

Ecosystem Restoration

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The Bengal tiger has almost 70% of its population in India. Due to poaching instances its population declined and they became endangered. Today things look a little better. The Corbett National park has a good number of Bengal Tiger, but their overall number is still around 2000.

We hear tales like this all the time. Whether it is Tigers, Rhinos or even our National Aquatic Animal, much of the world's wildlife is under threat. It's really concerning and eventually just numbing.

But is it all worth worrying about? Suppose the Indian Cobra goes extinct tomorrow. Sure, it will be sad that there aren't any more of these fascinating creatures but it's not like we cannot live without them. Besides, Humans have their own problems to worry about- than to spend crores of rupees preserving animals. So, what is the point of conservation?

There are so many reasons not to save endangered species. The most obvious one is the staggering cost. India is already spending 100 crores over 5 years to bring back the Gangetic Dolphin and other species back from the brink of extinction. But why should we spend all that money on wildlife when we could spend it to stop people dying of disease? It can be very hard to understand why we should save the Indian Leopard when it poses threat to villagers and livestock. It makes us believe that there are some species we would be better off without.

There have been 5 mass extinctions that wiped out so many species. The last one, took out all the dinosaurs. We humans weren't present back then. So, if extinction goes on even without us, why should we stop it anyway. However, the extinction rate has increased many folds over the last century because of humans.

Many of us have a very simple answer to why should we save species: because we think it's morally correct or that we want to. We love nature and find animals cute or just fascinating. It's beautiful and that aesthetic value is a reason to preserve it, just like we try to preserve the Taj Mahal. But a problem with this argument is that it essentially says that smelly and ugly animals don't matter. If we don't find them appealing, it doesn't have value. It also comes from a point of luxury and privilege. It's very easy for a well-off person to want preserve lions. But what about the villager in rural part whose family is in danger because a lion escaped from the zoo.

There has to be a more practical reason to save the biodiversity than just wanting to. And the fact that some people find nature beautiful, isn't enough. One can also argue that some species can help us make useful medicines. But what about the species who don't make useful things? Why are there so many campaigns to save the Bengal Tiger when it's unlikely that it's blood will ever be able to cure cancer!

Several biologists during the last century have come forward, trying to show all the ways animals and plants benefit us by just being there. These benefits, which are often overlooked and are often very subtle and taken for granted, are called Ecosystem Services. Some of them are quite obvious, like the plants and animals that we eat, the micro-organisms in our gut or the oxygen we breathe and the water we drink. Some of them are quite subtle like many important crops in India rely on insects for pollination and their decline is a major concern. It is said that if bees disappeared from earth, humans would only have 4 years to survive! Famous Ecologist, Robert Constanza estimated

that these Ecosystem services are worth \$33 trillion a year (The global economy at the time the survey was done produced around \$18 trillion a year for comparison). To put it this way, conserving ecosystems is a good investment. If species' extinction is kept unchecked, it would wipe out a large amount of global economic output. Moreover, we cannot even put a price tag on beauty.

The various safari parks associated with ecotourism are source of revenue for people. India generated almost millions from ecotourism (globally ecotourism generates \$77 billion in revenue). You don't necessarily have to care about Blackbucks to appreciate the value it contributes to the ecotourism industry. The rivers in India are of spiritual importance too, besides providing livelihood (fishery, fertile land, minerals etc.) to people. River Ganga used to have bacteriophages (viruses that can infect bacteria) and people from all around the world come to take a bath in it-as a way to wash away their "sins". The Western Ghats are amongst world's richest source of biodiversity and are home to many endemic species (Species not found anywhere else). They have huge impact on the climate. The mangrove forest (Sundarbans) protects from coastal erosion, tsunami and storms besides providing habitat to endangered species. The economic value of all of them is not even comprehensible.

Let's consider the Bengal Tigers. They are an apex predator. So, to preserve it we would need species it can feed on which in turn means having a functional food chain along with plants. Tigers are a part of wide network of species and removing one species may cause a chain reaction that changes the entire ecosystem. So, we conserve them by preserving their habitat(forest) and the species that are already there. Of course, preserving forests means good supply of resources (Timber, Sandalwood, Plywood, Rubber, Nuts and fruits, Medicinal plants, etc.). They also help bring rain-so more reliable source of fresh water. Also, more the species more stable is the ecosystem (David Tilman, 1994) which means they are more resilient to heavy rainfall or droughts. Hence, while it may not be obvious what's the use of a tiny insect-it may be supporting the ecosystem it lives in. And the ecosystem in turn would be providing resources.

Thus, whether we see the economical approach of restoring the nature or not, the science tells us that ecosystem provides us with things we can't do without. And greater the biodiversity in it better the ecosystem. So, for our own good- we should protect them. We forget that even we are part of ecosystem-Imagine someone trying to get rid of us in a similar manner! Environmentalists therefore, now say that we cannot preserve nature without understanding it's importance for humans. We can't keep on living without restoring our balance with nature because it's not just a matter of direct benefits it provides us. It's our entire survival-that depends on it. Human Society and those wild ecosystems are inseparable. We can't save all the species even if we try. But that doesn't mean we leave things as they are. We must ensure ecosystems are healthy and diverse because what's good for them would be good for us.

This is an original essay written by me.

Thankyou.