The state of pastures in Kyrgyzstan under conditions of continuous growth in livestock numbers and climate change (Bazar-Korgon district)

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The study area

The district was organized in 1924

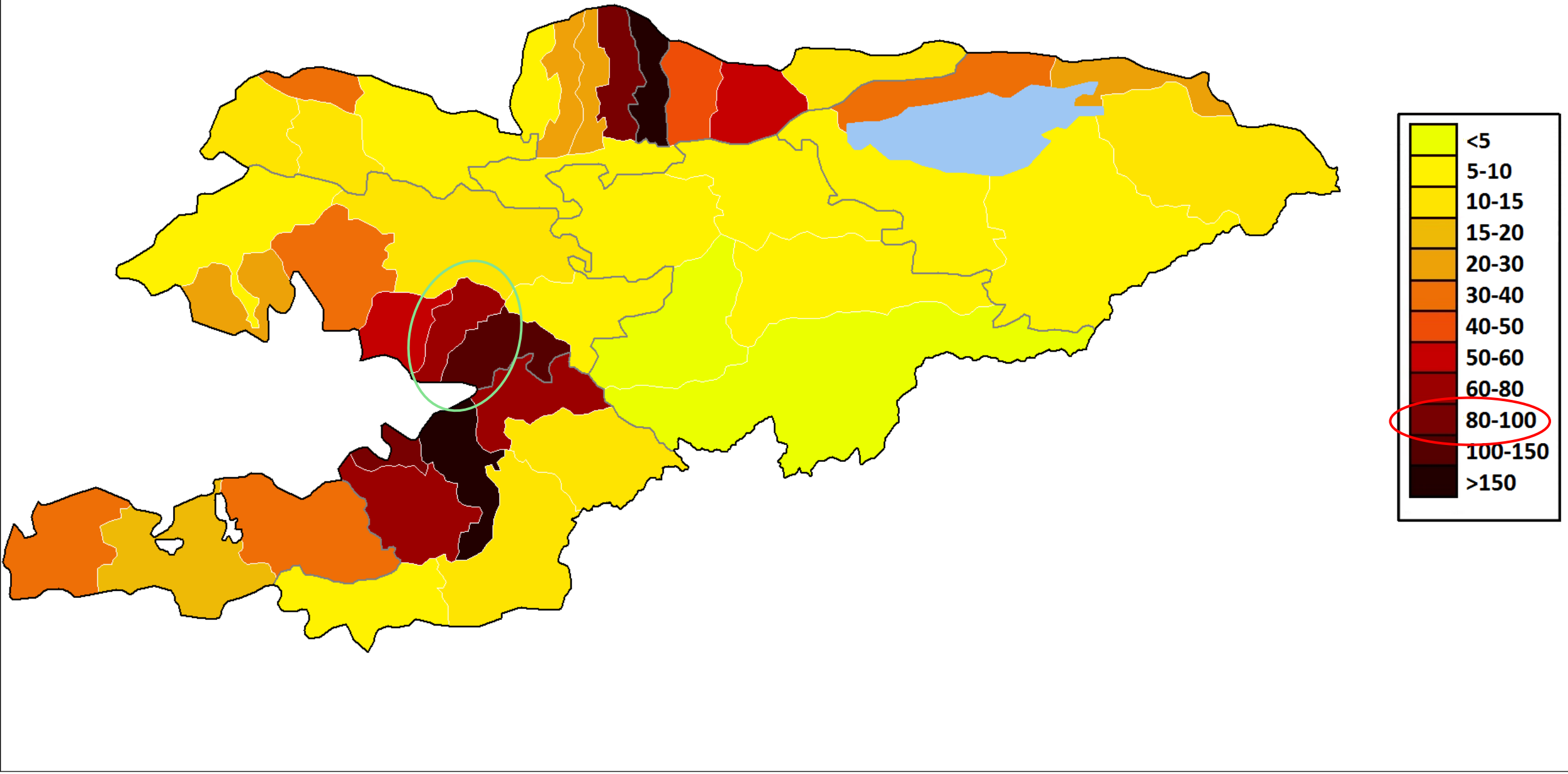
Area 202k hectares:

