

ชื่อเรื่อง

**Constraints of Using Vetiver in Watershed Management in Sub-Mountain and Scarcity Zone Case Study of Nashik District (INDIA)**

ชื่อผู้วิจัย

Prakash Pawar

ชื่อหน่วยงาน

Government of Maharashtra, Department of Soil & Water Conservation, INDIA

ปีที่ดำเนินการ

ปีที่พิมพ์รายงาน

**Abstract**

Soil and water are the most vital natural resources for the survival of mankind. Proper management of this natural resources on watershed basis gives excellent results. Engineering structure for managing, is expensive. Vegetative measures by use of Vetiver is quite inexpensive and it is promoted in a centrally sponsored scheme in India. Accordingly, twelve watersheds comprising two Agro Climatic Zones are undertaken in Nashik District, with a geographical area 52,952 ha. Since 1991-92, 4855 tonnes of Vetiver slips (*Vetiveria Zizanioides*) are used for drainage line and land treatment of watershed management. A case study of Vetiver in the use of soil and water conservation attributes are taken up.

The results of the case study indicate that the establishment of Vetiver and its survival percentage are directly correlated to rainy days, depth of soil and other managerial factors like, the problem of stray cattle. In scarcity zone the use of Vetiver as a conservation measure failed except in a few drainage line treatments. In Sub-mountain zone drainage line treatments like live check dam and loose boulder structure show excellent results while land treatment has only limited success. Instead of planting vetiver merely as a barrier, a minor engineering support would give better result.

In Sub-mountain zone, the survival percentage of Vetiver is the highest in live check dam, supported by minor engineering structure (65.50%). It is followed by loose boulder structure which is reinforced by Vetiver at 47.75%. Thirdly, land treatments named as contour vegetative hedges give the lowest survival at 41.50%. From the case study it is clearly observed that Planting material plays an important role in the survival of Vetiver, in addition to managerial factors like the problem of stray cattle. The overall conclusion is that dry spell adversely affects the survival percentage of Vetiver. The average

rainy days in Sub-mountain zone are 75 while in Scarcity zone it is only 25. The dry spell thereafter and the problem of stray cattle causes the mortality of Vetiver. However, Vetiver in good survival situations gives excellent results in terms of soil erosion control and moisture conservation, which account for good land returns i.e. crop production.

An attempt is made in this case study to compile all available information and its correlation to field situation.