

Paper 3: Workforce competencies and employability in Lusaka

The challenge

Recruiting suitably qualified staff has long been a challenge for the Zambian water sector, which competes with other industries that may be able to offer greater financial reward and more attractive working conditions. There are significant gaps in technical, management and leadership skills within Commercial Utilities (CUs) that affect their ability to manage their operations sustainably, especially given existing resource constraints.¹ As the sector was gradually coming to recognise the importance of integrating on-site sanitation (OSS) and faecal sludge management (FSM) into basic water supply and sanitation (WSS)² provision, much effort still concentrated on technical and management aspects of the ‘sanitation challenge’. Successful implementation, however, would ultimately hinge on workers with the right skills and attitude to deliver a safe service. Frontline staff, which make up the majority of the utility workforce, often hold few formal qualifications and have little access to practical training to develop day-to-day operations.

For on-site sanitation, no formal training existed. In this grey area, most services were provided by a largely unregulated or informal private sector. This was clearly putting the safety of operators and customers at risk, with high reported accident rates and contamination threatening disease. For a utility facing a multitude of pressures, most of them urgent and important, offering job-related training may understandably be of low immediate priority.³ In the absence of regulatory enforcement of their business practices, there

was even less incentive for private firms to train workers and ensure the right equipment was being used. Pit-emptying services attracted almost exclusively unskilled labourers, few of whom were educated beyond primary school level.

At the same time, despite the creation of a Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA) for Zambia in 1998, vocational training carried decidedly less status than academic qualifications.⁶⁸ Previous waves of capacity development efforts in the WSS sector had concentrated on leadership and management. No attention had been paid to the hands-on skills training needed to overhaul sanitation. Safe service delivery, however, would need to start right with toilet and containment construction, safe pit emptying, transport and disposal of faecal matter. Designing the necessary training would also require bridging the gap between politicians, managers and engineers and the workers out on the ground. Well-educated professionals – and that includes planners and advisors from the various development partners’ side – were often trained to think along networked sewerage and mostly considered on-site sanitation a less desirable option. Understanding the whole range of options along the sanitation service chain and building credible and reputable job profiles for those providing the service was going to present a considerable challenge.

Activities and interventions

In response to this evident need to focus capacity development on frontline delivery, the GIZ programme Climate-

1) All commercial utilities in Zambia were officially renamed ‘Water Supply and Sanitation Companies’ in 2019

2) In one of its earliest reports, the regulator noted that ‘[o]ne of the reasons for the poor performance of the water sector was lack of appropriately qualified and experienced personnel.’ (NWASCO. 2004. p.17)

In a similar vein, it was noted that ‘the level and quality of existing skills of the WSS personnel are comparatively low with the public education and training sector not being able to provide sufficient practical training. This has had a negative effect on the performance of the CUs whose effective service delivery relies heavily on such skills.’ (GFA. 2016. Feasibility Study to Develop a Sustainable Institutional Model for the Delivery of Training and Capacity Building to Commercial Water and Sanitation Utilities and other Service Providers in the Water and Sanitation Sub-Sector. Report presented to the Public – Private Infrastructure Advisory Facility, p.4)

3) GIZ’s ‘Employment for Sustainable Development in Africa’ mission to Zambia of February 2016 had identified sanitation as a training priority. Interestingly, whilst the CUs themselves viewed sanitation-related training as a low priority, NWASCO cited sanitation-related aspects of regulation, including OSS and tariffs, as one of their high priority training needs (ibid.)

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Friendly Sanitation Services in Peri-Urban Areas of Lusaka (CFS-Lusaka) concentrated on supporting the practical skills needed to ensure safe and climate-friendly sanitation services. GFA Consulting Group was appointed to design, develop and implement five FSM-related vocational training courses, with a sixth on occupational health and safety (OH&S) added as a cross-cutting specialisation. Developing vocational training plans in close cooperation with service providers from all backgrounds was a priority. The plan was for training to be anchored at a national training institution, which would deliver short courses tailored to the needs of the emerging OSS sector. Securing TEVETA accreditation would ensure that qualifications were nationally recognised.

The initial needs assessment targeted CUs and private service providers along the entire sanitation chain, as well as the Ministry of Health (MoH) and Lusaka City Council (LCC) inspectors tasked with enforcement. Starting from the jobs and roles actually to be performed, it identified the skills and tools needed to complete each stage properly and efficiently. Detailed job profiles were put together, which served as a basis for the development of curricula. Few existing training materials covering FSM that could be adapted were readily available from the region, and indeed around the world.⁴ This increased the importance of collecting inputs from Zambian stakeholders – CUs, NGOs, private operators and development partners were invited to contribute ideas and feedback. A three-day workshop to validate the proposed course content was well received and generated useful suggestions for revisions. TEVETA supported this process throughout and gave the new sanitation training its stamp of approval in late 2018.

Training materials had been developed concurrently, again with the aim of matching these to the profiles and educational levels of the target group. In all, six intensive training courses were envisaged (see box), each two to four weeks long. Each course comprised plenty of hands-on training in the field; most aimed to split teaching time into 60% practical activities and 40% class-based learning. Pit-emptiers spent less time on theory lessons: up to 80% of this course content was going to be delivered directly on-site. The supporting manuals contain an array of pictorial guidance.