- 104.6k ha of agricultural land
- 48,5k ha of SFF land
- 78,3k ha of pastures

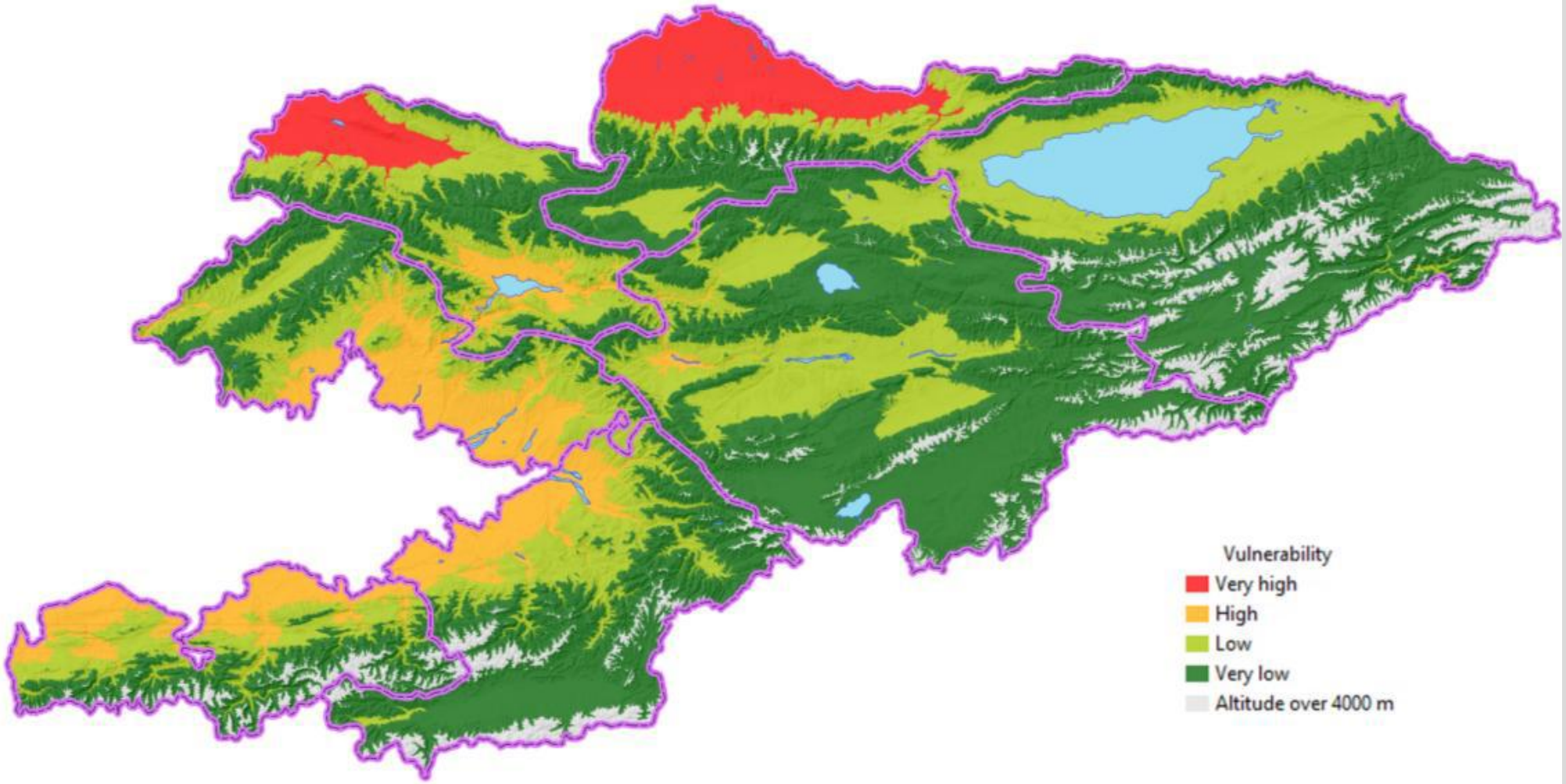
2023

- 10037 meat
- 58026 tons of milk
- 203.5 tons wool

Population density, 2015



Levels of vulnerability to climate change



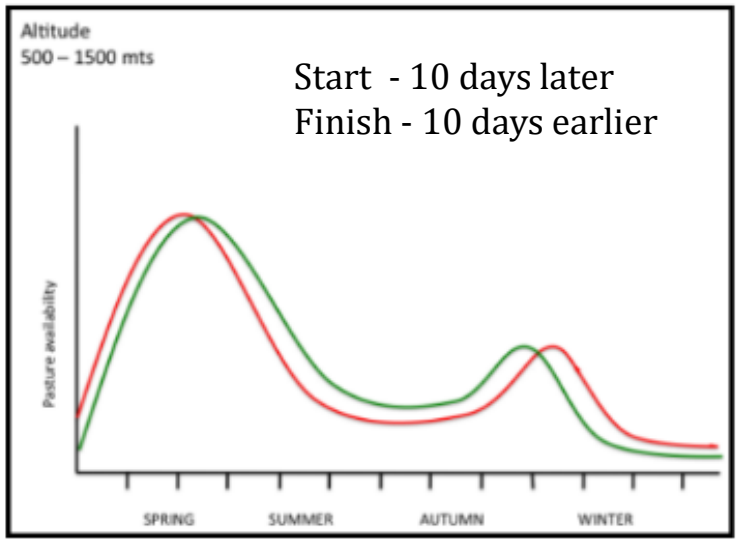
Source: IFAD – 2013. SUMMARY REPORT.
Climate Change Impact on Pastures and Livestock Systems in Kyrgyzstan

