

PolicyPennings by Daryll E. Ray & Harwood D. Schaffer

Adapting the global food system to climate change should be a priority," says CCGA

The first portion of the publication, "Advancing Global Food Security in the Face of a Changing Climate" (www.tinyurl.com/mb4pj5s), by the Chicago Council on Global Affairs (CCGA) focuses on the science of global warming and the impact it will have on agricultural production—see our column (<http://agpolicy.org/weekcol/723.html>) for a summary of this analysis.

It is our observation that much of the denial—including by some in the US farming community—of the concept of human-induced climate change has less to do with scientific analysis than it does with the policy implications of climate change. They don't like the regulatory policies—like cap and trade (a proven market-oriented motivator originally proposed by free market advocates) or just about any Environmental Protection Agency emissions controls—that might be required. The CCGA analysis that we look at in this column suggests that doing nothing could be worse.

In the second section of the council's publication, the lead author, Gerald C Nelson, makes the case that given the magnitude of the impact that global warming will have on farmers and food production worldwide, "adapting the global food system to climate change should be a priority."

Nelson begins by identifying research that indicates that as average temperatures increase by a couple of degrees, crop yields begin to decrease by as much as a couple of percent a decade. The impact on yield is most likely to occur in low latitude regions where hunger is already the greatest.

He also makes the case that the current models used by climate scientists probably underestimate "the impacts of climate change. Even if the world's population were to remain stable, climate change would put significant pressure on agricultural production. The combination of population increase and a growing middle class in the developing world makes the challenges agriculture faces even greater.

It is estimated that wheat yields in South Asia will decline by 12 percent over the first half of the 20th century. Thirty years later, the yield loss will have increased to 29 percent.

As a result, Nelson writes, "given the long lead times needed to advance scientific research and transfer new technologies and farming practices to the field,

action must be taken now to meet the increasingly difficult challenges of climate change." Waiting until the last minute to invest in the needed agricultural research is not a reasonable option.

To manage the challenges brought about by climate change, farmers will have to adapt by growing new crops, changing agricultural practices, and purchasing different inputs. The cost of making these changes will divert resources that otherwise would be used "for other farming upgrades." Some areas will no longer be suitable for agricultural production, forcing farmers off the land.

Nelson argues that not only will consumers face higher prices generally they will also see more price spikes like the one that occurred in 2008. Those most affected by higher prices, punctuated by price spikes, will be the poor. Nearly half of those facing chronic hunger "are smallholder farmers living in rural parts of Sub-Saharan Africa and South Asia."

He continues writing, "if the international community wants a world without hunger, it must equip the world's food producers to grow more food using fewer resources in the face of climate change."

One of the results of food shortages and higher food prices is civil unrest. During the 2008 food price spike, over 30 countries experienced increased social tension. Quoting from the 2014 Quadrennial Defense Review by the US Department of Defense, Nelson makes the case that food is a security issue, at both the national and global levels.

He concludes the second section saying, "Our nation [the US] has a strong interest in preventing the sorts of conflicts that open the way for civil wars or turn weakened states into sanctuaries for terror groups that pledge harm to the United States and its allies. When events spiral out of control, US intervention in the form of emergency food assistance—or even more costly military engagement—becomes more likely."

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