

# THE ADVANTAGE OF VETIVER GRASS ON THE ROYAL PROJECT'S HIGHLAND DEVELOPMENT AREAS IN THAILAND

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## Abstract

The office of Land Development Region 6 (Chiang Mai), Land Development Department, Ministry of Agriculture and Cooperatives has served His Majesty the King's initiatives on using vetiver grass in soil and water conservation especially in highland areas. A very important aspect that has been encouraged by His Majesty the King has been to encourage a greater blending of using vetiver grass in harmony with local farming methods. The aim is to conserve and efficiently use soil and water resources, while also providing a sustainable source of income for resource-poor farmers, including hill tribes. Vetiver possesses certain attributes suitable for soil and water conservation purposes. Vetiver roots serve as an underground barrier, holding the soil together and retaining water, as well as absorbing plant nutrients and hazardous chemical substances which, as a result, help to reduce environmental pollution. Contour planting of vetiver across slopes and along roadsides helps trap silt and crop residues while letting water flow through. This effectively reduces soil erosion and prevents surface runoff. Vetiver is also planted around the base of fruit trees and perennial trees on the plains, and on dry, deteriorated areas in order to retain rainwater in the soil, while vetiver leaves are also used for mulching to maintain soil moisture. Therefore, the appropriate use of vetiver can help to increase crop production and also farmers' incomes, promoting a sustainable agricultural production system that enables farmers to live sufficiently from production on their own land. In this study the advantages of vetiver grass were investigated in the Royal Project Highland Development areas.

The Royal Project's Highland Development or the Royal Project has 37 units which cover 23,881.14 ha and 278 villages. They are located in 5 provinces in the upper Northern Region of Thailand, namely Chiang Mai, Chiang Rai, Mae Hong Son, Lumphun and Payao. The use of vetiver grass has been increasing, both in order to conserve soil and water, and also for planting. In 2005 vetiver was planted along the 57.06 km of roadside, and across 530.24 ha (3,314 *rai*) of land for soil and water conservation. This planting increased both crop production and farmers' incomes. Also in this study, hill tribe farmers in the Royal Project in Ban Nor Lae, Ang Kang, Fang District, Chiang Mai, who produced organic vegetables, were studied. They were able to improve their land by using the vetiver grass as a green manure fertilizer and as mulching for their vegetables. As a result their yields increased by 38.62% and this enabled them to increase their income by 15.26% in 2005. In addition to increasing yields, the vetiver grass also helped to preserve the environment by reducing pollution from the fields.

Keywords : the Royal Project, soil and water conservation, technology transfer