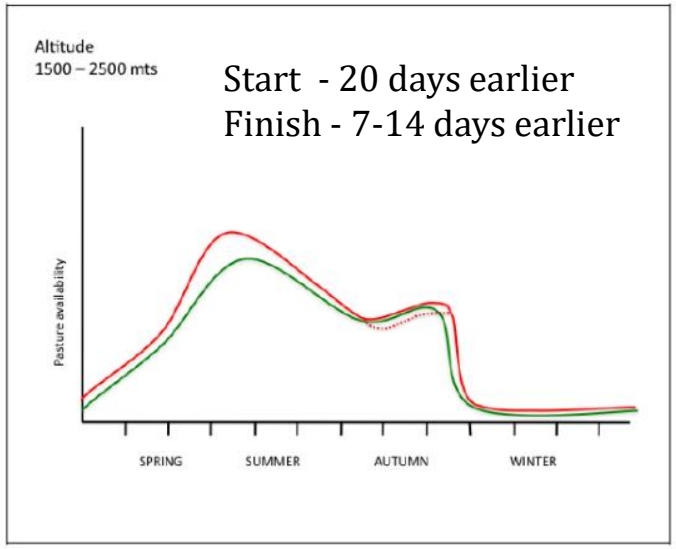
At the first level of altitude (below 1500masl) the main factor regarding vulnerability will be ***heat stress in summer***.

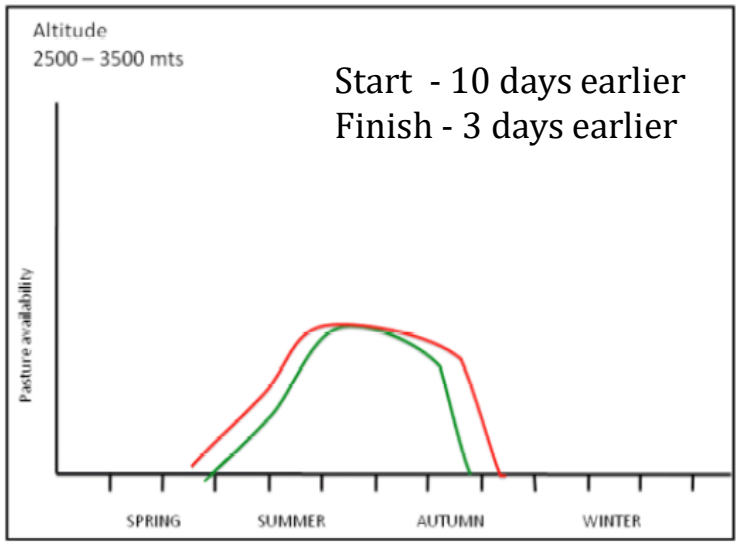
Areas at middle altitude (1500-2500masl) are considered of ***low vulnerability*** because increases in maximum temperatures in summer will not reach 30ºC .

