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Technological Options and Approaches to Improve Smallholder Access to Desirable Animal Genetic Material for Dairy Development: Experience with Hormonal Oestrus Synchronisation and Mass Insemination in Ethiopia

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Abstract

Smallholder farmers and pastoralists dominate cattle production in Ethiopia. Cattle serve various functions such as animal traction for crop production, milk, meat and manure production, provision of services, and fulfilling social obligations. Production is based on indigenous animals, with grazing and low level of inputs. Milk production from the local cows is low and average daily milk yield is around 1.5 litres. Most of the milk produced is used for household consumption and excess milk is processed into butter and marketed in small quantities. Demand for milk and milk products has been increasing in urban and peri-urban areas and farmers take advantage of this by engaging in urban and peri-urban dairy production. These farmers use improved dairy genotypes and better feeding, housing, and management systems. Daily milk yield from crossbred dairy cows ranges from 10 to 15 litres. However, due to lack of properly organised recording and selection system, there is shortage of good quality improved dairy animals. This is again exacerbated by often inefficient and ineffective field artificial insemination service resulting in low pregnancy rates and hence, shortage of good quality improved replacement dairy animals. As a result, in areas where there is good production and marketing opportunity, availability and exorbitant prices of such animals has hindered smallholder farmers from entry into the business. The IPMS project, in collaboration with its partners, designed a hormonal oestrus synchronisation and mass insemination programme to help small farmers get access to crossbred animals. In 2011, a total of 375 local cows were crossbred with Holstein Friesian semen in selected milk sheds in Tigray (200 cows) and Southern Regional States (175 cows). Oestrus response was 90% and pregnancy rate averaged 62%. A total of 229 crossbred calves have been born as a result of this intervention. This paper presents the experiences of the IPMS project in developing technological options and organisational and institutional arrangements required for an alternative supply system of dairy genetics to kick start and enhance smallholder dairy production in Ethiopia. The lessons learned for scaling up are also outlined.

Keywords: Dairy, genetics, oestrus synchronisation, smallholder farmers