

Water and Livelihood Security

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Background: Water plays a major role at all levels of livelihood security. Both personal well-being and economic activities of people crucially depend on the access to safe drinking water. However, a large proportion of the population in Benin is forced to use unsafe water or purchase supplementary water. The consumption of contaminated water seriously threatens the health status of the population resulting in lower productivity through sick leave and higher expenses for medical treatment, decreasing available income.

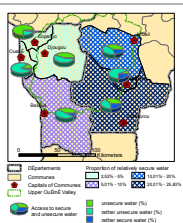
Goals: (1) Revealing interconnected facets regarding livelihood security and water, (2) identification of risk factors and strategies.

Results: Access to water and water quality have a strong impact on economy, nutrition and health. The population is shielded by informal networks aimed minimizing vulnerability (for detailed results see chart below).

Data & Integration: (1) data on a personal, communal and departmental level suitable for upscaling, (2) basic information for local capacity building, (3) incorporation into the Agricultural Sector Model, an expert model on water consumption and the medical problem complex.

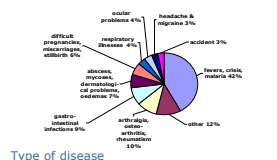
THEMATIC COMPLEXES	STATE INDICATORS	RESPONSE INDICATORS
Water	Water sources (number, use in %), water consumption level (litr. / capita), sources with health risks (in %)	HOUSEHOLD BUDGET (FCFA / capita / year)
Work	Economic activities (in % of budget), income and expenses, savings and loans (FCFA)	RISK STRATEGIES (kind, %)
Nutrition	Consumption patterns: items, amounts (grams / capita)	
Health	sick leave (days per capita and year), type of treatment (kind, %), costs of treatment (FCFA), share of waterborne diseases	

HEALTH: WATER QUALITY & SICK LEAVE



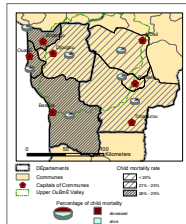
Water quality

The regular income of women is often used for intra-familial primary health care. While they bear the costs for minor illnesses (about 80% of cases), men are supposed to finance severe (and expensive) cases. 234 cases of severe sickness were reported, on which almost 8.5 Million CFA (plus various gifts) were spent for treatment and transportation by the families affected.

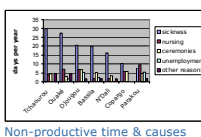


Type of disease

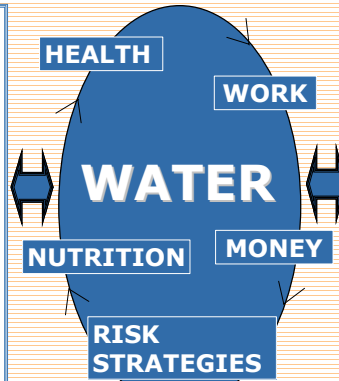
Water plays a major role concerning the health status of the population. Waterborne diseases are transmitted through water consumption, lack of food and sanitation, and through mosquitos. Many health problems like gastro-intestinal infections (e.g. cholera, amoeba) as well as fevers (malaria, typhoid), swellings and blindness (e.g. filariasis, oncocerciasis) are related to water.



Infant mortality



Non-productive time & causes



LIVELIHOOD SECURITY

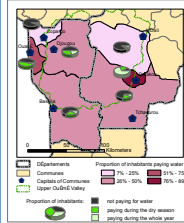
Economic & Agricultural Policy, Medicine



Statistically Representative Survey

~ 20.000 km²
839 Interviews
6 Communes

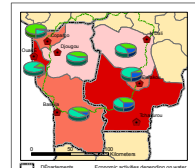
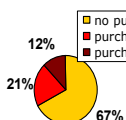
PURCHASE OF WATER & ECONOMIC DEPENDENCE



Purchase of water

1/3 of the population depends on water use for personal business (e.g. horticulture). 25% utilise waterholes as sources, thereof 17% all year round. The poorest access situation is in the northwest. Here, 58% run water-dependent activities. This region is particularly at risk in case of drought or water-taxation: with the decline of available water, economic capacities diminish and vulnerability increases. The degree of economic dependence is stronger in rural areas, but there are also more alternative strategies available.

33% of respondents use to purchase supplementary water, thereof 12% all year round. In rural areas these additional expenditures on water frequently result in intra-family conflicts due to unresolved responsibilities.



Economic dependence

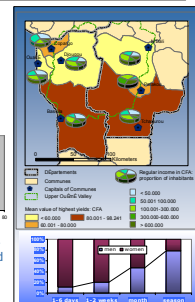
MONEY: MONETARY CAPACITIES & CASH FLOW

CFA	men	women	men	women
no income	79	88	68	78
10-1.000	11	9	9	11
1.001-5.000	5	3	14	8
5.001-15.000	2	0	5	3
15.001-66.000	3	0	4	0

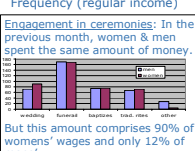
Daily Income

Earning structures allow the additional purchase of water (mean value of a regular daily income: 1.300 CFA; amount of purchase: approx. 1.000 FCFA/month/ps). But all in all income structures are exposed to high fluctuations. Only 1/5 of respondents had earned money on the previous day. Women earned 13%, men 87% of the total revenues on average, but it is the women who are mainly responsible for ensuring water supply and purchases to the family.

The correlation of sex and (regular) income is highly significant ($r=0,14$, $p=0,000$): "Women = small amounts, short time intervals, smaller profit peaks. Men = larger amounts, longer time intervals, higher profit peaks."



Frequency (regular income)



Engagement in ceremonies: in the previous month, women & men spent the same amount of money. But this amount comprises 90% of women's wages and only 12% of men's.

NUTRITION: HYGIENE & PURCHASE OF FOOD

ADDITIONAL PURCHASES OF FOOD are very common (99,8 % of interviewed population). Women buy higher quantities and more varieties of food. Men rather buy for their personal needs.

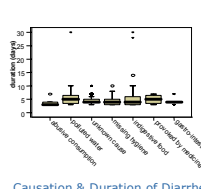


Food purchases (degree of regularity)

FOOD HYGIENE: People often reported diarrheas to be due to polluted water, missing hygiene and food of doubtful quality.



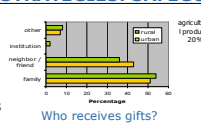
Purchase of food & drinks



Causation & Duration of Diarrheas

RISK STRATEGIES: SAFEGUARDING IN CASES OF NON-PRODUCTIVE TIME AND SHORTAGE OF FOOD

NETWORKS: Who is asked for assistance? In both rural and urban areas, family members enjoy top priority (75%). Neighbours & friends of same sex are asked in the 2nd place. Generalized GIFT EXCHANGE is virtually practiced by everybody.

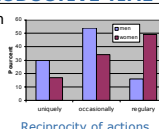


Who receives gifts?



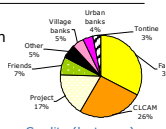
What do people receive?

RECIPROCITY: Women exchange more frequently higher amounts of gifts in shorter time intervals and with a higher rate of reciprocity.



Reciprocity of actions

CREDITS & SAVINGS: 1/5 of the sample population drew a credit in the last 12 month, thereof 1/3 intra-familial. Women save more frequently & regularly than men. Men often possess accounts; women's domains are *tontines*.



Credits (last year)