

YTR JAKARTA

Introduction

In February we were given the assignment by Happy Green Islands to write a report on waste management on the Moluccas and the stakeholders that were involved in this process. Through Happy Green Islands, we were able to meet with YTR Jakarta. An organisation that uses art as a medium to improve the local coral reefs. In this report you will find information about the organisation and its partners, the current state of the coral reefs and local tourism. Following this is a conclusion in which will be given a conclusive advice towards YTR Jakarta.

Due to limited time and resources for this report, the information may not be as representative. Our recommendations are based off of reports and our own point of view. This is why the recommendations should be viewed as guidelines, rather than real recommendations. The interview we did with Mira (see Appendix 1) gave us more insight on the way YTR Jakarta works and the project they have done in the past. We have gotten an insight in their partners and what they do.

We have learned a lot about coral reefs worldwide, in Southeast Asia and Indonesia specifically. The effects of climate change are affecting marine biodiversity and coral reefs. This will also impact the Indonesian economy. That is why the projects of YTR Jakarta are highly important and are hoping to see more in the future.

We want to thank the Indonesian Diaspora Network (IDN) for introducing us to YTR Jakarta with the help of Kees Lafeber from Happy Green Islands. Next to that, we want to thank Mira, Asrul and Bona for giving us information about their organisation and for their time.

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1. About YTR Jakarta

YTR (Coral Reef Foundation) Jakarta is a foundation that focuses on revitalising coral reefs surrounding Jakarta. The foundation does so by installing underwater art installations. By doing so, the foundation does not only create a new marine ecosystem, but also encourages underwater ecotourism. YTR Jakarta gives a couple of reasons to emphasize the importance of these coral reefs to us, the environment and marine life (Yayasan Terumba Rupa, n.d.):

- Coral reefs supply almost 70% of oxygen.
- Coral reefs feed approximately 30 to 40 million people.
- Coral reefs protect coasts against damage caused by wave action.
- Coral reefs take care of marine life by providing shelter and habitats.

YTR Jakarta mentions on their website that they have managed to instal five art installations so far. Domus Sepiae, Domus Longus, Domus Musculi, Domus Piramidis Antennarius and Selaroides (Yayasan Terumba Rupa, n.d.).

The first one being "Domus Sepiae", which also goes by "House of Squids" or "Senggigi ARTificial Reef Park", which was installed in 2014 in collaboration with the Lombok Hotel Association, Indonesian Affairs and Fisheries (KPP) and Gili Eco Trust (The Gilis, 2014). The installation is located in Senggigi, Lombok. The artist behind this installation is Teguh Ostenrik. Ostenrik, who first mentioned the reef as having an abundance of marine life, came back after a few years of being in Europe and dubbed the once lively reef a lifeless desert. The ARTificial Reef Park did not only serve as an expression of his art, but also served the purpose of revitalising the coral reef to what it once used to be (The Gilis, 2014). Domus Sepiae has eventually brought Ostenrik to be selected as Artist of the Year 2014 in the Visual Arts category by Tempo Magazine (Ostenrik, n.d.)

The second art installation is called "Domus Longus" or "The Long Home", which was installed in 2015 in collaboration with volunteer divers. The art installation is located on Waha Beach, Wakatobi in South Sulawesi. The installation bears resemblance to a yellow longnose butterfly fish, which is the mascot for the Wakatobi National Park (Satriastanti, 2015).

The third art installation is called "Domus Musculi" or "House of Mussels", which was installed in 2016 in collaboration with volunteer divers, filmmakers, and advertising professionals. The art installation is located on Sepa Island, North Jakarta. Before they were contaminated by pollution, green mussels were something Jakarta used to be known for. The installation serves as a remembrance of these mussels and their importance to Jakarta Bay (Koesoemawiria, 2016).

The fourth art and fifth installations are called "Domus Piramidis Antennarius" and "Selaroides", which were installed in 2017. The art installations are located on Sepa Island, North Jakarta.

While the YTR Jakarta only mentions five structures, the Facebook page of YTR Jakarta mentioned the 10th installation, Domus Coronarius Circularis, being installed on the 20th of April 2021 (Yayasan Terumbu Rupa, 2021). Names of other installations include Domus Frosiquilo, Domus Scutum, Domus Hippocampi, Domus Arkae Similis and Domus Piramidis Dugong (Ostenrik, n.d.).

