

## عنوان مقاله:

Energy use pattern of paddy production systems in khuzestan province, iran

## محل انتشار:

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## نویسندگان:

M.A. Hormozi - *Department of Agricultural Machinery and Mechanization, Ramin Agriculture and Natural Resources University of Khuzestan, Mollasani, Khuzestan, I.R. Iran*

A. Abdeshahi - *Department of Agricultural Economics, Ramin Agriculture and Natural Resources University of Khuzestan, Mollasani, Khuzestan, I.R. Iran*

M. A. Asoodar - *Department of Agricultural Machinery and Mechanization, Ramin Agriculture and Natural Resources University of Khuzestan, Mollasani, Khuzestan, I.R. Iran*

D.C. Baruah - *Department of Energy, Tezpur University, Tezpur, Assam, India*

## خلاصه مقاله:

ABSTRACT- Energy use patterns and the contribution of energy input vary among farming systems. The optimal use of improved farm machinery coupled with the optimal use of other recommended sources permit an increase in paddy yield up to potential levels. In order to determine the effect of production systems on energy use efficiency focusing on mechanization for paddy production in Khuzestan province, a survey was conducted in the fourth largest rice producing region of Iran. The data were collected by interviewing the farmers using a questionnaire through two-staged cluster sampling of ۲۹۵ households from these two regions covered farm operations over the period ۲۰۰۹-۲۰۱۰. The surveyed households were grouped into five categories based on the method of crop planting and drainage conditions. The energy input of paddy production systems ranged from ۵۵,۰۰۰ to ۱۸۰,۰۰۰ mega joules per hectare. This high amount of energy applied to paddy production in Khuzestan province is mainly due to the high amount of energy consumed by pumping water. This critical operation led to energy ratios below one for systems recognized as more mechanized. Energy consumption through diesel and electricity which was used for irrigation purposes and machinery operations was the maximum (up to ۹۳%). The second highest energy input source was chemical fertilizer which consumed ۴ to ۵۷% of the total energy input. An operation-wise energy use analysis revealed that harvesting and tillage operations are important consumers of energy in paddy production. The rice crop showed a low energy ratio and energy productivity, indicating an energy-expensive crop under the conditions prevailing in the province

## کلمات کلیدی:

Keywords:, paddy, energy productivity, operational energy, production systems

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