Argentine’s livestock production is traditionally based on high quality grasslands. Natural grasslands are one of the ecosystems most vulnerable to climate change. In the last decade climate change and population growth began to threaten the productivity of those grasslands due to changes in vegetation and due to the extension of peri-urban agriculture. In the province of Corrientes, having a strong tradition of cattle ranching, paddocks are very large and stocking rates are relatively low, rendering the management of paddock quality through animals difficult. Changes in climate seem to favour poorly palatable, woody and perennial species, reducing the productivity of the grassland both with respects to vegetation and livestock. In this study, results from the ongoing GrassNet-Project on grassland management developed by the GrassNet consortium in Kenya (holistic grassland management, remote cattle tracking, potential below ground carbon sequestration) will be investigated for their applicability in Northern Argentina with the aim to develop a decision support tool for cattle farmers allowing sustainable management of grassland quality and productivity as well as defining the potential for carbon trade. For this, remote sensing tools will be developed to assess changes in vegetation cover and composition and their effects on grassland quality and productivity. Options for cattle herd management ultimately leading to vegetation management will be tested and developed further including the aim of quantifying carbon sequestration.