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Introduction

Across Europe, extensive livestock systems provide a variety of products and services, contribute to local economies and preserve landscape. However, they face multiple challenges that threaten their viability. Innovative technologies could have an important role to play to improve the future viability of these farming systems. The **DIGI-Rangeland** project is a network for **sharing knowledge on digital technologies** and innovations useful to farmers in extensive areas across Europe.

Methods

In autumn 2025, a series of workshops, in each participating country, were organised to collect and understand farmers' agricultural and environmental needs and challenges.

The workshop held in **Scotland** focused on identifying and prioritising the main challenges faced by meat sheep and cattle farmers and advisors in the management of extensive livestock systems around the Loch Lomond and Trossachs National Park. Fifteen participants worked collaboratively to identify and prioritise **challenges for three thematic areas**.

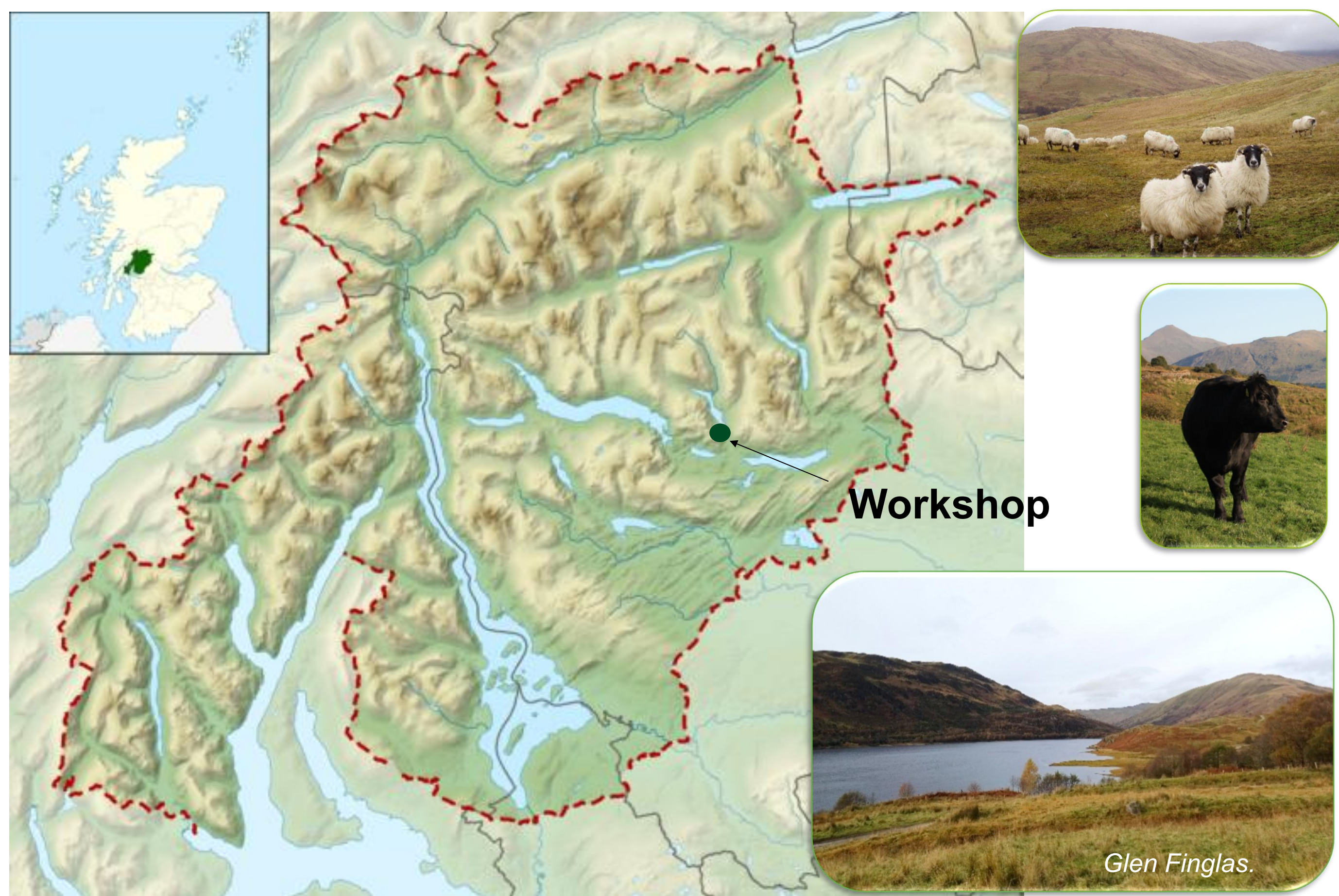


Fig. 1. Map of the workshop location (Glen Finglas reservoir)

Results

□ Improve practices and management of extensive ruminant farming activities and systems

NEEDS

CHALLENGES

- 1 Record keeping
- 2 Linking farm data to a central database for better informed decisions
- 3 Lighter regulatory touch
- 4 Farm management software not speaking to each other

- Capital costs and infrastructure
- Amount of information required to collect
- Lack of experienced labour
- Time management
- Connectivity

□ Facilitate the use and sharing, of rangeland areas with different stakeholders

NEEDS

CHALLENGES

- 1 More education at all levels
- 2 Better communication between agencies & farmers
- 3 More consequences for actions (deterrents)
- 4 More balanced views between farming & wildlife interests
- 5 Better infrastructure

- Lack of awareness from other land users
- Antisocial behaviour
- Wildlife conflicts
- Connectivity

□ Develop and promote products and services provided by these systems

NEEDS

CHALLENGES

- 1 Acknowledge that different types of rangelands need different grazing solutions
- 2 Better communication & education and more people from practical, rangeland backgrounds involved
- 3 Informed representatives with political knowledge
- 4 Standard metric or scale for each benefit that all can use/interpret easily.
- 5 Better informed business cases when seeking financial assistance

- Quantifying each of the other benefits [e.g. biodiversity, wildfire prevention, tourism]
- Audiences either unaware of the range of services provided or with formed misperceptions
- Systems are capital intensive -> challenge to get financial support for investment.

Conclusions

- This exercise was useful to identify the needs and challenges of farmers in Scotland in rangeland areas.
- Next steps → identify which, and how, digital technologies can help resolve the issues identified.
- Some solutions have already been identified (e.g. use of virtual fences, farm management software, QR codes and tourism apps, etc.) but this exercise will continue collectively throughout the project.

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