ชื่อเรื่อง **Vetiver VIS-À-VIS Indigenous Plant Species for Conserving Soil and Water in Arid Lands**

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Abstract

Study on the performance of contour vegetative barriers as soil and water conservation measures has been initiated during 1991 on the farmer's field covering an area of about 50 ha hear Jodhpur. The area receives an average rainfall of 360 mm per annum. Eight species of grasses, 3 shrubs and 3 undershrubs were tried on contours at 1 m vertical interval in 3% sloppy fields. Vetiver was used as control. This grass though survived on few fields but failed to make an effective barrier due to adverse climatic and edaphic conditions. Locally adapted grasses such as Cymbopogon jwarancusa, Cenchrus ciliaris and Cenchrus setigerus performed exceedingly well and formed effective barriers against soil erosion in a span of 2 years.

Significant reduction in peak flow and runoff volume have been recorded in the barrier fields over control. The runoff volume reduced between 22 and 71%. The barriers do not channelise runoff and allow greater opportunity time for the rainwater infiltration. The barrier fields store 12 to 16% of soil moisture as against 6 to 10% in the control fields. The soil loss reduced from 530 kg ha^{-1} in the barrier fields. Also the sheet and rill erosion were checked to a greater extent. All these resulted between 37 and 51% more yield of guar (Cyamopsis tetragonoloba) over control.

The contour vegetative barriers of local grasses were more acceptable to the farmers as these are less expensive, easy to raise, less labour intensive and provide fodder in the lean period.