Areas at high altitude (above 2500masl) are regarded as of ***very low vulnerability.***

The changes in duration of the growing period to CC





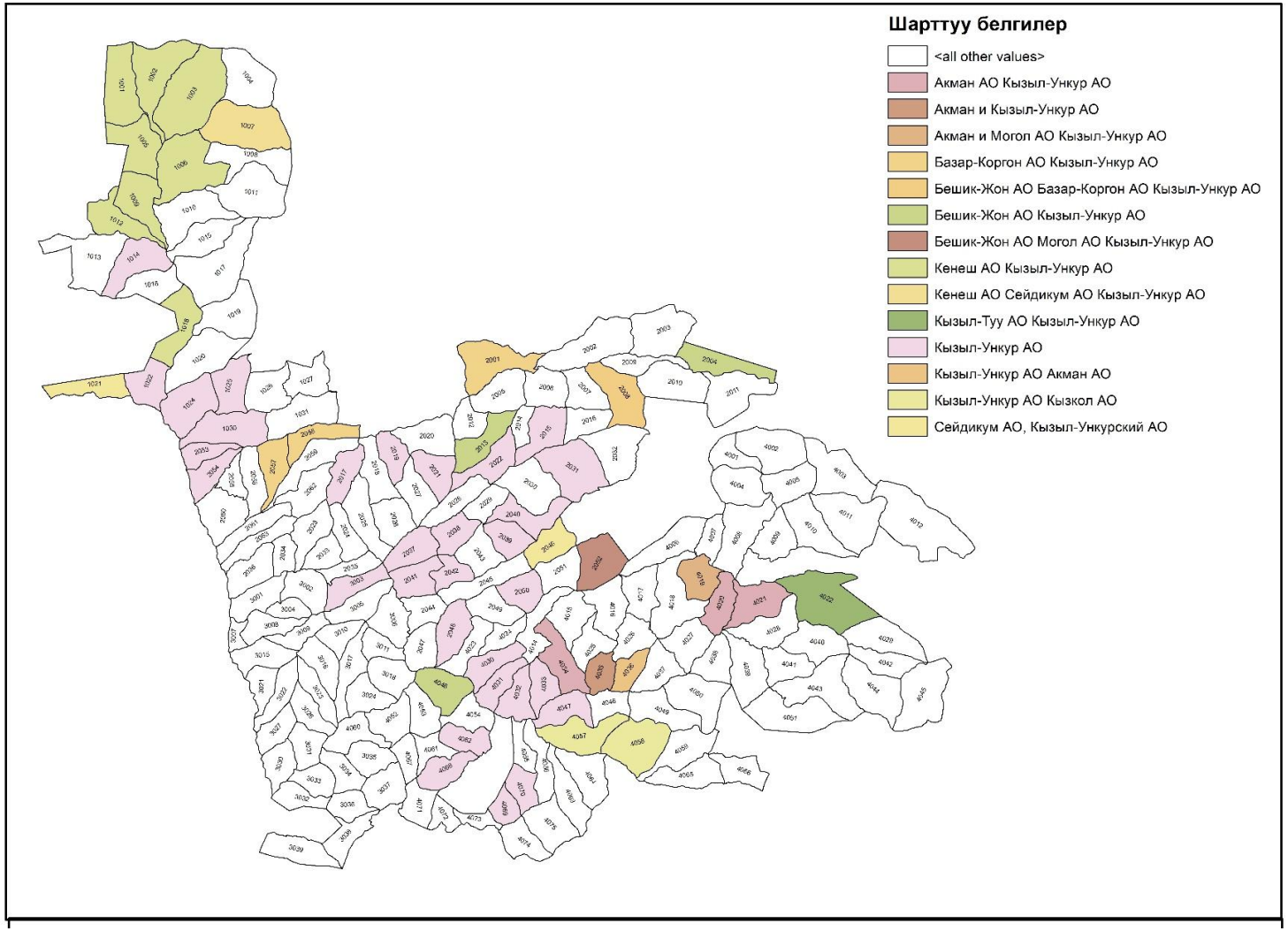


----- Present pasture availability
----- Future pasture availability
- - -Future pasture availability (water deficit areas)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3000 m	Housed in Stables		Outside on Home Farms		Summer Pasture					Outside on Home Farms		Housed in Stables
2000 m												
1000 m			Spring-Autumn Pasture							Spring-Autumn Pasture		
500 m										Pastures in Walnut-Forest		

Source: IFAD – 2013. SUMMARY REPORT.
Climate Change Impact on Pastures and Livestock Systems in Kyrgyzstan

