

Ethnoveterinary medicine in southern Africa



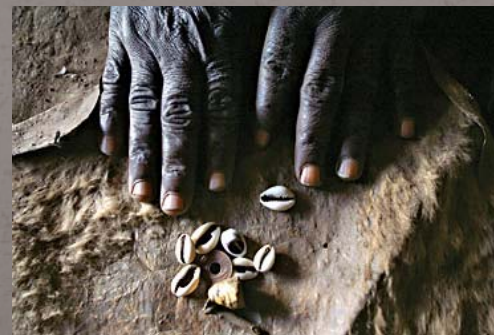
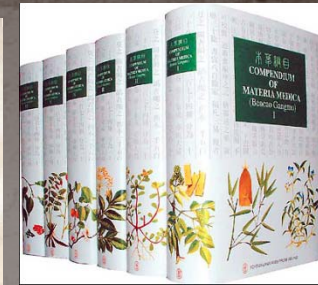
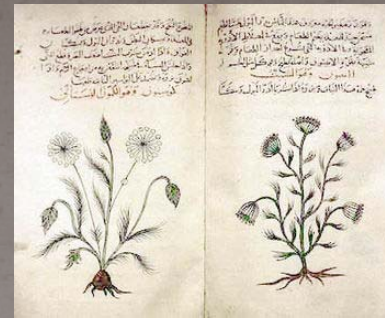
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What is EVM?

EVM consists of popular culture concepts, beliefs and practices as these pertain to healthcare for animals.

- Martin, Mathias and McCorkle (2001).

- *Materia medica*
- Diagnostic techniques
- Surgery
- Husbandry practices
- Medico-religious practices
- Tools and technologies

