



## Output 1.3: Scale-up climate resilient silvopastoral packages to restore degraded rangelands

### Report on deliverables, 2023

105,690.8 hectare of rangelands owned by 10,760 livestock farmers were identified and the cattle farmers clustered according to the size of grazing land for further inventory of tree and forage species and in-depth studies of pasture productivity, cost-benefit analysis and carrying capacity assessments.

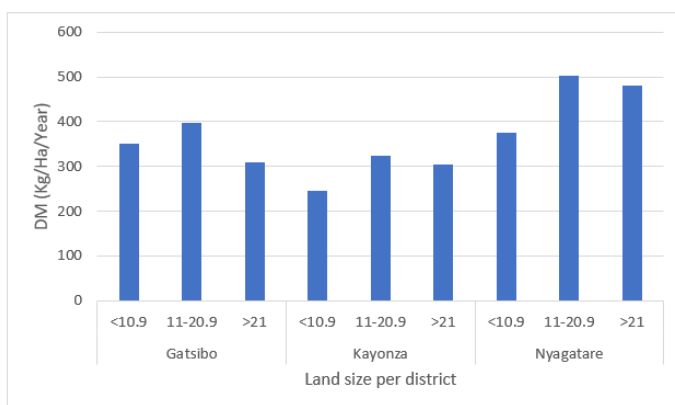


Figure 2: Dry matter production based on plot size within selected districts

378 herbage samples collected from 63 representative farms and analysed for forage dry matter and chemical composition.

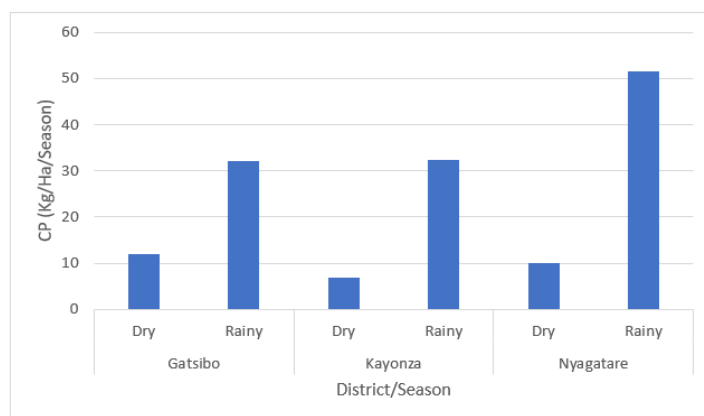


Figure 3: Crude protein production based on plot size within selected districts

Forage and tree species participatory selected to restore degraded rangelands and establish forage demonstrations:

- Six (6) drought resilient fodder tree species: *Calliandra calothyrsus*, *Gliricidia sepium*, *Leucaena diversifolia*, *Acacia angustissima*, *Vernonia amygdalina* and *Sesbania sesban*
- Three (3) grass species: *Chloris guayana*, *Brachiaria decumbens* cv. *Basilisk* and *B. brizantha* cv. *Piata*,
- One legume species: *Desmodium distortum*
- Upperstorey tree species for shade, mulch, carbon sequestration and other benefits: *Maesopsis eminii*, *Terminalia superba*, *Pterygota mildbraedii*, *Albizia gummifera* and *Acacia sieberiana*.

Engagement of 6 tree nurseries cooperatives contracted to produce 221,567 tree seedlings used in restoration of degraded rangelands (200,455 seedlings) and establishment of forage demonstrations (21,112 seedlings)

Fodder grass and legume seeds acquired for demonstration plots establishment included 157 kg of *Chloris guayana*; 12.4 kg of *Desmodium intortum* and 844,800 splits of *Brachiaria decumbens* cv. *Basilisk* and *B. brizantha* cv. *piata*.

Sixteen (16) pilot forage demonstration plots of at least 1 hectare each (in total 16 ha) integrating drought resilient tree, grasses and herbaceous fodder species were established as model forage blocks as follows: Nyagatare (5 plots), Gatsibo (3 plots), and Kayonza (8 plots).

Forage seeds were distributed to 11 farmer members of Milk Collection Centres (MCCs) and this led to the establishment of 11 fodder banks distributed as follows: 8 plots in Nyagatare, 2 plots in Kayonza and 1 plot in Gatsibo.

2,453 ha of rangelands mapped and restored, benefiting directly 493 people, of whom 53 in Gatsibo district, 216 in Kayonza district and 225 in Nyagatare district.

Indicators of job creation: The establishment of pilot forage demo plots and activities to initiate the restoration of degraded rangelands provided casual jobs for 8,256 people comprising 3,674 females and 4,582 males.



On-job training on tree forage and nurseries set-up and management conducted to benefit 120 members of six tree nursery cooperatives in Nyagatare; Kayonza, and Gatsibo districts.



Two trainings of trainers on silvopastoral systems and livestock management conducted to benefit 60 cattle farmers (37% females and 63% females) in Kayonza, Gatsibo and Nyagatare districts.