



Förderung von Gesundheit und Bildung
in Tansania e.V

Strengthening Health and Epidemic Preparedness in Low Resource Areas



Epidemic Outbreak Control Project
Monduli District, Tanzania

PROJECT BOOKLET 2019



“By failing to prepare, you are preparing to fail.”
Benjamin Franklin

Message from the CEO



This booklet aims to give the reader an idea about the important and successful work of “Tandia Foundation - Promoting Health and Education in Tanzania” during the years 2018/2019.

The German Non-Profit Organization Tandia was founded in 2015 and has no commercial, political, or religious goals. Tandia is committed to humanitarian values and wants to make a meaningful contribution to the improvement of health care, water supply and education for the Tanzanian people.

With obligation, professionalism and the conviction to do the right thing, we have achieved a lot within a relatively short time, which we can be proud of. For example, two health care facilities have been extensively renovated and expanded for better mother and child health services. Safe water, san-

itation, hygiene, and the proper disposal of infectious material, now prevents the transmission of diseases in these health care facilities.

Right from the beginning, infection prevention is one of our heartfelt concerns. Since the devastating Ebola epidemic in West Africa in 2014/2015, reports of dangerous disease outbreaks, especially on the African continent, are not abolishing. Indeed epidemics do not stop at national borders. While an Ebola epidemic has been raging in the Democratic Republic of the Congo for more than a year now, in Monduli district 200 health workers were trained in epidemic prevention and 30 health care facilities were equipped with infection prevention control materials.

Tandia and partners are deeply convinced that preparedness and outbreak control activities prevent spread of diseases at early stage. Therefore our work is extremely important for public health and for the people of Monduli district.

Regina Meissner
Founder and Chief Executive Officer

Acknowledgments



As chairman and CEO, I would like to take this opportunity to thank our members, partners and sponsors for the support during the last two years. All Tandia projects and activities would not be possible without the commitment of our members and the trust of sponsors in the work that we do.

My special thanks go to **Hospital Partnerships Initiative** who financially supported the Epidemic Outbreak Control project. With these funds, four workshops for health workers were conducted and Infection Prevention Control materials and Personal Protective equipment were distributed to health care facilities in Monduli district. While Hospital Partnerships Initiative provided funds, the project was implemented by Tandia in close collaboration with the District Medical Office. Many thanks go to Dr Titus Mmasi and the disaster preparedness team in Monduli.

Furthermore, I would like to thank the **Hessian Ministry of Economic Affairs, Energy, Transport and Housing** for supporting the project in Mbuyuni. The health care facility has been expanded and the quality of mother-child care improved with help of the ministry and Tandia.

Last but not least, we have achieved all this together with local people in Monduli. Together with communities and local partners we always work according to the principle help for self-help. The success and appreciation of our work confirms our approach and motivates us to continue in this spirit.

I sincerely hope and wish that Tandia can continue to contribute to a better life for the most disadvantaged people in northern Tanzania.

Where do we work and who are our partners?

Tanzania - land of superlatives, with the highest mountain, the largest lake, and one of the largest national parks in Africa - is still one of the poorest countries in the world. In the northeast of the country is the structurally weak Arusha region.



Geographical area of Tandia's focus in Tanzania

The region is divided into six districts, including the Monduli district, with 200,000 inhabitants, where we have been operating since 2015. So far Tandia supported health projects in Makuyuni and Mbuyuni villages. The activities focus on mother and child health and infection prevention as well as epidemic outbreak preparedness and control. On site we are working together with local communities and health committees.

In the meanwhile, we look back on four years of stable and trustful cooperation with our partners. The ad hoc support of a surveillance measure with Tandia funds during an anthrax outbreak in October 2017 has brought us special thanks and appreciation from the health authorities in Monduli.

For every new project, Tanzanian partners and communities are involved right from the start. This approach responds to the needs and appreciates the capabilities of our beneficiaries; it also encourages and enhances personal responsibility.



