SUST 101 Module 2 Paper

(Note how the sources and concepts are in **bold** text.)

Module 2 really brought into light how the pieces all come together to make the whole, whether it be a system, an issue, or a solution (aka **systems thinking**). More specifically we looked at the **interconnectedness** of animals, components that lead to **air pollution**, and the many actions we can make to stop and reverse the negative affects we have had.

Unit 4 from part A of the readings focused in primarily on the organisms in a system and how they can interact and create balance in a system. Three things that really stood out was the **energy transfer** through the **trophic system**, **r-selective and k-selective animals, and coevolution**. The trophic system is intriguing because it begins with plants absorbing energy and converting it into something herbivores can eat and then partially use, then is once again partially passed on to omnivores and carnivores as they eat the other animals and thus take in some of the energy from them. The energy is essentially funneled down (really up) the **food chain** till it hits the decomposers who typically eat the dead animals and decompose the corpses, now even these decomposers can be eaten, thus finding a spot in the middle and top of the food pyramid. R-selectivity and k-selectivity come into play in the development of **ecosystems** and the species that inhabit them. Species that are r-selective typically live in new or unstable habitats, where the species quick reproduction: fast gestation and development leads to the ability to reproduce and pass along genetics. Species that are k-selective however focus less on quick reproduction and rather focus energy on what is believed to be intelligence and development, thus requiring longer gestation and a much longer parental guidance period for offspring. Given the stable surroundings, k-selective species take advantage of the time they are typically allowed. Coevolution was my favorite topic as there are many species around the world currently that have **adaptations** that are meant to fend off predators and in some cases there are still species who will overcome these adaptations through adaptations of their own,

similar to the bat and moth example in the unit. I think time traveling to see how the relationships between species has evolved would be an amazing journey to experience. Thus with these examples we see how animals and the environment have a deeply imbedded interconnectedness with one another and often themselves, similar to we humans and our environment.

Parts B and C both touched on the topics of human contribution to the **degradation of many portions and zones of the Earth, especially the atmosphere**. There are so many ways that we contribute to the **CO2 emissions** that pollute our air and contribute to **climate change**. **Unit 11** from part B had a good systems map of the various ways that emissions enter the atmosphere when we are in the city driving our cars, the suburbs with factories, farms with animals and evaporation of water with chemicals, sea with boats and ocean liners, and even the air with planes. The unit also explains the threats of the **pollution**, such as smog, acid rain, slow poisoning of citizens, and even destruction of the ozone. So it can be seen how we in many ways contribute to the **air pollution**, it is not as simple as many people believe it is where we all drive hybrid vehicles and things will be okay. There are drastic changes that need to be made. This relates to part C where we looked at **the commons dilemma**, where the greed of an individual, or the negligence of a group, can bring down everyone. Now while **Lloyd** looked at cattle in a field, and we looked at MnM's in class, the issue can be far greater, such as air pollution where **corporations** may think that what they are doing is just a drop in the ocean, or they might have the mentality of if they don't do it then someone else will. Once again, we are all interconnected, what one person, corporation, nation, or even continent, does can affect a mass amount of people if not the world over times.

I would like to end on a positive note: the possibilities for change. Part B touched on **Project Draw Down** where the presenter touched on the 80 methods currently being practiced to halt our CO2 emissions, which spanned from educating women, to changing the way we eat, and of course how we make and use our energy. This is once again an example of the interconnectedness, as well as the **causality** that we have on our environment is so many ways that we may not think of. I cannot think of an

average person that would follow the **system map** from CO2 emissions to overpopulation, to inadequate contraception access and education, thus educating women being number 6 an family planning being number 7 on the list of most effective ways to lower our CO2 contributions. The ability to look at an issue and follow the breadcrumbs till we see an issue in the way we live is something we should all try to learn, not in a deconstructive way to see our flaws but to see the possibilities for growth and improvement. Part C shows this interconnectedness though **religion** and how we all think similarly but are divided by the label of religion. As I discussed with my group, I think we need to use philosophy with generic religious values in order to unite people to care for our Earth.

So while it may not always be very evident, there are almost always connections to be made and seen, thus I think the greatest take away of the module was the small contributions that add up.