



## Risk and Insecurity when Resources are Scarce: Ethnological and Medical Perspectives on the Availability, Quality and Management of Water

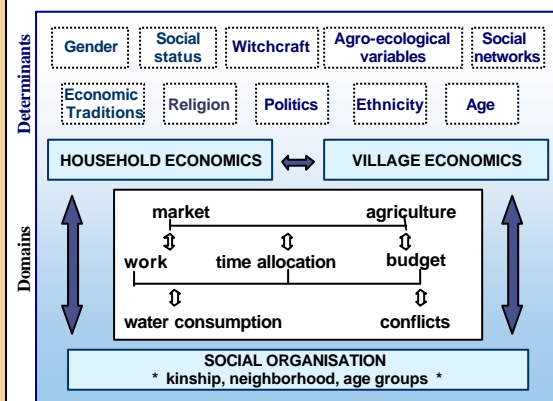
### Household economy and Water Social Organisation, Economy and Gender

→ village  
→ household  
→ individual

#### OBJECTIVES

- \* Description of socio-cultural patterns and socio-economic strategies
- \* Recording of limiting and enabling variables of economic life on village/household level
- \* Ethnography and analysis of local risk minimizing strategies and rationality of choice

#### SUBJECT



#### METHODS

- Participant observation
- Interviews
- Time allocation studies
- Case studies
- Quantitative budget analysis
- Study of water consumption
- Network analysis
- Life histories of women
- Demographic census
- Census survey
- Study of local markets

Micro-level

Macro-level

#### RESULTS: Some main hypotheses

- "Households are organized in a bipolar manner: men and women maintain fairly autonomous sub-units in a household."
- "The central determinants of economic and social behavior are gender, social status, beliefs in witchcraft and social networks."
- "Social factors are mitigated by agro-ecological variables such as seasonality and degradation of soils."
- "According to indigenous concepts of labor, women spend more time than men on activities defined as >work<."

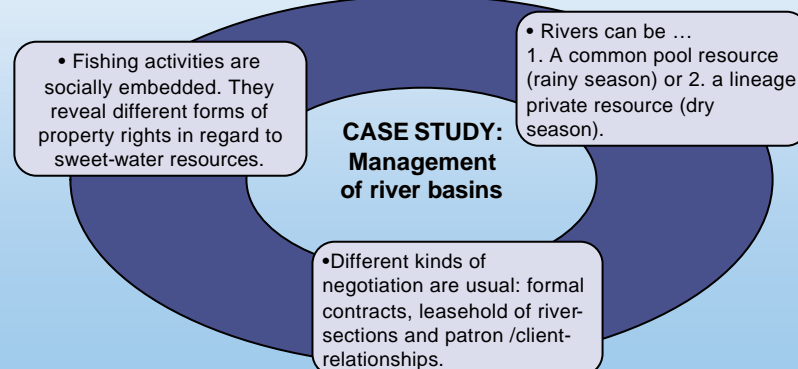
### Water and water-based Resource Management in social and political Arenas

#### RESEARCH QUESTIONS

- What are the dominant modes of water management in the region and how do they relate to conditions of scarcity and abundance?
- What kinds of conflicting interaction and cooperation exist between different actors and groups in relation to water?
- How do social institutions emerge and change and how are they enforced in the field of water management?

#### OBJECTIVES

- Description and analysis of institutional and processual aspects of water management
- Analysis of world views relating to water in an ethnically highly heterogeneous setting
- Socio-anthropological analysis of public policies on water management at national, regional and local levels



### Interdisciplinary Research - Anthropology and Medicine

... allows a holistic analysis of water related health problems thus laying a basis for efficient management strategies.

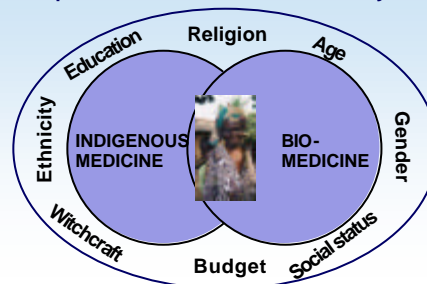
The common basis for both sciences is provided by modern risk theories.

Main issues are: 1. the detection of communal "hazards" influencing the water system with respect to quantity and quality, 2. the local perceptions of these "hazards" and 3. the role of local risk minimizing strategies.

Witchcraft  
Religion  
Gender  
Budget  
Water consumption  
Ethnic affiliation

### Water and Health Conditions Indigenous Medicines in the Haute Vallée Ouémé

#### Aspects within the Socio-Cultural System



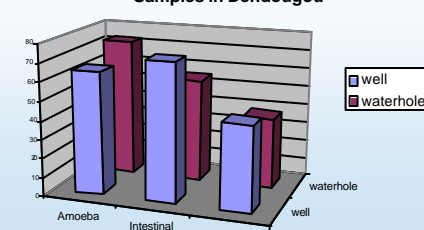
#### RESEARCH TARGETS

- Collection of data concerning the availability and consumption of water
- Collection of basic indicators of socio-economic organization by means of a micro-census
- Surveys on the state of health of the local population
- Analysis of local disease and health concepts as well as of different perceptions and practices related to water dependent diseases
- Recording of preventive and curative measures
- Recording of life histories of indigenous medical specialists

#### OBJECTIVES

The area under study is characterized by a high degree of heterogeneity of the population with profound cultural, religious and linguistic differences. The village of Dendougou e.g. is home of twelve different ethnic groups, practicing at least three different religions. An important aspect of the study of water and water-borne diseases is to describe and analyze this social field. There is a need for describing the dynamic constraints of water availability and quality in connection to local disease and health concepts in order to provide decision-support for policy-makers in Bénin.

Percentage of Infections of Blood and Stool Samples in Dendougou



### Water-associated Infectious Diseases

#### Drinking-water Quality and Risk Assessment

#### AIMS

- Detection, characterization and quantification of water-transmitted pathogens
- Epidemiology of water-associated diseases in the Upper Ouémé-Region

#### METHODS

- Mapping of water sources (about 1000 locations in the CATCHment-Area)
- Sampling (80 sources/1000)
- a) Culturing (2000 isolates/80 sources), b) Concentration of indicator viruses
- Identification of microbial species ( Microscopy, Bio-Assay, Antibioqram, Serologie, Genetics [PCR])

