Introduction:

With a growing population comes a growing demand of mouths to feed. It seems we live in a world long past traditional farming methods. Everything is mechanized and performed at mass (i.e. industrial farming practices; crop harvesting, seed plotting, poultry & cattle raising)

Because of this, the agricultural industry has grown from small-time business to massive globalized corporations feeding entire countries in less than a hundred years. The scale at which these practices are implemented have long begun to take their effects on the soil, surrounding ecosystems, and the environment as a whole.

Body:

With the onset of the accelerated growth of the population and developed world in general, there is a demand for much more food resources to be produced with much less land resources to produce them. These dire needs have shifted the agricultural industry to be more “efficient” with their use of land by packing large numbers of animals in uncomfortably close quarters to be raised, fed, and slaughtered. These unethical, inhumane, and disgusting tactics have been defined and legislated to be known as Concentrated Animal Feeding Operations (CAFOs). Before explaining what a CAFO is, I must tell you about AFOs. An AFO is formerly defined by the Environmental Protection Agency (i.e. EPA) as:  
  
*“[...] agricultural enterprises where animals are kept and raised in confined situations. AFOs congregate animals, feed, manure and urine, dead animals, and production operations on a small land area. Feed is brought to the animals rather than the animals grazing or otherwise seeking feed in pastures, fields, or on rangeland.”*

And there are approximately 450,000 AFOs in the United States as of today [3].

Now, to define what a CAFO is, it is effectively a large, more concentrated AFO. However, to be more precise, it is defined as:  
  
*“[...] an AFO with more than 1000 animal units (an animal unit is defined as an animal equivalent of 1000 pounds live weight and equates to 1000 head of beef cattle, 700 dairy cows, 2500 swine weighing more than 55 lbs, 125 thousand broiler chickens, or 82 thousand laying hens or pullets) confined on site for more than 45 days during the year. Any size AFO that discharges manure or wastewater into a natural or man-made ditch, stream or other waterway is defined as a CAFO, regardless of size. CAFOs are regulated by EPA under the Clean Water Act in both the 2003 and 2008 versions of the ‘CAFO’ rule.”*

Okay, so there are basically two major attention grabbers here. One is that *ANY* sized AFO is defined as a CAFO as long as they discharge their manure or wastewater into a waterway, and the other is the absolute scale of animals being confined in horrible conditions across the countries. In order to meet the demands of meat consumption, the rise of the cattle and poultry population have left governments to deal with the massive but critical issue of manure disposal from the farm animals. As of 1998, the solid waste production, animal cultivation related waste was 13 times more than humans in the United States alone. That was nearly twenty years ago. This increases the risk of the spread of pathogens and disease [2]. This also contributes to the loss of fertility in surrounding farming land and soil, as well as erosion and the nitrogen leeching of said land. This has given rise to the Clean Water Act from the EPA along with all of its conditions. One of them being to allow massive amount of manure discharge and wastewater from large CAFOs into municipal water sources as long as they have a permit [8]. But here’s the thing, even with the dumping of manure into waterways, even burning it, burying it underground, repurposing and selling it as fertilizer, and even *RE-FEEDING* it to the animals (yes, cows have chicken pellets in their feed) [6], there is still too much manure being produced from the over seventy billion farm animals we have on our planet today to dispose of completely in a sustainable fashion. For immediate responses, the best thing to do would be to encourage diets that eat less poultry and red meat, as well as shopping locally for fresh produce. Ironically, in this situation we may have more powers as consumers to boycott the large agri-business corporations that lobby the government to push the passing of bills that contribute and benefit to nothing more than their revenue growth.

Conclusion:

To conclude, the farming industry has blown greatly out of proportion to meet the exponentially growing demand of people desiring meat products and the agricultural industry has been more focused on meeting demand as opposed to animal safety and care, and waste disposal along with its effects on the environment at such a large scale. Governments must become more aware of the ecological risks and problems surrounding their populations and assess them by encouraging sustainable farming practices and diets. This is very difficult as over the years, agriculture has grown to scale of large corporations that lobby and persuade politicians to support bills that favour their revenue gains [1]. So it’s difficult to persuade those to make a difference when they are selfishly profiting from the nearly 300 billion dollar industry [1].

**References**

**[1]** <http://www.heritage.org/agriculture/report/agriculture-lobby-wins-big-new-farm-bill>

**[2]** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1817674/>

**[3]** <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/plantsanimals/livestock/afo/>

**[4]** <https://www.fs.fed.us/biology/resources/pubs/watershed/FS_National_Core_BMPs_April2012.pdf>

**[5]** <http://www.sciencedirect.com/science/article/pii/S0301479712004264>

**[6]** <http://www.fao.org/ag/againfo/home/events/bangkok2007/docs/part2/2_2.pdf>

**[7]** <http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2664.2009.01619.x/full>

**[8]** <https://www.epa.gov/npdes/npdes-permit-writers-manual-concentrated-animal-feeding-operations>

**[9]** <https://www.epa.gov/sites/production/files/2015-08/documents/cafo_permitmanual_chapter4.pdf>