UN environment programme

COVID-19, THE ENVIRONMENT AND FOOD SYSTEMS:

CONTAIN, COPE, AND REBUILD BETTER

EXECUTIVE SUMMARY

Covid-19 Green Recovery Working Paper Series

COVID-19 RESPONSE

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Recommended Citation

United National Environment Programme (2020). Covid-19, the Environment, and Food Systems: Contain, Cope, and Rebuild Better. Geneva.
https://www.unep.org/resources/report/covid19-environment-and-food-systems-contain-cope-and-rebuild-better

Disclaimer

An evolving literature

The sheer volume of reports and evidence on COVID-19 is staggering. This is not surprising given the fundamental shifts in opportunities, threats to livelihoods and the associated responses and shifts in behaviours caused by the pandemic. The authors have attempted to synthesize, curate and assess this literature. This process continued until August 2020, at which point the report was drafted and reviewed. Given the sheer volume of evidence generated on a daily basis, the authors may have missed some literature. The situation will also have evolved between August and the date of publication. The report will be released online with associated perspective pieces both on the report itself and more generally on the nexus between COVID-19 macroeconomic responses, food systems and environmental impacts. We encourage readers to submit responses to Salman.Hussain@unep.org and Jacob.Salcone@unep.org.

Acknowledgements

This report was made possible thanks to the research and journalism being conducted around the world during a time of unprecedented uncertainty and challenging work conditions. The authors of this report would like to acknowledge the contribution of all those working to understand the ramifications of this pandemic and their efforts to determine solutions for the welfare of our communities and environment. Special thanks are extended for comments and suggestions provided by: Doreen L. Robinson, Chief for Wildlife, UNEP Ecosystems Division; Sirini Withana, Economic and Trade Policy Unit, UNEP Economy Division; James Lomax, Food Systems and Agriculture Adviser, UNEP Ecosystems Division; Susan Mutebi-Richards, Gender Reviewer, Gender and Safeguards Unit, Policy and Programme Division; Jian Liu, Chief Scientist and Director, UNEP Science Division; Edward Barbier, University Distinguished Professor in the Department of Economics, Colorado State University, Senior Scholar in the School of Global Environmental Sustainability; Peter May, Professor titular CPDA / UFRRJ. All errors and omissions are the authors'. Layout, design, and communications support provided by Altus Impact.

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COVID-19 RESPONSE

European Commission

INTERNATIONAL CLIMATE INITIATIVE (IKI)

TEEB
The Economics of Ecosystems & Biodiversity

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INTRODUCTION

COVID-19 is an unprecedented global health and economic crisis that impacts the natural environment and curtails progress towards the Sustainable Development Goals (SDGs)[1,2]. Globally, millions have fallen ill and millions have lost their jobs and income. This report examines the effects of COVID-19 and the resulting recession on the agrifood system and its supporting ecosystems, including the related effects on air pollution, human health and climate change. In accordance with other recent United Nations Environment Programme (UNEP) publications and policy briefs, it makes recommendations for mitigating these impacts and rebuilding better.

The agrifood system is a key link between the biosphere and the way in which society and the economy function. The pandemic is likely to exert lasting damage to the fundamental determinants of long-term sustainable development through these connections. Despite uncertainties in the medium and long term, the current impact is clearly visible as governments around the world adopt drastic measures to respond to the worsening pandemic.

IMPACTS AND IMPLICATIONS OF THE PANDEMIC ON THE ECONOMY, THE ENVIRONMENT AND FOOD SYSTEMS

The negative economic effects of COVID-19 have been massive and the projections for the rest of 2020 are sobering. Contracting economic output (negative gross domestic product (GDP) growth) is particularly worrisome

[1] The volume of reports and evidence on COVID-19 is staggering and evolving daily. The authors have attempted to synthesize, curate and assess this literature until August 2020, at which point the report was drafted and reviewed. The situation will have evolved between August and the date of publication and given the volume of evidence generated on a daily basis, the authors may have missed some literature. The authors have attempted to propose recommendations that remain relevant, but also recommend readers update themselves by reading the latest UNEP publications and those of our partners.

[2] For references please read the full report:
https://www.unep.org/resources/report/covid19-environment-and-food-systems-contain-cope-and-rebuild-better

because it means higher levels of poverty, hunger, unemployment, and widening existing inequalities especially – but not only – in developing countries. The World Bank Global Economic Prospects indicate that the pandemic has led to the first global increase in extreme poverty since 1998, effectively wiping out progress made since 2017. Estimates also show that COVID-19 could push 71–100 million people into extreme poverty by 2020. The impact on hunger will also be striking: it is estimated that the number of people suffering from acute hunger could double from 135 million to 265 million by the end of the year.

