

ABSTRACT
EVALUATION OF VETIVER AND COCO COIRNET AS SOIL
EROSION AND RUNOFF BARRIERS AT TANAY, RIZAL

Eleanor Pintor
University of the Philippines, 2007

Adviser: Dr. Joseph Foronda
Co-Adviser: Dr. Gavino Isagani Urriza
Reader: Dr. Benjamin De Jesus Jr.

The claimed benefits of biological barriers, particularly those of vetiver and coco coirnet were studied at two micro-watershed areas in the Tanay National Soil and Water Resources Research Development Center (TNSWRRDC) Tanay, Rizal. These barrier materials were applied on two set-ups, on grassland and on plots with farming intervention. Each set-up had a control erosion plot, plot planted with vetiver, plot planted with vetiver combined with coco coirnet and plot installed with coco coirnet. Plots with farming activities have existing madre de cacao (*Gliricidia sepium*) and pineapple. In both set-up, coco coirnet was found to be more effective biological barriers in minimizing runoff and soil erosion in both the cultivated areas and in the grassland. This is followed by vetiver grass especially when the grass stem has already reached 20-30 cm in diameter. However, in set-up 2 (with intervention), the effects of the barriers have been delayed due to physical characteristics of the soil. It had become loose due to the cultivation practices employed in the area. Healthier growth of vetiver was also notable at the lower end of the erosion plots in the two set-ups. This must have been brought about by the nutrient movement caused by runoff. Indeed, above suggest that coco coirnet and vetiver are effective in minimizing soil erosion and runoff, where volume of runoff remain low at a range of 10 – 426 liters or 3,125li./ha/year – 133,125li./ha.year. Incidentally, while these materials are locally available and considerably cheaper than synthetic barriers, these are not widely used.