Energy usage and benefit -cost analysis of Cotton production in Guntur region of Andhra Pradesh

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ABSTRACT

The aim of this research is to determine the energy input and output involved in cotton production, considering one of the prominent cotton bowl of Guntur region of India. The average energy consumption of the farms investigated in this study is 18165 $MJha^{-1}$. Of the total energy, 11.71% is direct and 70.93% is indirect. Renewable energy accounts for 3.65% and Non-Renewable energy accounts for 78.9%, energy usage efficiency is 2.27. The total energy input into the production of one kilogram of average Indian cotton is estimated to be 5.1 MJ. The dominant contribution to input is energy in the form of nitrogen fertilizer (45.03%), followed by water for irrigation (17.34%) and diesel-oil (9.29%). The cost of cotton production per hectare is found to be 95000 Rs per ha in the region, with 80.0% of this being variable costs. It can be concluded that intensive cotton farms are being operated in the area since the variable cost ratio is quite high. With the benefit-cost ratio (1.44) analysis conducted, cotton production is found to be economically efficient for the region.

Key Words: *Cotton production in Guntur, energy in cotton, energy studies in cotton*