

表題： 沖縄における赤土流出とその対策

Title: Red soil erosion and conservation in Okinawa islands

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Abstract:

Okinawa is famous for its beautiful sea. But once it rains, the soil eroded in upland flows into the coral sea, and it causes serious damage to the aquatic ecosystems. Many measures to prevent this environmental issue have been conducted.

Main Text:

Okinawa prefecture is located in about 1,000km southwest of Tokyo and is made up of more than one-hundred islands. With the semi-tropical climate, those islands are surrounded with coral reefs with beautiful view. Such reef area has very unique ecosystems and it is important for fisheries and tourism. In 2005, 5.5 million of tourist has visited Okinawa to see those beautiful sea-sight.

But once it rains, the view of the sea changes. Heavy rain caused by Okinawa's semi-tropical climate erodes its characteristic red-soil, and short rivers carry the eroded soil directly into the coral sea. You will find the blue sea turned red in rainy days. Of course it seriously damages the ecosystem of coral sea.

The major sources of the erosion are farmlands, land development, military bases. The "red soil erosion" is one of the most serious environmental issues in Okinawa. Soil erosion is also serious problem in many other tropical or semi-tropical areas but in Okinawa, it is not only the matter of soil productivity but also is the issue of water quality and sedimentation.

In this decade, many measures for the prevention of the "red soil erosion" have been conducted. The project with most remarkable result is the systematic erosion control at development site. It is the complex system with process management, ground cover works, and sediment ponds with filters. The system is used in most of major construction site in Okinawa. And with the system, sediment flow from development has reduced drastically.

Measures to prevent soil erosion in farm land are also important. As the productivity of farm land is not so high in Okinawa, the cost for prevention work should be much lower than that in construction site. Some works like allocation of small sedimentation pond on each field or development of the farm to make the slope less gradient are underway. And there is a challenge to protect soil from erosion by covering its surface with a kind of algae.

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