

# The food security and water insecurity paradox in Iran; the case of feed production-feed import- irrigation water consumption nexus

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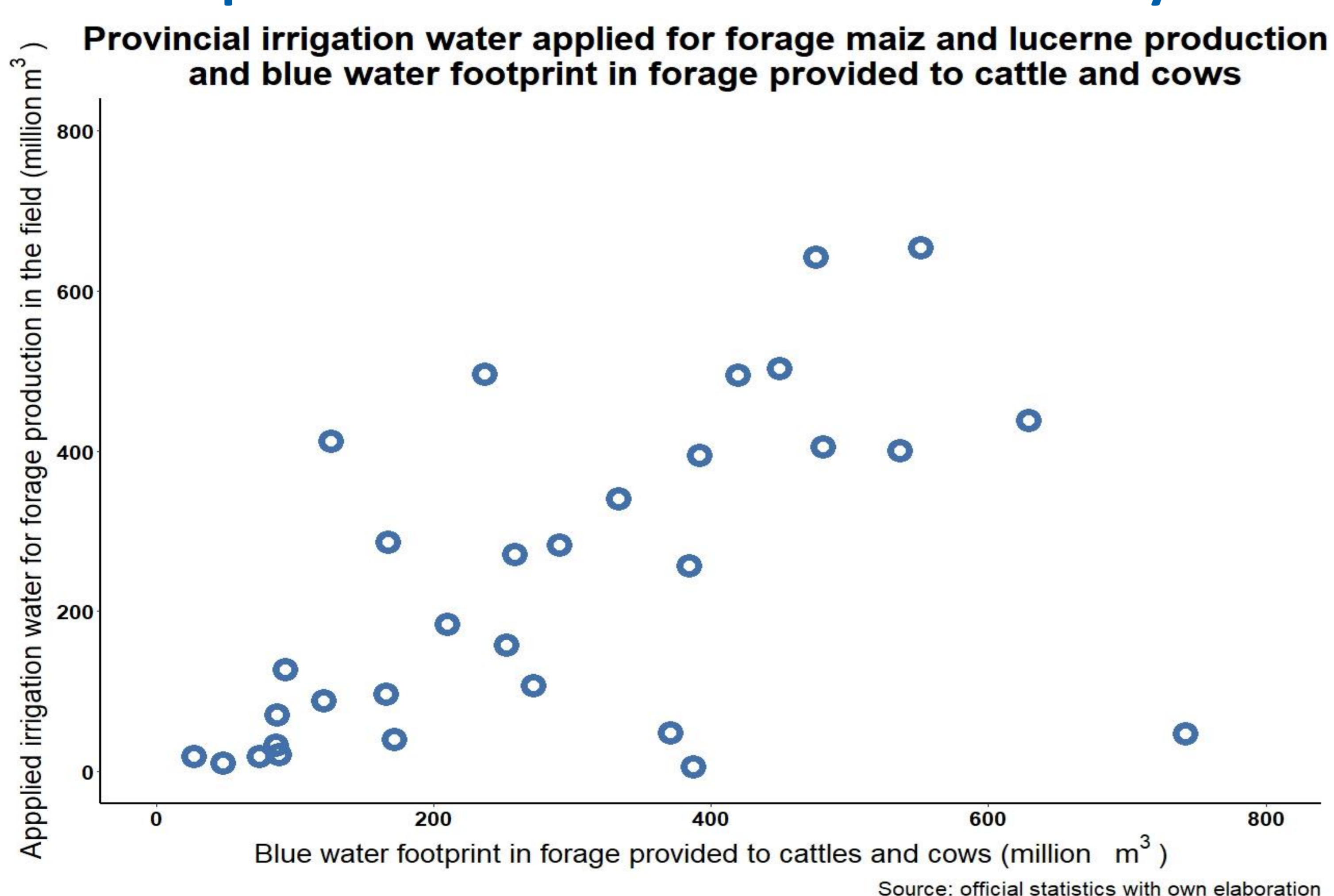
## Introduction

- The general agriculture's policy of Iran is pushing for the self-sufficiency of the main feed items.
- Forage crops have relatively high irrigation water requirements.
- The official plan of increasing forage production threat the already endangered groundwater resources more
- The nexus concept is applied which has been developed to analyse nexus-related interlinkages

## Material and methods

- The nexus concept of food-water-environmental degradation has been applied.
- The countrywide provincial available data are used by focusing on two different aspects:
  - Red meat and dairy production
  - The nexus between forage crop production, feed import and irrigation water consumption
  - Groundwater degradation at provincial level
- We estimate the water requirements by applying the available data on water footprint of forage crops and regional irrigation water data on forage crops