2. Coral reef worldwide

Coral reef occupy less than 0.1% of the ocean floor, but still play multiple important roles. These consist out of biological diversity, providing key ecosystem goods and services such as habitat for fisheries and are appealing environments for tourism (Cattuso et al., 2014).

Coral reefs worldwide are suffering massive declines in biodiversity in response to human activities (Mora et al., 2006). They are also one of the most vulnerable marine ecosystems and more than half of the world's reefs are under medium or high risk of degradation (Gattuso et al., 2014). Disturbances such as bleaching, fishing, pollution, waste disposal, coastal development, sedimentation, scuba diving and many other activities are damaging to the coral reefs (Grimsditch & Salm, 2006).

2.1 State of coral reefs worldwide

A Status Report (2004) listed ten threats and stresses to coral reefs around the word. These threats and stresses are not universal as some are greater threats in certain areas than somewhere else in the world. The stresses and threats are categorized in three categories.

- Global change threats

- <u>Coral bleaching</u>: caused by sea surface changing temperatures due to global climate change
- Rising levels of CO₂
- <u>Diseases, plagues and invasives</u>: increasingly linked to human disturbances in the environment

- Direct Human Pressures

- Over-fishing (and global market pressures): harvesting of fishes beyond sustainable yields, including the use of damaging practices
- <u>Sediments</u>: from poor land use, deforestation and dredging
- <u>Nutrients and Chemical pollution</u>: organic and inorganic chemicals carried with sediments
- <u>Development of coastal areas</u>: modification of coral reefs for urban, industrial, transport and tourism developments

- The Human Dimension - Governance, Awareness and Political Will

- Rising poverty, increasing populations, alienation from the land: the increase of the human population which increases pressure on coral reef resources beyond sustainable limits
- <u>Poor capacity for management and lack of resources</u>: most coral reef countries lack trained personnel for coral reef management (which also includes raising awareness, monitoring and lack of adequate funding and logic resources to implement effective conservation)
- <u>Lack of political will and oceans governance</u>: most problems facing coral reefs are tractable for solutions if there is political will and effective and non-corrupt governance of resources.

Natural threats are not included as coral reefs have strong potential to recover from those influences. An example is a tropical storm, which will increase in frequency and severity as the effects of climate change become more visible.

Coral reefs in Southeast Asia

Southeast Asia is the global center of biodiversity. There is also a substantial economic value associated with coral reefs in Southeast Asia. Coral reefs are vital to food security, employment, tourism, pharmaceutical research, and shoreline protection (Burke et al., 2002).

Environmental pollution and damage from tourism has caused several well-known destinations to close in Southeast Asia (World Bank, 2021). Next to that, the heavy reliance on marine resources across Southeast Asia has resulted in overexploitation and degradation of many coral reefs. Main threats of coral reef degradation include overfishing, destructive fishing practices and sedimentation and pollution from land-based sources (Burke et al., 2002). Hoegh-Guldberg (1999) predicted that mass bleaching could become an annual occurrence by 2020 in Southeast Asia.

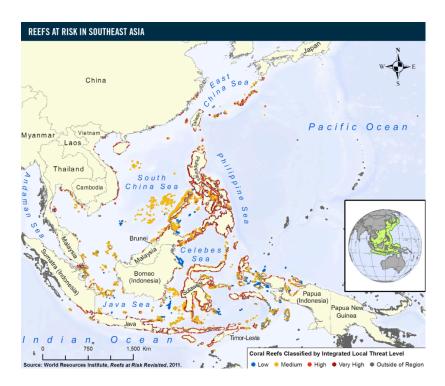


Figure 1 Reefs at risk in Southeast Asia (World Resources Institute, 2011)

4. Coral reefs in Indonesia

Indonesian waters play an important role in the global water mass transport system. The warm water conveys heat at surface to cold water also known as the great ocean conveyor belt (Asian Development Bank, 2014).

