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When Addressing Climate Change, Don't Forget Animal Agriculture

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When Addressing Climate Change, Don't Forget Animal Agriculture

As COP 21 closes in Paris, global animal agriculture is a topic that has eluded the international media. Animal agriculture is responsible for more global greenhouse gas emissions than transportation according to the U.N.'s Food and Agriculture Organization. With global population and prosperity rising, the global meat supply is expected to nearly double by 2050. This increase in production will only be achieved if significant steps are taken to promote sustainability through existing techniques globally, and to regulate air contamination in industrial feedlots in the United States. Alternative meat production methods, which have seen considerable investment recently, could supplement animal meat production in the future.

The Global Agenda for Sustainable Livestock (GASL) has constructed a prioritized agenda for long-term food security and economic development with the following context: One-third of all land area on Earth is used as pasture or cropland for feeding livestock, and recent demand has been met primarily through concentrated animal feeding operations. With resources becoming more scarce and threatened by global warming and land degradation, economically viable steps must be taken to reduce the environmental burden of livestock management. To encourage the efficient use of resources, GASL looks to encourage the sharing of knowledge in sustainable practice and regulations, the use of harmonized metrics and methodologies, and to build global consensus on sustainable practices. These practices look to close the gap in production efficiency between developed and developing countries, improve the management of grazing lands, and encourage the recycling of waste to create value and reduce greenhouse gases.

In the United States, small environmental policy changes surrounding concentrated animal feeding operations (CAFO's) could significantly reduce their greenhouse gas contributions. The EPA does not currently monitor emissions coming from industrial feedlots, though it has been collecting emissions data since 2011 with the aim of developing ammonia and methane emissions monitoring procedures. Methane, produced with the waste generated by cows and other ruminants, is a 20 times more potent greenhouse gas than carbon dioxide. Animal agriculture accounts for almost 40% of total U.S. methane emissions. For not requiring CAFO's to monitor or limit their emissions, the EPA has been sued multiple times for failing to abide by the Clean Air Act. Proposed regulation of ammonia or methane has faced resistance from many CAFO operators. By regulating greenhouse gases produced by CAFO's in a cap and trade system, the negative environmental externalities could be internalized, meaning the price of meat will account for the true environmental impact associated with its production.

The large amount of water, energy, and land required to meet increasing meat demand has led investors to look for more efficient meat production methods. Bill Gates and several other notable investors have invested millions in the plant-based meats company Beyond Meat that looks to break the negative stereotypes that have traditionally accompanied meat substitutes. Beyond Meat's production process was developed by researchers at the University of Missouri and converts soy protein into a substance that is "equal to chicken in texture and mouth feel." New York Times food journalist Mark Bittman claimed, "you won't know the difference between that [Beyond Meat] and chicken. I didn't, at least, and this is the kind of thing I do for a living." Beyond Meat's products include plant based ground beef, burgers, and chicken, and are currently available at Whole Foods and Target. Another plant-based meat company Impossible Foods has also received over \$100 million in investments, including money from Bill Gates, a sign that plant-based meats may soon be competing for a greater share of the global meat market.

However, animal meat alternatives will likely never own a majority market share. This leaves policymakers a host of environmental challenges that will be addressed through market internalization of negative environmental externalities. These policies must address the biggest emitters (CAFO's in developed nations) first. Even though the negative consequences of meat production are unique in their source (animals), they are fundamentally the same (greenhouse gasses, land degradation) as those associated with the burning of fossil fuels. By imposing cap and trade systems on large animal feeding operations, a significant reduction in greenhouse gas emissions can be achieved. The funds collected can be reinvested into methane capture processes or alternative meat production research.

Private sector investment in alternative meat sources and the strengthening of environmental policies to internalize negative environmental externalities will be required to meet the growing global meat supply. These adaptations will aid in the sustainable development of global populations and their dietary preferences.