



Is Limited Access to Water Causing Food and Nutrition Insecurity at the Household Level: Implications for Nutrition Research, Policy, and Practice

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Objective

Investigate water fetching and management practices at the household level and its relationship to daily intake of water and food security among rural women in Central Africa.

Methodology

Approvals were obtained from the Cameroon and the University of North Carolina at Greensboro's ethical committees.

Design: Mixed-method approach study including an in-depth qualitative methodology and cross-sectional quantitative phase

Recruitment: Door-to-door approach and snowball sampling technique

In-Depth Interviews Selection Criteria:

1) Adult men and women

Quantitative Phase Selection Criteria:

- 1) Women > 18 years old
- 2) Responsible for managing water fetching-related activities
- 3) Living in the same household with at least one child between 2 and 5 years old

Data Collection Methods:

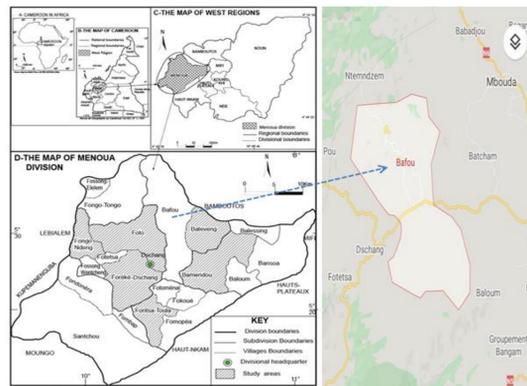
Observation of water sources during water and dry seasons

Three Focus group discussions (FGDs).—one with adult women (n=8), one with adult men (n=5), and one with young adults aged 18-21 years to collect information on: household chores, water management and use, sources of daily stress, obligations of women and other household members, and daily water use, water sources, and any concerns-related to water sources

Key informant interviews (KIIs). Six KIIs (two men and four women) were conducted to confirm or modify subthemes identified from FGDs and allowed obtaining of more significant details on specific water-related issues that could be used in phrasing lived experiences of water insecurity into potential scale statements or items

Semi-Structured Interview ~30 minutes (with the help of research assistants) in a private setting in either French or the local dialect Yemba (questions translated during the interview). Domains of interview-questionnaire included: socio-demographics, daily water intake, food insecurity status using the Household Food Insecurity Access Scale (HFIAS), and total amount of water used by the household in the past 24 hours

Participants were given a \$2 dollar cash amount in appreciation for their time



- Cameroon is located in Central Africa
- Characterized by its diverse culture and geography.
- Dense network of rivers but 47% of its rural population lack access to water.
- Menoua division, part of the West region of Cameroon
 - Selected due to previous established collaboration
 - External validity, representing rural settings of sub-Saharan Africa where economic water scarcity prevails more than physical water scarcity.

Socio-demographic Characteristics (n=141)

	n
FGD group 1 (only women, >21 years old)	8
FGD group 2 (only men, >21 years old)	5
FGD group 3 (mixed 18 to 21 years old)†	6
KII (mixed)	6
Cross-sectional survey (only women, >18 years old)	116
Socio-Demographic Characteristics (n = 141)‡	n (%)¶
Gender	
Female	131(93)
Male	10 (7)
Education§	
Lower than high school	109 (77)
High school or above	32 (23)
Occupation	
Small-scale food/grocery seller/service providers	50 (35)
Working on farms	48 (34)
Salaried	10 (7)
Students	10 (7)
Other (housekeeper, no job)	23 (16)
Common water sources	
Taps/borehole/water pumps	36 (26)
Wells	39 (28)
Rivers/streams	66(47)

Results

Priority in Water Use

Lower Priority

Higher priority



- Water intake was 25% less than the recommended intake of 2.7 liters per day
- 59.6% of women reported drinking less water than they wanted and/or going to bed thirsty
- Decision of what was going to be cooked was significantly affected by water availability
- Amount of water used ranged from 13-210 liters and significantly associated with number of children in the household

Water Fetching and Management Practices



- Adolescent are primarily responsible for water fetching in their household and play a key role coordinating water fetching activities and directing water use among their siblings
- On average five trips per day to fetch adequate amount of water

Water storage containers including bottles, buckets, and jerry cans were used to fetch water