Indonesia has the largest coral reef area in Southeast Asia. The estimated extent of coral reef is likely to be about 51,000 km². The coral reef exists out of more than 590 identifies species (Asian Development Bank, 2014). Coastal zones in Indonesia represent a highly productive ecosystem that serves as an important base for the country's economic growth (Susanto et al., 2015). The richest areas of biodiversity are found in the coastal zones of Indonesia including coral reefs (Dahuri 2003). Economic benefits in Indonesia from the coral reefs through marine tourism are estimated at US\$1,000,000 km²-year (UNEP, 2006). Another report by the World Bank (2021) states that the country's tourism industry is worth around US\$21 billion to GDP in 2019 (marine and non-marine). In 2016, 44 percent of foreign visitors undertook marine and coastal tourism activities as part of their visit (Ministry of Tourism, 2016).

Around one-third of Indonesia's coral reefs are in poor condition (LIPI, 2020). Contributing factors include destructive fishing and pollution, including agricultural and urban runoff and plastic waste. Another important factor is climate change. Studies show that more than 80 percent of Indonesia's coral reefs are expected to experience coral bleaching in five out of ten years throughout the 2030s (Burke et

al., 2012). Coral reefs help Indonesia avoid an estimated US\$0.6 billion in flood damages annually (Beck et al., 2018).

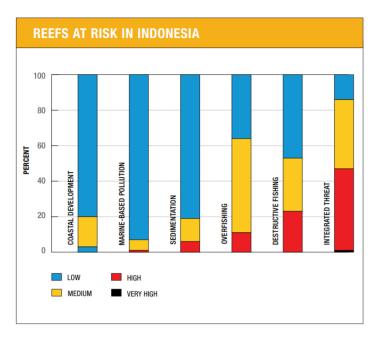


Figure 2 Reefs at risk in Indonesia (Burke et al., 2012)

4.1 State of coral reefs in Indonesia

Indonesia is subject to various pressures from inland activities. Deforestation and other land-use changes have increased sediment discharge onto reefs. Next to that, pollution from industrial companies is also a big problem. Coral bleaching was recorded in East Sumatra, Java, Bali and Lombok in 1997 to 1998. Indonesia has limited monitoring, which is crucial for coral reefs management. Few reefs are regularly studied which makes it complicated to indicate the condition of the coral reefs (Burke et al., 2012).

The biggest threats to Indonesian reefs are overfishing and destructive fishing. Due to unavailable information for many areas, the risk from destructive fishing are probably underestimated. There are few specific management measures existing to protect coral reefs in Indonesia. Indonesia is not achieving government management targets set in 1984, because there is a lack of coordination and political upheavals. NGOs have had success on a local scale instituting collaborative and community management frameworks. Bottom-up approaches may become important as the Indonesian government continues to undergo decentralization (Burke et al., 2012).

5. Marine and Coastal Tourism

Marine tourism is tourism that is mostly water-based rather than land-based. Activities that fall under marine tourism are boating and diving. Coastal tourism is tourism that mostly takes place on coasts such as beaches. Activities that fall under coastal tourism are swimming and surfing (Barrento et al., 2018). Together these two types of tourism for one of the fastest growing forms of tourism, which is an already booming industry.

6. Resources (Finances and Support)

YTR Jakarta welcomes both volunteers and donors. The foundation has set up a Coral Adoption Program, in which people can adopt corals for only 100.000 IDR. The donor will receive two tags, one tag to keep and one tag that will be pinned onto a coral (Mulia, 2016).

To further spread their message and expand the public awareness, YTR also organises events such as music performances, plays and exhibitions. They have also regularly held seminars at different schools, in which they have found that many students were interested and willing to help YTR Jakarta with their projects (Mulia, 2016).

7. Partners

Just like other organisations, YTR Jakarta works together with multiple partners to work towards its goal of coral reef revitalisation. These partners exist of businesses, other organisations, but also local population groups. To give a proper representation of YTR Jakarta's partners, this chapter will briefly detail each partner and its connection with YTR Jakarta.

7.1 Lombok Hotel Association (LHA)

Lombok Hotel Association (LHA) was one of the three partners that helped YTR Jakarta install its first art installation named "Domus Sepiae", which also goes by "House of Squids" or "Senggigi ARTificial Reef Park" in 2014 (The Gilis, 2014). The installation is located in Senggigi, Lombok.

Lombok is an Indonesian island located to the west of the island Bali and is part of the province Nusa Tenggara, also called Nusa Tenggara Barat. Lombok is surrounded by other small islands that locals call the Gili (Lombok Indonesia, n.d.).

