

RNLI | Research Project ID: 17-1

Drowning deaths among fishing communities of Lake Victoria, Tanzania

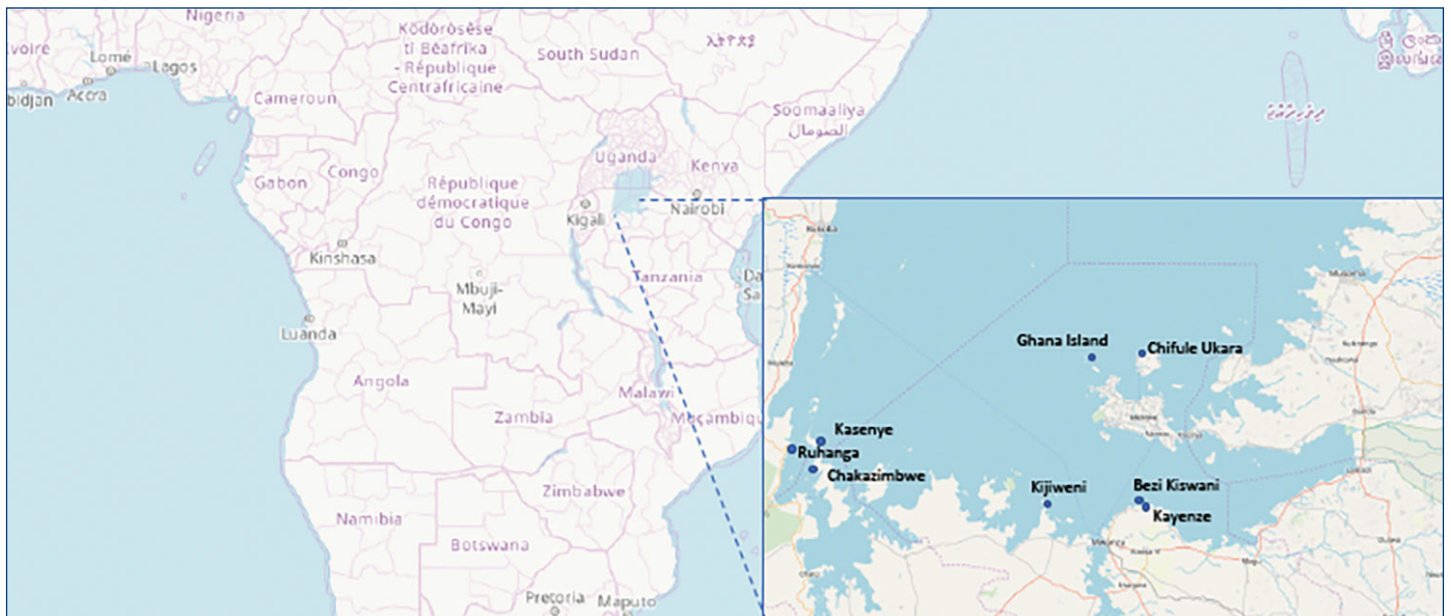
Sponsor: International
Department: Evidence, Insights and Technology
Date started: November 2016
Date completed: January 2018

Research Institution: Mwanza Intervention Trials Unit (MITU); London School of Hygiene and Tropical Medicine (LSHTM)

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Fishing from small boats is an important part of the fisheries industry in the African Great Lakes Region. Whilst fishing is globally recognised as a hazardous occupation, the hazards faced by fishers in this context are not well understood. This project sought to estimate the burden and impact of drowning on fishing communities around the Tanzanian shore of Lake Victoria and to understand potential methods for improving safety. The study estimates that 5 fishers drown every day in the Tanzanian sector of Lake Victoria and these deaths have profound effects on the community. Drowning is a significant and unaddressed issue affecting these disadvantaged communities and requires urgent attention.

