Economic Recovery for Rural Communities and Agricultural Sustainability

BREAKTHROUGH INSTITUTE

Funding Maintenance and Facility Upgrades for Agricultural Research Infrastructure

Summary

- Rural areas are especially vulnerable to the COVID-19-induced economic crisis, and will likely have the hardest time bouncing back. By investing in agriculture research infrastructure, the federal government has an opportunity to immediately relieve economic hardship and stimulate rural and semi-rural economies.

- The maintenance backlog for the USDA Agricultural Research Service facilities and agricultural schools at land-grant universities currently sits at $9.4 billion. These centers of agricultural innovation are largely responsible for the world-leading productivity and efficiency of US agriculture, but they now risk facility failures, compromised research, poor education capability, and limited possibility for growth.

- Allocating $9.4 billion to fully fund the maintenance backlog for both the ARS and for land-grant universities' agricultural schools would create over 140,000 jobs, bolster the US agricultural innovation system, and reduce the environmental and climate impacts of agriculture both domestically and globally.

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Rural areas in the United States are particularly vulnerable to the economic fallout of the COVID-19 pandemic, in light of the economic uncertainty that American farmers have faced in recent years. As a result of the pandemic, farmers face low prices, contracting export markets, and labor shortages, placing rural and semi-rural communities in dire straits.[1]

As part of ongoing efforts to support economic recovery, the US federal government has an opportunity to fund infrastructure projects that can both supply much-needed jobs in rural areas and help improve the environmental sustainability of American agriculture. One such opportunity is funding the maintenance backlog at the federal Agricultural Research Service (ARS) and at public and land-grant universities' (LGUs) agricultural facilities.[2]

The ARS is the US Department of Agriculture's in-house scientific research agency. The ARS currently operates under a $1.6 billion budget, provided by federal appropriations, which includes research, salaries, and facility and equipment management.[3,4] Land-grant universities is a designation given to most major public universities and tribal colleges, as well as a few private universities. These institutions receive federal funding and are often leaders in agricultural sciences, education, and innovation.

How to Clear the Agricultural Research Maintenance Backlog

The sheer size of the maintenance backlog at universities and federal research institutions across the country is close to crisis levels. The maintenance backlog of agricultural facilities at LGUs and of ARS facilities stands at $8.4 billion[5] and $1 billion[6] respectively. Deferring maintenance will undermine research due to building failures, higher operating costs, and disenchantment of researchers, faculty, and students, thus threatening America's position as a world leader in agricultural production and innovation.[7,8]

The federal government has an opportunity to immediately appropriate $9.4 billion to clear the maintenance backlog, including $8.4 billion for LGU agricultural facilities and $1 billion ARS facilities. These funds would be best appropriated as one-time cash infusions earmarked solely as grants for maintenance and facility improvements. For the ARS backlog, Congress can appropriate funds directly to ARS, and to fund the LGU backlog, Congress can fund a new grant program at the National Institute of Food and Agriculture, which already oversees research grants to academic institutions across the country.

Economic and Environmental Benefits

Immediately and completely funding the $9.4 billion maintenance backlogs at land-grant institutions and ARS facilities would lead to the creation of between 142,000 and 181,000 jobs, often in rural and agricultural areas.[9] Further, areas surrounding land-grant universities and ARS sites — many of which are located at or near university campuses — have been additionally burdened by the campus closures. These jobs, which would entail construction, maintenance, and equipment installation, would bring much-needed investment to these economically challenged areas.

On top of immediate economic benefits, this funding would strengthen the research infrastructure that has been the main driver of steeply rising productivity of US agriculture over the past century, which has enabled the US to be the top global exporter of agricultural products.[10] American farmers now produce over four times more corn on the same amount of land than they did in 1950, for example.[11]

Productivity is fundamental to agriculture's environmental and climate sustainability, and improving the productivity of US agriculture has far-reaching benefits. First, it reduces greenhouse gas emissions and other environmental impacts by increasing input efficiency and reducing land-use.[12,13] Second, it reduces global emissions by concentrating production in the US, where agricultural products have lower emissions intensities.[14,15] Finally, US innovations are shared with producers

globally, helping improve emissions intensities around the world.

Apart from productivity gains, agricultural R&D has direct environmental benefits by improving soil carbon sequestration, nitrogen efficiency on cropland, and methane emissions from beef and dairy production.