Stephane Servin, the chairman of the Lombok Hotel Association, recognises the state of the coral reefs as something that could potentially affect the local hotels. If the reefs were to deteriorate, the hotels can not just pick up and leave, so contributing to the preservation and revitalisation of these corals is of importance to the Lombok Hotel Association (The Gilis, 2014).

7.2 Ministry of Indonesian Affairs and Fisheries (KPP)

The Ministry of Indonesian Affairs and Fisheries (KPP) was one of the three partners that helped YTR Jakarta install its first art installation named "Domus Sepiae", which also goes by "House of Squids" or "Senggigi ARTificial Reef Park" in 2014 (The Gilis, 2014). The installation is located in Senggigi, Lombok.

The Ministry of Indonesian Affairs and Fisheries has five primary goals (Neliti, n.d.):

- Develop, establish, and execute Indonesian marine affairs and fisheries policy.
- Manage assess within Ministry of Marine Affairs and Fisheries
- Supervise the execution of Indonesian marine affairs and fisheries activity.
- Provide technical support and supervise on a regional level.
- Execute technical asistance on national level.

7.3 Gili Eco Trust

Gili Eco Trust was one of the three partners that helped YTR Jakarta install its first art installation named "Domus Sepiae", which also goes by "House of Squids" or "Senggigi ARTificial Reef Park" in 2014 (The Gilis, 2014). The installation is located in Senggigi, Lombok.

Gili Eco Trust is a non-profit organisation that was founded in 2002 and is located on the island Gili Trawangan. The organisation was founded to protect coral reefs from destructive fishing. Its current goal is a sustainable island where ecotourism and a healthy environment is promoted. This means restoring local coral reefs, replenishing fish populations, ensuring waste is reduced, managed, and transported off the island, and ensuring the livelihood of locals is enhanced (Gili Eco Trust, n.d.).

Gili Eco Trust recognises its opportunities on three occasions (Gili Eco Trust, n.d.):

- The increase in eco-friendly tourism can help change the behaviour of locals.
- New initiatives that Gili Eco Trust can support without depleting their resources.
- Volunteers bringing in experience and expertise, which Gili Eco Trust can use to improve their own work.

Besides these opportunities, Gili Eco Trust also recognises its seven challenges (Gili Eco Trust, n.d.):

- Indonesia lacks existing infrastructure.
- Indonesia lacks awareness of the long-term consequences that pollution, damage to the ecosystem and overdevelopment have.
- The cultural differences and values amongst locals
- The Indonesian population lives close to the poverty line, which makes cost an always existing issue. Disposable plastic is cheap, sustainable items are usually a luxury many can not afford.
- Gili Eco Trust has limited resources and a small team. There are many volunteers, but they are usually only there for a small amount of time. This makes maintaining expertise difficult.
- The recent pandemic has halted tourism and therefore funds.

8. Conclusion and recommendations

This final chapter will conclude all the gathered information and eventually set out recommendations for future projects and improvements for YTR Jakarta.

8.1 Conclusion

The coral reefs are seemingly essential in maintaining and preserving a healthy environment. However, the lack of urgency within the Indonesian government and other important parties goes directly against this statement. YTR Jakarta has taken great initiative in preserving these coral reefs, we would like to see more collaboration with like-minded organisations and other partners, as this could greatly improve spreading YTR's message.

8.2 Recommendations

To conclude this report, we have written down recommendations to improve the process of projects and its results. As we are not well known with the current situation around the installations and its effects, the recommendations are based on several research reports.

- 1. Raise public awareness: Education and raising awareness will lead to pressuring policies. As the installations from YTR Jakarta also have the purpose to raise awareness amongst visitors and tourists, this is already a good starting point. Involving other organisations and partnering with these organisations will create a bigger impact and influences more people on the problem of coral reefs.
- 2. Monitoring of installations: To be able to compare the situation before and after the installation, it is important to keep monitoring coral reefs around the installation. This way, you will be able to see what needs to be improved and what is working for coral reefs to grow back. The accessibility of information for each installation can be useful for other organisations to compare their way of working and the way YTR Jakarta is building installations and sculptures.

Evaluations through interviews with people who live near the installations and sculptures will give an insight on their experiences with the installations.

Overall, raising awareness is already going on through the installations. To be able to also look back on the process of the build of these installations, it is important to keep monitoring the installations and its impact on marine biodiversity and coral reefs.

