

**EROSION CONTROL SYSTEM AT BERINGIN SILA DAM
SUMBAWA, NUSA TENGGARA BARAT, INDONESIA**

Slope Protection

Problem

Bendungan Beringin Sila is located in Sungai Berang Utan, Desa Tengah, Kecamatan Utan, Kabupaten Sumbawa. PDAM's provision of clean water sourced from Bendungan Beringin Sila faced several challenges such as quantity, quality, and continuity of discharge. Based on the conditions, Bendungan Beringin Sila's construction is required to optimize the need for irrigation and raw water in the Utan and Boer sub-districts. The construction of Bendungan Beringin Sila is one of the government's efforts in realizing equitable distribution of infrastructure development to support water and national food security.

The surrounding slopes around the project need to be protected from potential erosion. The slope which is mainly composed of fine-grained soil required protection from erosion caused by rain and surface water flow. The selection of the right solution is critical to prevent failure by the presence of water. Erosion Control solution by Maccaferri Indonesia was selected considering its free drainage ability and the vegetation growth (LCC - Legume Cover Crop).

Solution

Our erosion control system is made of a combination of one unity between HDPE geomat and a double-twisted wire mesh panel with longitudinal high tensile strength steel cables called MacMat® HS. Available in rolls, MacMat® HS has an easy installation procedure without any reassembly needed. T-shape deformed bars support to hold the mesh onto the cut slope. An array of mulching containing seeds is then applied onto the Macmat® HS to stimulate vegetation. The vegetation shall rehabilitate the slope back to nature. The challenge we faced in this project was the crowds of monkeys eating the grown vegetation. We have come up with several efforts to maximize the vegetation growth to protect the slopes from erosion. However, there was a positive side to the problem, which enables us to prove that our solutions are environmentally friendly and capable of coexisting with nature.

Client: BWS NUSA TENGGARA I

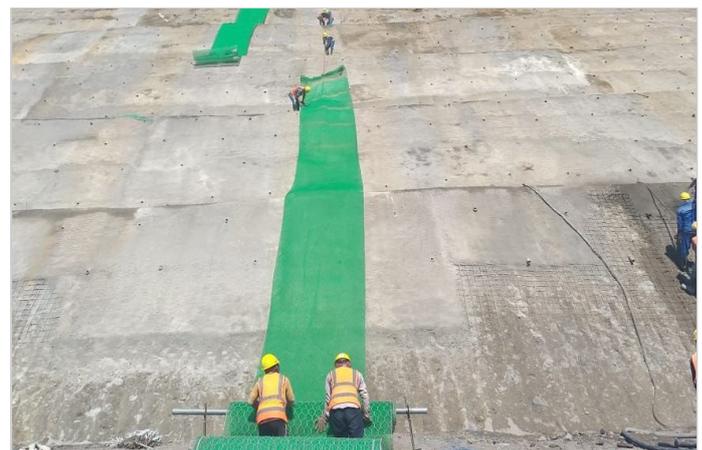
Designer / Consultant: PT Indra Karya (Persero) Divisi Engineering I

Contractor: PT Nindya Karya (PERSERO) KSO PT Bunga Raya L

Products used (Qty.)

- MacMat HS 10,720 sqm

Date of construction: 12/2019 - 09/2020



Installation of MacMat® HS



Mulching process on MacMat® HS



Mulching result on MacMat® HS



Maintenance Process - Watering



Lush Grown Vegetation