Project Update: October 2016

Aimed at studying the botanical composition of the herbivore diet, the field survey was carried out recently which revealed that 46 species of plants were primarily consumed by wild and domestic ungulates *viz* blue sheep, horses and yaks. Individual species were further classified into three forage categories, hence 15 species of graminoids, 28 species of forbs and three species of browse were recorded:

Graminoids		
Scientific name	**Family**	**Choice of diets**
Eragrostis poaeoides	Gramineae	Common
Poa hirtiglumis	Poaceae	Common
Stipa milleri	Poaceae	Common
Bromus himalaicus	Poaceae	Common
Poa dzongicola	Poaceae	Common
Festuca boriana	Poaceae	Common
Helictotrichon parviforum	Poaceae	Common
Juncus benghalensis	Juncaceae	Common
Kobresia Prainii	Cyperaceae	Common
Kobresia Pygmaea	Cyperaceae	Common
Kobresia sp.	Cyperaceae	Common
Carex haematostoma	Cyperaceae	Common
Blysmus compressus	Cyperaceae	Common
Carex duthiei	Cyperaceae	Common
Aletris pauciflora	Nartheciaceae	Common
Forbs		
Anaphalis xylorhiza	Asteraceae	Common
Anisodus luridus	Solanaceae	domestic
Aster himalaicus	Asteraceae	domestic
Aster stracheyi	Asteraceae	domestic
Bistorta macrophylla	Polygonaceae	common
Cynanthus lobatus	Campanulaceae	Yak
Heracleum nepalense	Apiaceae	domestic
Ligularia amplexicaulis	Asteraceae	domestic
Morina polyphylla	Dipsacaceae	Yak
Onosma hookeri	Boraginaceae	domestic
Oxytropis lapponica	dipsacaceae	common
Pedicularis bella	Scrophulariaceae	domestic
Physospermopsis kingdom	Apiaceae	domestic
Potentilla aristata	Rosaceae	common
Potentilla griffithii	Rosaceae	common
Ranunulus brotherusii	Ranunculaceae	domestic
Rhodiola crenulata	Crassulaceae	domestic
Runanculus brotherusii	Ranunculaceae	domestic
Saussurea gossypiphora	Asteraceae	domestic

Saussurea nepalensis	Asteraceae	domestic
Saussurea obvallata	Asteraceae	domestic
Saxifraga hispidula	Saxifagaceae	domestic
Taraxacum skkimense	Asteraceae	common
Thermopsis barbata	Leguminosae	Horse
Phlomis rotate	Lamiaceae	domestic
Rheum spiciforme	Polygonaceae	domestic
Urtica dioica	Urticaceae	domestic
Rheum nobile	Polygonaceae	domestic
Browse		
Rosa marophylla	Rosaceae	domestic
Clematis barbellata	Ranunculaceae	Yak
Clematis montana	Ranunculaceae	Yak

From three forage categories, graminoids seems to be preferred species consumed by all three ungulates. Among the gramonoids, all the ungulates diets were strongly dominated by *Kobresia prainii* followed by *Kobresia pygmaea*. The high selection for this genus was mainly because these species are extensively grown in the foraging zone of all the three ungulates. Other species of graminoids were also preferred but are grown only sparsely in the area.

The domestic ungulates consumed more forbs and browse compared to wild ungulate. Horse consumed 26 species of forbs and one species of browse and similarly yak fed on 27 forbs species and three browse. However in case of blue sheep, it is different. The blue sheep fed on only six species of forbs and there were no records of feeding on browse. This is mainly because blue sheep have adequate preferred species. The other reason could be attributed to its short stature. Thus, more species of forbs were shared among domestic animals but only few species were commonly eaten between wild and domestic ungulates. In general, the proportions of the forbs and browse in all their diets were considerably lower at a forage category level.

Hence, based on field observation, it is observed that the competition between wild blue sheep and domestic ungulates are more intense in graminoids followed by forbs. The competition is less intense on browse category. These three species share common foraging ground especially in summer.

Kobresia prainii, the most preferable forage species & extensively found in all survey areas

Rheum nobile, medicinal plant grown in high rugged mountains and exclusively consumed by domestic ungulate

Bistorta macrophylla, sparsely distributed in all foraging zones although known to be consumed by all three ungulates

Survey area to study botanical composition for herbivore diets