Another important aspect is governmental will to create policy around the preservation of coral reefs in Indonesia. As the Indonesian Government is failing in this aspect, it is important to educate each other on what is happening in the oceans and how this can impact cities such as Jakarta. This will also lead to economic damage.

Sources

Asian Development Bank. (2014). *STATE OF THE CORAL TRIANGLE: Indonesia*. https://www.adb.org/sites/default/files/publication/42409/state-coral-triangle-indonesia.pdf

Barrento, S., Masters, I., Pletsas, D. & Atkinson-Willes, J. (2018). *Tourism*. Retrieved, June 1, 2021, from ResearchGate: https://www.researchgate.net/publication/323187699_Tourism

Beck, M.W., I.J. Losada, P. Menéndez, B.G. Reguero, P. Díaz-Simal, and F. Fernández. 2018. "The Global Flood Protection Savings Provided by Coral Reefs." Nature Communications 9 (1). https://doi.org/10.1038/s41467-018-04568-z.

Burke, L., K. Reytar, M. Spalding, and A. Perry. Reefs at Risk Revisited in the Coral Triangle. Washington, D.C.: World Resources Institute, 2012.

Dahuri R (2003) Keanekaragaman Hayati Laut: Aset

Dahuri R (2003) Keanekaragaman Hayati Laut: Aset Pembangunan Berkelanjutan Indonesia. PT. Gramedia Pustaka Utama, Jakarata. 412 pp. (in Indonesian)

Gattuso, J. P., Hoegh-Guldberg, O., & Pörtner, H. O. (2014, January). *Coral reef*. Cambridge University Press. https://doi.org/10.1017/CBO9781107415379.005

Gili Eco Trust (n.d.). ABOUT THE GILI ECO TRUST. Retrieved, June 1, 2021, from Gili Eco Trust: https://giliecotrust.com/about/

Grimsditch, Gabriel D. and Salm, Rodney V. (2006). Coral Reef Resilience and Resistance to Bleaching. IUCN, Gland, Switzerland. 52pp.

Koesoemawiria, E. (2016). *House of Mussels: an artificial reef off the coast of Jakarta*. Retrieved, May 1, 2021, from Mongabay Environmental News:

https://news.mongabay.com/2016/10/house-of-mussels-an-artificial-reef-off-the-coast-of-jakarta/

Lombok Indonesia (n.d.). *THE MAGNIFICENT LOMBOK INDONESIA*. Retrieved, June 1, 2021, from Lombok Indonesia: http://www.lombokindonesia.org/magnificent-lombok-indonesia/

MoT (Ministry of Tourism). Passenger Exit Survey 2016. Statistik Profil Wisatawan Mancanegara, Indonesia: MoT, 2016.

Mora, C., Andréfouët, S., Costello, M. J., Kranenburg, C., Rollo, A., Veron, J., Gaston, K. J., & Myers, R. A. (2006, July). *Coral Reefs and the Global Network of Marine Protected Areas*. https://doi.org/10.1126/science.1125295

Mulia, K. (2016). *Yayasan Terumbu Rupa Reviving Underwater Treasure*. Retrieved May 1, 2021, from Now! Jakarta:

https://www.nowjakarta.co.id/people/commitment/yayasan-terumbu-rupa-reviving-underwater-treasure

Neliti (n.d.). *Indonesian Ministry of Maritime Affairs and Fisheries (KKP)*. Retrieved, June 1, 2021, from Neliti: https://www.neliti.com/kkp/catalogue

Ostenrik, T. (n.d). *News < Painter and Sculptor Teguh Ostenrik*. Retrieved May 1, 2021, from Teguh Ostenrik: http://teguhostenrik.com/news-update/

Ostenrik, T. (n.d.). *About Teguh*. Retrieved May 1, 2021, from IDENTITY NOMADS: https://nomads-id.com/about-teguh-ostenrik/

Pembangunan Berkelanjutan Indonesia. PT. Gramedia

Pustaka Utama, Jakarta. 412 pp. (in Indonesian).

Satriastanti, F. (2015). *Indonesian artist prepares another underwater reef-to-be*. Retrieved May 1, 2021, from Mongabay Environmental News:

https://news.mongabay.com/2015/08/indonesian-artist-prepares-another-underwater-reef-to-be/

Susanto, H. A., Suraji, & Tokeshi, M. (2015). *Management of Coral Reef Ecosystems in Indonesia: Past, Present and the Future*. ResearchGate.