At the time of publication, food prices globally have not risen on average and the projections show prices to remain stable. The central problem in most countries is not a food security crisis caused by rising prices but rather falling incomes. Nonetheless, this picture of stable global prices masks local price increases in a number of locations and the possibility of delayed disruptions to food supply chains.


Jack Young

The crises in donor countries caused by the pandemic – from the immediate health crisis to the deepening socioeconomic crises – are likely to drive overall reductions in global aid, despite increases in aid for the pandemic. Moreover, the shift in national budgets towards acute health demands could reduce support for environmental protection and agriculture, as has already been the case in some countries. The economic, health and social impacts of COVID-19 have direct and indirect links to ecosystems, biodiversity, pollution and climate change. COVID-19 also impacts the way agrifood systems can and will operate. These linkages are laid out in Table 2.

TABLE 2 : COVID-19 RELATED IMPACTS ON FOOD SYSTEMS AND NATURE

	Ecosystems and biodiversity	Pollution	Climate change
Economic impacts	Less funds for enforcement: evidence of increase in poaching, fly tipping, etc. (-)	Less funds to ensure compliance with waste disposal (-)	Less funds to ensure compliance on climate-smart agriculture (-)
	Falling incomes reduce pressure on commercial capture fisheries (+)	Lower prices for inputs such as fertilizer, but may lead to overuse (+/-)	Less biofuel demand lowering forest clearance- related emissions (+)
	Unemployment increases pressure on subsistence fisheries and wild food products (-)	Less work absenteeism due to lower local pollutants (+)	More land clearance to increase provision of food as a result of higher self-sufficiency (-)
	Less biofuel demand reduces pressure for forest clearance and habitat loss (+)		Lower emissions due to lower activity (+)
	More land clearing to increase provision of food to replace wild meat in some places but more hunting of wildlife in others (+/-)		Emissions impacts during recovery phase depend on nature of fiscal stimulus (+/-)
	Diet shifts due to lower incomes (?)	Diet shifts due to lower incomes (?)	Diet shifts due to lower incomes (?)
Health-related impacts	Labour shortages reduce crop and livestock productivity, reducing food availability (-)	Higher mortality rates from COVID-19 in areas where pollution levels are high (-); but lower pollution levels due to lower activity (+)	Lasting shift in production and consumption patterns (?)
	Less human resources to manage land (-)	Indoor air pollution worsens as people, primarily women and children, spend more time indoors (-)	
	Greater control of use of wildlife in some places (+); less control and more use in others (-)	Restrictions on movement making access to sanitation and safe water more difficult (-)	
Social impacts	Increased pressure on common resources as workers return from urban areas and from overseas (-)	Possibility of changing use of transport for work and social reasons over the long term with lower local air emissions (+)	Lower GHG emissions under travel restrictions (+); higher emissions due to reduced mass-transit use (-)
	Increased pressure on land as workers return from urban areas and from overseas (-)		Possible long-term changes in travel/transport for all uses, with lower GHG emissions (+)

(+) Indicates that the evidence suggests a positive impact on the economy, health or society; (-) indicates a negative impact; (?) indicates there is no evidence.

Some key impacts are described below.

- The economic downturn is negatively affecting ecosystems where budgets are being cut for the management of protected areas and where the management of protected areas depends on revenue from tourism. The African Union has reported the postponement and, in some cases, outright cancellation of many sustainable forest management activities and has cited cases of increased poaching. Deforestation of the Amazon has soared in recent months as South America battles the pandemic.

- Animal-to-human transmission is the source of 75 per cent of infectious diseases and evidence points to the biodiversity crisis as a contributory factor in the emergence of COVID-19. Both wild meat trafficking and intensive livestock rearing have been linked to the emergence and spread of zoonotic disease and both are significant drivers of biodiversity loss across the world. However, bans on the trade of wild meat could induce unemployment and poverty for thousands of women, who are the primary traders of wild meat, and undermine a valuable incentive for communities that protect wildlife.

- In various countries, the production of fruit and vegetables and meat and dairy products has been adversely affected by labour shortages caused by restrictions on the movement of labour and infections among food processors and farm workers.

- Reverse migration from cities to the countryside could harm indigenous communities and put pressure on biodiversity hotspots located in these areas. The pandemic may also exacerbate unregulated and unreported small-scale fishing.

