

Appendix 2

Table 2. Impacts of livestock grazing in Mau and Aberdares forest ecosystems

Type of Impact	Aberdares forest ecosystem	Mau Forest Complex
Social	Livestock grazing provides a means of livelihood diversification for communities adjacent to the Aberdare Forest Ecosystem, with a significant portion depending on forest grazing for cattle and sheep (Wambugu et al. 2017; Wambugu et al. 2018)	Livestock grazing provides a livelihood for communities in and around the Mau Forests Complex, with a significant portion depending on forest grazing for cattle, sheep, goats, and donkeys. (Leley et al. 2022)
	Forest income, including revenue from livestock grazing, contributes significantly to household income, influencing socio-economic stability, particularly in poorer households (Langat et al. 2016)	Livestock grazing activities foster community cohesion and shared resource management practices among adjacent communities within the Mau Forests Complex. (Wambugu et al. 2018)
Economic	Livestock grazing contributes to the economic value of the Aberdare Forest Ecosystem, with studies estimating the economic values of forest ecosystem services such as regulating services and carbon sequestration (Langat et al. 2018)	Livestock grazing contributes to the economic value of the Mau Forests Complex, with studies estimating the economic values of forest ecosystem services such as soil functions, hydrological functions, and carbon sequestration (Langat et al. 2018)
	Livestock grazing influences community participation in forest management efforts, with the approach to forest management affecting access to and utilization of forest products (Wambugu 2018)	Livestock keeping is an important economic activity for households, with forest income contributing a significant portion to total household income, particularly in poorer households (Langat et al. 2016)
Environmental	Livestock grazing, particularly overgrazing, poses environmental risks by affecting forest regeneration, altering plant community composition, and reducing soil carbon stocks in the Aberdare Forest Ecosystem (Kenya Forestry Research Institute 2013; Tarus and Nadir 2020; Kenya Forestry Research Institute, 2023).	Livestock grazing is identified as one of the main causes of forest loss in the Mau Forests Complex, leading to degradation, loss of biodiversity, altered plant community composition, and reduced soil carbon stocks (Kenya Forestry Research Institute 2013; Tarus and Nadir 2020; Kenya Forestry Research Institute, 2023).
	Grazing activities along rivers within the Aberdare Forest Ecosystem have harmful effects on riparian plant diversity, necessitating sustainable riparian management practices to mitigate environmental degradation (Ruto et al. 2023).	Overgrazing poses environmental risks by affecting forest regeneration and forage availability, necessitating the establishment of sustainable grazing thresholds to ensure forest regeneration and biodiversity conservation (Leley et al. 2022).