"With this training we are sure we are going to detect and combat the infectious diseases outbreaks in Monduli district."

Dr. Titus Mmasi leads since 2017 the District Health Management Team in Monduli district

Why Epidemic Preparedness is relevant?

In an epidemic situation health care structures quickly reach their limits. During the Ebola outbreak in West Africa in 2014 the breakdown of health care largely affected the population, especially affected pregnant women and children. The routine care for chronic (e.g. HIV, TB) and acute (e.g. Malaria) patients, which otherwise worked relatively well through vertical programmes, soon collapsed. As a result of the devastating epidemic, more people died because of the impact of the epidemic on care structures than the infection with the virus itself.

Monduli is among the pastoral districts in Northern Tanzania, where great parts of the population lives from and with their animals. The area, therefore, is at risk of zoonotic diseases including anthrax, which – if not treated immediately – can be lethal in up to 100% of cases. In the past, some villages have experienced anthrax outbreaks almost every year.

Other dangerous infectious diseases such as cholera and haemorrhagic fevers (e.g. Rift Valley Fever) are also challenging basic health care facilities in the area.

The International Health Regulations (2005) represent

an agreement between 196 countries including all WHO Member States to work together for global health security. The Regulations were first introduced in 1969 to help monitor and control three serious diseases, cholera, yellow fever and plague, which had significant potential to spread between countries. Today the scope of diseases and related health events take into account almost all public health risks that might affect human health, irrespective of the source. Through International Health Regulations, countries have agreed to build their capacities to detect, assess and report public health events.

The core capacities (<https://www.who.int/ihr/about/en/>):

1. National legislation, policy and financing
2. Coordination and National Focal Point
3. Surveillance
4. Response
5. Preparedness
6. Risk communication
7. Human Resources
8. Laboratory

As many countries in Africa, Tanzania is making great efforts to improve core capacities and implement the International Health Regulations in order to prevent spread across country borders.

Why do we need 'One Health' approach?

The One Health approach recognizes the relationships between humans, animals, and the environmental surroundings and applies interdisciplinary tools to address complex public health concerns. This particularly includes the control of zoonotic diseases that can spread between animals and humans, such as influenza, rabies, anthrax, ebola, lassa and Rift Valley Fevers, also vector-borne diseases e.g. Malaria. Combating antibiotic resistance is also very important in the One Health approach.

As a result of climate change, Monduli district suffers from increasing drought and unexpected heavy rainfall. Especially the cattle of the Maasai people are affected by the dryness and lack of grass. Overgrazing with too many cattle aggravates the difficult situation and contributes to the onset of diseases that can become a health hazard to wildlife and humans.

The north of Tanzania is a popular tourist destination which is of considerable economic importance to the region. This is another reason why disease prevention activities are important for health authorities and why Tandia's support in this area is highly appreciated and welcomed.

Outbreaks in Northern Tanzania

CHOLERA is an acute diarrhoeal infection caused by ingestion of contaminated water or food. Symptoms are shown within 12 hours and 5 days and can lead to death by dehydration within hours if left untreated. The disease is easily treatable by basic health care measurements, such as oral and intravenous rehydration, which is successful in up to 80% of cases. Antibiotics are also effective to cure. Main preventive measurements are basic hygiene procedures. Safe water is especially essential. Between August 2015 and January 2018, 33,421 cases including 542 deaths have been reported across all 26 regions of Tanzania.¹ 24 000 cholera cases and 378 deaths were registered in 2016 alone.²

RIFT VALLEY FEVER is caused by virus transmitted by mosquitoes and blood feeding flies, usually affects animals but can also involve humans. In humans disease ranges from mild flu to severe haemorrhagic fever that can be lethal. February 2007, 8 cases were reported. In March 2007, new

clusters of cases occurred. 58 suspected cases, included 14 deaths, with eight specimens confirmed positive were reported from Dodoma region. In addition, 60 new suspected cases were reported from Morogoro region.³

