

Preserving the Chirihama Nagisa Driveway for the Future

National Institute of Technology, Ishikawa College

A: Hello, everyone. I'm Taiyuu.

B: I'm Shun.

C: I'm Miho. Today we are going to talk about Chirihama Beach.

A: I was talking to my grandfather the other day, and I found out that Chirihama is getting smaller and smaller.

B: Chirihama, also known as Chirihama Nagisa Driveway, is an eight-kilometer stretch of sandy beach in Ishikawa.

C: It's the only sandy beach in Japan that you can drive on. It was also a famous beach where a lot of people used to come to swim in the summer.

A: They used to make salt using the "Agehama Salt Making" method, which is now seen only in rural areas. This is a traditional method in which they produce salt by using the sand at the seashore and concentrating seawater. This method is designated as an important intangible folk-cultural property of Japan. Also, there was a radio-controlled car competition which always had a lot of participants, but now there's a famous motorcycle event called the SSTR instead.

B: But there is a possibility that Chirihama beach will disappear in the future.

C: What do you mean?

B: The width of Chirihama beach is getting narrower and it's been observed since 1986. The beach has been eroded at a rate of about 1 meter per year, resulting in the loss of about 65,000 cubic meters of sand. In places where erosion is severe, the beach has been cut by 50 meters in 20 years. Compared with the past, the beach is now only half the size it was back then.

C: There seem to be several reasons why Chirihama has been eroded.

A: That's right. Usually, the sand from the Tedorigawa River flows out to the sea, and the tides carry it to Chirihama. The sand with large particles sinks and only the sand with small particles reaches the beach, which is then combined with water to create such a hard surface that cars can drive on.

B: However, the construction of the Tedorigawa Dam has now reduced the amount of sand flowing into the sea, and building Kanazawa Port has changed the direction of the tide and made it difficult for the sand to flow to Chirihama.

C: In addition to that, I think global warming has something to do with it. I heard that sea levels are rising. That's also why the beach has been eroded.

A: What is being done to solve this problem?

C: The Chirihama Restoration Project Committee was set up about 10 years ago. They are telling people about the current state of the beach and the need for conservation measures.

B: That has given us a great opportunity to think about Chirihama.

C: In the year since the committee was set up, they have started bringing in sand from Kanazawa Port to widen the beach.

B: The sand on the south side is coarse whereas in the north it is fine, so the sand from Kanazawa Port, which is similar to the sand from Chirihama, is used.

A: That sand is supplied by the natural wave flow to Chirihama beach. But there's a limit to the amount of sand in Kanazawa harbor, so it might not continue in the future.

B: They've also been installing bags filled with sand.

C: Sandbags can prevent rapid erosion caused by high waves from typhoons.

A: Also, they've been putting artificial reefs in the offshore areas. Thanks to these efforts, the coastline has recovered about 2 meters in the last 10 years.

C: Bringing in sand and installing the artificial measures is helpful to widen the beach, but we also need to look at an underlying aspect to solve the problem. We should take measures to combat global warming.

B: That's right. The sandy beach may have been affected by the Kanazawa Port development and the Todorigawa Dam, but I'd say it's also related to the rise in sea levels.

C: Various projects have been carried out by the government and companies. But is there anything that we can do?

A: Yes, we'd like to make two proposals. One is to raise people's awareness. The other is to combat global warming.

B: Currently, several activities are held to raise awareness of the conservation effort in Chirihama.

A: What exactly are they?

B: An event called the "Chirihama Nagisa Fureai School" is held for local children to experience seine fishing and the release of young fish.

A: I hope that the children will have an attachment to Chirihama and that conservation activities will continue in the future.

C: They also have a "Bagged Sand Per Person Activity". This is a project aimed to encourage people to think about the protection of the beach by returning sand scattered on the road.

A: If that's the case, we can do it too, right?

B: Yes, by starting with something small, we can connect Chirihama Beach to the future.

A: Can we also do something that will bring more people to those events?

C: How about developing a public transportation system like a big bus that can go from the station to Chirihama?

A: I think it's a good idea. It is important to make Chirihama more popular so that more people become aware and help to protect the beach. We can build impressive objects like long benches and beach houses to attract people.

B: It's also a good idea to advertise scenic spots on social networking sites to increase their popularity among young people, and to hold events that make them want to go there.

C: Through such events, I hope that more people will become attached to Chirihama, and that understanding and support for Chirihama conservation activities will increase.

B: By the way, as Kosen students, can we think of any solutions?

A: The physical method of bringing in sand seems difficult.

C: I don't think the installation of artificial reefs and sandbags alone will solve the underlying problem.

B: I agree. We need to do something about global warming.

A: It's possible to protect the beach by curbing the rise of sea levels, and attempting to stop global warming by reducing CO₂.

B: From our perspective as architecture students, we should make long lasting durable buildings that can be used by future generations to prevent global warming.

C: Construction and demolition emits a lot of CO₂ and so reducing the frequency of these processes will help solve environmental problems.

B: Another way is to improve the facilities for the environment. For example, if you improve the insulation of your house, you can reduce the use of heating equipment.

C: High-efficiency water heaters and lighting are good, too.

A: When it comes to attracting people to Chirihama, there are a lot of people who come by car.

C: That's going to increase the CO₂ emissions of cars.

A: That's right. From a mechanical engineering point of view, we should develop fuel cell vehicles and improve the fuel efficiency of gas turbines used for engines. This will decrease CO₂ emissions from automobiles.

C: These things are going to help preserve Chirihama in terms of preventing global warming.

B: In general, earth-friendly manufacturing is important for preserving the nature of our hometown.

C: In this presentation, we have discussed several measures to preserve Chirihama. Encouraging young people to visit and raising people's awareness of the conservation efforts in Chirihama is a good first step.

B: Also, we have proposed that we should promote environmentally-friendly manufacturing as future engineers to tackle the underlying problem of preserving the Chirihama Nagisa Driveway.

A: We hope that the situation at Chirihama beach will improve and this will increase the number of visitors to the area.

A: Thank you for your attention.