Planning of grazing



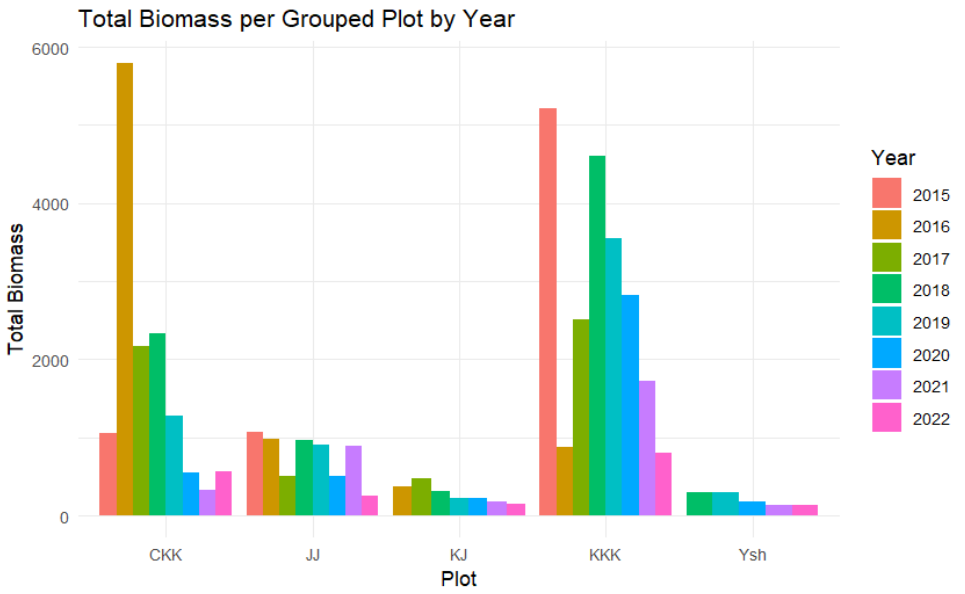
31.05.2017

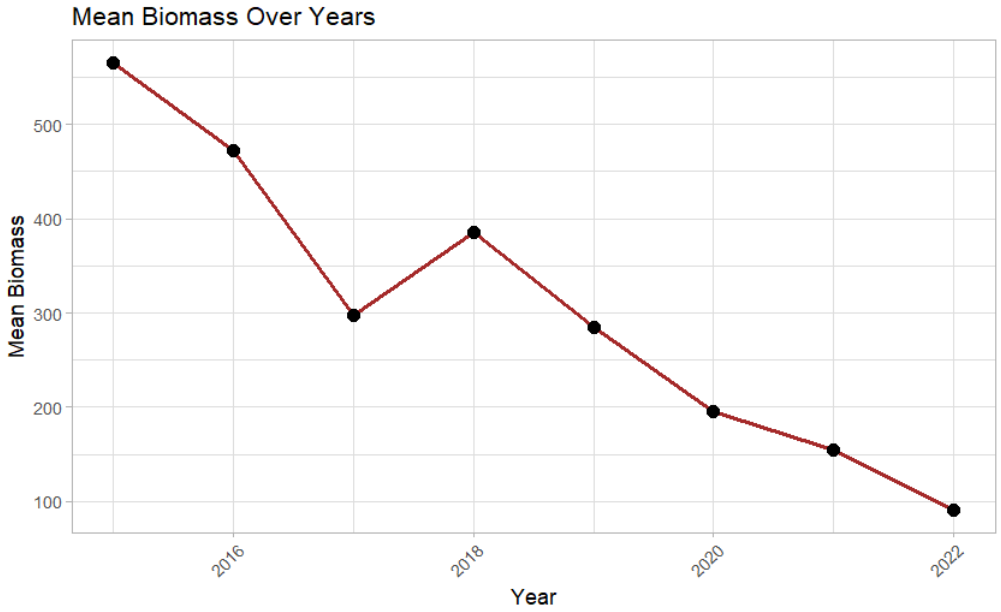
Maps showing livestock movements to summer pastures were created and displayed on the wall of the building at the entrance to the summer pasture area. The map also indicates where herders should stop their