Sierra Leone: Supporting Evidence for Traditional-Biomedicine Tensions case studies

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Case study manuscripts

A manuscript is in preparation based on the case studies summarised in this (and accompanying) document(s).

Data Collected

Household Census, Focus group discussions, observations, Key Informant Interviews (KII) in Bunumbu, Kailahun District.

Identified mechanisms by which community engagement & involvement can build resilience

Case Study 1: Sierra Leone – Water Insecurity – Social Learning

People observed that when they drank unclean water they got diarrhoea. People then began to put pressure on their Paramount Chief (PC) who reported the sicknesses to the DHMT in Kailahun Town, which resulted in action by health staff on both treatment and prevention. This transformed community understanding about water-borne illnesses, encouraging people who became sick to report promptly to the nearest health facilities and precipitating long-term action to clean and protect drinking water sources.

Case Study 2: Sierra Leone – Water Insecurity – Universities as Enablers

University researchers can act as enablers or facilitators for local learning by eliciting their remembrance of past experiences. In this case, the gathering of past history of water shortage and related experiences ignited communities to take action to develop local wells and link with health facility staff for treatment and sensitization of the spread of water borne diseases in the community.

Vignettes Case Evidence

Vignette #1: Sierra Leone – Water Insecurity – Social Learning

A mother of five children recounts her experience during and after the 2002 diarrhoea occurrence in Bunumbu "*When one of my daughters started frequent waterish stool. I took her to a herbalist. Herbal medicine was prepared (herbs mixed in a bowl) and she drank it for a moment but without cure. .This started in the morning hours and by the afternoon she became weak (dehydrated). I cried and took my daughter to her father in the next compound where neighbours gathered at the square with similar cases. My husband took the lead to P.C's compound. CHO at the PHU was summoned by the P.C and cases where transferred to the centre where treatments were administered. In the evening the P.C held a meeting with the local authorities on the prevailing circumstances and resolved to make a formal complaint to the DHMT. The P.C left the following morning to Kailahun the district head quarter town. All I saw the next morning was a team from Kailahun, P.C, CHO and staff, Chiefdom authorities, Youth and women leader at the court Barry in a meeting. After the meeting drugs were supplied to us and people with megaphone went round the village given health talks on prevention of water borne diseases and proper sanitary practices (boiling water, washing hands etc.). Chlorine was supplied to local well owners and taught how to apply them. Thanks to our P.C or I would have lost my daughter". (A mother in FGD in Bunumbu, Kimaya section).*

Before the outbreak of diarrhoea, the community people lack trust in the authority of their Paramount Chief, so when women became concerned about their children's illnesses they went to their husbands to discuss the poor water situation and water insecurity in Bunumbu community. Community members also lacked trust in the health delivery system and the peripheral health unit (PHU). The community people trusted the traditional herbalist who readily provided herbal remedies when needed.

Community perceptions changed towards PC and PHU workers when the PC was able to bring the DHMT to the village and bridge the gap between the community and the PHU through community meetings on health, attended by health workers. This built trust both in the health system and the local leadership. An old man asserted that *"I didn't know our P.C was influential and can move such a big crowd in a meeting. Because of what happened today, and the health messages shared which has never been done. Due to this reason I and my*

family will trust our leadership and report all water related cases [diarrhoea] to PHU." (Old man in KII in Nyawama section in Bunumbu)

Another woman postulated that "*because the health [workers] are now visiting us and sharing health tips with us, I will never seek the attention of the herbalist in my backyard*" (Middle aged woman in KII in Yawama section Bunumbu).

From the aforementioned, it is clear that community leadership plays a great role in triggering interactions with health workers and building trust and resilience. The joint meetings and interactions served as a learning point for the community, health workers and community leadership. PHU staff learned about community norms, behaviour, human interactions and cultural practices of people in Bunumbu and community people learned to understand the values of attending PHU facilities, simple health ethics and the positive role of health workers in their community.