Figure 1. Study sites



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Summary

Drowning is an under-recognised global health issue. 90% of drownings occur in low-and middle-income countries, where lives and livelihoods are often reliant on open water. The absence of data regarding the scale and circumstances of drowning incidents contributes to its under-recognition as a significant and preventable problem. Data on drowning from Sub-Saharan Africa, is particularly

lacking; the World Health Organisation estimate drowning mortality rates here to be the highest in the world. Fishing on Lake Victoria is an economically important activity in Tanzania. However, fishing communities around the lake have disproportionately high rates of extreme poverty, illiteracy and HIV/AIDS compared other parts of the country.

Research Objectives and Methods

The research was undertaken in 8 fishing communities around Lake Victoria, each with over 1000 residents (figure 1). The communities were geographically dispersed and included a mixture of island and mainland locations.

The study used a mixed methods approach including a survey, in-depth interviews (IDIs) and focus group discussions (FGDs) to address the following research objectives:

1. Estimate the incidence of drowning deaths among fishermen and lakeside communities
2. Improve understanding of who is most at risk and why
3. Evaluate potential effects of perceived drowning risk on other health-related risky behaviours, focusing on sexual behaviour and HIV
4. Assess the social and economic impact of drowning deaths
5. Explore perceived feasibility and acceptability of potential drowning prevention interventions

Estimates of the incidence of drowning were made by collecting data on all deaths occurring over the past two years using a combination of key informant interviews and survey questionnaires to identify individual drowning cases and extrapolating this for the estimated total population of fishing communities on the Tanzanian lakeshore (1.3 million people). Data on risk factors associated with drowning, risky behaviours in the fishing communities, perceived health risks and threats, and perceptions of potential interventions were collected from fishermen and the wider communities through structured surveys/questionnaires, in-depth interviews, focus group discussions, in-depth death reviews and observational analyses of behaviour. Preliminary data on social and economic impacts of drowning deaths were collected by interviewing family members and colleagues of victims.

Ethics approval was obtained from the LSHTM Ethics Committee (ref. MR/53/100/480) and the Tanzanian Medical Research Coordinating Committee (MRCC) National Health Research Ethics Committee (NatHREC; ref. 14184)

Key findings

Significant loss of life

Drowning is an acute threat in these communities. Drowning mortality was estimated at 231 deaths per 100,000 population. This is approximately thirty times greater than the estimated drowning mortality rates for the African continent and Tanzania.

86 individual drowning deaths occurred in the communities over a two-year period (Table 1). Of those, 81% were males aged 18-40 years who drowned whilst fishing. 10% were children (6 girls, 3 boys), 9% were non-fishing adults (2 women, 5 men).

Commonly reported and observed risk-taking behaviours among fishermen in the communities included: fishing in poorly maintained boats and/or boats powered with oars; fishing at night and in bad weather; not wearing a life jacket; and fishing while intoxicated with drugs or alcohol. Children were reported to have drowned close to the lakeshore whilst unsupervised and either playing or undertaking household chores.



Table 1. Characteristics of drowning victims

	Adults (fishers)	Adults (non fishers)	Children
Male	70	5	3
Female	0	2	6
Link to community			
Born and live in community	7	1	7
Born elsewhere, live in community	28	4	0
Visiting community for work	29	2	0
Visiting community for other reasons	3	0	2
Unknown	3	0	0
Number of dependents for adult deceased			
0	30		
1 to 3	28		
4 to 6	11		
7+	1		
Time worked in the fishing industry			
<1 year	7		
1 to 4 years	21		
5 to 10 years	26		
> 10 years	14		
Don't know	2		

Unstable vessels and changeable conditions

"In most cases you can find that their boats are in poor condition. Some are broken. A fisherman goes to the lake without caring if the boat is broken. He is thinking of fish, that is all" -IDI_1, Community Leader (M), Chifule Ukara

In most cases, fishers drowned following the sinking or capsize of their vessel. Most fishing vessels were shallow draft wooden vessels, both powered and unpowered and were observed to be in poor condition. Tensions exist between boat owners and fishing crew over who is responsible for maintenance. Poor maintenance of vessels and the imperative to sustain a livelihood were seen by members of the community as a key cause of drownings. The instability of fishing vessels, combined with the long distances travelled and changeable weather conditions were often contributing factors to drowning deaths.



