

This is our consortium



SCHOOL OF GLOBAL HEALTH
UNIVERSITY OF COPENHAGEN



International
Water Management
Institute



LSTM
LIVERPOOL SCHOOL
OF TROPICAL MEDICINE



icipe



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KWAZULU-NATAL
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INTERNATIONAL
FOOD POLICY
RESEARCH
INSTITUTE
IFPRI



Deltares
Enabling Delta Life



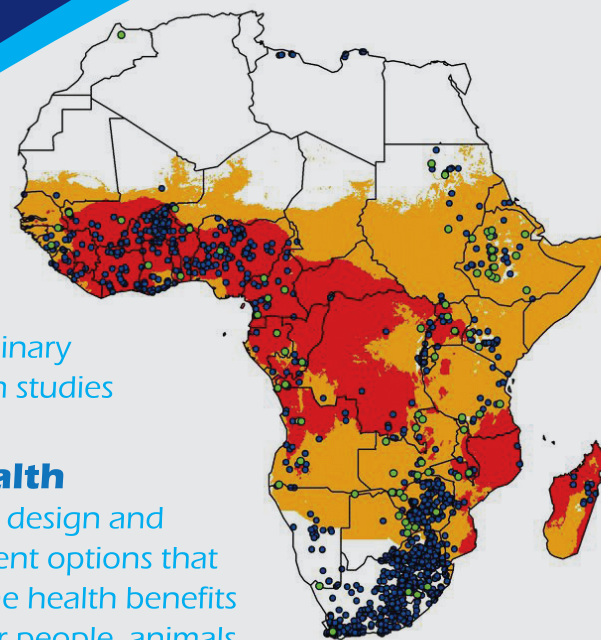
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Many Dams One Health

Interdisciplinary
consortium studies
**Dams &
One Health**
to develop design and
management options that
increase the health benefits
of dams for people, animals
and the environment.



LEGEND	
	No malaria (E=545; P=18)
	Unstable malaria (E=416; P=51)
	Stable malaria (E=307; P=11)
	Planned dams (P)
	Existing dams (E)
	National boundaries

0 600 1 200 2 400 Km

Benefits

Costs

of an African dam – some examples



WATER STORAGE

+ 1,300 million square meters^a



HYDROPOWER

+ 14-2,000 Megawatt hours^c
+ USD 128 million^b



FOOD PRODUCTION

+ 20,000-300,000 hectares irrigated^a
+ USD 9.3 million irrigation^b
+ USD 2.0 million fisheries^b
+ USD 80,000 aquaculture^b
+ Water for livestock



FLOOD PROTECTION

+ USD 16.1 million losses averted^b



HEALTH

+ Better hygiene
+ Increased well-being
+ Improved nutrition
+ Opportunity for sports, recreation



SOCIAL IMPACTS

+ New jobs
+ Time savings for water access



ECOLOGY

+ Increased biodiversity



WATER LOSS

- 200-250 million cubic meters evaporation^a



CAPITAL

- USD 220-14,000 million construction cost^c



CLIMATE

- 0.1-1,032 million tons of carbon dioxide emissions^c
- Changed local weather



FOOD PRODUCTION

- USD 6.4 million lost livestock grazing^b
- USD 3.2 million lost floodplain agriculture^b
- USD 70,000 reduced floodplain fisheries^b
- Increased animal diseases



HEALTH

- Increased malaria
- Increased schistosomiasis
- Avian flu, other zoonoses, hookworm
- Sexually transmitted diseases



SOCIAL IMPACTS

- 100-100,000 people displaced^c
- Conflicts
- Crowding around reservoirs



FLOOD PROTECTION

- 30-90 million cubic meters sediment trapped^a
- 1-250,000 ha inundated^c



ECOLOGY

- Eutrophication
- Harmful algal blooms

Many Dams, One Health cooperation

We are looking for dam managers and policy makers; join us to help make dams more cost-effective and to improve livelihoods for those living in their vicinity. By taking a 'One Health' approach, negative health impacts of dams can be prevented and hidden costs transformed into net benefits. Detailed transdisciplinary studies are needed to develop interventions, and guide planning and design.

Information presented is based on annual data from the following sources:

^a Heynert, K.; Mohamed, Y.A. 2015. Sedimentation and operation study for Atbara Dams Complex – final report. Unpublished report. Delft: Deltares and IHE.

^b McCartney M.P.; Foudl, S.; Muthuwatta, L.; Sood, A.; Simons, G.; Hunink, J.; Vercruysee, K.; Omuombo, A. Forthcoming. Water, natural and built infrastructure, and ecosystem services in the Tana River Basin. Colombo, Sri Lanka: International Water Management Institute (IWMI). (IWMI Research Report).

^c CSF (Conservation Strategy Fund). 2018. Hydrocalculator. Available at <https://www.conservation-strategy.org/en/hydrocalculator-analyses> (accessed on August 9, 2018). (anonymous contributors).