



Goat feeding strategies of smallholders in Nepal in the context of climate change

Gerl, C.¹

Roschinsky, R.²

Manandhar, C.³

Malla, M.³

Wurzinger, M.^{1,2}

Zollitsch, W.¹

¹ BOKU-University of Natural Resources and Life Sciences Vienna, Department of Sustainable Agricultural Systems, Division of Livestock Sciences

² BOKU-University of Natural Resources and Life Sciences Vienna, Centre for Development Research

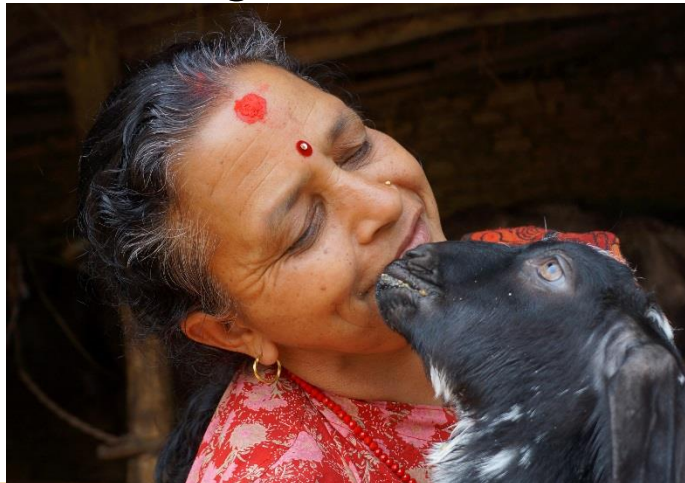
³ Caritas Nepal, Kathmandu, Nepal



Nepal & Goats

- Nepal:

- traditional agrarian country ⁶
- varying monsoon patterns
- increasing periods of drought



- Goats:

- Ensure food security for smallscale farmers ^{1,2}
- Kept for sale, consumption & personal use e.g.: meat, fibre, fertilizer ³
- Resilient to drought & fast reproduction rate ⁴

Goats in Nepal- Housing



Goats in Nepal- Feeding



Aim of the study

- Documentation and analysis of the goat feeding system on Nepalese smallscale farms
 - **Feeding management:** feed scarcity, feeding calendar, climate change (changing monsoon, changing growth periods, less rainfall)
 - **Fodder plants:** availability, harvesting and conservation processes
 - **Nutritional value** of fodder plants

Material and Methods- Study site & Partners

- SAF- BIN project (Caritas, Boku,...)
- Nepal, mid- hill region of Kaski
 - Subtropical climate
 - ~700- 7000m a.s.l.
 - -2- 33°C
 - 18- 1000mm
- Mixed crop- livestock farming



Material and Methods-

Data collection & Analysis

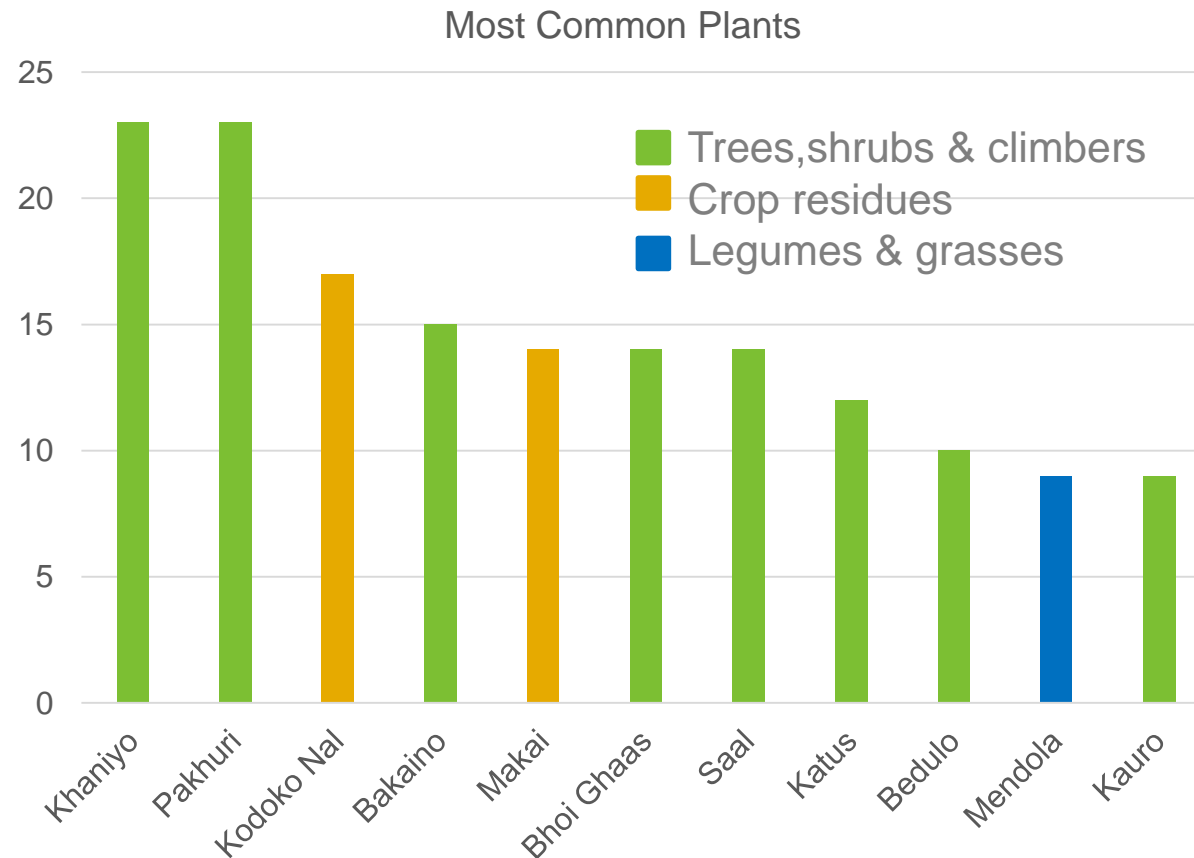
- March- May 2014
- 8 expert interviews
- 31 smallholder farms, 4 villages:
 - Participating in SAF- BIN
 - Interviewed person responsible for goats
 - Semi- structured questionnaire
 - Individual feeding calendars
- 60 fodder samples collected & analysed

