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# AGRICULTURE AND CLIMATE CHANGE

Agriculture one of the oldest and most important skills developed by civilization. It is one of the single greatest factors in the evolution of society, and still is the most fundamental industry because food is necessary to sustain life! Civilizations grow and wane by their systems of agriculture, world markets are thrown into chaos over food shortages, and today agriculture significantly contributes to and is impacted by climate change.

## Modern Agriculture

Through time, agricultural goals have centered on increasing yields while decreasing labour. For the most part this has been beneficial to humanity; average lifespan, height, and educational capacity have steadily increased with improved nourishment from agriculture. However in the past 50 years, the pressures to produce more food have taken a toll on the environment. Soil quality has decreased with the application of chemical fertilizers. Freshwater systems have become heavily polluted by sediment, chemical, and organic runoff from modern farms. Carbon Dioxide, Methane, and Nitrous Oxide emissions have contributed to global warming. According to the World Resources Institute, agriculture contributed 13.8% of world Greenhouse Gas Emissions in 2005.

Yet, despite all of the increases in productivity is that this system of agriculture has not even been adequately feeding the world. Global production of calories is more than sufficient to feed every human on the planet, yet populations in less developed countries continue to suffer from malnutrition and hunger and food deserts exist, where there is limited to no access to nutritious food within more developed countries.

## Climate Change and Agriculture

Climate change has the potential to devastate agricultural productivity. In some countries, it already has. Climate refugees in Sub-Saharan Africa are migrating away from the expanding desert, as rains become more unpredictable, and the dry seasons more harsh. Globally, the percentage of arable land is decreasing due to industrial agriculture and climate change. Yields on remaining arable land are decreasing with increasing temperatures, and more extreme weather. Again, agriculture is a huge contributor to greenhouse gas emissions, and it thus feeding it's own destruction.

## What can you do?

The following are actions or attitudes you can take to promote sustainable agriculture and reduce greenhouse gas emissions. The ripple effect benefits of these actions are that you can get to know your community better, promote economic equality, and eat healthier in the bargain!

## Local and Organic

We all eat food, so the easiest way to have a positive impact is through changing your consumption habits. Choosing food grown locally and/or organically is a great way to cut your contributions to industrial agriculture, and get to know your local farming community in the process!

## Value of Food

The market for food responds to people voting with their dollars. By choosing healthier foods (for you and the environment!) in the store or farmers' market, you are signaling to farmers, food producers, grocery stores, etc. that you value local and organic food and that demand for it is increasing in our society. Food producers will respond to these signals and this can help to shift food production to be more sustainable and accessible for everyone.

## Reducing Waste

Global food production is sufficient to feed everyone on the planet, however people still go hungry. This is in part due to waste. Approximately ⅓ of all food produced is not eaten. On the household level, a few easy ways to avoid wasting food are to arrange your fridge by "best before" date, to plan your meals for the upcoming week on the weekend, and when food or food waste does need to be thrown out, make sure to compost it instead of throwing it in the garbage.