

# AG1815 Thematic Seminar I

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## 1 Question 1

Here I briefly elaborate on what new things I have learned during lectures 1-2.

### 1.a Stratospheric ozone depletion

In this day and age most new findings related to climate change and sustainable development are gloomy at best. I was surprised to find that there is an area where humanity has vastly improved with regards to the eco-system, namely the ozone layer depletion. [During the last century], "the appearance of the Antarctic ozone hole was proof that increased concentrations of anthropogenic ozone-depleting chemical substances" (as described by the Stockholm resilience center, which in turn refers to Steffen et al. 2015). Even though this fact is clearly alarming, the article proceeds with stating that we appear to be on the path that will allow us to stay within this boundary of what is an acceptable level of ozone depletion.

### 1.b Atmospheric aerosol loading

Another interesting fact from the same article that I found is the various unknown variables at play, i.e, besides certain emissions, what else might be damaging for the climate and if so, how damaging is it? The article states that the behaviour of aerosols in the atmosphere is extremely complex, depending on their chemical composition and their geographical location and height in the atmosphere. This essentially means that their effects are not entirely accounted for and that their atmospheric concentration has not been aggregated. The article continues by stating that relationships between aerosols, climate and ecosystems are well established, but that causality is yet to be established.

## 2 Question 2, ICT solution

In this section I will elaborate on an ICT sustainable solutions.

### 2.a Waste saving applications

One third of all produced food in the world is thrown away at a cost of 750 billion dollars a year, roughly the entire GDP of Switzerland. According to Karma, a company which has developed an app to combat food waste (Karma website), food wastage represents four times the waste of the global airplane industry, circa 25 percent of all global emissions. Not an insignificant amount of media coverage is devoted to emissions from transport and packaging. These however pale in comparison to the fact that too much is thrown away, "a great share of all greenhouse gas emissions comes from food waste. Production of food has a significantly greater impact compared to the packaging it comes in." (Williams, referred to by aforementioned website). It is evident that more frugality and economical decision in the households and restaurants would decrease emissions far more than banal climate conscientious food options. In short, Karma makes food saving profitable for all stakeholders, which is why it has skyrocketed in popularity.

### 2.b Karmas application

The notion of food savings in the restaurant industry is nothing new. According to Karma founder Ludvig Berling, long have there been ways to save food wastage by donating food, Karma however is first with creating a user-friendly implementation, where the consumer seeks out the restaurant in question (2020, Soold). These operations have in most cases been run by charity organizations like the Swedish Church, and throwing away food has often been more viable than going through hoops of the complicated charity operations. The application incentivizes both users and restaurants to minimize food waste in order to save money, hence the lollapalooza effect from the combined advantages of incentives and UX, which encourages both parties to participate. In practice, enterprises sign themselves up and register their addresses in the karma webpage. Karma reciprocates by publicising their address and corresponding discounted food items in their application on an interactive map, which consumers can browse. Payment is handled digitally, upon which only the uncomplicated matter of collection remains.

### 2.c Sustainability goal conflicts

After some pondering and navigation through the app, I noticed a lot of advertisement from restaurants with no discounted food, but just plain advertisement of restaurants. One could make the argument that Karma lures enterprises and consumers in with promises of saving food and money, and then uses said base to promote regular spending on food instead of their core business segment,

which is limiting food waste. Consequently, the original intentions might be disregarded in favour of the ever profitable advertisement industry.

## References

Håkan Sould, 2020, Karma räddar överbliven mat från att slängas <https://www.kth.se/aktuellt/nyheter/karma-raddar-overbliven-mat-fran-att-slangas-1.971318>

Karma Website, About food wastage <https://staging.karma.life/sv/om-matsvinn>

Article presented by Stockholm University:, date and author unknown, The nine planetary boundaries: <https://www.stockholmresilience.org/research/planetary-boundaries/the-nine-planetary-boundaries.html>