The relationship between economic development and ecosystem degradation

Degradation - The quality of the ecosystem is reduced and is therefore less able to provide its goods and services.

Destruction - The ecosystem is completely removed through total clearance.

The Relationship

The development of a country impacts the level of ecosystem degradation that occurs. As countries become developed and move into the manufacturing industry the level of ecosystem degradation increases.

1. To begin with LDCs do not degrade their ecosystems. This is because many people use subsistence farming and are in the primary sector of employment. It is also because the country cannot afford to access the technology.

Figure 3.15 Possible relationship between ecosystem state and economic development

2. As countries begin to develop and become LEDC the rate of ecosystem degradation increases. This is because the country is rapidly developing and therefore deforests large areas to build infrastructure and factories, as well as to use the land for agriculture. Further to this the amount of pollution increases in both the air and water leading to further degradation of the ecosystem.

3. Finally when a country becomes fully developed into an MEDC the rate at which the ecosystem is being degraded decreases. This is because after development they begin to invest in restoring the damage that has been done. The country has the ability to support both the people and environment because they have created a stable economy.
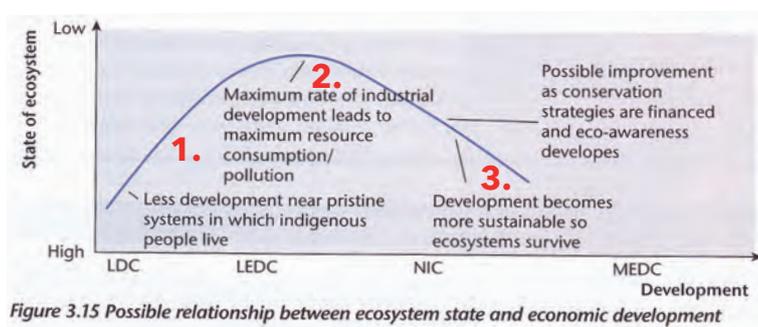
CASE STUDY: Udzungwa Mountain National Park.

In order to conserve this national park containing 276 tree species, 50 endemic species and 55 species of mammal the Tanzania National Park authority has worked with local people to develop a sustainable **bottom-up** strategy.

This included setting up tree nurseries, developing fuel efficient stoves for cooking on using rice husts to solve the firewood crisis. Agricultural diversification has taken place with projects such as bee keeping, poultry and vegetable farming providing employment for local people. Micro-businesses, ecotourism and improving heath and education services has also occured due to this bottom-up project.

CASE STUDY: The Masai Mara Game Reserve

A breakdown in management with the Masai people has led to the degradation of this grassland ecosystem. Money generated from fee paying tourists was supposed to go towards providing social services, supporting local tribesmen and paying rangers.

However, the money never reached its intended destination, meaning rangers lacked basic radios and X4 wheel drive vehicles. As a result little could be done to prevent the widespread illegal hunting of game.

In the future the support of the Masai people is required in order to protect the reserve. It required them to give up some of their best cattle grazing land in order to benefit the local wildlife. A possible step up for this reserve is for 'game utilisation' which allows a small number of people to legally hunt game, stopping further degradation of the ecosystem.

CASE STUDY: Soufriere Marine Management Area (SMMA)

In this example the management is focused on the marine area around the Caribbean coastal town of Soufriere on the island of St. Lucia. Here biodiversity is huge due to coral reefs. Many people in this town work in fishing, agriculture and tourism. The area was created due to:

- the degradation of coastal water quality impacting human health
- depletion of near-shore fish reserves
- degradation of beaches and landscapes due to hotel development
- anchor damage caused by private yachts mooring

In this marine area there are 5 main stakeholders, these are:

1. Between dive operators and fishermen - the fishermen want to fish in the reef but cannot due to divers
2. Yachts and fishermen - many owners of private yachts are mooring and fishing areas
3. Local communities and tourists - many locals conflict with tourists who are using the beach blocking access
4. Fishermen and local authority - conflict over the location of a jetting in a prime fishing location.
5. Fishermen and hoteliers - conflict over the use of the beach for commercial fishing or recreational, tourism-orientated activities