Mauritania Technology Fosters Tradition (TFT)

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1. Presentation of TFT

- **Environment**
  - Semi desert and ephemeral wetlands
  - 400 mm precipitation isohyet moves south

- **People**
  - Maure, Haratins/Black Maure, black Africans

- **Objective**
  - Document and formalize trad. property rights, with local people and using GIS
Scoping: problem areas identified

- Environmental destruction
- Increase in conflicts between farmers and pastoralists
- Weakened position of tribes
- All collective property rights abolished
- State and public sector do not realize present problems
Stakeholders and scales

Users and beneficiaries at various scales:

- **Global** - Donors, Law com., Sahel countries
- **National** - Govt., Public sector
- **Regional** - Courts, Regional adm.
- **Local** - Farmers, Herders, Trad. leaders
Output

- Body of trad. knowledge pertaining to natural resource management, in local languages. In print and on the Internet
- Maps of resource use patterns
- Institutional and legal reform
- Increased stakeholder involvement
- Decrease in the amount of conflicts
2. Analytical framework

Key elements:
• Stakeholders and power
• Law and legal paradigms
• Cultures and knowledge systems
• Knowledge and knowledge management
Societal sectors and stakeholders

Public sector
- Central government departments and agencies
- Public utilities, Regulated corporations
- Family enterprises, Partnerships, Private corporations

Private sector
- Cooperatives, Trade unions

Civil society
- Universities, Foundations, Local governments
- NGOs, Community-based organizations

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Power and empowerment

How to address power – and achieve empowerment – follows from the methodological approaches chosen:

- Ethics - knowledge be used by whom and for what?
- Consensus-building, Consultation, Governance, Involvement, Participation, Transparency, etc.
- Trad. knowledge as means and goal
- Scaling of knowledge, bottoms-up approach
Institutions and institutional analysis

- Understood both as organizations and in the sense of institutional economics
- Facilitates and constrains the flow of knowledge and data between scales
- Important for understanding and assessing power and empowerment
Law and legal paradigms

Legal paradigms
- Traditional (tribal) law
- Islamic law
- French law

• Legal pluralism
• Problems of application and coexistence
Legal paradigms in Mauritania

Legal paradigms and relations:

- Roman (R)
- French (F)
- Islamic (A)
- Maure (M)
- Trad. (T)

Diagram: Circles representing different legal paradigms, with arrows indicating relationships or influences between them.
Knowledge systems in Mauritania

Knowledge systems and relations:

- Western knowledge (W)
- French knowledge (F)
- Arab knowledge (A)
- Maure knowledge (M)
- Trad. knowledge (T)
What is knowledge, 1?

• Sum total of a culture’s accumulated experience, including transfer, views on itself, the environment, and relationships with the environment

• Knowledge and culture
  – Knowledge is part and parcel of culture
What is knowledge, 2?

Relations between knowledge, culture and epistemology:

Knowledge

Culture

Epistemology
Knowledge management

Aspects of managing knowledge within and between scales:

• Dimensions
  – With whom to share, What to share, How to share

• Tasks
  – Collection, Evaluation, Categorization, Storage, Retrieval, Dissemination, Production of new knowledge
Scaling legal and knowledge paradigms

Interpretation

Transformation

Translation

Input/Output

Data, Information, Knowledge

Data, Information, Knowledge

A scale

SC

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3. Drivers and trends

- Drivers and trends interact, and operate within and between the interacting natural and social systems, at several levels.
- Causalities between the trends are very complex.
- The drivers are:
  - Population increase
  - Desertification
Trends, I

The trends are:

• Ecological system under stress
• Deforestation
• Decentralization and role of the State
• Diminishing role of traditional law
• Privatization
  – Land (fencing)
  – Water (dams, access to wells)
• Changes in production systems
Trends, II

- Absentee pastoralism/agriculture
- Sedentarization
- Increase in valuation of land
- Infrastructure developments
- Increase in conflicts
- Increased focus on biodiversity
  - RAMSAR
4. Property and use rights

The property rights system to be understood through the role of pastoralism in history:

- Reciprocal adaptation between pastoralism and environment
- Immigration, wars and rulers
- The French colonial legacy
Characteristics

- A system well adapted to the specific characteristic of the local ecosystems
- Emphasis on making resources available to those that need it
- A non-equilibrium system
  - Availability of water – when, where, how long, and how much determine the operation and productivity of the system
Systemic changes

- The trad. property rights system was a common property system for the original users
- Lack of a fit between the trad. system and today’s situation is growing
- Today’s situation can be characterized as open access
5. Methodology

• Participatory Research Mapping (PRM)
  – Local people help identify research issues and collect data

• Mix of qual and quant
  – Focus groups, Interviews, Surveys, GIS/GPS, Satellite imagery
6. Data and maps

Data include:

- **Satellite imagery (Quickbird)**
  - Digital pansharped color images, 0.6 m res.

- **Survey data:**
  - Socio-economics, incl. productive activities in agriculture, pastoralism, hunting and gathering
  - Toponymy
Project area overview
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7. Conclusions

Issues and concerns

• Methodological critique: capacity building, learning, reliability, validity, GPS
• Stakeholder relations
• National level: transparency, ownership priorities, and public sector situation
• Conflicts and conflict management
• Power and empowerment
Next steps

• Data analysis
  – Quant – resource use patterns
  – Qual – conflict: causes and implications
• Prepare maps
• Build collaboration, locally and internationally
• Extend partnerships, international
• Further data collection: time series data