

African pastoral land use & sustainability in a “high-tech” world

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Pastoralism:

- Use of natural vegetation to produce animal products (meat, milk, fibre, leather etc) primarily on land marginal for crop production – low external input
- Vegetation depends on rainfall and varies greatly in yield between years and locations
- High degree of uncertainty in natural conditions demands great flexibility and mobility

“High-tech”:

- Fuzzy and relative term that depends on current standards and can shift over time
- Can include electronics, computers, satellites, mobile telephony, energy-generating technologies etc
- Non-renewable resources & external experts needed to produce and operate high-tech equipment – meaning loss of local control

Some effects of “high tech” on conditions for pastoralism

- Cheaper and uniform animal products through industrialised production elsewhere, increasing the marginalisation of rangeland produce
- New possibilities for controlling livestock diseases and food-safety standards
- Intensification of alternative uses of rangelands, e.g. extractives (minerals, water), irrigated cropping and energy production (wind, solar, bio-energy)



Some examples of “high tech” within pastoral systems

- Market transactions and money transfer via cell phones
- Motorised transport of livestock and water
- More effective animal drugs and vaccines
- GIS and satellite imagery for tracking good pasture
- Identification of animals, e.g. chips
- Modern high-power weapons exacerbate conflicts

Conclusions

- ◆ High tech in livestock production elsewhere changes the framework conditions for pastoralism.
- ◆ High tech can support pastoralists in managing animal health & marketing stock & their products.
- ◆ High tech in extractive industries and irrigation can oust pastoralism completely for short-term gains.
- ◆ High tech can only marginally improve economic production of food from dryland natural resources.
- ◆ High tech / “modern” ≠ economically efficient, environmentally sound, socially just & sustainable. The most efficient, sound, just & sustainable way to produce **food** in the rangelands remains pastoralism, in which pastoralists use high tech selectively.