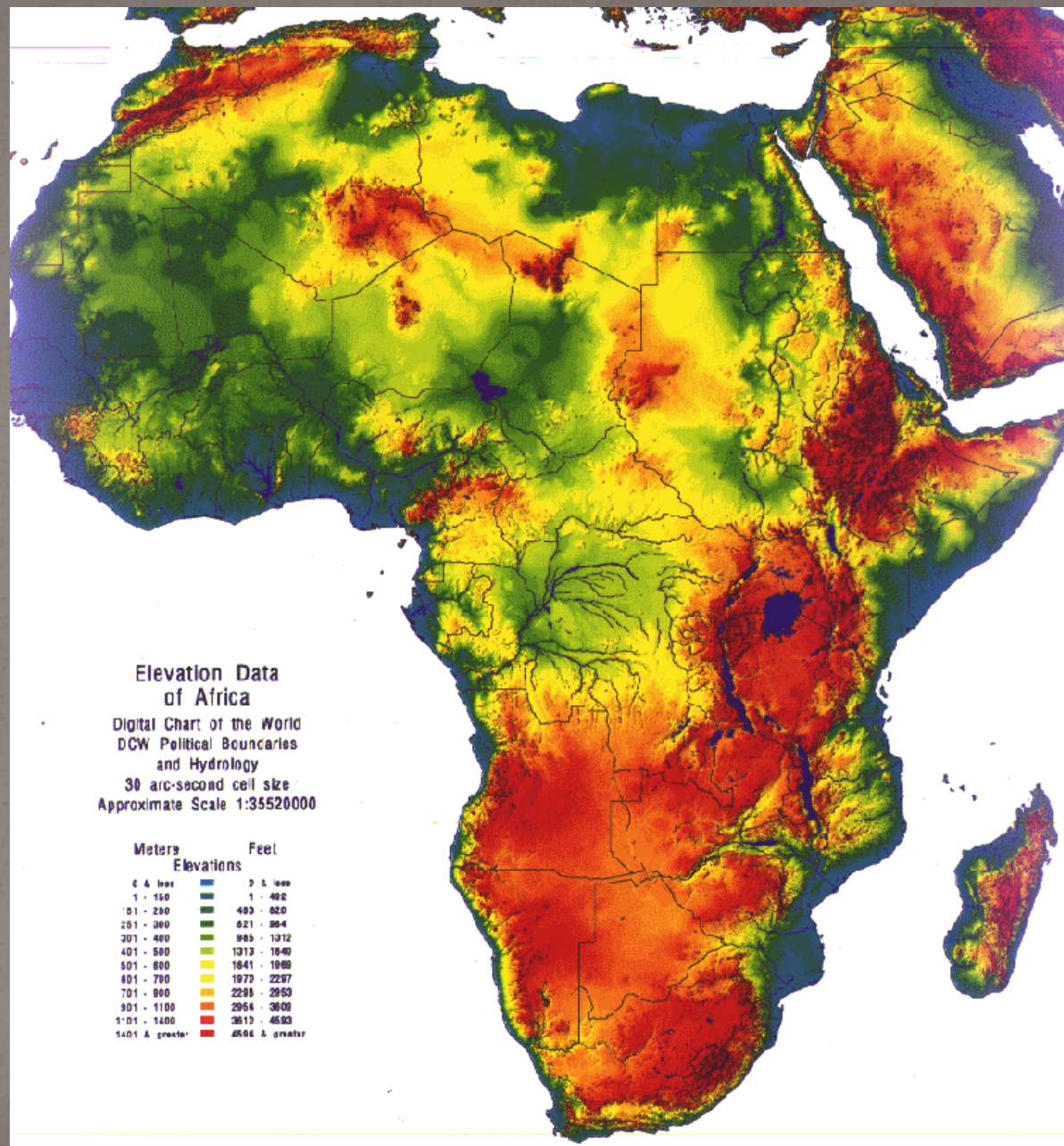


Who uses EVM?

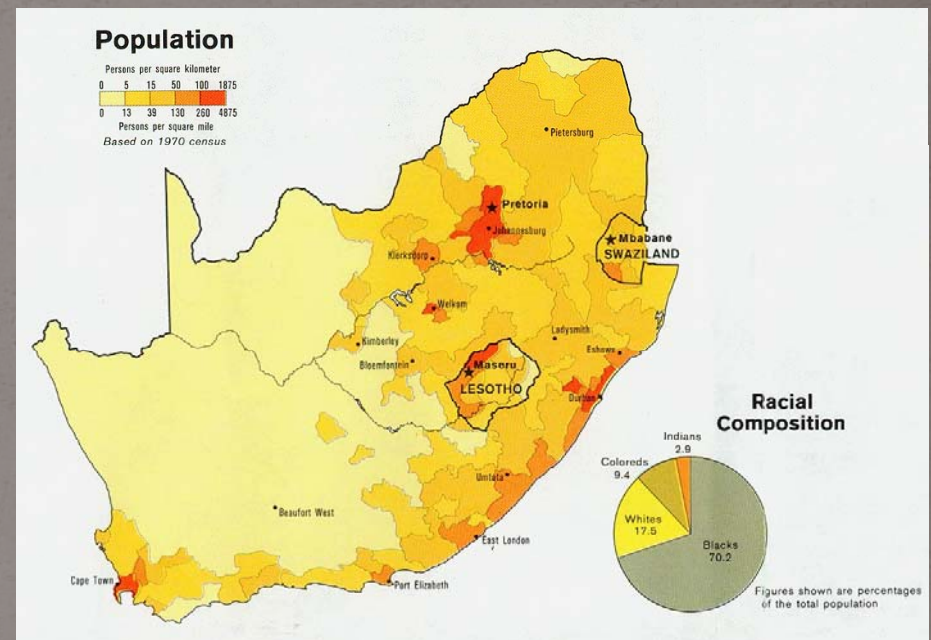
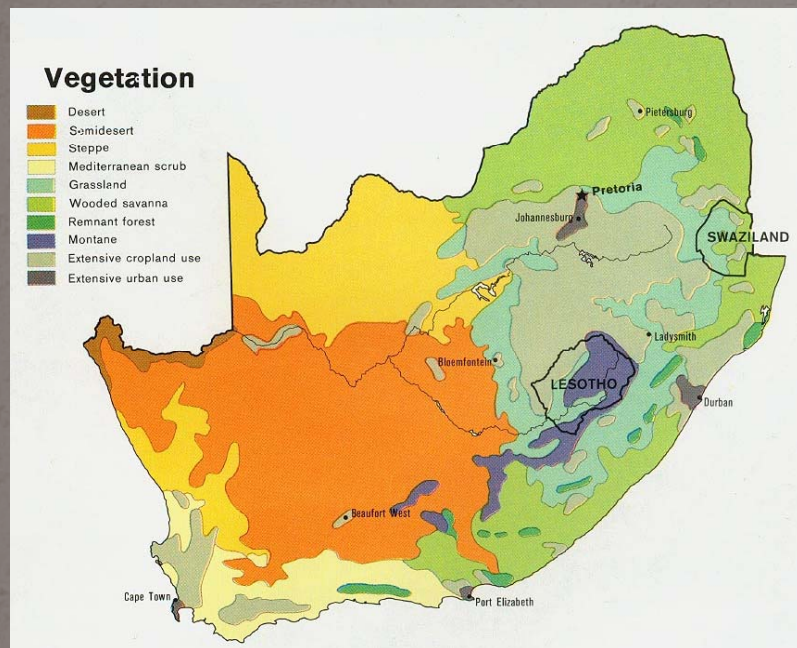
- Mostly bantu livestock farmers – both large commercial and small-scale
- Herders and caretakers
- Traditional healers