Inability to cope or call for help

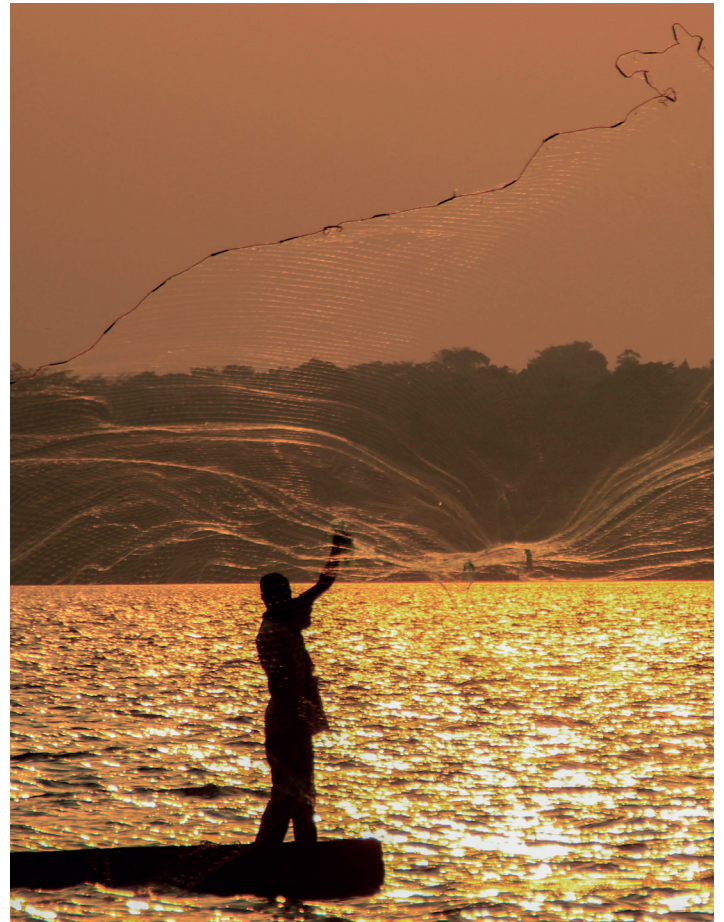
"But most of us fishermen; we know how to fish but we do not know how to save our lives. Three quarters of the people who come looking for fishing jobs cannot swim" FGD_1, Ghana

The inability to cope once in the water was a recurring theme throughout qualitative and quantitative results. Two thirds of those who drowned could not swim, yet 80% of fishermen who were asked reported being able to swim. This suggests that their self-reported swimming ability may be inaccurate and that there may be stigma around not being able to swim.

Whilst the reported evidence suggested that those who drowned were not under the influence of drugs or alcohol, habitual drug and alcohol was common practice amongst men while fishing and these are known risk factors that contribute to drowning in other contexts.

Lif jackets were worn infrequently by those who drowned (less than 5% reported using one) and only 10% of the fishing population reported using a lifejacket. There were mixed views surrounding the effectiveness of and affordability of lifejackets, however they were viewed as feasible and acceptable means of improving safety.

75% of fishermen take mobile phones with them whilst fishing, the majority of these (91%) are non-smartphones. Of those who died, only half took mobile phones with them and none of them had a smartphone. Signal availability on the lake is reported to be very variable. Twenty-five per cent reported having an emergency contact number saved in their phone; contacts included family members, colleagues, boat owners, BMUs (Beach Management Units), community leaders, friends and supervisors. A third have previously called for help using their mobile if they felt unsafe while fishing. In over half of cases, the person called was the boat owner.