ANTHRAX is primarily a disease of herbivores such as cattle, sheep and goats. Humans almost invariably contract the natural disease directly or indirectly from animals or animal products, reports of person-to-person transmission are rare. If the bacterial infection is not treated with antibiotics within an according time frame, the fatality rate ranges from 20 to 100%. The main preventive measurement is to control the livestock incidences and transmission thereof by educating persons at risk regarding the handling of dead animals. Vaccination of the livestock prevents the disease. 187 human anthrax cases (57%) in Kilimanjaro and 143 (43%) in Arusha region were reported for the period 2006– 2016.⁴

1 <https://www.afro.who.int/health-topics/cholera/outbreak/12-january-2018-tanzania>

2 <http://www.int/csr/don22-april-2016-cholera-tanzania/en/>

3 http://origin.who.int/csr/don/2007_03_23/en/

4 https://www.researchgate.net/publication/322275748_Anthrax_outbreaks_in_the_humans_-_livestock_and_wildlife_interface_areas_of_Northern_Tanzania_a_retrospective_record_review_2006-2016



Project Design

Dr Nkika is lecturing about anthrax

The first training to combat disease outbreaks was conducted for 25 health workers in Makuyuni in 2017. The idea that more health personnel should be trained was highly appreciated by the District Medical Office, which, due to repeatedly outbreak experiences, also wanted to conduct surveillance activities in the on a regular basis. That was the starting point for the new epidemic preparedness project. A proposal was submitted to Hospital Partnership Initiative in February 2018 and was accepted for funding in July. The project included 3-day training of 150 health workers and 50 support staff

from different health care facilities in Monduli district. In addition, 28 health care facilities, including the district hospital and two health centers, have been selected for provision of disease prevention material. The huge logistical challenge was mastered jointly by Tandia and our local partners.

Health personnel from basic health care facilities and the district hospital of the Monduli district were trained in the last two years:



“It is crucial to provide relevant information to the community and health workers to prepare them for any outbreak scenario.”

Dr Nkika, Disaster & emergency response coordinator, Monduli District

Education is the key



In May 2019, 150 health workers came together to get theoretical knowledge, practical skills and updates in epidemic preparedness and outbreak control. The training was specially developed for the needs of qualified health personnel, like medical doctors, clinical officers and nurses.

How health care facilities remain functional during an epidemic and can ensure routine services, particular antenatal and child care, was our main training objective.

In preparation, the contents of the training were discussed and methods of teaching were defined

within the trainer team. The theoretical content was taught in the mornings while the practical exercises took place in the afternoons.

The experienced and dedicated coaching team consisted of Emergency coordinator Dr Joel Nkika, Dr Kahamba and Jubilate from District Medical Officer as well as Medical Doctor Marie Meissner and Regina Meissner from Tandia.

Table Top Exercise

The last day afternoon required medical knowledge and also some 'criminalistics sense' from the participants. Using a gradually evolving case study,



Dressing and undressing Personnel Protective Equipment, following required standards, is crucial and can save lives when dealing with dangerous contagious diseases.

they had to work together in groups to find out the relationship between individual disease symptoms and an evolving epidemic outbreak. Participants obviously had a lot of fun with this lively exercise. Incidentally, the stimulating case study did not deal with known diseases such as cholera, Rift Valley Fever, ebola or anthrax, but less well-known hepatitis E. (In rare cases, acute hepatitis E can be severe, and result in acute liver failure; these patients are at risk of death. Up to 20–25% of pregnant women can die if they get hepatitis E in third trimester.) During the table top exercise, the participants learned to investigate and discuss the situation. They developed hypotheses, made recommendations, and finally made decisions and took the right measures to address the public health problem.