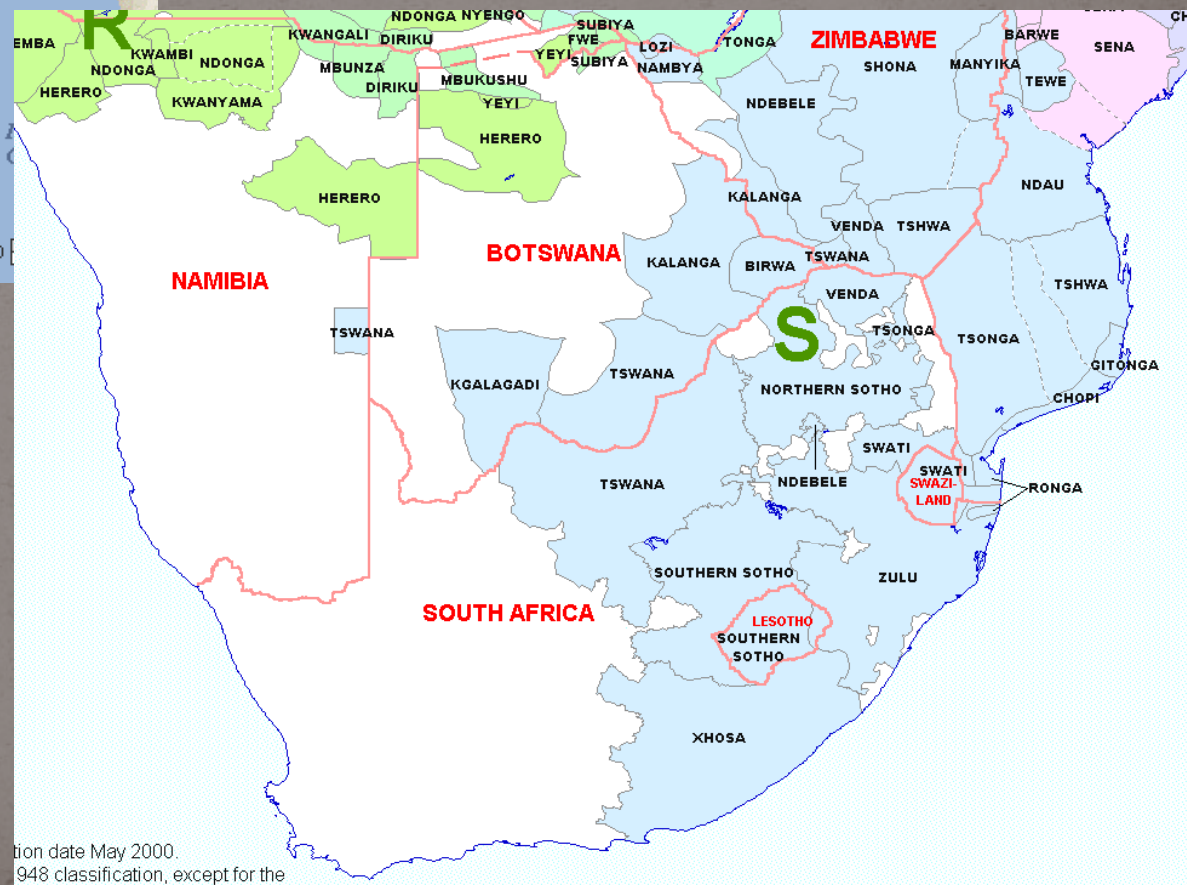
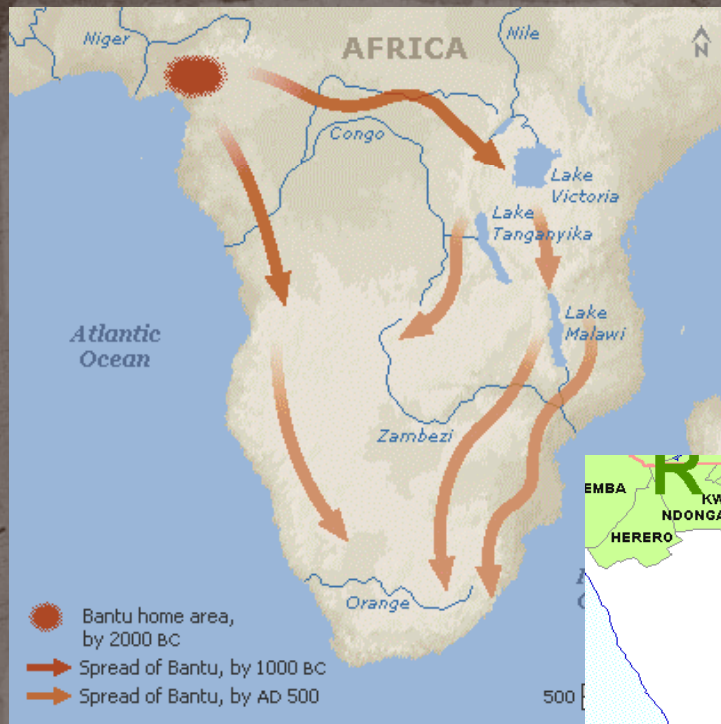
Africa



