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Editorial

Herbagemass Productivity of Riverine Grasslands-A Case of the Magui Khola Basins of Madi Valley, Chitwan, Nepal

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Summary

Herbage mass productivity in the sub-tropical context varies across the niche specific environment. A research work was done to determine productivity and chemical composition of the grasslands of Magui Khola basins in the Madi Valley, Chitwan, Nepal. Both, the socioeconomic survey and the biological procedures (field experimentation and wet laboratory-analytical) were used. Further, the productivity of grasslands covering seasonal variation and major chemical constituents at different aspects i.e. site of grasslands was determined. Likewise, factors influencing the grasslands-inundation, dung deposition by the graziers and grazing effect to the soil quality were analyzed in terms of understanding the prospects of suitability for cultivated fodder. The productivity of grasslands and associated changes in chemical composition was documented for three different seasons. The final outputs related to four experiments broadly covered the two grasslands eco-types i.e. Magui Khola and Rui Khola basins, respectively whereas the anthropogenic causes of grassland degradation were identified through questionnaire survey.

The findings of the first experiment well illustrated the local people's strong indigenous knowledge on grassland uses and management while the vegetation dynamics across the three sites were recorded for the first time with their distinct characteristics.

The major finding of next study confirmed that *Saccharum spontaneum* can be used as one of the potential feed resources to livestock that could help to reduce the pressure of feed deficit during the lean season, though mature stuff may tend to low quality of feed. Findings of third study well demonstrated the usefulness of dung patched grasslands for forage preservation and recovery after grazing which was strongly signified compared to the areas for direct grazing. Likewise, findings of the fourth study well illustrated the importance of herbage cover and herbage botanical as well as chemical composition in response to the different growing stage which was much pronounced in terms of re-growth of herbage with respect to its potential to the improvement of nutrient contents to feed for livestock production. Likewise, the basic factors affecting the composition and dry matter productivity were also identified.

In overall, it could be argued that the crude protein and crude fiber content of the grasslands are the most changing components in the grasslands that needs further in-depth investigation through the long-term field and laboratory experiments. At this stage, it might be a bit early for suggesting the appropriate development strategies to the relevant stakeholders aiming to conservation and management of natural pastures in the sub-tropical river basin, such as to that of Chitwan National Park buffer zones of the Madi valley of Chitwan, Nepal, but management paradigm are there to be identified and verified through scientific investigation.

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