

SALIENT FEATURES AND ECONOMIC OPPORTUNITY LOSSES OF SMALL SCALE DAIRY FARMING: A COMPARISON BETWEEN THREE AGRO-CLIMATIC AREAS IN CENTRAL PROVINCE OF SRI LANKA

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Many studies have reported that the smallholder dairy farms in almost all agro-ecological zones operate below its potential level, due to constraints stemming from biological, managerial and market-related factors. It is conceivable that the intensity of constraints may vary with the geographical location, agro-climatic conditions and farming system. A comprehensive study was conducted from May 2003 to March 2004 to characterize and to compare the salient features, and economic opportunity losses (EOL) of dairy farming in three agro-climatic zones, namely hill country wet zone (HC-WZ), mid country wet zone (MC-WZ) and wet intermediate zone (W-IZ) in the central province of Sri Lanka as prelude to commencement of on-farm intervention programme.

A total of 123 farm holdings from 8 veterinary ranges representing three different agro-climatic areas of the central province were selected for this study. This purposive sample comprised of 20, 60 and 43 farm holdings from HC-WZ, MC-WZ and W-IZ, respectively. Each farm holding was studied with respect to i) land extent ii) herd size iii) average age at first calving (AFC), iv) average calving interval (ACI), v) average lactation length (ALL), vi) average milk production per cow per day (AMP/D) vii) average milk production per farm holding (AMPH) viii) gross margin (GM-difference between monthly revenue and monthly expenditures of the dairy enterprise), ix) income earned from livestock enterprise as a percentage of total monthly income (%LI). EOL was assessed using the following four parameters, namely, AFC, ACI, ALL and AMP/D. Each observed value was compared with the potential target in order to calculate EOL. Furthermore, the annual EOL of each agro-climatic area was calculated as a percentage of annual income from dairy farming (%EOL).

The features of dairy farm holdings in HC-WZ, MC-WZ and W-IZ were i) land extent (perch): 46.3 ± 12.1 , 231.82 ± 42.01 , 466.59 ± 80.77 ii) herd size: 5.5 ± 0.62 , 4.08 ± 0.23 , 6.12 ± 0.58 , iii) AFC(months): 30.68 ± 0.86 , 31.3 ± 0.68 , 33.88 ± 2.38 , iv) ACI(months): 15.88 ± 0.51 , 13.91 ± 0.32 , 14.74 ± 0.48 , v) ALL(days): 356.71 ± 35.12 , 326.38 ± 32.31 , 305.45 ± 22.68 , vi) AMP/D(liters): 7.7 ± 0.82 , 5.75 ± 0.36 , 5.7 ± 0.39 , vii) AMPH(liters): 16.4 ± 2.57 , 9.13 ± 0.73 , 10.62 ± 1.22 . The gross margins (GM) were Rs. 4506.30 ± 1037.51 , 3137.50 ± 457.41 and 4647.95 ± 763.73 for HC-WZ, MC-WZ and W-IZ, respectively. On the other hand, the %LI for the above three areas were 60.1, 52.8 and 73.1 respectively. Considering the annual EOLs they were Rs. 38,464.87, 30,379.55 and 26,045.22 whereas the %EOL was 41.1, 67.4 and 35.3 for HC-WZ, MC-WZ and W-IZ, respectively. With the exceptions of land extent, %LI, annual EOL and %EOL, no contrasting difference was observed in any of the other features, in the three different agro-ecological areas. Another interesting feature which was observed was the low MP/D in HC-WZ despite the genotypic potential of the animals. Highest %EOL was observed in MC-WZ.

In conclusion, it can be stated that dairy farming in all three agro-climatic areas were operating far below its potential which was mainly due to the low AMP/D.