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場所：横浜国立大学環境情報 1号棟3階305室

Title:

「The Collapse of Biodiversity – Can we survive in the future?」

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The 35 hundred million years history of life on the earth has faced 5 times of extreme extinctions called as Big Bang. And in the present day, it is feared that we human would raise the 6th extreme extinction.

The latest extreme extinction occurred at the end of the Cretaceous period known as the Extinction of Dinosaurs, when half of total species on the earth were considered to extinct. In the extinction caused by natural events, the extinction advanced gradually over a few million years, and the extinction rate is estimated 10 to 100 species per year. On the other hand, the extinction rate in the present day is extremely high and estimated to be 40,000 species per year.

Originally, the extinction must be an important biological event providing a new chance for evolution of species. For example, the extinction of dinosaurs produced a new stage for evolution and diversification of mammals, which resulted in appearance of human. However, it is warned that the extinction speed in the present day is so high that evolution of new generation species could not catch up and consequently biodiversity will be collapsed rapidly.

The causative agents of the present biodiversity decreasing are anthropogenic disturbances such as deforestation, habitat fragmentation, pollutants, over exploitation, invasive alien species and global warming. The root of crisis of biodiversity is derived from huge population of human. It is considered that the increasing rate of human population is more than 100 times as high as those of other animals of the same body size with human.

The huge population is now consuming too much energy on the earth. Originally, all of lives have kept balance in population size for each species rotating materials and energy in natural ecosystems. The sun light have been the only energy coming from outside of the systems.

However, we human are destroying the natural ecosystem pyramid, and 70 hundred million people dominating and parasitizing over the natural ecosystem. Of course, the sun light is not enough for supporting such a huge population, so that we are digging up the fossil fuels as well as we can and burning them to get necessary energy.

Then, in order to get enough food, we are over hunting wild life and expanding the agricultural area. Furthermore, we are abolishing a lot of waste into the field. These huge environmental loads are disturbing hardly the natural circulation in ecosystems.

In the present lecture, we would like to grasp the state of anthropogenic impacts on biodiversity and to consider how we should confront the crisis of biodiversity in order to save the future of wildlife, and of human ourselves.

Everybody, Please feel free to Participate!!

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