Handbooks were complemented by short video clips designed to ensure that individuals with low literacy levels could access the full range of concepts.

With most of the course content finalised, the next step was to embed the new training within national structures. In line with GIZ principles, the CFS-Lusaka project sought to ensure that the courses would become self-sustaining and could be delivered without external input and, eventually, funding. An evaluation of existing training facilities in Zambia identified Lusaka Business and Technical College (LBTC) as a suitable host institution. As much of the course content charted new territory, support now had to focus on ‘training the trainers’. Whilst the preferred option was to find and train competent trainers amongst existing LBTC staff, some external expertise had to be brought in. Training of Trainers (ToT) was assisted by TEVETA and delivered through other partners (Bremen Overseas Research and Development Association (BORDA)),⁵ with GIZ covering this initial ToT investment as well as funding workshops to test the courses themselves.

A total number of 18 prospective trainers participated in the ToT sessions. Three public health inspectors from the City Council’s PHD were trained in Inspection and Enforcement of OSS/FSM, as well as a lecturer from Levy Mwanawasa Medical University. Manual Pit Emptying of On-Site Systems can now be delivered by an engineer from BORDA, the coordinator from Kanyama Water Trust and two lecturers from LBTC. An OH&S Officer from Lusaka Water and Sanitation Company (LWSC), a public health inspector from LCC and two lecturers from LBTC were trained in delivering Occupational Health and Safety training. For Vacuum Tanker Operation and Maintenance, six trainers were trained, four of whom manage their own private businesses, the remaining two being LBTC lecturers. To date, there are 17 new competent trainers ready to take on course delivery.

Progress and impact

Through the process of developing the new FSM curriculum, training has been made available to 69 staff drawn from LWSC, private operators and PHD.⁶ The strong practical focus of the training courses has been cited as the criti-

4) TEVETA was established to promote and quality assure competence-based training activities (technical skills and crafts) with the aim to enhance labour productivity. Though practical skills are in demand, there is a tendency to value university education over technical training, not only in Zambia.

5) Notably for the inspections training, no trainers could be found. Practical experience in sludge emptying was in similarly short supply amongst official trainers. For the project to be successful, competence in delivering training was critical, and people with a training background underwent ToT training to deliver the courses.

6) GFA estimate that under the LSP, in addition to the training already delivered (c.f. table) further training numbers will be in the order of 20 more places for manual pit-emptying, 31 more for vacuum tanker operation, 19 more inspectors and 111 more participants at occupational health and safety training.

Photos: @BORDA



Left: Skills Awards Graduates getting ready to receive their certificates at the 2019 awards ceremony
 Right: Participants of the Skills Challenge held at the 2019 Zambian Water Forum and Exhibition

cal difference to training which has been facilitated through other partners, often on a more ad hoc basis. The six new courses cover operational aspects of FSM, seeking to equip attendees with the knowledge and practical skills to build viable businesses, select and use the right tools and equipment, troubleshoot common technical problems, and take the correct safety precautions to protect themselves, their customers and the environment.



Credible job profiles and bespoke hands-on training help frontline sanitation workers offering vital services in low-income areas to become recognised sector professionals.”

Feedback from workshops has been highly positive. The Chairman of the Zambian Emptiers Association (ZEA) comments that apart from learning new techniques, service providers have hugely benefited from entrepreneurial skills development⁷ and, most importantly, health and safety training. Before attending the training workshops, many manual emptiers had been using hazardous techniques, often relying on simple modifications to commonly avail-

able gardening tools and risking exposure to contamination. Even larger operators had significant gaps in the use of personal protective equipment for sludge handling and neglected the routine use of disinfectant. The training has sharpened awareness of applicable rules and guidelines, and providers are enabled to adhere to these. ‘When I look at our members now and before, I see a big change’, the ZEA Chairman says, noting that the training has also changed the perception of emptying services, which are increasingly recognised as business to be taken seriously.

All members of the ZEA have been encouraged to attend the certified training offered through the LBTC, as accreditation will increasingly become a requirement to work in the formal FSM sector in Zambia. The Lusaka Sanitation Programme (LSP) was the first official programme to require accredited workers, but even private households like to see evidence of professional competence.⁸ A difficulty was that the activities under the CFS-Lusaka project started when the OSS/FSM component of the LSP was still understaffed and the precise institutional format and tasks for operators had yet to be determined.

7) For instance, emptiers now use marketing, and may even send reminders to customers to encourage timely emptying of their containments.

8) Any household enquiring about emptying services through LWSC will be referred to a certified operator. Emptiers also acknowledge the value of training to secure repeat business as customers recognise and value competent service.