livestock for overnight stays or rest while moving to the summer pastures

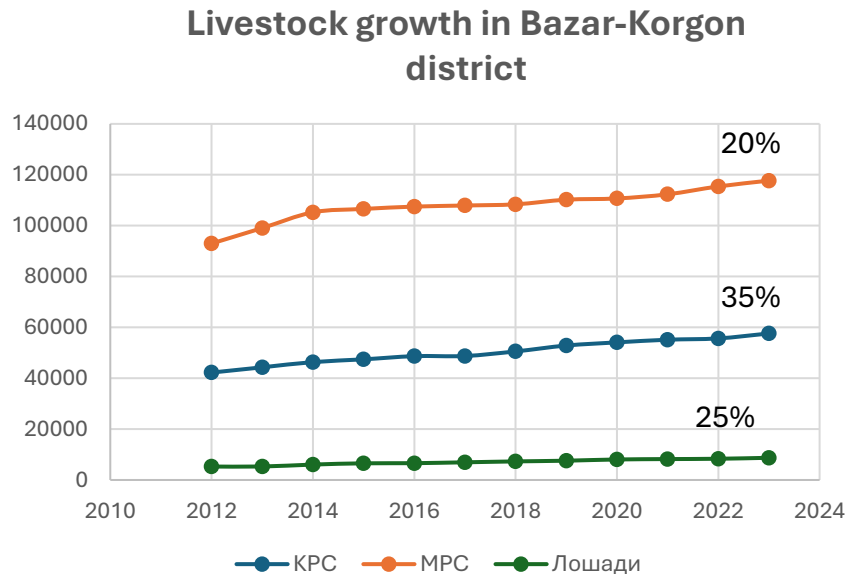
Livestock are being moved to summer pastures 15 days earlier than the district-level decision permits

Livestock are grazing in summer pastures 25 days earlier than the district-level decision permits