Individual experience was also critical, and when this is shared with peers it takes on wider influence. This was clearly expressed by *Jammie (not her real name) a mother from Kpejefoya section in Bunumbu "I faced an impossible choice during the outbreak of diarrhoea in this community. My son suffered constant vomiting and stooling after drinking well water from my neighbour's house. I didn't know it was diarrhoea, I took him to the herbalist. She provided herbs and the vomiting continued until my husband returned in the evening and took us to the PHU. There test was done and diarrhoea was discovered and treatment begun. Imagine walking that distance just to gather water that was unsafe… I lost confidence in our water system and also the herbalist. From that day onwards, I took all cases to the PHU and I learnt …" (Jammie in FGD in Bunumbu).*

Trusted leaders are able to amplify the effect of individual and social learning by endorsing PHU staff in treating all diarrhoea cases and reinforcing positive experiences from both the community and the PHU. This led to actions taken by both the PHU workers (regular sensitization, chlorination of water) and community members (monitoring of water sources). People learned and developed knowledge about risk, limits of local water sources, why to seek health services when sick and when to report health related cases. These experiences show how communal understanding is a bedrock of social learning.

Vignette #2: Sierra Leone – Water Insecurity – Universities as enablers

During Key Informant Interview with a retired Lecturer who was residing in Bunumbu community and used the Degremont water in the 1980s and also worked with the Eastern Technical University (ETUSL) before his retirement encapsulated that "*my experience as a lecturer in Bunumbu, universities are key enablers in water security by working alongside communities as partners rather than subjects as the Degremont scheme did before its collapse. Universities help to ensure that water solutions are appropriate, sustainable and genuinely responsive to local needs. By working alongside communities as partners rather than subjects, universities are helping to ensure that water solutions are appropriate, sustainable, and genuinely responsive to local needs of the community provided for*".

He further stated that "*the ETUSL have engaged the Bunumbu community on several fronts and key among the engagement is water security for the university's campus in Bunumbu and the community as it was in the years of Degremont Water Scheme. Currently some boreholes have been constructed by the university which is accessed by the community and the PHU which is erected on the landscape of the university*". (Retired Lecturer in KII in Bunumbu).

Universities are stepping beyond their traditional roles as ivory towers of learning in Sierra Leone to become active partners in addressing one of the country's most pressing challenges which is water security. In Kenema City, Eastern Sierra Leone, where the ETUSL secretariat is stationed, it has engaged in water security programme for the university, Kenema City and Panderu community through research, water testing, analysis and production.

For decades in Sierra Leone, water development in rural communities followed familiar patterns (NGOs drilled bores governments funding through Ministries, Agencies and Departments, and communities received infrastructure as it happened in the Degremont Water Scheme in Bunumbu.

In Bunumbu community, an old water engineer who worked for the Degremont Water Scheme and Rural Water Works Department in the 1970s/80s recalled the exact nature of the above statements in Bunumbu that *"when bore holes become non-functional and pumps broke or water quality decline, there was no one to turn for solutions and the community is left with no alternative but to return to their old water sources which were untreated and poorly sanitized leading to the spread of related water borne diseases"(Old retired water engineer in KII in Bunumbu)*

Across the sections and quarters in Bunumbu, non-functional bore holes constructed by NGOs, abandoned water tanks installed by the Degremont Water Scheme still remain unattended an no water testing has been done on the abandon water sources. Almost all the pipes connected to the water plants have been removed by thieves. As such the communities now see programmes brought to them by such people as not sustainable and therefore pay lip service to it.

In Sierra Leone, universities are now filling the gap, bringing scientific expertise, long term research capacity and a commitment to training the next generation of water professionals at Local, National and International levels.

The Njala University is leading in the sphere as it now trains people across Sierra Leone in different fields of water (management, testing, analysing, water engineering etc.) This part is followed by the ETUSL in Bunumbu community.

From the viewpoints of Bunumbu community, university has always worked with them in several community projects such as the" Bunumbu project", Village Workshop" and the use of Degremont water borne scheme, monitoring and training plumbers to manage the water scheme until its collapse.

With the change of name of the institution to ETUSL, the community still look up to them as enablers who can bring past memories to reality through various means such as research, use of appropriate technology, training of local engineers, water treatment, testing and analysis.

This was captured during FGD with local labourers who worked for the college and Degremont plant and resided in Bunumbu to date. One of them pointed out that "*I thank God for……working for the Degremont Borne Water Scheme and the ETUSL as local labourer. At that time Bunumbu enjoyed sustainable water system and with the few years of working for ETUSL, I am with a strong conviction that they will train our local engineers and bring community to the fore in water security. In the days of Degremont Bunumbu did not experience water borne diseases because the water was treated, and tested. I hope ETUSL will do the same for us soonest……*"(FGD of Retired Labourer in Bunumbu).

