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The Effect of Adopting an Improved Dairy Cattle Breed on Livelihoods of Ethiopian Smallholder Farmers

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Abstract

The adoption of improved cattle breeds is one of the means to improve smallholder dairy production and to thereby increase the self-sufficiency of agricultural households (HH) in Ethiopia. Hence, this study aimed at assessing the effects of adopting crossbred Holstein Friesian dairy cattle on (physical, human, economic, and social) capital of smallholder farmers, while investigating the challenges and opportunities of adopting this breed. The study was conducted in West Shewa zone, Oromiya regional state, Ethiopia. Multi-stage sampling techniques were employed to determine the sample households (N=138). Primary data were collected using a structured questionnaire in randomly selected HH that either had adopted (N = 69) or not adopted (N=69) the improved cattle breed. A semi-structured check-list was employed in two focus group discussions with randomly selected HH that either adopted (N=8) adopter or not adopted (N=12) the breed. The preliminary results show that the average daily milk production (± standard deviation (SD)) is higher in adopter (28 ± 8.43 L/HH) than the non-adopter group (7.34 ± 2.53 L/HH; P< 001). Similarly, mean per-capita income (± SD) from dairy cattle husbandry in adopter and non-adopter HH were 7984 ± 5217 and 5243 ± 3190 Ethiopian Birr per year, respectively (P< 001). Moreover, the average herd size, income from cattle sale, and average cost per cow per year were 28.8 %, 24.2 %, and 65 % higher in the adopter than the non-adopter HH, respectively ($p < 0.001$). Results also indicate that access to credit, lack of market information on price of dairy products, and access to animals of the improved breed are impeding factors, whereas access to veterinary service favours the improved livestock production system in the study area. These initial results suggest that introducing crossbred Holstein Friesian dairy cattle to the smallholder herds may improve farmers' livelihoods, provided that extension services offer assistance on appropriate management practices for this breed.

Keywords: Cattle, dairy, Ethiopia, improved breed, smallholder

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