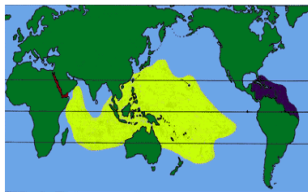


Introduction

Coral reefs are some of the oldest ecosystems on earth, they are built by a variety of coral and other species that cover skeletons of calcium carbonate that build up over time. Corals are live animals made up of a group of polyps. Each polyp makes a skeleton for protection and support. It then joins its skeleton to those of the polyps around it. So, because of this, the individual skeletons of hundreds of coral polyps live as one coral settlement. Polyps are always creating new skeletons at their bottom and sides. As this happens they expand upwards and outwards from the coral centre. They grow on top of the old skeletons, which have died. New polyps can be created. So because of this happening, most of the structure of a single group of coral and of the larger coral reef comprised of many coral colonies, is made up of dead skeleton material. A live, healthy coral has only a thin layer of living material that lives on its surface. Because they depend on light, coral reefs require clear water for growth and can be severely damaged by sediment or other factors that reduce water clarity or quality. Other types of corals that do not require warm water or sunlight are found in deep water, providing important habitats for commercial, recreational and other species. Coral reefs have existed on earth for about 450 million years. Coral reefs can grow to be massive structures extending over wide areas of shallow tropical and subtropical seas. In this case the coral reef is found in Palau, which is located north of Papua New Guinea.



Coral Reef Regions of the World

Indo-Pacific
Red Sea
Western Atlantic

Threats to the Reef

Coral reefs are deteriorating. Symptoms include:

- ▲ loss of hard corals
- Increase in algae
- ▲ dramatic increase in bleaching episodes and disease outbreaks

This is because of...

- Population increases
- Shoreline development
- Increased sediments in water
- Trampling by tourists and divers
- Ship groundings
- Pollution
- Over fishing
- Fishing with poisons and explosives could destroy habitats



Coral Reefs



By Kumar
Shah

Why is coral so important for the environment & why does it need protecting?

Besides their environmental value, coral reefs are a big money maker for the near by towns, they are of social and cultural importance to the countries they surround.

Many islands are formed exclusively from coral materials, and owe their very existence to their coral reefs. These include the 80 atolls in French Polynesia, as well as many coral islands scattered over the Indian Ocean.

Coral reefs are of crucial importance as natural barriers protecting shorelines from destructive storms and waves, especially in cyclone areas

Coral reefs are the main source of food for countless island inhabitants: 90 % of all animal protein consumed in most of the pacific island is from marine species

With some of the most spectacular marine landscapes in the world, coral reefs are an invaluable asset to local tourism and leisure industries

Conclusion

Palau could exploit the reef and allow tourist in with total disregard to any environmental consequences that will result or they could protect the reefs by preventing tourists from visiting which will result in a loss of valuable income and jobs.

Sustainable development allows the reef to stay alive and also make the best use from it economically. Here is what will:

1. Hotels will be made further away so no mangrove trees are cut down.
2. Heavy fines for removing coral from the sea.
3. Environmental Legislation.
4. Adequate sewage systems
5. Limit water sports to certain areas
6. Educate tourists better about the reef (like what this leaflet is doing).

Protection of the Reef & What Tourists need to do

Tourists are a major reason why the reef in Palau is getting worse, but tourists need not be a pest. If you follow these simple steps then it shall benefit the reef.

1. Do not touch any coral.
2. Do not touch marine creature.
3. Make sure you do not trample anything.

The government or local government should try and help as well this is what they can do to help:

1. Ban diving and swimming in the area, or make guided tours, which will show the public the coral, whilst being led by an expert.
2. Ban fishing in the area, and also make permits for fishing harder to achieve, or make a fine for fishing.
3. Set up an organization to help stop the cutting down of the mangrove trees.
4. Make a speed limit, and have a certain area for water sports, which is away from the coral.
5. Use better piping, and pumps the sewage elsewhere in the ocean.
6. Not let ship within a certain area of the coral, or put up a barrier.

Sustainable development is the best way to solve everyone's problems. It allows Palau to make money and make sure the reef is healthy.

Healthy Coral Reef Ecosystem:

