Livestock is highly affected by the world systemic crisis.

Environmental issues are an important part of these issues.

How to use less non-renewable resources, How to preserve biodiversity, How to limit the Green house gas emission, How to be more resilient to face climate changing.

The WINNING CARDS OF GOATS!!

How to connect these environmental issues with genetic selection and breeding of GOATS.
General data about the goat sector:

2013 in France: Average lactation goat milk production is 915 kg for Alpine and 1000 kg for Saanen (+2% per year)

Few dominant selected breeds

From 136 identified breeds, few have a selection scheme

Few rare breeds with a conservation selection scheme

The most growing livestock populations are goats (+66% in 20 years)

80% are in low income countries

- 5% of milk and meat are traded, the remaining is auto consumed
- To develop low input systems for small holders with the application of agro-ecological principles

ERCG, Budapest, 2014, April, 7th – 11th

The goat genome has been sequenced in 2010

- Genetic control of the Casein composition
- Genetic control of the Milking speed
- Genetic control of the Scrapie
- Identification of a large number of markers

BUT most researches on few breeds and minority intensified livestock systems

Still few environmental applications

Recent advances in Research on goat selection

Only 18 to 22% of publications on goats on marketing production systems, managements

Too few multi- and trans-disciplinary researches linking biolo sciences and Social sciences

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To take in account the characteristics of goats

Integration of goats into complex and multifunctional livelihood systems
High capacity of local rustic breeds to valorize low value forage
High rusticity to use rangelands
All characteristics to be enhanced and developed by genetic

What Selection and innovations to improve the environmental performances of goats

From the individual selection to the herd selection of more adapted animals
Selection of local breeds based on the adaptation capacities of animals to changing conditions
All characteristics to be enhanced and developed by genetic

Non genetic innovations to enhance

Developing tools to help the breeders to manage pasture and grazing
Decrease and suppression of hormonal treatments
Control of parasitism by alternative natural treatments
Development of electronic tools to monitor better the behavior of animals in non-pastoral systems
And more Research in Social Science to support public policies and collective organizations to favor innovation
Conclusion

- Transition toward new paradigms are needed
- Much lock in to limit this orientation