

What are the indirect and direct effects of irrigation policy on energy costs?

A social accounting matrix assessment in Tadla (Morocco)

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In Morocco, irrigation has been a major component of the development policy pursued by the State in the last half century, to prevent climatic risks and to ensure minimum food security. Investments in irrigation led to the rapid growth of agriculture and improved the sector's contribution to the national economy. The recent strategy in the agricultural sector (PMV) reinforced this trend, particularly by providing substantial subsidies for the conversion of existing irrigation systems (sprinkler and gravity) to localized irrigation systems, which are assumed to be "water saving techniques". These increased efforts led to intensification and resulted in an increase in energy consumption in the sector.

The objective of this study was to assess the consumption and the multiplier effect of the use of energy and irrigation water for agriculture at a regional level in Morocco. Using a social accounting matrix (SAM), we identified the direct and indirect economic effects of subsidizing energy used by agriculture. The results show that the water saving policy in Morocco, targeting "water-saving" techniques, leads to an increased use of subsidized butane. Results also showed that indirect effects, through energy subsidies, exceed the direct effects of agricultural subsidies.