People and plants



Bantu



How important is EVM?

- Commonly used
- Over 300 plant species
- Cattle most important
 - chickens, goats, sheep, dogs, donkeys



EVM vs. Human traditional medicine

EVM

Mostly laypersons

Almost always rural

Less complex medicines

Less complex theory

Usually allopathic

No formal/semi-formal
training

Human

Mostly professional

Rural and urban

More complex medicines

More complex theory

Often not allopathic

Training important

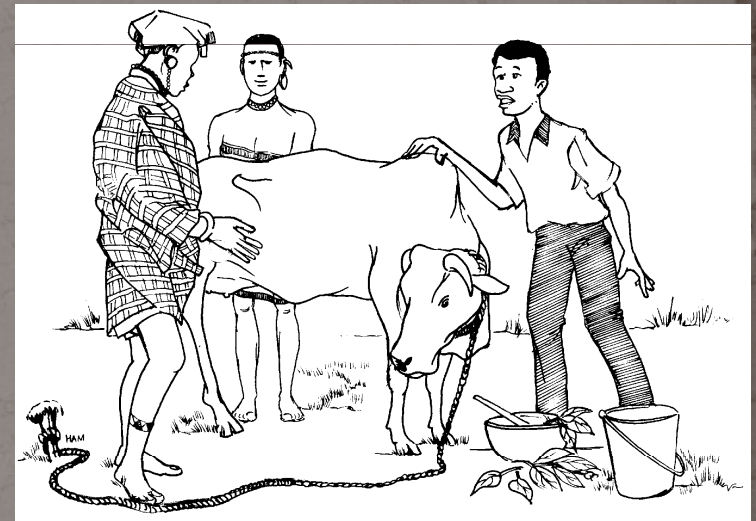
Traditional disease theory

- Natural cycles
- “Maatla”; “Amandla”
- Ancestors



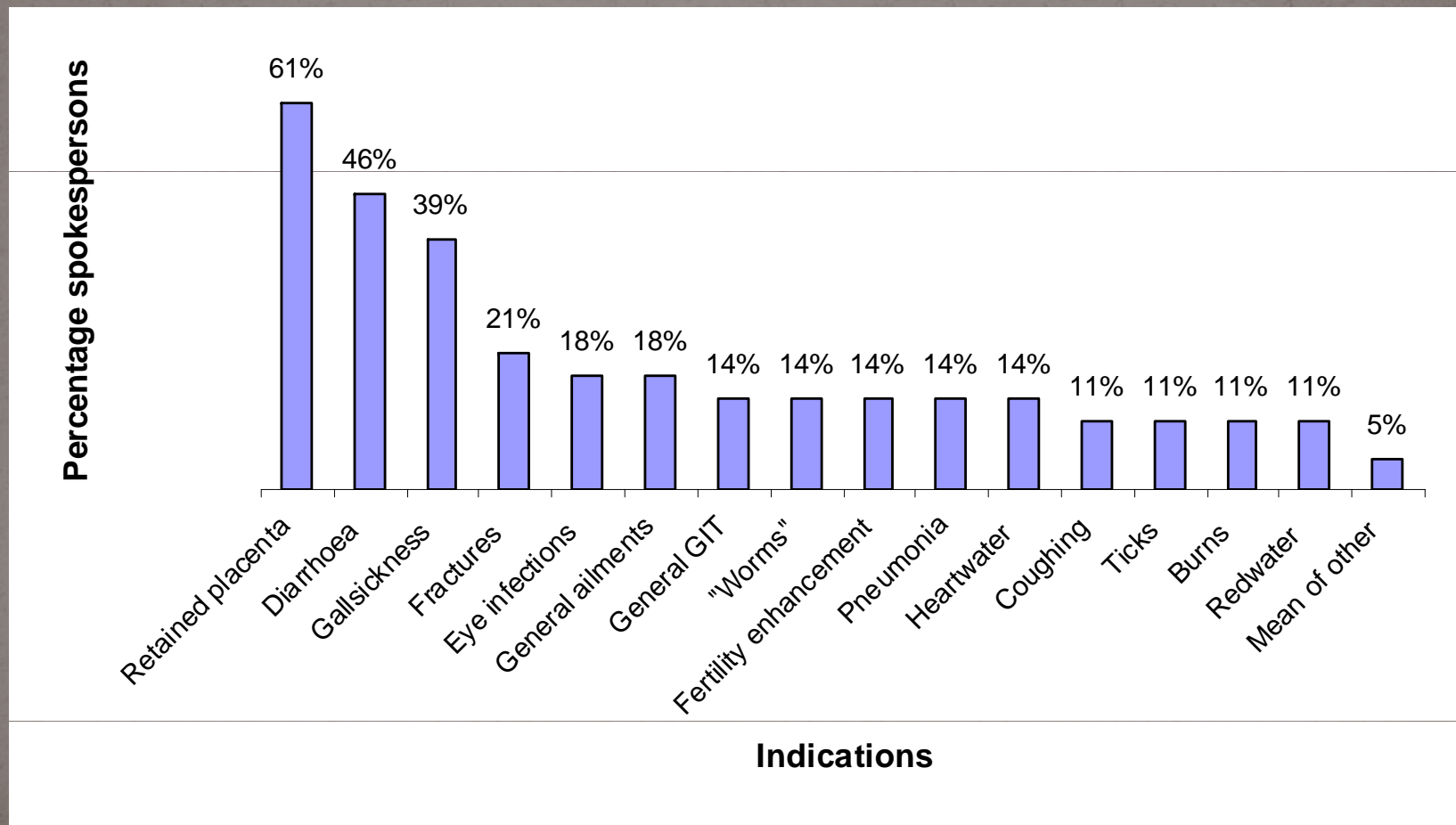
EVM vs. traditional disease theory

- Allopathic herbal medicine predominates
 - Traditional African disease theory also encountered
- Mechanism of action usually unexplained
- Parents, acquaintances and own experience are main sources of knowledge
- EVM not used exclusively – also orthodox medicines



Indications

Madikwe area, North West Province



Indications related to physical characteristics

- **Redwater:**

Urginea sanguinea

Rhoicissus tridentata

Pterocarpus angolensis



- **Retained placenta:**

Dicerocaryum spp.

