

## TERMS OF REFERENCE

# CONSULTANCY FOR CONDUCTING A DESK REVIEW FOR ONCHOCERCIASIS IN KENYA

## ABOUT US

The African Institute for Health and Development (AIHD) is a non-profit, Non-Governmental Organization (NGO) established in June 2004 in Nairobi, Kenya by a group of accomplished African researchers and academicians. The Institute mainly focuses on implementing evidence-based programmes and conducting research, training and advocacy on health and development issues that are contextually relevant to Kenya and the African continent in partnership with the National and County Governments in Kenya, and working in collaboration with local, national, regional, and international partners. The AIHD is involved in policy formulation on key development issues such as poverty alleviation, gender mainstreaming, health promotion, Non-Communicable Diseases (NCDs), Neglected Tropical Diseases (NTDs), social protection, among others. Over the years, the AIHD has acquired experience and expertise to improve the well-being of individuals, communities, the nation, and region at large. To this end, the Institute has implemented programmes in several African countries including but not limited to, Kenya, Ghana, Uganda, Ethiopia, Tanzania, and Zambia.

AIHD is seeking to recruit a consultant to support the Accelerating Resilient Innovative Sustainable Elimination 2 (ARISE) programme on behalf of the Ministry of Health (MoH), Vector Borne and Neglected Tropical Diseases Unit (VBNTDU) to conduct a thorough desk review on Onchocerciasis situation in the country to determine the possibility of onchocerciasis endemicity in Kenya.

## BACKGROUND

Human onchocerciasis, also known as river blindness, is a parasitic Neglected Tropical Disease (NTD) caused by the filarial worm *Onchocerca volvulus* transmitted by repeated bites of infected blackflies (*Simulium* spp.) (WHO, 2022). These blackflies breed along fast-flowing rivers and streams, close to remote villages located near fertile lands where people rely on agriculture. Onchocerciasis is a disease of public

health importance due to the morbidity associated with both the disfiguring skin lesions and visual impairment as well as permanent blindness (WHO, 2022). It is also associated with low social economic development in endemic focal areas (WHO, 2022). The disease is the world's second leading infectious cause of blindness after trachoma (Barro & Oyana, 2012). It is associated with reduced life expectancy and causes high mortality among onchocerciasis-blind people as well as epilepsy (Kaiser et al., 2007). Onchocerciasis has also been associated with a variety of psychosocial and economic impacts. It results in social stigma of infected persons and their families, disturbed sleep and reduced earnings among infected adults, poor school performance and a higher dropout rate among infected school-aged children (Brieger et al., 1998; Tchounkeu et al., 2012). Addressing these diseases is part of delivering on the Sustainable Development Goal (SDG) commitment to 'leave no-one behind' (WHO, 2017).

Onchocerciasis was endemic in five well-defined areas in the Western Kenya. These regions/foci include the Mount Elgon closer to Uganda (Bungoma and Trans Nzoia Counties), Kuja in Koderia Forest in Homa Bay County, Ngoina focus in Kericho and Bomet Counties, Riana in Kisii County, and Kaimosi-Kakamega region in Vihiga and Kakamega Counties (Roberts et al., 1967). The six formerly endemic areas as per population and housing census 2019 have an approximate 1.4 million people (KNBS, 2019).

The *Simulium neavei* complex was identified as the vector group responsible for the transmission of the disease in Kenya. The *Simulium neavei* group (subgenus *Lewisellum*) is a complex of closely related species, some of which occur in Kenya [*Simulium neavei sensu stricto*, *Simulium goinyi*, *Simulium hightoni* and *Simulium nyalalandicum* (Raybould & White, 1979) and their larvae and pupae live in a phoretic association with freshwater crabs of the genus *Potamonautes loveni* and *P. niloticus* (van Someren & McMahon, 1950). Usually, biting densities of *S. neavei* occur with a narrow range, extending up to 4km from the forest edge (Mpagi et al, 2000). The *S. neavei* complex is normally found in dense patches of forests and tends to disappear after deforestation. Moreover, the first successful onchocerciasis vector elimination project in Koderia district in Kenya in 1943 was achieved through selective vegetation clearance (Buckley, 1951). Available literature indicates that *S. neavei* was eliminated from the formerly endemic areas in Kenya by the periodical application of dichlorodiphenyltrichloroethane (DDT) to all infested rivers and streams (Roberts et al., 1967).

In view of this, the ONCHO program under Vector Borne and Neglected Tropical Diseases Unit (VBNTDU) under ARISE II project with support from the END Fund and AIHD as a local implementing partner, is planning to conduct a thorough desk review on onchocerciasis exclusion/elimination mapping to determine the possibility of onchocerciasis endemicity in Kenya. The focus will be the entire Country and then narrow down to formerly onchocerciasis endemic foci in Western Kenya. The results

will be useful in updating the study protocol in preparation for the Onchocerciasis Elimination Mapping focusing on both entomology and epidemiology.

## **OBJECTIVES AND RATIONALE OF THE DESK REVIEW**

The main objective of the Exclusion Mapping exercise is to determine the suitability of the active circulation of the *Onchocerca Volvulus* (OV) and infected human blackflies in 47 Counties in Kenya including those previously considered at risk for onchocerciasis morbidity. This desk review will assess historical records and contemporary factors to guide areas that should be included or excluded for OEM with special focus on map generation and interpretation and the associated risk factors to onchocerciasis.

