



What you should know about Biodiversity

Guyana joined many other countries around the world in celebrating the International Day for Biological Diversity on May 22, 2018. With that, you would have probably read a lot about species and ecosystems diversity and how some of the world's biodiversity has had to be protected because of man's actions. This week's article will shed light on what some of these terms really mean and what you should know about them.

- **Species** - a group of organisms capable of interbreeding and producing fertile offspring of both genders and separated from other such groups with which interbreeding does not (normally) happen.
- **Ecosystem diversity** - is the variety of ecosystems in a community of living organisms interacting with each other and their surroundings, e.g., forest, ponds, savannahs, marshes, etc.
- **Species diversity** – this variety is the basis for distinguishing organisms into different groups, e.g., humans, insects, cats, dogs, fishes, palms, mangroves, etc. Species diversity plays a pivotal role in making life on earth expansive, captivating and unique. Although biologists are not really sure how many species live on earth, they have agreed that it is an astronomical number since the estimates range from about 2 million -100 million.
- **Genetic diversity** - within each species there is a genetic variability causing each organism from the same group to be different. One example of diversity within species is dogs; dogs are a single species but there are many different “breeds” of dogs.

Factors affecting biodiversity

- **Extinction**
According to scientists, since the beginning of the Industrial Revolution when man began to use a lot of machinery to make work easier, a large number of species have gone extinct. According to research, human actions have accelerated the rate of extinction to 1,000 – 10,000 times faster than natural extinction.
- **Habitat loss, degradation & fragmentation**
A rapidly increasing human population and the quest for wealth have been causing significant degradation on the world's ecosystems. Since the habitat and food of species are specific habitat disruption has affected species productivity due to factors such as food shortage, increase in predators, etc.
- **Invasive Alien Species**

This is a very important cause of extinction which is usually overlooked. However, invasive alien species can invade an ecosystem and out-compete the native species thereby forcing them out.

- **Pollution**

This is another factor which poses serious threats to species, since many species are habitat and food specific. Contaminants can alter the habitat and food supply of species, thereby affecting their productivity and survival

- **Climate Change**

This is a single indispensable factor which threatens species and ecosystems. The distribution of many species is largely determined by climate. In addition, many species of birds and marine turtles are migratory. The change in climate will shift this distribution and affect the productivity of species since climate can become relatively unpredictable and difficult to forecast. In addition, changes in climate will cause changes in ecosystems and ultimately habitats, hence many species will be unable to adapt to these changes in conditions, thereby accelerating the rate of extinction.

As a result of the issues of habitat loss and degradation of the environment due to pollution, timber harvesting and more direct threats such as overhunting and trapping have resulted in many species becoming endangered. Endangered species, such as the Harpy Eagle, Arapaima and Jaguar which are all found here in Guyana, are at an overall low in population size in the world today. As a result, if existing populations are not monitored through conservation strategies, they may soon be added to the list of extinct species.

As such, the work done in Guyana over the last 22 years has been especially vital in conserving our wild flora and fauna. As last week's article pointed out, a few of the strategies that have been implemented are:

1. Development of a National Biosafety Framework
2. Conducting training workshops on biosafety
3. Regulations on access to genetic resources and benefit sharing
4. Establishment of protected areas
5. Development of wildlife regulations.

As we continue to celebrate our achievements in biodiversity conservation over the last 22 years, we call for the continued support of relevant Agencies and you, the general public to ensure our natural wealth is preserved, since we all benefit from the goods and services biodiversity provides.

You can share your ideas and questions by sending letters to: "Our Earth, Our Environment", C/O ECEA Programme, Environmental Protection Agency, Ganges Street, Sophia, GEORGETOWN, or email us at: eit.epaguyana@gmail.com or follow us on Facebook and Instagram.