Pouzolzia mixta



- **Gallsickness:**

Senna italica



Indications related to known activity

- **Constipation:**

Senna italica (anthraquinone glycosides)

Ricinus communis (lectins)



- **Burns; diarrhoea (Tannins):**

Acacia tortilis

Ziziphus mucronata



- **TVT (Cytotoxic diterpenoids):**

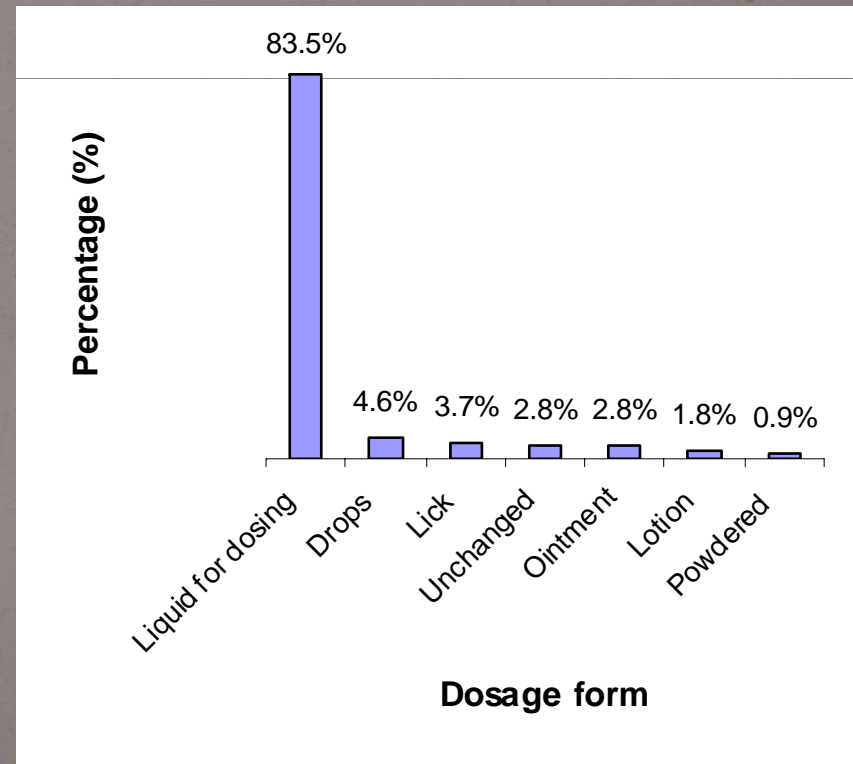
Jatropha zeyheri



Preparation and dosage forms

Dosage forms in Madikwe area
(n = 109)

- Usually single active ingredient plus carrier
- Liquid preparations for oral dosing predominate
- Amounts and dosing intervals not specific



Storage

- Usually **not** stored
- Hung in shade
- Dried and powdered in bottles, plastic bags etc.
- Use of *Grewia flava* bark to retain maatla



Safety concerns

- Toxic plants are used:

- *Boophae disticha*
- *Croton gratissimus*
- *Jatropha zeyheri*
- *Ricinus communis*
- *Spirostachys africana*
- *Urginea sanguinea*

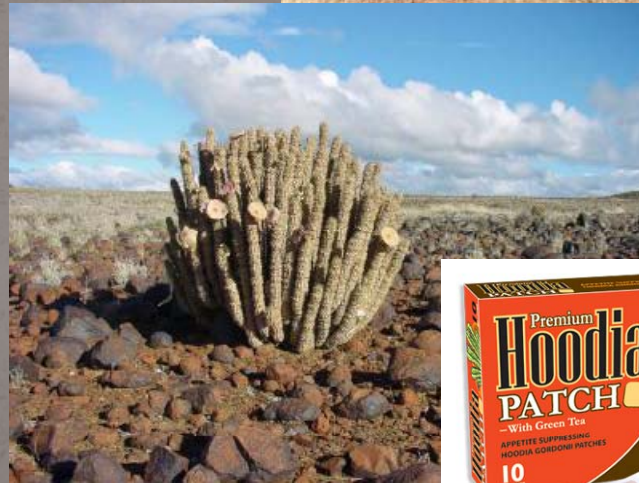


Little or no standardization

Little or no quality control

Challenges

- Intellectual property rights



- Sustainability



- Safety and efficacy

A deadly combination



User's and research

- Farmers almost always supportive
- Secrecy is unusual
- Feedback is considered important
- Farmers rarely show concern for intellectual property rights



Pharmacognosy

(The study of crude drugs)

- Raw material processing
- Bioassays
- Efficacy trials
- Crude drug characterization



Typical steps :

From plant to extract



From extract to efficacy and safety



Pharmacology

- Fractionation
- Purification
- Pharmacodynamics
- Pharmacokinetics
- Drug development



Conclusions

- Importance
- Intellectual property
- Research can contribute to safety, efficacy and sustainability
 - Positive user-attitudes supports research

