Pastoralists in the 21st century: “lo-tech” meets “hi-tech”

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Pastoralists ....

... using grazing animals to produce food in marginal areas

... capitalising on unpredictable heterogeneity of natural resources over space and time

... practising knowledge- and labour-intensive production with little mechanisation

in a hi-tech world ...

... ICT, mobile phones, bio-technology, electronics, satellites, alternative energy, remotely controlled vehicles etc

Photo: Wolfgang Bayer

Photo: Don McCullough
Pastoralist regions in the world

(Source: World Initiative for Sustainable Pastoralism / WISP)
Some impacts of external hi-tech on pastoralism

1) Industrialised production marginalises local pastoral products

2) Hi-tech food-safety control excludes poorer pastoralists from market

Photos: Wolfgang Bayer
Some impacts of external hi-tech on pastoralism

3) Technological development leads to competing uses of land
Some impacts of hi-tech within pastoral systems:

1) Communication

Mobile phones +
Mobile money +
Mobile energy =
Upsurge of enterprise among pastoralists, esp. youth & women
Some impacts of hi-tech within pastoral systems:

2) Motorised transport

- Inexpensive motorbikes
  - more efficient herd control
  - facilitating movement of camps
  - facilitating marketing of products

- Trucking feed, water & stock
  - access to more lucrative markets
  - survival feeding/watering
  - better use of dispersed and ephemeral grazing resources

- Drones
  - reduced costs of mustering/rounding-up
  - better control of fences & waterpoints
Some impacts of hi-tech within pastoral systems:

3) Animal healthcare

- Technological advances in vet drugs & vaccines
  - allows community-based animal health services in remote areas
  - but danger of inappropriate use of drugs / increase in drug resistance

- Monitoring health by mobile phone
  - human & animal health (One Health)

- Both supported by mobile decentralised energy generation

Photo: VSF
Some impacts of hi-tech within pastoral systems:

4) Computer-based market info

- Mainly used by project & government staff to track trade and plan interventions
- Supported by donors
- Probably not self-sustainable in pastoral areas
Some impacts of hi-tech within pastoral systems:

5) Satellite-based info systems on pastoral resources

- Combination of cellphones & satellite imagery
- Monitoring conditions of pastoral resources
- Pastoralist decision-making tool for herd movements
- Facilitating policy dialogue and pastoralists’ influence in planning

Photo: Project Concern International
Some impacts of hi-tech within pastoral systems:

6) Index-based livestock insurance (IBLI)

- Based on remote-sensed data on vegetative cover
- Meant to reduce risk of livestock losses with weather extremes
- Testing phase – uncertain whether commercially viable
Some impacts of hi-tech within pastoral systems:

7) Digital identification of stock

Microchips, e.g. in rumen bolus, or digital eartags

- help reduce livestock theft
- trace provenance of stock
- allow external monitoring of stock holdings & movements
- create dependence on infrastructure & specialists

Photos: Wolfgang Bayer
Some impacts of hi-tech within pastoral systems:

8) Modern hi-power weapons

- Exacerbated conflicts
- Increased stock theft
- More human deaths
- No-go grazing areas
- Concentration of stock closer to settlements

Photo: Siegfried Modola
Seeing potentials of hi-tech through a pastoral lens

Mindset of Man controlling Nature doesn’t fit pastoralist logic: making strategic use of dispersed and ephemeral resources

Main management options that make economic sense in most rangelands are lo-tech but hi-knowledge

Intensifying this extensive production system ➔ non-pastoral
Seeing potentials of hi-tech through pastoral lens – 2

*Mobile pastoralists embrace mobile technologies*

Photo: ActionAid

Photo: Leopold Obi
Beyond technology

- Pastoralist concerns linked to policy, economics, insecurity, resource access
- Hi-tech useful to support related negotiations

- Going beyond “hard” technologies to explore institutional innovation
Beyond technology – amplifying pastoral voice

- Strengthening pastoralists’ capacity to use information to influence other stakeholders

- Forming coalitions to lobby for pastoral concerns

Photo: James Pattison / IIED
Some international coalitions for pastoralism
Beyond technology – amplifying pastoral voice (2)

- Strengthening capacity of pastoralists to use ICT and media to lobby for pastoral concerns – in South & North

**Photo:** Beth Cullen, AlpFUTUR
What might the future hold?

Misguided hi-tech “development” can oust pastoralists from rangelands pushing them into urban poverty, aid dependency or overseas migration.

Photo: Standard Media Kenya
But more positive futures are also possible

- Increased awareness of healthy & ecologically friendly organic food from the rangelands – market niche

- Greater appreciation of pastoralists’ role in
  - food security
  - biodiversity conservation and
  - environmental services

combined with hi-tech options that fit mobile production systems
Improved connectivity of remote pastoral areas

Photo: http://acyig.americananthro.org/2016/01/10/2634
More positive futures

Better infrastructure for ICT & transport innovations – and for pastoral life in general – could strengthen pastoralists’ roles as citizens and productive users & stewards of the rangelands

Photos: http://acyig.americananthro.org/2016/01/10/2634
Thanks for listening!

Photos: Wolfgang Bayer
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