Material and Methods- Data Analysis

- Proximate analysis (extended)- DM, ADF, NDF, CF, CP, t Ash
- Questionnaire and Feeding Calender analysed with SAS- procedure frequency, procedure glm, procedure means



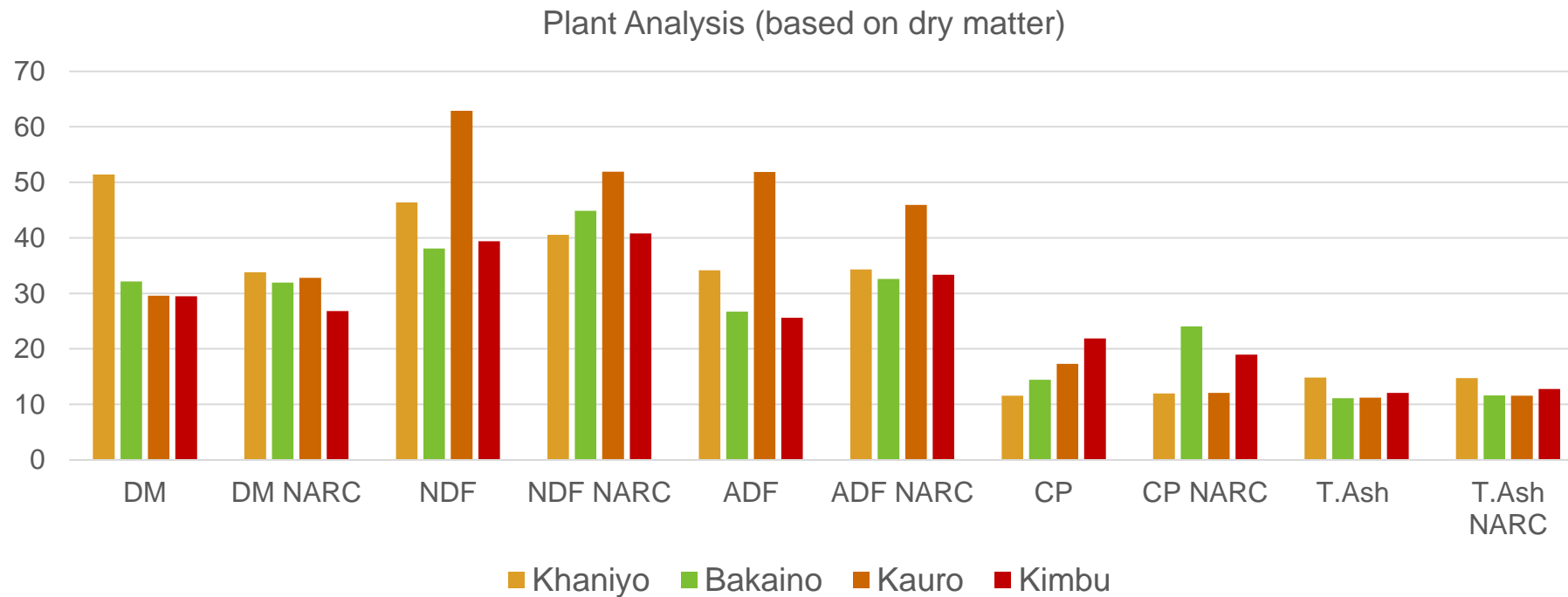
Results- Feeding Calender



- 29 farms, 139 plants named
- 71% trees, shrubs & climbers
- Feed scarcity: Feb-Apr
 - e.g. „Pakhuri“



Results- Fodder Analysis



- 60 samples, 36 plants
- 39 trees, shrubs & climbers
- Compared with data from the NARC Nepal

Results- Climate Change

- 54% recognized a change of feedstuff
- 45% the change is related to climate change
 - decreasing availability of fodder
 - lack of rainfall
 - growing seasons change



Conclusion

- Farmers have a wide knowledge of fodder plants
- Fodder analysis is in line with previous data and enriches the data base of Nepalese fodder plants.
- Based on the available fodder plants, the rations for goats could be improved (meat yield)
- Majority thinks that climate change has an impact

Thank you!



University of Natural Resources
and Life Sciences, Vienna



Department of Sustainable
Agricultural Systems

Centre for Development Research



SAF-BIN project is
funded by the Global
Programme on
Agricultural Research
for Development
(ARD) of the European
Union

