



Challenging Factors Influencing Biodiversity



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Submission: September 21, 2018; **Published:** October 11, 2018

Introduction

Bio diversity, the diverse kinds of living things evolving over the ages and adapting themselves in a particular habitat, plays an inevitable role in equilibrium and sustenance of a natural ecosystem. It also helps build resilience and stabilization of different species of ecosystem. In general, it tries to remain in a balanced state until and unless some perturbations creep in. Whether it is human caused or not, it entirely has severe effect, creating imbalance in the whole process. In the long run, extinction or endangering of species occurs. These perturbations are often termed as stressors. These stressors, also known as drivers, are either directly human driven or indirectly human driven. Whatever be it, these stressors leave a bad impact in biodiversity or pose as a threat to biodiversity.

Precisely, all compositional elements of biodiversity are inter-dependent. As such loss or extinction of one element may cause the whole system to enter into a disoriented phase. Once this phase begins, this is somewhat irreversible. Among the stressor, some of them deserve special mention, like, habitat loss, climate change etc. Due to globalization & paramount industrialization, the natural habitats are either in depleting or in dilapidated conditions, making them slowly unsuitable for the living of certain species. As a result, those species try to move to other regions in search of habitat loss. Their migration from one place to another leads to conflicts among themselves as well as with others already living there. In the same time, the interdependent species also get affected which rely on the migrating species either food or for other interrelated activities.

Growing population of world is fueling this stressor like anything. Human being is always dependent on resourceful habitats which eventually give rise to conflicts between human being and constitutional species. For instance, animals losing their natural habitat tend to enter cropland or cultivation periphery of mankind. As such, these animals often become prey in most cases. However, there is causalities in mankind too. Acid rain, air pollution, fertilizers, herbicides and pesticides, often coined as man-made pollutants, are found to change and jeopardize habitats and their species in numerous ways as well.

Another stressor is climate change. The habitat loss is basically caused by climate change. This stressor leaves behind so much

pronounced affect that others simply lag behind. There is alarming rise in global temperature and the temperature of earth, over the decades, has risen by few degrees. Although, short term effect is not noticeable, however, the long-term effect is really thought-provoking. If we have a closer look of the earth's lithosphere, then over the centuries, we can notice certain things, like, disappearance of some region, inundation of a major area in earth, deforestation etc. The main reason behind them is none other than the climate change. It is a known fact polar ice caps are melting gradually, and lot of icebergs have become a part of ocean, thereby raising the sea level alarmingly. Accordingly, there is fast inundation of low-lying areas which, once, happened to be one of the natural habitats for species. Precisely, overall climate pattern changes, which include variation in precipitation, endanger sources of food and water. Once they are affected, there is a negative impact on breeding and nesting habits. This leads to change of species' geographic ranges. Although climate change is relatively slower as compared to other stressors of biodiversity, it has certainly gained momentum and may be speeding at a rate where native species will not find time to adapt.

Besides, intrusion of invasive species is also considered as a stressor of biodiversity. This may arise either by direct or indirect human intervention. Noninvasive species include non-native plants, animals, diseases or other organisms which get transferred unnaturally from one ecosystem to another. In the long run, they pose a threat to biodiversity when these species live through adaptations. While doing so, there may be competition, preying upon one another or interbreeding with native species. This eventually creates an entirely new ecosystem, especially in islands or freshwater habitats. For example, humans introduced the Nile Perch for sports and subsistence fishing to Lake Victoria in Africa, where it has eaten many of the native species and very well might lead to their extinction. As per estimate of scientists, there has been half species extinction due to introduction of these alien species.

Although these stressors cannot be stopped or eradicated totally, however, they can be mitigated. So far, their causes are concerned; most of them are basically caused by human intervention. There is imminent need to look into this aspect. Globalization and industrialization are essential for growth. But, there should be mea-

asures such that they are executed without or with least impact to biodiversity. In such circumstances, policy makers play an important role. When there are strict and punitive measures for assessing effluent emissions or discharge; albeit with a threshold limit, the relevant industries will adhere to these norms, thereby reducing all types of pollutions to a considerable level. Simultaneously, there

must be efforts in encouraging them to adopt innovative measures for zero discharge. For all these, there should be synergistic approaches from governments and stakeholder to make our earth a better place with rich elements of bio-diversity, otherwise, it will not be far when most of rich species shall remain as memory in lieu of existence.



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