The importance of indigenous tree pods/fruits in goat diets (Project number ZC0305)

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Introduction Goats play a vital role in the subsistence economy of smallholder farmers in most countries such as Zimbabwe, Nepal and Bangladesh. Goats depend mainly on the rangeland for their nutritional requirements, a situation unlikely to change. The rangelands are characterized by perennial grasses and *Acacia* species. *Acacia* trees and other browse species produce pods and leaves which could be harvested and processed as supplementary feed throughout the year for livestock including goats. Browse pods are high in nutritive value (Ncube and Mpofu, 1994) and can be used as supplements to low quality roughages. Crude protein of browse pods ranges from 15-20 per cent. One of the major disadvantages of browse as a livestock feed is the presence of perceived anti-nutritional factors such as phenolic compounds, of which tannins represent a large part. Certain browse species have medicinal properties. The medicinal uses are based on the astringent property of tannins present in the roots and bark (Timberlake, *et. al* 1999).
The objectives of this project: to explore and accelerate the utilization of non-conventional feeds as well as to promote indigenous feeding practice with tree pods in goats after scientific evaluation. It also aims to produce policy brief for disseminating low cost feeding technology for rural poor and is to provide information on browsing indigenous tree pods/fruits in goat diets.

Material and methods. Literature review was done in national and regional level published materials regarding the goat feeding with indigenous pods/fruits. Inventory of common browse species is still in progress. Pictures of these browse species are being compiled. Field visits to different farming communities are being undertaken to collect information on farmers' practices on the use of browse as goat diets. Training of extension personnel will be provided in different locations. As communication strategies, leaflets, scientific paper for workshop, radio programme and documentary film will be produced. Finally a training manual in both English and in local languages will be developed for extension staff and livestock development personnel on feeding strategies for goats.

Results. Literature review has been done (desk top study) in Zimbabwe, Nepal and Bangladesh. Important browse trees have been identified in each participating country:

Zimbabwe		**Nepal**	**Bangladesh(BARC,1996;**	
Botanical name	***Local name***	***Local name***	***Botanical name***	***Local name***
Acacia karroo	Isinga/muunga	Tanki	Mangifera indica	Mango
A.tortilis	Umsasane	Bhimai	Arfocarpus heterophyllus	Jackfruit
A.nilotica	Isanqawe	Bhorlo	*Psidium guajava*	Guava
A.erubescens	uguwe	Phaledo	*Erythrina orientalis*	Mander
A.erioloba	iwohlo	Bhatmase	*Leucaena leucocephala*	Ipil ipil
A. robusta	Umgamanzi	Babual acacia	*Bambusa tulda*	Bamboo
A.geradii	Umkhaya	Desmodium	*Musa sapientum*	Banana
A. sieberana	Umlaladwayi	Leucaena	*Streblus asper*	Shaora
A.galipini	Umthungabayeni	Joint vetch		
A.rehmanniana	Iphucula	Catech tree		
A. Faidherbia	Muhunga	Soap tree		
Dichrostachys cinerea	Ugagu/mupangara	Sesbania		
Colophsperm mopane	Iphane/mupani	Red silk cotton		

Piliostigma thonningii	Ihabahaba/musekesa	Fruit tree species: amaro chyru, dabdabe ,dudhilo,gayo, siltimur,timur,thotne,kadam, kalo chuletro, nimaro, sal, cluster fig, Himalayan rose,, yellow myrobaan,, , Small chestnut, Khashreto, Tallow tree, Margosa tree, Black cedar Malabar nut, Monkey jack, Wild grape, Wooly oak, Bastard myrobalan and Neddle wood		
Guibotria colesperma	Umtshibi/muchiva	Seed species: Jure mayal, Mauwa, Panchpate, Bhakamilo (local names), Feathery bamboo, Tufted bamboo, Fodder fig, Illipe butter, Emetic nut, Wild pear, Himalayan cherry and Melia.		

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Research gaps: Many technologies that are proven beneficial to goat farming need to be verified at farmer's level.

- Traditional feeding practice need to be verified with a scientific approach
- propagation of promising browse species
- balance between grass and browse trees fro grazing
- composite meal
- anthelmitic properties
- post harvest processing
- pods as feed for micro livestock.
- **manual on feeding goats for the smallholder farmer**

Conclusion. Goat is a potential livestock resource for farmers in marginal areas. These areas are endowed with indigenous feed resources, which need exploitation with maximum utilization and conservation.