



# Industrialized Countries

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## ↑ Food Sustainability

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### Introduction:

Upon examining food sustainability, it appears that an industrialized country does not equate to increased sustainability. The entire goal of sustainability is to increase food production for the growing world while also decreasing climate change. To many, developed countries hold the solution to the crisis. However, industrialized countries may actually have decreased food sustainability, due to the lack of available land, the degradation of available soil, and the increased pollution from not only the new developed cities, but also from the agricultural processes.

**Lack of land:** With the growing population, more and more land is being used for cities and factories (Godfray et al. 2010). As evidence, Figure 1 (to the right) shows the world average per-capita of arable cropland. As seen from the trend in the graph, as the population grows, the amount of arable cropland is either staying the same or decreasing, causing a steady drop in the per-capita average (Qualman 2017).

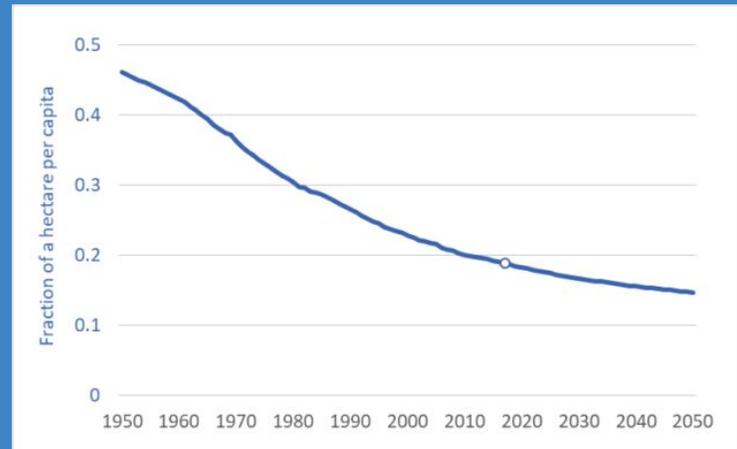


Figure 1. Average per-capita of arable cropland

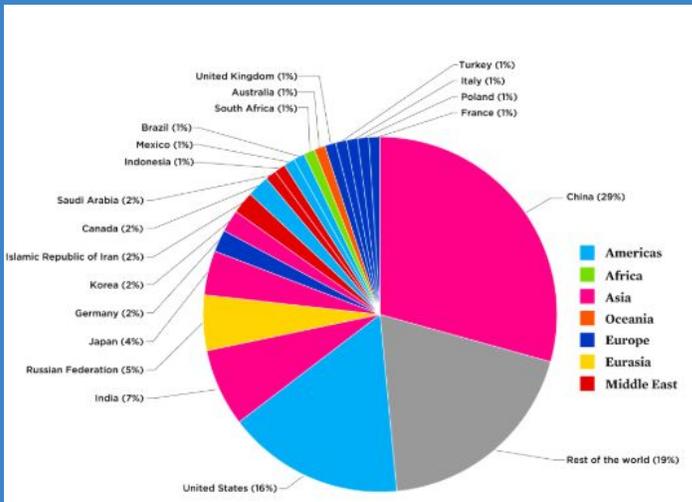


Figure 2. Estimated carbon dioxide emissions

**Increased pollution:** Figure 2 (above) shows the estimated carbon dioxide emissions of various countries, with industrialized countries having the greatest proportion of carbon dioxide emissions. This increased proportion of pollution from industrialized countries leads to an increase in climate change, which in succession leads to decreased sustainability. Climate change has a negative impact on local ecosystems which limits their ability to serve as sustainable food sources (UCS 2019).

**Degradation of available soil:** Even the land that is available is experiencing major problems for continuous agriculture. Many of these soil issues are caused by the excessive use of fertilizers and pesticides. This degradation of the available farmland leads to a decreased agricultural output, which in turn decreases the sustainability of an industrialized country (Johnston et al. 2014).

### Conclusion:

In short, industrialized countries do not always equate to increased food sustainability. The degradation of soil has left areas unusable for the future, and damaged from agriculture. Sustainable practices are not always considered in industrialized countries, and this leads to the discrepancy between sustainability and industrialization. Additionally, pollution which comes from industrialization continues to rise as countries develop.

# References

- Godfray HCJ, Beddington JR, Crute IR, Haddad L, Lawrence D, Muir JF, Pretty J, Robinson S, Thomas SM, Toulmin C. 2010. Food security: the challenge of feeding 9 billion people. *Science*. 327(5967):812-818.
- Johnston JL, Fanzo JC, Cogill B. 2014. Understanding sustainable diets: a descriptive analysis of the determinants and processes that influence diets and their impact on health, food security, and environmental sustainability. *Adv Nutr*. 5(4):418–429.
- Qualman D. 2017. Falling per-capita farmland raises critical questions [Internet]. [Cited 9 November 2019.] Available from <https://www.darrinqualman.com/per-capita-farmland/>.
- UCS (Union of Concerned Scientists). 2019. Each country's share of CO2 emissions [Internet]. [Cited 9 November 2019.] Available from <https://www.ucsusa.org/resources/each-countrys-share-co2-emissions>.