 $https://www.researchgate.net/publication/296700527_Management_of_Coral_Reef_Ecosystems_in_Indonesia_Past_Present_and_the_Future$

The Gilis. (2014). *ARTificial Reef Park Lombok*. Retrieved, May 1, 2021, from The Gilis: https://gilis.asia/art-ificial-reef-park-lombok/

United Nations Environmental Programme (2006) Corals and mangroves in the front line: economic case for conservation of corals and mangroves made in new UN environment report. https://www.unep-wcmc.org/resources-and-data/in-the-front-line--shoreline-protection-and-other-ecosystem-services-from-mangroves-and-coral-reefs

Wilkinson, C. (2004). Status of Coral Reefs.

https://wwfeu.awsassets.panda.org/downloads/executivesummary01dec04.pdf

World Bank (2021). Oceans for Prosperity: Reforms for a Blue Economy in Indonesia. The World Bank, Washington, D.C.

Yayasan Terumba Rupa. (n.d.). *Yayasan Terumbu Rupa*. Retrieved May 1, 2021, from Yayasan Terumba Rupa: https://ytr.or.id/

Yayasan Terumbu Rupa. (2021). *Yayasan Terumbu Rupa*. Retrieved May 1, 2021, from Facebook: https://www.facebook.com/ytrpage

Appendix 1: Interview with YTR Jakarta

Mira's job is handling external affairs, she handles collaboration with other parties. She is in charge of sending proposals, getting corporate sponsors and the fundraising program. She handles all the collaboration with the third parties.

Teguh is the artist, he designs most of the ARTificial structures. He works together with a technical team, once the design is there, he will discuss it with the technical team, if it's possible. He will also talk with marine biologists, if it will comply with their concerns.

Asrol is the chairman. He oversees the whole program and department. He mostly attends meetings involving other people as well, Mira works closely with him when they have to face other parties, not only fundraisers, but only legal matters and permits.

Bona is the research and development head, when they decide on the location, he will help assess the location is feasible or not. He has a good artistic vision and films well underwater, he does most of their videos. He will write scripts and direct the videos.

Most of them don't have marine biology backgrounds, so they work together with universities.

Corporate sponsors, academic groups, national parks (government), individuals. Most of their structures are in the area of the national parks, so you have to ask permission and keep them updated. They work with individual artists to perform storytelling and script writers, bookwriters and illustrators.

The first one is in Lombok, because they were invited to do art for the resort. The other one is in Wakatobi, South-East (...) they put a coral day program there, it was part of conference, where they invite 300 governors from the Asia Pacific Marine Area. The outcome when you judge by coral growth, Wakatobi is the most successful so far, because the quality of the water is unbeatable, very clear and no pollution.

Media exposure is very important. They invite the media and have ceremonial stuff. Jakarta is important because everything is stationed there and it is easier to get support.

The next location is a small island. The lady who owns a resort there participated during the deployment process in Wakatobi, she invited them to her resort. This way local communities will see this is something serious and will take care of the corals. It took three years as they wanted to raise the funds, which was difficult because it was remote. They got fund through a department store. They sold coupons, when you buy something, you go to the cashier and the cashier will ask them to donate it. This store had 16 outlets in Indonesia. The spending power during Islamic holidays was quite big, during this period, they will spend more money on donations. 185 million IDR was collected. They built two installations on this location.

They throw trash in the ocean while the ship is travelling. Because this video somehow went viral and corporate wanted to cover it, they were aware of their intentions but they were okay with working with them. It is not ideal, but somehow you have to take the chance. That's how they started with that company.

North-Mollucas. By the time they decided they wanted to go there, they already had eight structures. Even though people do full time maintenance, the quality of the water plays a big role. It is close enough to Jakarta to maintain it for the next few years. The maintenance is ongoing, the result is quite good so far, because of the water quality.

East-Jakarta was chosen because of the pandemic. The travel restriction and local lockdowns caused a lot of restrictions. They had to pick a place that could be reached through car. The water should be clean enough, have a community. The spot they chose already had a fishermen community that maintained the corals.

For the future they do have a blueprint location that they dream of to build the installation. Review the community, economic impact, whether it will succeed or not economically.