

## Simulating Grazing Dynamics of Goat and Sheep for Climate Adaptation strategies in West Inner Mongolia (EU-FP6 ADAM Project)



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West Inner Mongolia belongs to inland aridzone with three deserts Ann. precip.: 40-200mm



## **Adaptation and Mitigation**

- Grazing-ban, periodic or rotation-grazing
- Control grazing; no goat-grazing
- Enclosure, stall-fed animals
- Grass-ring construction
- Forage grass base construction
- Eco-immigration
- Transfer strategy
- Supply job other than relieving
- Develop industry and mine
- Aerial seeding
- Artificial rainfall enhancement



Climate Change Impacts on Eco-system and Water Resources





### Climate Policy Assessment——Participatory, Analysis & Modelling

#### Improper human activity

#### **ADAM Policy-option Appraisal Frame**





—Illegal land cultivation

- -Over-use ground water
- -stock ing goats
- Urbanization
- -Illegally take medicine- plants
- -Illegally cut trees
- -Illegally use river flow
- -Over-grazing
- -improper afforestation

## statistical analysis



Questionnaire statistics: 74% of 132 sheets agree with grazing-ban against land degradation in west Inner Mongolia (Dai et al. EU FP6 ADAM project final report, 2009)

## Animal grazing dynamics





**Eco-migration** 

Fig.Simulated Stipa breviflora NPP under different grazing pressure coming from sheep and goat in west Inner Mongolia by use of FORSPACE model.

**Result:** Proper grazing is necessary for vegetation regeneration and reduction of fire risk in west Inner Mongolia grassland.

# In-depth interview





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