Agenda of the workshop

DAY 1

- Pretest
- One Health approach, roles, case conference, case management
- Ebola outbreak in Africa - main pillars of epidemic preparedness & response and lessons learned
- Community perception towards outbreaks
- Introduction into Infection Prevention Control
- Station work: Hand hygiene; preparations of chlorine solution; dressing & undressing PPE

DAY 2

- Cholera and anthrax - actual and last outbreaks on Monduli district - preparedness and response
- Current reporting systems for outbreaks at district level
- Introduction into triage including rapid risk assessment
- How to set up a dispensary in case of cholera outbreak?
- Station work: Waste management - how to deal with contaminated material, incinerator usage; safe blood collection; dead body management and safe dignified burial in EVD

DAY 3

- Medical and epidemiological aspects of infectious diseases
- Correct use of antibiotics
- National guidelines on the use of antibiotics
- Laboratory testing for highly contagious diseases
- Post-test
- Table top exercise: Recognize and manage an outbreak situation in Monduli district



In order to evaluate the workshop efficiency and teaching quality, participants had to sit a short pre- and post-tests. In the end, the three best and two “best improved” participants received special rec-

ognition and a small present. Handing over certificates to the participants of the workshop gave all of us a big smile on the face.



Calculating the right chlorine solution is giving health workers some challenges.

“66% of all health workers in Monduli district were trained in disease prevention and outbreak control, which is a great achievement. I am happy that we can contribute to ensure functionality of basic health care service in case of an epidemic, preventing spread at the same time.”

Regina Meissner

Saving lives with protective clothing

Tandia supported One Health efforts not only through training of health personnel but also distributed infection prevention control (IPC) materials and personal protective equipment (PPE) in Monduli district.



In May 2019, 28 health care facilities including one district hospital and two health centers received Infection Prevention Control materials and Personnel Protective Equipment worth 7500 Euro. Protective clothing and Infection Prevention Control material avoid transmission of infectious diseases and therefore can save lives. For health personnel, the correct wearing of protective clothing such as face mask, gloves, hair protection/ hood, smock, apron, rubber

boots, eye protection is essential for self-protection and ensures safe patient care.

Although in the past years, the Tanzanian Government has done a lot of quality improvement of basic health services for the people. However, some facilities, especially in remote areas, are still lacking adequate infrastructure and necessary supplies for health provision.



„During the Ebola epidemic in West Africa 2014, many health workers died due to lack of knowledge and unavailability of protective gears. Health care facilities must be prepared for such emergencies“

Regina Meissner

Tandia is doing more than One Health support



Since its foundation in 2015, the small association Tandia has been active in three main areas: Health with a focus on maternal and child health, disease prevention and epidemic preparedness, water supply, and school education.

Health services support

Health care facilities in Mbuyuni and Makuyuni have been upgraded and renovated through our support and can now deliver improved primary care services for the rural population. This includes, above all, antenatal care and childbirth, family planning, check-ups of infants and children, vaccinations and the diagnosis and treatment of acute and chronic diseases such as malaria, HIV or diabetes.



Water supply support

In 2019, together with Makuyuni Parish we are implementing a water project (water drilling) for 5000 beneficiaries including 1000 students from the nearby school. Safe water is the basic requirement of all life and necessary for public health.

School education support

Tandia places qualified teacher volunteers. In 2017, the government school in Makuyuni was supported by a student teacher from Germany for five months. The volunteer taught english, maths, sports and music and gave IT lessons to the teacher. Interested qualified volunteers are welcome to contact us.



What do we want to do in future?