Perception of risk

The community recognised fishermen as being at greatest risk of drowning. Other community members frequently use the lake for numerous purposes, including work, travel, washing and collecting water. The frequency of use of the lake by the wider community suggests that the non-fishers have high exposure to risk. Although over 70% of the other adult community members who drowned in the past two years were male, respondents considered women to be at higher risk, and none considered (non-fishing) men to be at risk of drowning. This is likely tied to gender perceptions and the culture of male superiority in these communities.

Themes of poverty and disempowerment were common throughout the responses, with the economic imperative to fish, lack of job security and acceptance of hazards as 'part of the job' all contributing to safety being a low priority for many fishermen or a priority that was out of reach for them to address.

"We live pathetic lives; lives of poverty and hunger. Sometimes you can leave your home while your family has not eaten. They are hungry, and you come to these shores and sail to the waters to fish but get nothing out of it. So you go back to your home empty-handed, just like you came" -IDI_2, Fisher (M), Runhanga



The impact of drowning on the community

The impacts described by family members included the loss of family income, pressure to find other income sources, requirement to move out of the family home or community, increased burden on other family members in caring for children and even family breakdown. Many respondents said life became very hard after the death. In cases where the deceased was a fisherman, family members frequently reported that he had been the main breadwinner for the family.

"My husband's death really stalled my growth. In fact, I was losing it because of the kind of life I was living a few months after his death. I was thrown out of the house that we were renting so I had to look for a more affordable one to rent" -IDI_3, Spouse of deceased fisherman (F) Kasenyi

Among colleagues of drowning victims, frequently reported impacts of the death included loss of income, difficulties in replacing their deceased colleague and pressure to provide money and other support to the family of the deceased. Some participants reported business closure as a result of a drowning death where, for superstitious reasons, the boat involved was sold causing the loss of jobs:

"So after he died the canoe was taken back to its owner, yes, because once a canoe causes a death people are normally afraid of it. So the owner may be forced to sell it. He may find people who do not know the history of the canoe; he may sell it to people very far from the place where it caused a death. I have not seen it working here up to now." IDI_3, Spouse of deceased fisherman(F) Kasenyi



How the RNLI is using the evidence

The RNLI has been working in Tanzania since 2014 and is using this research to inform its longer-term strategic approach to preventing drownings. It is providing an opportunity to engage with key stakeholders involved in the fishing industry and who are responsible for the safety of fishermen and other water users. The research describes complex social dynamics the communities, where competing priorities and pressures mean concerns for safety are secondary. The RNLI is interested in forming partnerships that can work on reducing this loss of life.

Fishing is a key source of income and food security for many people in low income countries and the RNLI intends to use this research to contribute to regional and global dialogues about improving safety for this important workforce



Further reading

For the full study report please contact international@rnli.org.uk

Olive Kobusingye, Nazarius Mbona Tumwesigye, Joseph Magoola, Lynn Atuyambe & Olakunle Olange (2017) Drowning among the lakeside fishing communities in Uganda: results of a community survey, *International Journal of Injury Control and Safety Promotion*, 24:3, 363-370, DOI: 10.1080/17457300.2016.1200629 Sarrassat S, Mrema S, Tani K, et al Estimating drowning mortality in Tanzania: a systematic review and meta-analysis of existing data sources *Injury Prevention* Published Online First: 04 December 2018. doi: 10.1136/injuryprev-2018-042939

Acknowledgements

Abdul Ngaranga and Francis Kapinga (both previous MITU employees) worked as Research Assistants, contributing to field activities and data collection for a short period of time. Dominic Mikulski, Martin James and Lucy Howard (all current or previous LSHTM employees), and Thabitha Daudi, Gaga Lupanda and Yesse Mazanda (all current MITU employees) provided administrative support for the study. Ramadhan Hashim and Ezekiel Mgema provided data support, including programming of data collection tablets and data cleaning.

We acknowledge community leaders and Beach Management Units at each study site who provided support and assistance in field activities. We are particularly thankful to all study participants.



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