



**Green Lands**  
Blue Waters

# Voices From Our Network

## The Civic Scientists

The next generation of continuous living cover (CLC) researchers reflect on the current moment in history and reimagine the future.

**Fahd Majeed**

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The ongoing pandemic has, in the past few months, brought into question everything from the value of the most basic and taken-for-granted human interaction to the resilience of highly optimized and complex global supply chains including those connected to the agricultural sector. These events have introduced new problems and put a spotlight on some of the existing problems that plague our society such as climate change and racism. Policymakers will need to address these issues cost-effectively at a time when resources are already running thin. Our collective work as civic scientists needs a critical examination of our roles in agriculture and conservation to ensure that we are addressing issues pertaining to racism, climate change, and fragility of the value chains we work with.

On a personal level, this period has forced a moment of introspection about my values, principles, and goals, in terms of the direction of my career and has prompted a re-evaluation of the importance of the work that I do. I study the economics of natural resources and the environment with a focus on bioenergy crops, renewable energy, and

risk. Specifically, I am working on designing payments to farmers to harness the substantial Greenhouse Gas (GHG) saving potential through gasoline displacement as well as soil carbon sequestration for various cellulosic biofuel feedstocks. This work is now doubly important as the effects of climate change become more prominent day by day and it becomes clearer that we as a society need to find ways to incentivize GHG reduction across every sector, including agriculture.

To do this, we need to find the ways that actually work in terms of designing programs for farmers to make cropping decisions that reduce GHGs. This is challenging because farmers are often risk-averse to begin with, and both pandemics and climate change increase risk by increasing yield variation due to weather and price variation due to fluctuating commodity markets, and supply chain uncertainty. Farmers may also be less willing to commit their land for multiple years where benefits are seen only once these crops reach maturity. Farmers may also be credit constrained and therefore unable to afford

to plant crops that have high establishment costs. My work shows that GHG reduction payments can induce even risk-averse, credit constrained, and less patient farmers to make GHG mitigating planting choices with reduction goals being met through a mix of energy crops and corn stover use. Such payments are more cost-effective in meeting GHG reduction targets than many current or proposed programs as they take advantage of the variability of GHG reduction provided both spatially and across crops.

As an ethnic minority myself I am very aware of the racial biases entrenched within our society. For countless years, we have unconsciously and consciously oppressed minorities, sidelined women as well as differently-abled individuals, and written off LGBTQ community members. Many of these biases have historical roots in the agricultural system. With the onset of the pandemic, it has also become clear that agriculture value chains will be affected

significantly, and that a disproportionate number of those affected will be those belonging to these underserved groups. It is, therefore, our duty as agricultural economists and civic scientists to actively work to right that wrong, as well as question if this is the legacy we want to leave behind.

After we graduate, some of us will go on to pursue a career in teaching, some of us will opt to focus solely on research, and some will work on policy issues. In all cases, the crux of our job will be to influence the thoughts and ideas of minds by posing insightful questions, presenting hypotheses, and proposing results. In any case, we hope that our work impacts people in a way that helps them question, ponder over, and develop ideas. One can only do justice to this by actively striving to remove all traces of bias in our work, keeping an open mind, remaining compassionate and empathetic, recognizing that sometimes we are unable to see our own biases, and by having the courage to call out injustice when we see it.



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