The Impact of Climate Change on Food Production

Steve Maxwell from Vancouver, BC

British Columbia, Vancouver, May 6, 2021 (Issuewire.com**)** - For some, climate change is a myth, but the discourse of agriculture has a materially different narrative. The ongoing shifting and re-shaping of our environment by natural and unnatural agents is cause for concern, so much so that the Intergovernmental Panel on Climate Change (IPCC), a board of scientists deployed by the United Nations, published a report to expound on research and propose reform through governmental policy decisions. Each sector of our society has to evaluate the forecasted impact of climate change on the economy, commerce, and livelihood. Agriculturists are most concerned about food production. As the population grows and climate change becomes more of a threat, how can we guarantee sustainability?

What is Climate Change?

Before we can navigate the relationship between climate change and food production, it is necessary to define the term. According to NASA, climate change is “a long-term change in the average weather patterns that have come to define Earth’s local, regional and global climates.” Surely, we expect the earth to engage in some form of evolution, but the changes in weather patterns are arduous due to the

potential and actual harm it causes to the environment. These changes in the earth's climate have become increasingly dangerous as of the 20th century and nature and nurture are both culpable. For example, the burning of fossil fuels has resulted in a rise in the earth's average surface temperature (what we often refer to as global warming). On the other hand, natural contributing factors to climate change include volcanic activity, variations of the sun's orbit, and "cyclical ocean patterns", just to name a few. According to scientists, human activity is posing a bigger threat to the warming of the earth's surface than natural causes. Despite the pushback of naysayers, evidence of climate change is rampant, compelling, and overwhelming. For example, there has been a rise in the global temperature, with the last six years recording the highest temperatures on earth. The Greenland and Antarctic ice sheets have been and continue to shrink. According to NASA satellites, "Greenland lost an average of 286 billion tons of ice per year between 1993 and 2016, while Antarctica lost about 127 billion tons of ice per year during the same time period." In addition to these changes, the global sea level is rising at exponential rates, and glacier retreats can be observed in various continents around the world. There is indeed no doubt, that climate change is real and challenging scientists, environmentalists, and agriculturalists.

How is climate change threatening food production?

Limited Water Resources

Presently, the earth's water resources are growing scarce and are being exploited at unprecedented rates. As floods and droughts occur more frequently, the capacity to sustain crops and livestock becomes less. If there is a reduction in water supply, it will be difficult to keep reservoirs full, especially during the summer when dry weather is inevitable. When crops cannot receive an adequate supply of water they are more susceptible to damage, stunted growth, dried soil, and in extreme cases, a complete loss of livelihood. At the very least, an adequate water supply is necessary to avoid the degradation of the quality of crops. The IPCC has reported that we are already struggling to feed our existing population as 10 percent of the world's population is undernourished. The implications of the impact of climate change on food production are dire.

Extreme and unpredictable weather

A conversation around water supply cannot be had without consideration for the water source, particularly for farming and agriculture. According to an article published by Colombia University, eighty percent of the world's crops are rain-fed. This suggests that farmers rely on weather patterns to predict their best times for planting and yielding good crops. Extreme and unpredictable weather, prompted by climate change, negatively impacts the optimization of farming. In instances of excess rainwater, flooding or the aftermath of tropical storms and rising sea levels can contaminate crops from the transport of faeces, pollution, manure, and sewage water. The other extreme, little to no precipitation, results in droughts and water supply reduction. It is worth mentioning that livestock is not immune to the symptoms of flooding and extreme weather. In a 2019 article by Civil Eats, it was reported that in Nebraskan farmers lost an estimated $440 million of cattle due to weather inconsistencies. If extreme and unpredictable weather continues to plague our ecosystems, the ability to produce quality food to meet the need of a growing population becomes almost impossible.

Heat-Compromised Foods

Another major impact of climate change on food production is warmer weather. Rising temperatures threaten temperature-based food preservation practices around the world. According to the IPCC, “food waste costs about $1 trillion per year and accounts for about 10 percent of greenhouse gas emissions from food systems.” Warmer weather reduces the shelf life of foods and makes it difficult to ensure that food has persevered long enough to feed a hungry population. With climate change on the rise, you can reasonably expect these numbers to increase drastically within a short period of time. A separate 2018 study, conducted by Michelle Tigchelaar et.al, found that U.S. production of corn, which is commonly used to feed livestock and make biofuel, could be cut in half by a 4˚C increase in global temperatures—which could happen by 2100 if we don’t reduce our greenhouse gas emissions.

Are there any solutions?

Although climate change is an urgent matter, it can be defeated. Companies such as Maxwell Capital are championing the cause by investing in businesses that ‘go green’ and promote environmental initiatives. A 2018 publication by the UN Food and Agriculture Organization (FAO) estimates that there is a need to produce about 50% more food by 2050 in order to feed the increasing world population. As such, food production not only has to be efficient, but it must be effective without compromising the quality of the food. The dichotomy of agriculture and technology is one way to get us there. The implementation of Agritech practices and resources into traditional agricultural discourse can help to keep climate change at bay. Enhanced data collection systems are being developed to mitigate some of the unpredictability of recent weather patterns so that farmers can plant with confidence. Now there is the technology that can tell us a lot more about soil before we plant in it and intellectual property is being immobilized to make agriculture more proactive about the future of food production. The efforts are seemingly small, but little by little, over time, are impactful.

Resources

https://climate.nasa.gov

https://www.pnas.org/content/115/26/6644

https://www.nytimes.com/2019/08/08/climate/climate-change-food-supply.html

https://www.ipcc.ch/srccl/

Media Contact

Steve Maxwell

dalato@mail.com

780-851-1709

3400, 10180-101 Street Edmonton, AB. T5J 3S4

Source : Maxwell Capital

See on IssueWire