- While air pollution has declined in many places during the pandemic, there is evidence that long-term exposure to poor-quality air exacerbates the severity of COVID-19 symptoms and increases the risk of fatalities. Increased exposure to poor indoor air quality, particularly high among women and young children who spend the most time inside the family home, may reduce resistance against COVID-19.

- Women, as guardians of household food and water security, are disproportionately affected by the impacts of the pandemic. In many parts of the world, women and girls spend hours each day fetching water or waiting in crowded queues for water vendors, potentially increasing their risk of exposure to the virus. Conversely, lockdowns and curfews can limit access to water and sanitation.

- Less demand for biofuels caused by less demand for transportation and lower oil prices has reduced the demand and prices for feed stocks. However, a surge in agricultural expansion and illegal mining has accelerated forest loss in Brazil and Colombia.

- Regarding climate change and greenhouse gas (GHG) emissions, the International Energy Agency (IEA) estimates that global GHG emissions will fall by as much as 8 per cent in 2020 due to contractions in travel, transport and energy demand. While this is a welcome impact, the 2019 UNEP Emissions Gap Report estimated that emissions must continue to fall by 7.6 per cent every year for the next 10 years to limit global warming to 1.5 C. Emissions in China, which accounts for one-quarter of the world's carbon emissions, already appears to have returned to pre-pandemic levels.

- Diet-related health conditions exacerbate mortality and morbidity among individuals infected with COVID-19. Non-communicable diseases (NCDs) such as diabetes, heart disease and obesity have been linked to increased rates of infection, hospitalization, intensive care admissions and death.

COPING STRATEGIES

The worst outcomes of the economic contraction and demand for health services can be partly mitigated through broad fiscal expansion to counter the pandemic. The global fiscal response to COVID-19 has been unprecedented: as of September 2020, governments have already provided about $11.7 trillion, equivalent to 13.9 per cent of global GDP. However, fiscal policy is constrained in some of the worst affected emerging markets and developing economies, where low tax bases and limited access to borrowing restrict the scope of government support, highlighting the need for access to additional resources and more efficient spending.

The bulk of fiscal support has taken the form of cash transfers and additional resources for health services. The International Monetary Fund (IMF) COVID-19 Policy Tracker contains very few examples of fiscal policies specifically targeting the agricultural sector and none targeting the environment. So far, green measures account for less than 0.2 per cent of total COVID stimulus spending allocated by the world's 50 largest economies.

SHORTCOMINGS

First, while immense resources are being devoted to tackling the crisis, there are areas where support is insufficient, particularly undernutrition and food insecurity.

Second, the support packages being implemented are very much concentrated on short-term relief. Given the limited fiscal resources of most developing countries, it is unclear how long they can continue. Moreover, very little fiscal stimulus has been provided for green-economy and nature-based solutions, despite evidence of their long-term benefits.

Third, there is a real concern that focusing resources on mitigating the acute impacts of COVID-19 could reduce resources for sustainable development in general, crowding out of important programmes targeting the SDGs in 2021 and beyond. A possible fall in official development assistance of $25 billion in 2021 has been flagged.

Fourth, the wide range of measures to support the agrifood sector – from emergency financial support to farmers to more structural support for local supply chains – are not always designed to ensure the right signals are sent to agents in the food sector that lead to long-term recovery. Moving forward, consistency and coherence between emergency relief and long-term objectives for sustainability, resilience and equity must be paramount.


Andrei Iasc

Lastly, the response measures have so far ignored linkages to the environment, including the need to prevent further loss and degradation of habitat, which facilitates the kind of animal-to-human transmission associated with the spread of zoonotic diseases such as COVID-19.

REQUIRED ACTION

Rather than following traditional international development approaches, the way forward must be global development that relies upon holistic analyses and identifies problematic dynamics between larger and smaller and richer and poorer countries. The importance of this fundamental shift cannot be overstated.

IMMEDIATE NEEDS

The current measures will need to be maintained and strengthened in areas where they are weak. Lack of income remains a problem and is preventing adequate access to food.

In the agrifood sector, the most pressing issues are ensuring supplies of inputs (including labour) and addressing difficulties in moving food around inside countries. Even in Africa, a continent with a relatively high level of self-

sufficiency, only a fifth of food consumed is grown by the families that eat it. Action is needed to improve networks for the transportation of food that minimize loss and waste, and simultaneously, local food production should be promoted.

A shortage of labour to work the land, given the restrictions on movement, will cripple food systems until resolved. Action is needed to facilitate the movement of workers in the agrifood sector. Measures must also be taken to prevent the spread of COVID-19 among farm workers and food processors.