The above statement shows that the community people are aware of the role of university as an enabler to providing water security for them which can be sustainable as those that ring in their ears of the old water supply system.

Another community old local leader emphasized community involvement in projects through training and capacity building of the community people. ETUSL embarking on training and capacity building of local community people in water security and local engineers in maintenance of water sources is not only expected to bring sustainable water supply and maintenance to Bunumbu community but to also bridge the gap that once existed with drilled boreholes of NGOs.

During KII a student attending the ETUSL vehemently cited these in her interview *"I experienced first-hand, the intersection of water insecurity and educational disadvantage. Before ETUSL constructed boreholes on campus for the use of students and the community. I spent countless hours fetching water from community wells during my first year of study …it was difficult to fetch water because the existing two boreholes that first existed in 2019 on campus was crowded in the morning and evening hours by the students and community people and it broke down and it was seasonal. All these prevented me from collected water on campus unless I went to the community to fetch water. It was difficult for me considering the walking distance from campus to Bunumbu community" (Distance Education Students in KII on ETUSL campus in Bunumbu)*

The case of the distance education student in the KII illuminates human dimension of water security and direct link between water access and educational achievement. Bunumbu being a rural community, students studying in such community, see water collection as not merely a chore but a structural barrier to learning. The above vignette powerfully illustrates how universities and educational institutions can enable water security by serving as anchor institutions for community water infrastructure

The above quotation shows that there is link between the University and Bunumbu community and furthermore the university has provided water sources for the use of the students and the community and at the same time the students collect water from the community though it is cumbersome.

One year after the construction of drilled boreholes on campus by ETUSL and the present construction company the same student was engaged and this was what she said *"I have improved in my academic performance because I and my colleagues no longer miss lectures due to fetch water from the well in the community. For me, this situation has given me more time to focus on my studies, ask questions*

and read in the library. This is why my grades in some of the subject I offered first semester changed" (Same Distance Education Student in KII on ETUSL campus in Bunumbu)

Across the interviews and FGD, all the participants stressed the pivotal role played by universities in research, capacity building, water management and testing as enabler in ensuring water security in rural communities.

ADDITIONAL VIGNETTES

Vignette #3 in Sierra Leone – Water Insecurity –Multi stakeholders' collaboration

The development of boreholes by NGOs such as the Wesleyan Methodist Church Sierra Leone (MCSL) and Sierra Leone Water Company (SALWACO) of the Ministry of Health and Sanitation relived the community from travelling long distance to collect water.at the foot of Lei Hill. The action of the P.C, local authorities, the village Development Committee members (VDC) and the played pivotal role in collaborating with NGOs, Ministry of Health and Kailahun District Council in bringing water to the door steps of the community. The collaboration brought about trust in multi-stakeholder institutions and there was trust in the local community leadership and support received from external institutions.

During Key Informant Interviews, one elderly man who asked to remain anonymous account that *"good leadership is from God and when leaders collaborate with institutions outside their community who have influence and support like NGOs and Government Ministries, the community receives what it needs. This happened in our case here after the collapse of the Degremont Pipe Borne Water Scheme, boreholes developed by NGOs relieved the dire need of water insecurity for our community. Also when community authorities and community members manage water systems, those systems are better maintained, more equitably accessed and accompanied by broader gains in water security and community wellbeing" (Elderly man KII in Kpaiye section in Bunumbu).*

The above testament gives a clear insight on how multi stakeholder interventions and collaboration with local power structure ensures sustainable community ownership of water security from the start. This was because

projects that treat communities as active participants always succeed. Those that invest months in building local capacity and governance structures succeed.

Collaboration and partnerships bridge gaps as illustrated above where findings, NGO implementation, government oversight and community governance create a whole greater than its parts. NGOs and government institutions might be seen as actors not sharing the problem of the community which leads to low community participation in their activities but with their full involvement and participation the services provided will be own-up and fully utilized.

Vignette #4 in Sierra Leone – Water Insecurity –Resource mobilization and management

When the boreholes became non-functional, the community people had no alternative but to return to their own water gathering source and also embarked digging new wells in early 2005. There was lack of maintenance of the boreholes and community dug wells. The community have to contribute their meagre resources to pay young men in the community to dug wells and also contributed local resources and pay for its maintenance. That shows clearly in Bunumbu community maintenance is not an afterthought for community driven scheme/projects. The most successful community projects embarks on training local mechanics, establishing maintenance funds, community resource mobilization and creating accounting structures before a single borehole or well is drilled/dug. The management of such scheme should be in the hands of the community power structures and trusted members of the community such as the VDC in Bunumbu community.