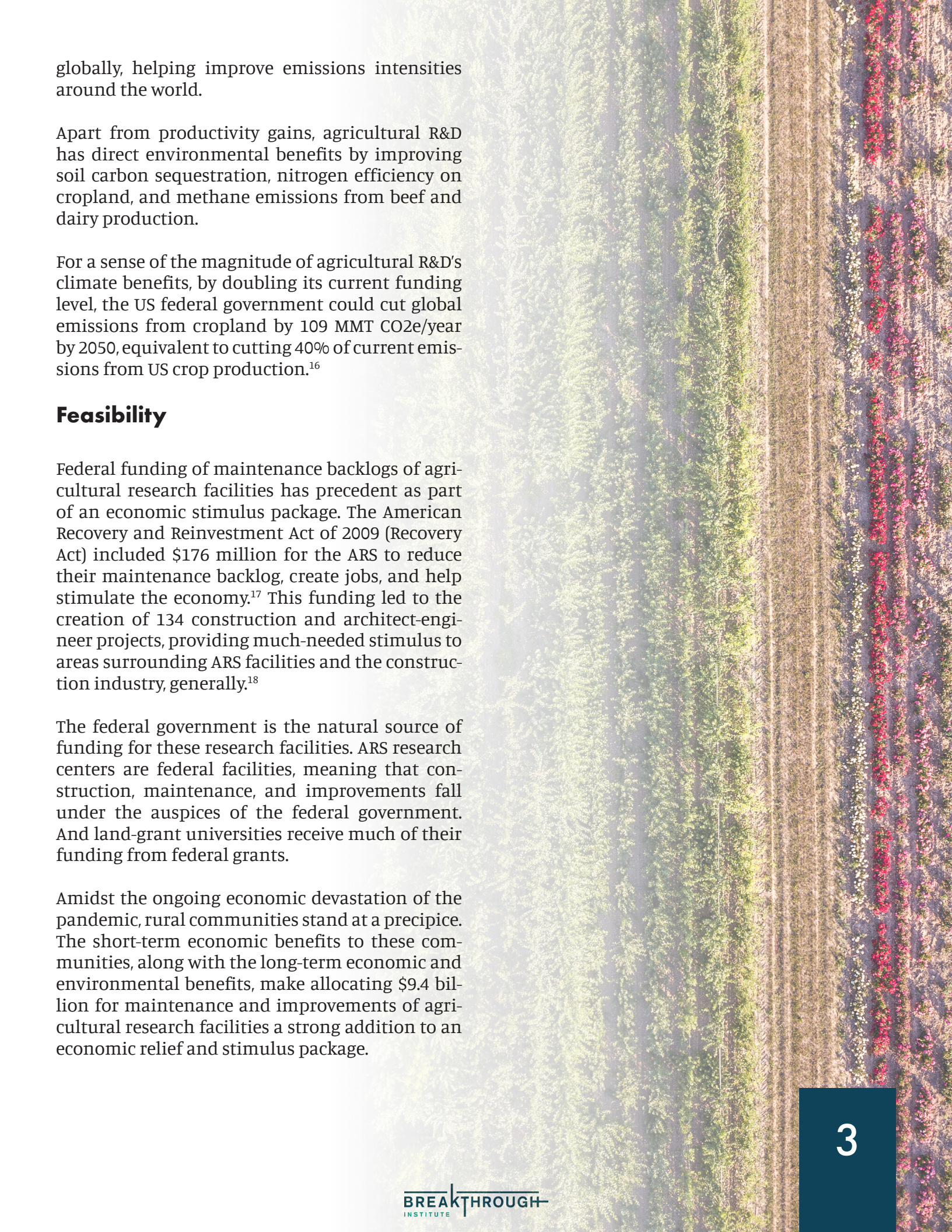
For a sense of the magnitude of agricultural R&D's climate benefits, by doubling its current funding level, the US federal government could cut global emissions from cropland by 109 MMT CO2e/year by 2050, equivalent to cutting 40% of current emissions from US crop production.[16]

Feasibility

Federal funding of maintenance backlogs of agricultural research facilities has precedent as part of an economic stimulus package. The American Recovery and Reinvestment Act of 2009 (Recovery Act) included $176 million for the ARS to reduce their maintenance backlog, create jobs, and help stimulate the economy.[17] This funding led to the creation of 134 construction and architect-engineer projects, providing much-needed stimulus to areas surrounding ARS facilities and the construction industry, generally.[18]

The federal government is the natural source of funding for these research facilities. ARS research centers are federal facilities, meaning that construction, maintenance, and improvements fall under the auspices of the federal government. And land-grant universities receive much of their funding from federal grants.

Amidst the ongoing economic devastation of the pandemic, rural communities stand at a precipice. The short-term economic benefits to these communities, along with the long-term economic and environmental benefits, make allocating $9.4 billion for maintenance and improvements of agricultural research facilities a strong addition to an economic relief and stimulus package.



ENDNOTES

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