These pressing issues are also important for the longer-term response. If measures to contain the virus fail then coping and building back will be much more demanding and impacts will be bigger and more costly.

SHORT-TERM NEEDS

As a priority during the next 12 months, countries must ensure relief and stimulus packages reach the most vulnerable people, which includes meeting the liquidity needs of small-scale food producers and rural businesses. Environmental clean-up, investment in sustainable agriculture, safeguarding natural resources and improving energy efficiency all generally have positive stimulus effects in the short run, as well as positive environmental effects in the longer run. Natural capital investments for ecosystem resilience and regeneration, including the restoration of carbon-rich habitats and climate-friendly agriculture, have also been identified as having long-run multiplier effects on output, in addition to a highly positive impact on climate. Studies have shown that improvements of 60–80 per cent in energy and water efficiency are technically possible and commercially viable in sectors like construction, agriculture, food, industry and transport. This has the potential to deliver annual cost savings of $2.9–3.7 trillion by 2030, based on $900 billion of investment and create 9–25 million new jobs.

Daniel Krueger

MID-TERM NEEDS

Specific attention must be paid to the aspects of the recovery that decouple economic growth from carbon emissions and biodiversity loss and not just to using resources more efficiently. While the COVID-19 recession may mean that governments are unable to compromise urgent economic priorities for the sake of sustainability, the careful design of low-carbon stimulus packages can allow them to address both sets of priorities at once.

There has been rapid adaptation to remote working, improvements in technology and an appreciation of the environmental benefits, with the potential to institutionalize and build on changes in behaviour. The extent to which behavioural adaptations become embedded after the crisis will be affected by policy choices during the recovery, as well as the extent and severity of lockdown measures. Mid-term measures can reinforce the work of governments and international agencies globally to promote the low-carbon transition, the move to sustainable food systems and other SDGs.

There are grounds for optimism in the medium term, given the strong support for change we have seen, including in the corporate sector. For example, 206 major firms, including major agrifood companies, wrote to the Government of the United Kingdom urging an economic recovery plan that prioritizes climate action.

However, countries must be mindful of the distributional effects of policies implemented in pursuit of a low-carbon economy. Measures that encourage working from home must be complemented with others to improve access to the required infrastructure. Investment in the food system should be guided by the results of life cycle assessments and economic impact analyses.

A SYSTEMIC APPROACH

Tackling these challenges requires a systemic approach. While food production has successfully increased to date, less progress has been made on reducing the negative environmental impacts of food systems. There is overwhelming evidence that the current way of producing food undermines its own ecological basis. The annual negative externalities of the food system have been estimated at $12 trillion, equivalent to around 8 per cent of global GDP in 2019. The COVID-19 recovery presents an opportunity to rebuild better, based on a holistic vision of the whole eco-agrifood system that encompasses social equity and jobs, as well as health and environmental impacts.

One opportunity is a proposal to emerge from the crises with an international implementation plan for One Health, an integrated approach that prevents and mitigates the threats at animal–human–plant–environment interfaces. It addresses key issues such as reducing the zoonotic risks posed by livestock and wild animals, reducing the consumption of meat where appropriate, reducing habitat and land-use change from agricultural conversion and improving environmental surveillance.

Another opportunity is the United Nations Food Systems Summit planned for September 2021. The summit will seek to raise global ambition, to understand the problems that must be solved and to set a course to radically transform our food systems.


Hennie Stander

In summary, the global sustainable development agenda must promote the resilience and sustainability of food systems through policies and measures that (i) account for environmental thresholds and trade-offs; (ii) promote food security and healthy diets; (iii) enhance and protect rural livelihoods; and (iv) address the inequalities and injustices that have emerged and will prevail during a post-COVID transition. UNEP will play an important role in ensuring that in rebuilding better we do not lose sight of these important considerations.

United Nations agencies must work together to implement this framework effectively by (a) monitoring the impacts of COVID-19 on environment and agrifood systems; (b) assessing the wider consequences for society and natural capital of policy responses as measured against SDG indicators; (c) helping capture opportunities for leap-frogging to green investments and promoting nature-based solutions to rebuild better; and (d) taking the lead in expanding the environmental dimensions of the One Health approach.

The importance of a quick and effective response to addressing the environmental challenges of COVID-19 and preventing a similar pandemic and crisis from happening again is clear from this report. Preliminary figures suggest that the cost of preventing further pandemics over the next decade by protecting wildlife and forests would be just 2 per cent of the estimated financial damage caused by COVID-19. Prevention is always better than cure.