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Course Topic	Modules	Materials developed	No. of people trained
Inspection and enforcement of OSS/FSM	<ul style="list-style-type: none"> Sanitary inspection of OSS/FSM Enforcement of OSS regulations Basics of entrepreneurship 	<ul style="list-style-type: none"> Curriculum/syllabus Training manual Trainers' guide 	16
Manual pit-emptying of OSS Facilities	<ul style="list-style-type: none"> Manual pit emptying of OSS systems Basic customer relations Basics of entrepreneurship 	<ul style="list-style-type: none"> Curriculum/syllabus Training manual Workbook 	20
Vacuum tanker operation and maintenance	<ul style="list-style-type: none"> Operation and maintenance of vacuum truck Emptying and transportation of faecal sludge Basics of entrepreneurship 	<ul style="list-style-type: none"> Curriculum/syllabus Training manual Workbook 	19
Occupational health and safety	<ul style="list-style-type: none"> Occupational health and safety 	<ul style="list-style-type: none"> Curriculum/syllabus Training mManual 	14
Operation and maintenance of FSTP	<ul style="list-style-type: none"> Operation and maintenance of faecal sludge treatment plant 	<ul style="list-style-type: none"> Curriculum/syllabus Training manual 	yet to start
Management of faecal sludge service	<ul style="list-style-type: none"> FSM Services Human resources management Basics of entrepreneurship 	<ul style="list-style-type: none"> Curriculum/syllabus Training manual 	yet to start

Training modules developed and number of people trained by CFS-Lusaka.

Note that training for FSTP operations and maintenance as well as FS service management is pending the construction of FSTPs.

Remaining challenges

Funding presents a key challenge for the future sustainability of vocational FSM training. The cost of attending a course ranges between Zambian Kwacha (ZMW) 2,500 and 3,500 (€156 - 218) per individual. So far, this has been absorbed through the workshops or paid for by LWSC through the LSP. Demand for training in all CUs exceeds what the CFS-Lusaka project can currently offer, but there is a risk that this will decrease considerably once service providers will have to cover their own training costs. An analysis of the course fees indicates that these are quite affordable for larger companies, but there are concerns that smaller operators will be unable or unwilling to invest this amount and fees may need to be introduced more gradually.⁹ Providers with smaller margins also worry about the risk of staff turnover. In addition, there is the question of resourcing training: for instance, the hire costs for a vacuum tanker that was needed for training sessions were a significant expense. Other even more costly investments may be required for the courses that have yet to start.¹⁰

The initial fee payable to TEVETA to become accredited as an examiner and trainer has risen from 250 ZMW (€16) to 1300 ZMW (€81).⁷⁶ Accreditation then needs to be renewed every three years.⁷⁷ A 'skills advisory group', which could act as a clearing house for incoming funds, has been suggested as a potential way forward. Finally, refining the course materials will be an ongoing process. Much of the content covered is very technical, and it is important to present it in a way that ensures maximum understanding on the part of an audience with potentially low literacy skills. Although English is the customary language of instruction, there is demand for handbooks and manuals, and possibly even training itself, to be delivered in other locally spoken languages.

Lessons learnt: findings and recommendations

- The CFS-Lusaka project's efforts to develop tailor-made training for staff at the frontline of OSS/FSM service delivery are widely acknowledged as an important step towards closing a critical skills gap in the Zambian WSS sector. Prior to the project, there was a notable discon-

9) 'No one will go if you have to pay 2,000 Kwacha', 'you need to entice people, start small' were typical responses.

10) A consultancy report looking into further development of specialised, practical training in the water sector recommended that '[t]he water operations programme can be enhanced if LBTC is assisted with the procurement of mini water and wastewater treatment plants, which are essential to effective training.' (GIZ. 2017. Final Report: In-depth Status of existing Water Training Facilities/ possible facilities and Workshops in Lusaka. Lusaka: GIZ. p.52)

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nect between training institutions and the industry. The new FSM curriculum is clearly focused on increasing competencies and employability of sanitation workers within Lusaka.

- Involving a broad spectrum of stakeholders in generating new job profiles and fine-tuning training materials was a strength of the GIZ approach, even if it inevitably introduced delays into the process.
- TEVETA has provided a critical link between the new curriculum and existing Zambian training frameworks. Instead of funding ad hoc training workshops, it is far better to offer courses through national training institutions that are regulated by national bodies. Training can be delivered by in-country trainers using standardised materials. In addition, national certificates become easily recognised, meaning that workers can be employed anywhere in the country.
- Overcoming the initial investment cost of developing vocational training approaches and materials has been a significant contribution of the CSF project. The challenge is now to ensure that training becomes self-sustaining in terms of funding. Suitable mechanisms will need to be put in place to encourage and/or require operator certification. The next phase should focus on the responsible use of skills levy funding, both for ToT and operator training.
- Training may need to be scaled up to meet high demand – though the latter may be affected once course fees are charged to participants or their employers. FSM service providers value the clear focus on practical solutions to their immediate problems and learning about how to build safer, more sustainable businesses. However, self-funding attendance may present a problem for smaller operators.
- In general, a 60:40 split of practical training and theory worked well. For manual workers with limited formal education, even more emphasis on field-based training secures active engagement with the course content, and thus effective learning.
- The accessibility of training materials is paramount. Illustrated handbooks are helpful; short videos make a useful complement and can aid self-study. Also, language matters: in order for learners to derive maximum benefit from a course, they must be able to understand all its content fully.

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