A woman during Focus Group Discussion posited that *"our husbands and community leaders brought us joy by digging wells in our community and also instituted bye-laws to maintain its sanitary condition. This saved us from travelling to Chief's well to gather water with our children early in the morning and evening hours. Unfortunately, the wells were maintenance once in a year from engineers outside the community whom we pay. This was because there were no trained water engineer in our community by NGOs and SALWACO over the past years"(A woman in FGD in Kimaya section, Bunumbu)*

The above sentiment indicates how community resources were mobilized and managed through the use of local initiatives to access water in the community. They also trusted their local leaders and regular community meetings on water

source management were held; where they encourage people to contribute for their own water sources.

Vignette #5 in Sierra Leone – Water Insecurity –Trusted health system through effective communication and information

Before the outbreak of diarrhoea in Bunumbu, the community people visited more of traditional herbal specialists in the community rather than the available PHU with trained health workers. This was due to lack of trust, effective communication and information they received from the PHU. Building trusted health system in this context requires effective, two way communication, transparent information sharing and proactive engagement to manage risks and support communities. The active involvement of PHU staff through the instructions giving by the DHMT, regular meetings, community sensitization on water borne diseases and other related cases, barrier in communication and information of health of the community was broken. This was triggered by the action of the P.C during the outbreak in reporting to the DHMT in Kailahun.

The women's leader quickly noticed the difference and stated during KII that *"I no longer have to leave my daughter's five month old baby alone to fetch water after she has entrusted her in my care and leave for the farm to fetch water…. Our wells are now chlorinated and we are also taught how to apply chlorine in the wells. We make sure, that we clean around our wells at the end of every month and fully follow the health tips provided by the PHU staff in our community. In case of any health abnormality in the baby or any other in this neighbourhood, I will inform the health workers promptly and not the herbalist closed to my house." (Women's leader in KII in Befubu (meaning under the bread fruit) section in Bunumbu*

For children, the change has brought relief and opportunity for them in the community. This was expressed *thus "I and my colleagues used to be late for school almost every morning because we have to travel 2km from Chief's well to gather water before going to school. We get to school by late".* Shared by a Junior Secondary School Girl in Bunumbu from the Saint John Secondary School (JSS 1) *"Now we can do all house chores and collect water from the nearby well which is chlorinated and monitored by the health workers and get ready for school without stress"*

The two account outlined above indicates trust in the health system in Bunumbu because there is a clear communication and information sharing to the

community people by health workers. The idea of seeking traditional healers for treatment of water borne diseases and other related cases has shifted to the health workers.

The CHO stationed at the PHU in Bunumbu recalls during KII *"that since the meeting with the DHMT, community leaders, community people and his staff, after the outbreak of diarrhoea in Bunumbu community there has been increased in attendance and reporting of cases at the PHU. Healthcare workers engage the community people on Fridays during clinic hours and also Sundays they go round the community on health sensitization and monitoring of water sources for sanitation and hygiene effectiveness"* He further stated that *" we communicate and share information to the community on drugs available, early warning signs of possible outbreak and preventions" (CHO in KII at the PHU in Bunumbu).*

A community health worker at the PHU who leads the chlorination of wells and monitoring of wells in Bunumbu also lamented that *"community contributes more to a health system when they are aware of what operates, regularly sensitized on health threats and sanitation practices, involvement of local sanitary volunteers who lives with them and access information on community health and prevention strategies" (CHW in FGD at the PHU in Bunumbu).*

It was further pinpointed by PHU staff that community leaders and DHMT role played in 2002 build trust in the health delivery system in Bunumbu. This supports the argument that rural communities are more comfortable with trusted leadership and a health system with effective communication and dissemination of health information delivered to them at any time needed. The support provided by the community leadership and DHMT was credence by the CHO *"without the support of community people, this PHU cannot provide health services required by them" He further pointed that this came about because of the prompt actions taken by the DHMT, P.C and community. We now interact with the community and they understand our health messages"(CHO in KII at PHU in Bunumbu).*

The health workers in their daily activities have now seen the benefits of trusted rural community leadership and how risk communication and information sharing with the community should be a dialogue where public preferences influence how the information is shared.