefits from land and water in their river basins. And it works!

We know that the wrong policies aimed at scaling up production can destroy land, deplete water supplies and reduce the fertility of our soils, particularly in the world's poorest communities, where lands are already degraded. This is an environmental problem with severe physical, social, and economic consequences.

We cannot ignore calls to respond to short-term human catastrophes such as those playing out currently in the Horn of Africa. But we must also realize that such catastrophes are the outcome of a pernicious long-term assault on ecosystems that must be stopped.

But how can we do this?

Our goal is to intensify agriculture production, but we can't pretend it exists in a vacuum. If political leaders wish to boost yields, they must consider first the reality of the social and ecological systems that will influence and be influenced by our efforts to do so.

This thoughtful approach to agriculture will make possible the long-term, collective decision-making on which our environment, and, indeed, our very lives depend.

Though they may not take to the streets to make their point, those who would transform agriculture are revolutionaries, nonetheless. For by adopting these new ways they seek to change the fate of millions, particularly the people of the world's poorest and most vulnerable regions.

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