

# THE PRICE OF CORAL TRANSPLANTATION

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## UNDER THREAT

Coral reefs are regarded as one of the ocean's most beautiful treasures and acts as a reservoir for biodiversity and support a booming tourism industry. Unfortunately, coral reefs are degrading due to destructive fishing methods, chemical pollution and increasing water temperatures due to climate change. To fix this, coral transplantation is used as a popular method to restore our reefs back to its full ecological and biological function. **While it may seem like a brilliant solution, coral transplantation is an expensive and ineffective method in restoring our reefs.**



Figure 1. Coral being transplanted by marine biologists in Florida

## COST

Coral transplantation is a very expensive and time-consuming process that only wealthy countries are able to afford. It is simply not feasible in many developing countries in small communities. The bulk cost comes from manual labour, operating expenses and equipment. With such expenses, it is impossible to establish a large scale project to establish the reefs.

## PRICE TAG

- **Maintaining coral nurseries:** \$800 USD each and up to 3000 man hour
- **Developing country:** \$160,000 USD per hectare to restore
- **Developed country:** \$280,000 USD per hectare to restore

## LIMITATIONS

- Not enough long-term studies conducted to find out how effective transplantation is
- No standard metrics in measuring the success of coral transplantation
- Collection sites are not well studied
- Environmental factors such as hotter water temperatures increase mortality of coral
- Intrinsic factors such as poor immune function due to genetic background

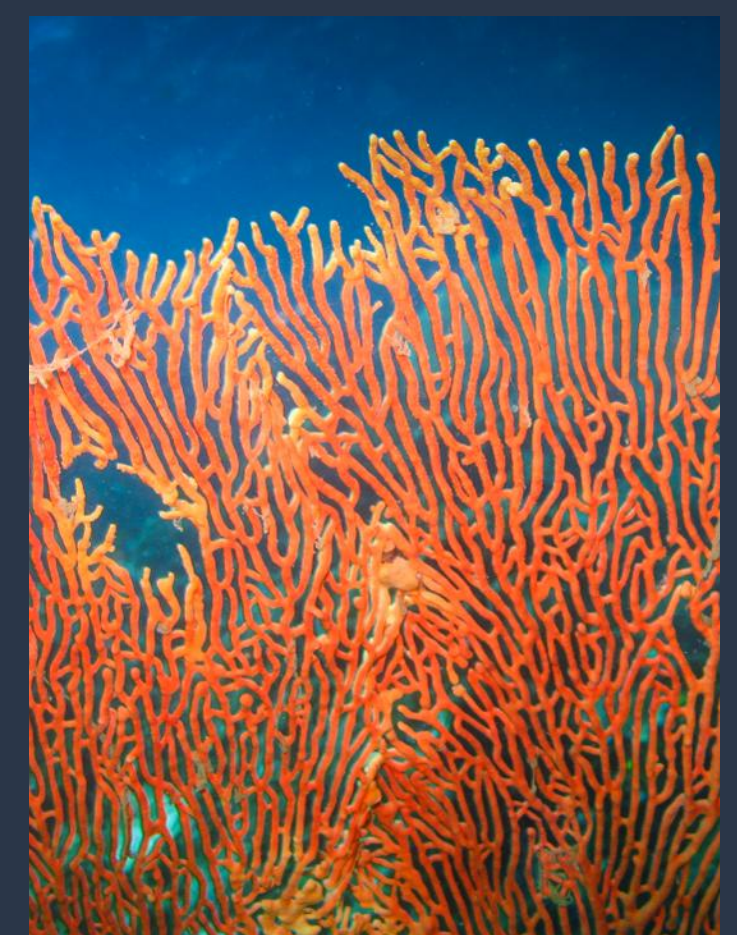


Figure 2. Picture of fan coral

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## RECOMMENDATIONS



Transplantation only works if it is done in concert with preventative conservation techniques such as the implementation of MPAs, enforcement of marine regulation, and education. Transplantation by itself is not an effective tool.



Must eliminate the underlying threat that cause the decline in coral reef in the first place. That means fighting climate change to lower water temperatures. There is no point in fixing our reefs if global climate change is going to destroy the reefs.



Develop tools and guidelines to measure the success rate of coral transplantations. Longer studies that are over 5+ years need to be conducted to study the efficiency of the transplantation method.



Spending more money and effort protect our existing coral reefs than spending money fixing those that have already die. It is more cost efficient and time-saving to protect what we have.



**Figure 3.** Healthy coral part of the Great Barrier Reef

## CONCLUSION

Coral reefs provide us with a bountiful number of ecological, social and economical benefits. With the threat of climate change and destructive fishing and pollution, our corals are currently being degraded. They need to be severely protected and to protect them, coral transplantation is not the way to go. It is an expensive and time-consuming process that is often not well studied. It is essential that we get rid of pre-existing factors that cause the decline of the reefs in the first place such as climate change than to spend money fixing on reefs that are already gone.

**TRANSPLANTATION ON A LARGE SCALE... COULD NOT BE USED AS AN EFFECTIVE CONSERVATION TOOL IF THOSE STRESSORS ARE NOT ELIMINATED.**

**-GARRISON & WARD 2011**

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## **Recommendations**

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