Specific objectives are to:

- 1) Interpret suitability of maps of Kenya generated by Clinton Health Access Initiative (CHAI) driven environmental factors that favour blackflies breeding or survival such as temperature, soil PH, altitude, human settlements, forest cover.
- 2) Generate exclusion and inclusion criteria for the OEM for both entomology and epidemiology studies.
- 3) Travel to 3 (Riana, Ngoina and Koderia Forest) formerly endemic foci for onchocerciasis in Kenya to observe the suspected cases identified during the ONCHO formative study.
- 4) Review historical data and risk factors associated with ONCHO in Kenya including previous studies done in Kenya.
- 5) Review interventions undertaken for ONCHO in areas with other NTDs like mass drug administration and along the border countries of Kenya i.e. eastern Uganda, southern Sudan, northern Tanzania including Tanga region including related studies.
- 6) Make plausible conclusions and recommendations towards the next steps for the Kenya ONCHO program.

The proposed technical support is required by the VBNTD Unit under the MoH Kenya to facilitate the exercise and report back to the program on findings which will support decisions to be taken in the Interim Kenya National Onchocerciasis Elimination Committee (KNOEC).

## **ROLES AND RESPONSIBILITIES**

The consultant's role is to support the VBNTD Unit in determining the exclusion and inclusion for the OEM for both entomology and epidemiology studies. He/she will be required to conduct literature and desk reviews, cross examination of previous onchocerciasis data including interventions undertaken, and assessments of maps and geographical information related to ONCHO in 47 Counties. CHAI will work closely

with the consultant by producing Kenya geographical maps for interpretation by the consultant. MoH – VBNTDU will supervise the exercise and approve the desired results of the desk review.

Specifically, the ONCHO team will be responsible for the following:

- 1) Collect and compile all available relevant data from the NTD program and beyond;
- 2) Collect Country specific & satellite Maps and share with consultant;

In collaboration with the consultant,

- 3) Conduct a review of all available data;
- 4) Virtually contact locals of the formerly endemic counties for further ONCHO work;
- 5) Travel to 3 (Riana, Ngoina and Koder Forest) formerly endemic foci for onchocerciasis in Kenya to observe the suspected cases.
- 6) Develop and propose next steps;

The consultant will perform the following Tasks:

- 1) Review ONCHO scientific papers for Kenya and neighbouring countries and overlay relevant findings with the proposed OEM activities;
- 2) Review satellite maps and establish potential OEM feasibility in the relevant Counties;

In collaboration with Local ONCHO Team members:

- 3) Conduct a review of all available data;
- 4) Virtually contact locals of the formerly endemic counties for further ONCHO work;
- 5) Travel to 3 (Riana, Ngoina and Koder Forest) formerly endemic foci for onchocerciasis in Kenya to observe the suspected cases.
- 6) Develop and propose next steps;

## **OUTPUTS /OUTCOMES**

- A detailed report and Maps

## DURATION OF ASSIGNMENT:

The proposed assignment is estimated to take 4 weeks with an approximated 15 days of level of effort (LoE).

## TIMELINES

No.	Activity	June 2024	July 2024		
		Wk4	Wk1	Wk2	Wk3
1	Planning & consultations				
2	Logistics preparations				
3	Gathering of relevant data from the NTD program				
4	Desk review and analysis				
5	Collect Country specific & satellite Maps				
6	Virtually Contact locals of the formerly endemic counties				
7	Visit 3 (Riana, Ngoina and Koderia Forest) formerly endemic foci for onchocerciasis in Kenya to observe the suspected cases.				
8	End of Desk review call				
9	Develop and propose next steps				
10	Report and dissemination				

## QUALIFICATIONS

- Must be a holder of a master's degree in a medical field, public health, or related field. A PhD in a similar field is highly recommended.
- Experience in conducting research related to ONCHO in Africa and wide experience in the publication of onchocerciasis studies/reports.
- Wide experience in conducting onchocerciasis interventions and control in Africa. Show evidence of having conducted previous desk reviews for other Oncho programs/studies in Africa.
- A member of a professional body.
- Ability to analyze and interpret geographical maps and information.
- Ability to manage databases of literature and multiple tasks against tight deadlines.

- Knowledge of writing reports, and designing tools for data collection, analysis, and production of reports.
- High attention to detail and strong organizational skills, planning and time-management skills.
- Excellent communication skills, both written and oral.
- Fluency in spoken and written English, including excellent writing skills, particularly in drafting reports in a concise manner.
- Proven ability to manage highly confidential and sensitive information through a protection lens.

**How to Apply:** Interested and qualified candidates are invited to submit their application letter, profile of their work of similar assignment and detailed C.V. with addresses of three referees in pdf format via email to [info@aihdint.org](mailto:info@aihdint.org) not later than **14<sup>th</sup> June, 2024 by 1700hrs EAT**. Only shortlisted candidates will be contacted.

*AIHD provides equal employment opportunities to all employees and applicants for employment. It prohibits discrimination and harassment of any type without regard to gender, ethnic group, marital status, disability status, political and religion ideology.*

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