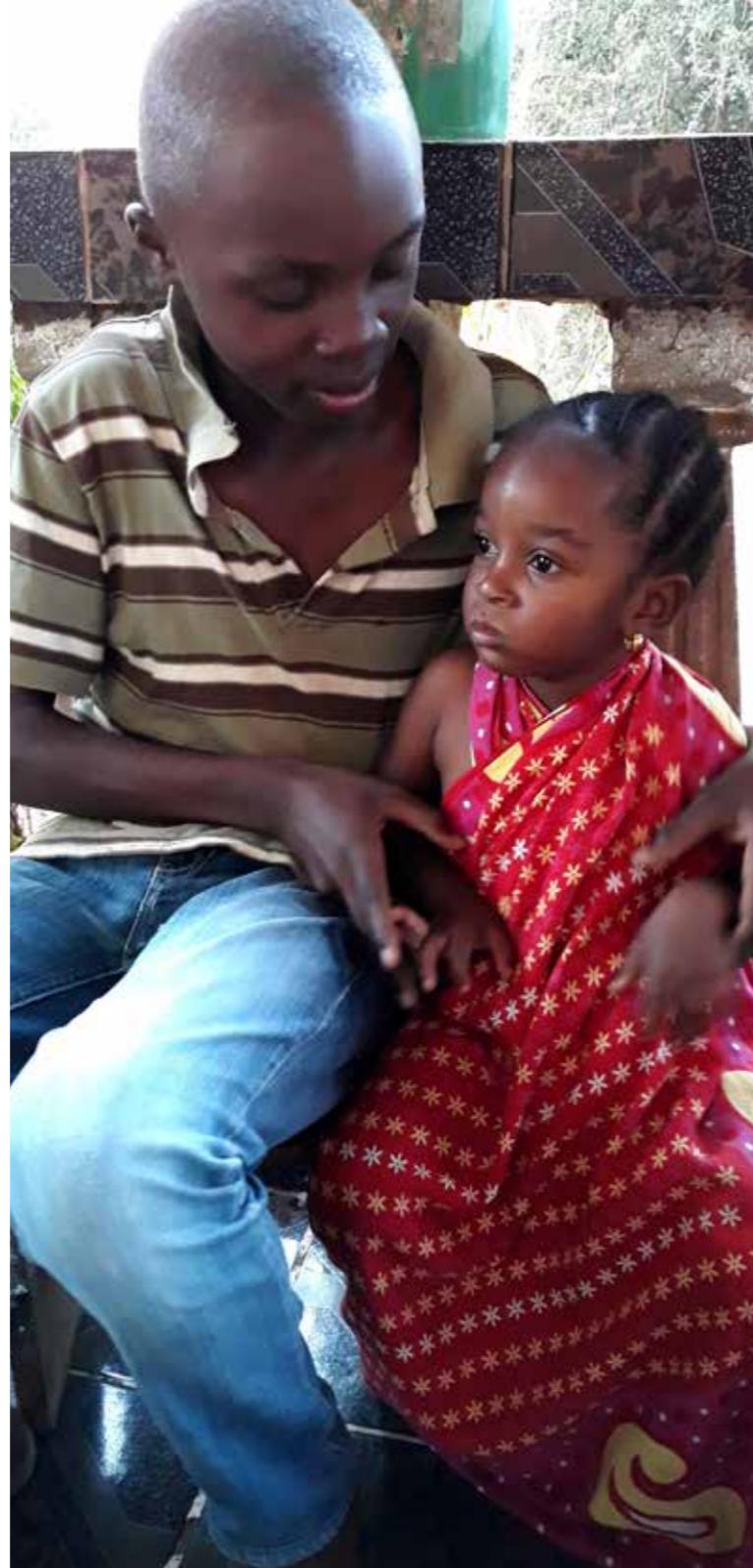
1. Infectious diseases and outbreaks remain a thread particularly in low resource areas. Especially the basic health care facilities in remote areas need support to be prepared at all times. It is necessary to avoid spreading of dangerous diseases to the communities. We will therefore continue to engage in infectious disease prevention and outbreak control activities. Whereby, trainings for health personnel is a priority.

2. Tandia will continue to support health care facilities to improve the mother-child health services. The selection of health care facilities for support will depend on their willingness to cooperate and contribute as well.

3. Water projects such as construction or water tank provision will be supported where there are positive public health impacts, mainly in connection with the support of health care facilities.

4. Tandia will continue with individual sponsorships for children in need in Monduli district.

5. Also, we continue to work with the Maasai women cooperative 'Bead by Bead' by purchasing their handicrafts in Tanzania and selling them in Germany.





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Hessisches Ministerium
für Wirtschaft, Energie,
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**HOSPITAL
PARTNERSHIPS**



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