Impact of overgrazing and CC in pasture productivity of pastures

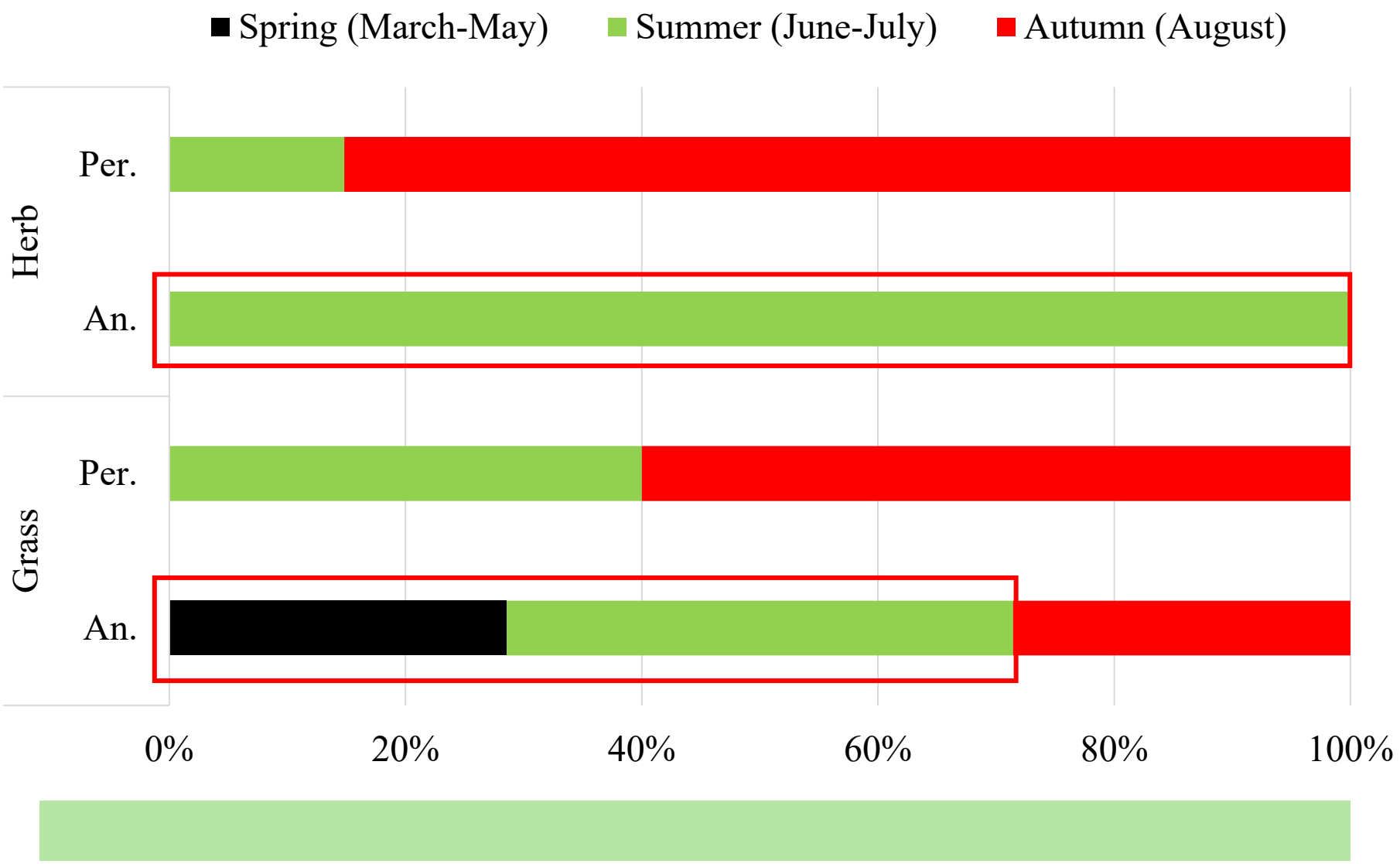




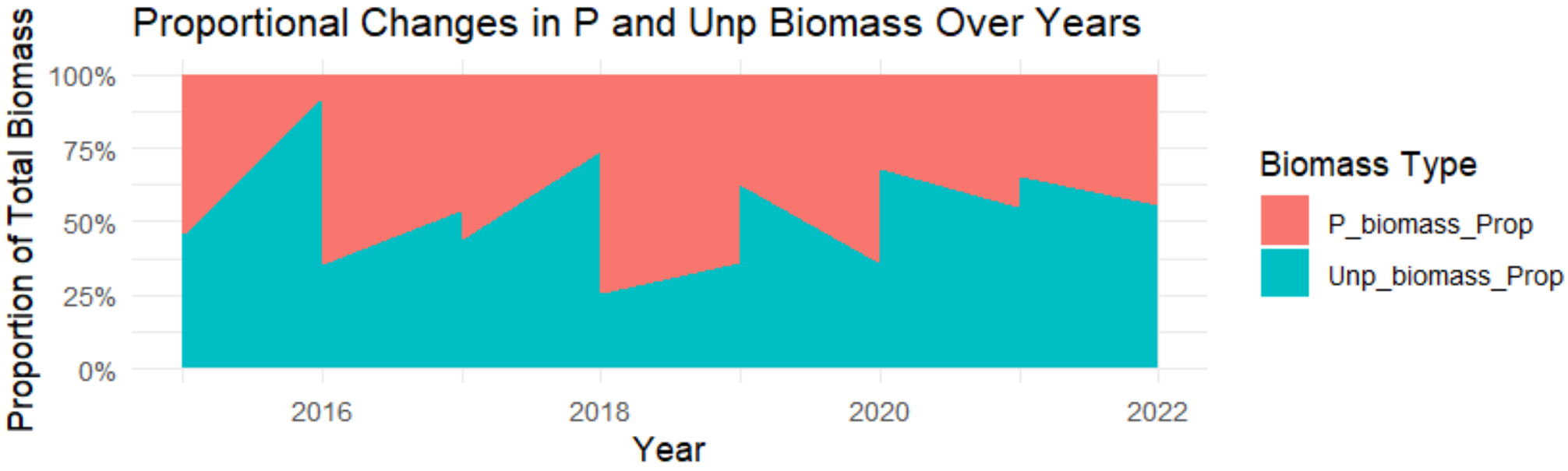


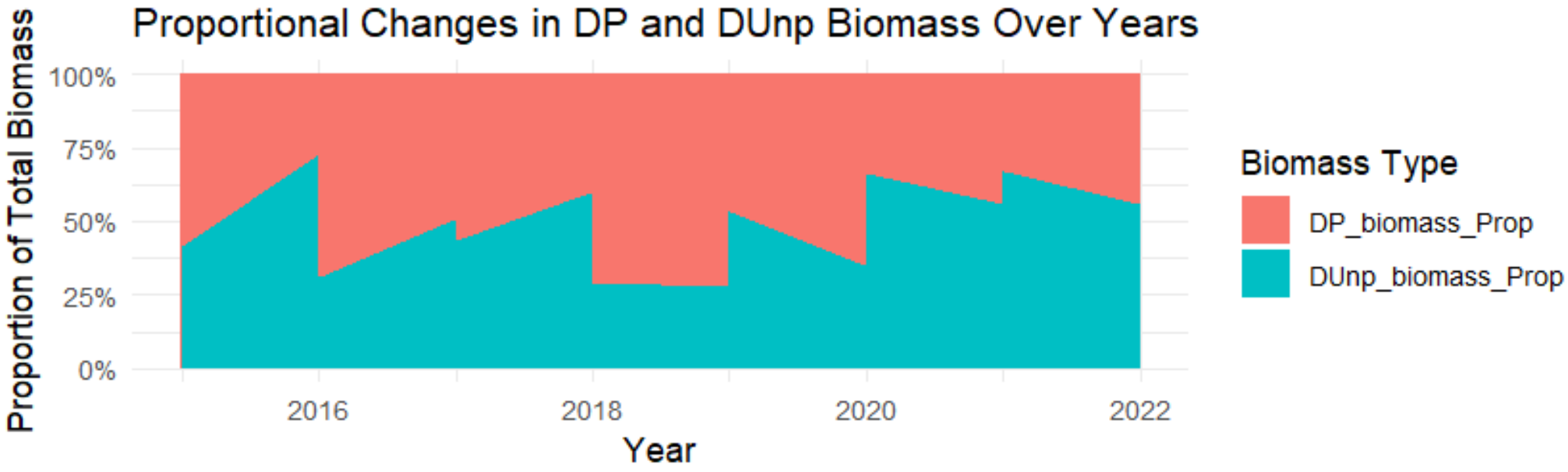
Over the years, pasture productivity has been decreasing. In 2022, it reached the lowest level compared to previous years. Please refer to the mean productivity values to see how they have diminished over time. The main reason for this trend is the increasing number of livestock, which leads to growing grazing pressure.

Flowering period of the species



The analysis of height and flowering period, life cycle and seed production, seed viability in the soil indicated that short-height and short-lived annual grasses are tolerant to grazing compared to tall-height plants





This chart shows the proportion of palatable and unpalatable biomass in both wet and dry conditions.

THANK YOU!