## Water footprint in forage production and consumption distribution around the country



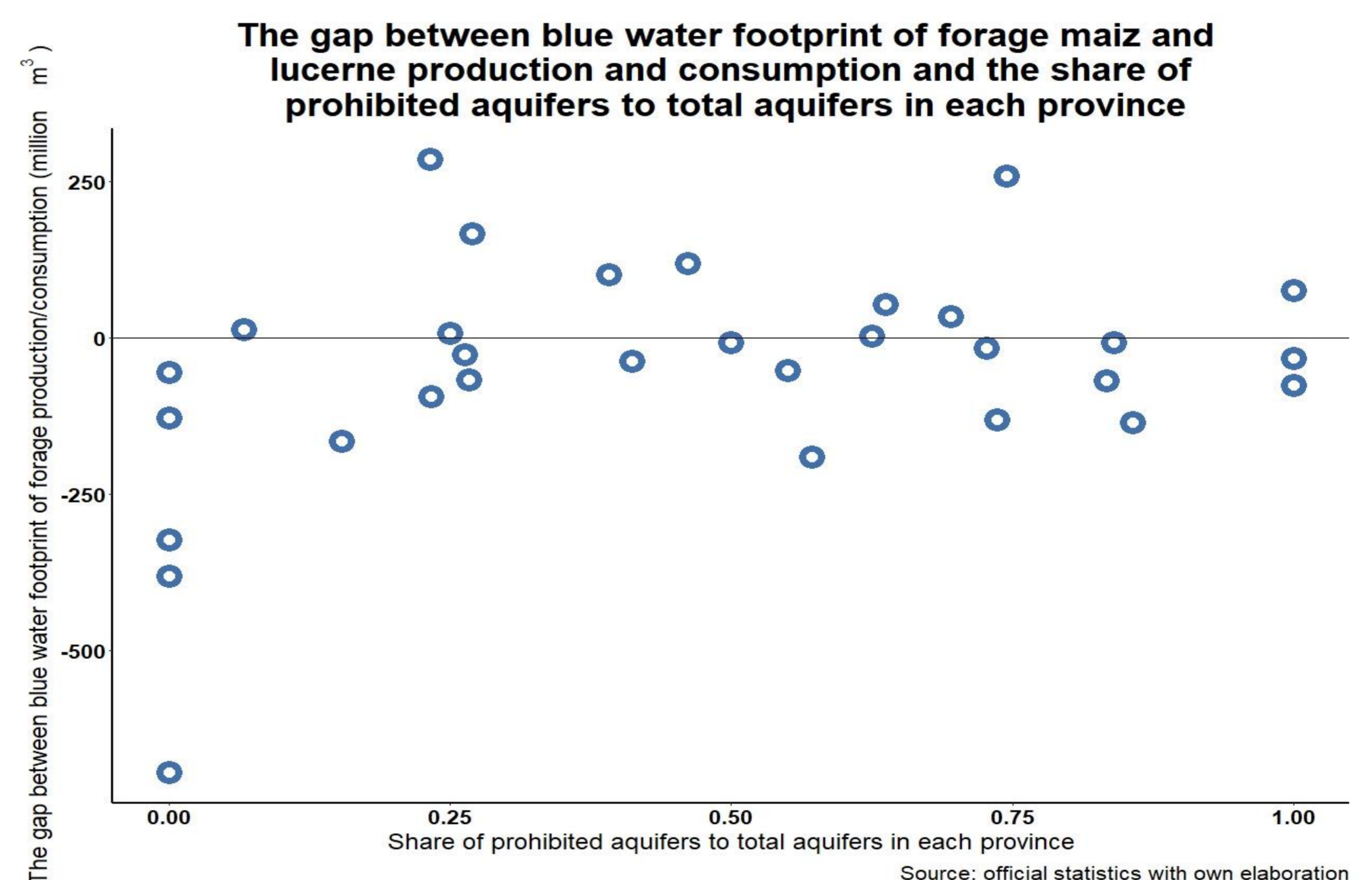
- There is uneven distribution countrywide between forage production and its water requirement and the centres of beef production and water needed for feed provision

## Table of country condition on red meat and fodder crop production and import (2018)

Index	Value (Unit)
Population	83.000.000
Red meat production	829.000 Tonnes
<i>Cow, calve, bull:</i>	474.000 Tonnes
<i>Sheep, goat:</i>	349.000 Tonnes
Cow, calve, bull	8.088.245 (heads)
Sheep, goat	45.621.950 (heads)
Forage production	
Alfalfa / Lucerne	6.466.956 Tonnes
Forage Maize	10.662.005 Tonnes
Meat import	Cow, calve, bull: 97.000 Tonnes Sheep, goat: 36.000 Tonnes
Fodder import	Alfaalfa: < 1.000.000 Tonnes Forage Maize: 8.000.000 Tonnes

Source: Ministry of Agriculture Jihad of Islamic Republic of Iran, Statistical Centre of Iran (SCI)

## The unreasonable relation between the region of meat and forage production and their groundwater resources deterioration is obvious



## Conclusion

- In many provinces the total water requirement for production of forage crops threatens the groundwater resources.
- The provincial policy of importing the required forage crops should be consider seriously, if the self-sufficiency policy of the main feed items or beef is on the agenda.

## Contact

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