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Farmers' and academia's views"

Institutional and socioeconomic factors that influence irrigation arrangements; empirical results from rural Kenya

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Abstract

While irrigation arrangements differ in terms of institutional and socioeconomic characteristics, irrigation has been largely considered as unsegmented. When disaggregated, it is often limited to irrigation technologies. This study investigates the institutional and socioeconomic factors that determine irrigation and the different irrigation arrangements (public scheme irrigation arrangement and famer-led irrigation arrangement). Data was obtained from a household survey in Kenya comprising of 198 non-irrigating farm households, 89 farm households in the public scheme irrigation arrangement and 97 farm households in the farmer-led irrigation arrangement. The analysis was done via a probit regression analysis to study the factors that influence irrigation and a multinomial logit regression analysis to study the factors that influence the different irrigation arrangements. The probit regression showed that education of the primary female decision maker, renting-in land, land rental price, access to extension services, household credit access and household group membership influenced irrigation positively while age of the primary female decision maker and non-farm income influenced irrigation negatively. The education of the primary female decision maker, renting-in land, land rental price, access to extension services and household group membership influenced irrigation the farmers in the public scheme irrigation arrangement positively while the education level of the household head, age of the primary female decision maker and access to non-farm income influenced it negatively. Contrariwise, age of the primary female decision maker influenced irrigation of the farmers in the farmer-led irrigation arrangement negatively while renting-in land, land rental price, access to extension services and distance to the market influenced it positively. The analyses show that age of the primary female decision maker and access to land and extension services are critical factors affecting irrigation and irrigation arrangements and thus policy interventions targeting these factors can contribute immensely in influencing irrigation and its subsequent arrangements. However, the study clearly shows the need of specific policy interventions for the different farm households in contrast to a blanket policy that assumes that irrigation is not segmented across institutional and socioeconomic factors.

Keywords: Institutions, irrigation, irrigation arrangments, Kenya, multinomial logit regression, probit regression, socioeconomic

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