

Professor Martin

Sustainability 101

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Module 2 Summary

This module had many readings relating to pollution and our impact on the environment. Part A of the module was all about ecology and gave us an introduction on what it is. Ecology is the study of relationships in the natural world. Knowing the relationships between things in nature is important in understanding the flow of that environment, and is a key component of systems thinking. It's like interconnectedness. It's also useful to understand how ecosystems function because it can help us better understand how changes in the environment will affect them. Changes in the environment can be things like pollution and human consumption, which is discussed in part B-1, B-2, C-3, and both of the honors readings. The author of part B-1 described the many forms of atmospheric pollution. They explained that there are four types of processes that affect air pollution which are emissions from human activities or biological organisms, chemistry from chemical reactions in the atmosphere, transport in which wind carries pollutants far from their source, and deposition which is when materials in the atmosphere return to earth. The honors reading of part B relates to the emissions and transport processes of pollution discussed in that section. The author explained how pollutants in pesticides will not only affect their targets but everything around and connected to it. Spraying these pesticides will pollute the air, and the transport process carries them even farther away. In the reading they said that only about 15% of the pesticides actually reach the target and the rest gets dispersed into the

environment. The pesticides also affect the organisms people consume, which then affects the people who consume those organisms. This can be related back to part A of the reading when they discuss the energy flow in ecosystems. Though this isn't about the energy, it still demonstrates the connection between different trophic levels. It flows from the sun, to the producers, to the consumers, to the decomposers, to inorganic nutrient pool, which goes back to the producers. This demonstrates how everything in the system is connected and pollution will affect everything that consumes it. Our effect on the environment is the focus of B-2 of the TedTalk about the many solutions to global warming. It related a lot to our consumption and unsustainable ways we live that are contributing to climate degradation. He mentions things like how our food waste emits 8% of greenhouse gasses, and his main takeaway message of his talk was that we must turn out exploitative and extractive system of living into one that's restorative and regenerative. This relates to the honors reading of part C where the author discusses human impact on the biosphere. They explain how there are ecosystem services with different categories that serve humans in different ways. Though these systems serve humans and keep us alive, we use them in unsustainable ways in mass quantities. This relates to the C-3 reading on the tragedy of the commons and its relation to exploitive consumption. When we consume things without considering the rate of consumption compared to its natural rate of production, we create an issue of depleted resources, and harm to that ecosystem. Also, with one of the greatest "commons" provided to us being air, pollution from things we consume and use destroy our commons due to our exploitative and extractive lifestyles. This becomes a greater issue the greater the population is, which is mentioned in part C-1. The author says that most environmental problems are related to the population increasing at high rates. With each increasing individual comes more pollutants

created, more habit depleted to accommodate for their consumption, and more carbon and greenhouse gases emitted. We cannot just take from nature without considering what's good and bad consumption. What we consider good or bad varies from person to person based on our personal philosophies and beliefs that we follow. This is discussed in part C-2 where the author describes different philosophies and religions and their values of nature. It would be beneficial to spread philosophies that promoted using just what we need and considering the consequences of our actions. The reading also mentioned that many religions had some level of valuing nature, which can hopefully make people more inclined to care more and turn their exploitative and extractive lifestyles into sustainable and regenerative ones.