Opportunities for progress – experiences from sanitation scenario planning in small towns, Tanzania

Introduction and methodology

WaterAid produced a report titled 'A tale of clean cities' in 2017 which describes progress towards city-wide sanitation in four cities. From this report it was suggested that there are several key drivers for urban sanitation progress: the presence of sanitation champions, national political influence, economic/funding considerations and support from development partners. Based on these it is thought that an assessment of *opportunities for progress* can be made for a given city and this helps to determine the approach to take to move towards city-wide sanitation coverage.

As stated in the WaterAid Urban framework, for every large town, there are 10 small towns growing at a similar rate (Pilgrim, Roche, Kalbermatten, Revels, & Kariuki, 2007). In these towns, public sector capacity is typically low, and, unclear mandates, limited planning and financing and non-adapted technological solutions compound the WASH issues. The central question that arises in these small towns is: what are the opportunities for progress that exist in each town and what strategies should be put in place to increase access to sanitation and increase the level of service?

For that purpose, WaterAid as part of the Sanitation and Hygiene Applied Research for Equity (SHARE) consortium carried out research-based participatory planning for sanitation and hygiene in a small town in Tanzania. In Babati, the selected town, most of the drivers for progress in sanitation seemed to be in place: there were sanitation champions including the late Regional Commissioner of Manyara and Babati Town Executive Director and mayor of Babati Town who were committed to meeting sanitation needs of the town ; there was existing strong political will linked to WASH and decision makers supported the focus on sanitation and hygiene, as well as existing plans and programmes such as the National Sanitation Campaign, and the development of the Babati spatial Master plan. The town's economy was growing due to existing economic activities (tourism due to its proximity to Manyara National Park, Tarangire National park and Ngorongoro conservation area, and agriculture) and the town had existing relationships with WASH stakeholders including development partners.

Consequently a 3-year research project was carried out in Babati, the results of which are presented in several other reports. This document aims to present the experiences and the main lessons learned from the project in order to explore ways and means to use this approach in other similar towns taking into account the given context.

Understanding the context of Babati should help the reader to view the approach and lessons in that light. However it is hoped that this case study of Babati town will shed light on mechanisms and conditions under which institutions make decisions to prioritise, invest in and/or improve sanitation and hygiene practices in an emerging town.

The scenarios for sanitation and hygiene chosen for Babati are presented and then the bulk of the report is spent discussing some of the challenges and successes experienced throughout the project. The points presented here are deemed to be the most translatable to other contexts and the most helpful but are also presented with the caution that some of the crucial elements of the planning process, including the implementation, have not yet started and therefore the results of the process as a whole are not yet known.

Strategy and approach

The approach to participatory planning for sanitation in Babati followed a number of steps which are briefly described below.

- **Partnership forming:** the project was carried out in partnership with Nelson Mandela African Institution of Science and Technology (NM-AIST), Babati Town Council (BTC), the Babati Water and Sanitation Authority (BAWASA) and Manyara Regional Secretariat. Roles, responsibilities and the importance of partners involved were assessed using WaterAid's partnership framework (Beale, J. et al, 2018).
- **Inception:** the inception workshop was carried out to launch the research project, and build a common understanding on the aims of the research, project timeline, expected outputs and also sought consensus on roles and responsibilities.
- **Data collection and formative research:** a large mobile-based survey (20,000 households) was done to gather data on the sanitation status of the town alongside a cross sectional study using qualitative and quantitative methods which assessed the socio-demographic, cultural and economic profile of the town and its existing sanitation and hygiene status and practices. For the formative research the study population was 486 households and 52 institutions. The aim of this was to understand the households' and institutions' motives to invest in and improve sanitation and hygiene practices and the risks that drive behaviour change. One important outcome of this study was the development of a Shit Flow Diagram which shows how excreta 'flows' through the town.
- **Political Economy Analysis:** a Political Economy Analysis (PEA) was carried out to understand what drives institutions (government, donors, NGOs, authorities), and private sectors to invest in and/or improve sanitation and hygiene practices in an urban context. This was carried out in Babati town (Manyara region), Bomang'ombe and Moshi (Kilimanjaro region), Arusha city and Temeke Municipality in Dar es Salaam. A total of 131 key informants were interviewed. (Moyo, F. et al, 2017).
- **Community engagement:** this was understood as the process of engaging communities in the project and getting their feedback throughout the process. The findings from the formative research and the PEA were presented and discussed at Ward level and during different workshops.
- **Integration of research into existing master planning process:** a consultant was simultaneously working on a masterplan for Babati whilst this research was taking place and it was possible to integrate some of the results into a chapter on sanitation.
- **Scenario planning:** scenarios were developed based on the research during a workshop held in Babati Town. The workshop aimed to enhance the understanding of key stakeholders on the current sanitation and hygiene status of Babati, to find an agreement on suitable sanitation and hygiene options and to draw up an action plan for the implementation of the suitable and agreed scenario.
- **Business plan development:** as part of supporting the development of a Babati town-wide sanitation and hygiene adaptive model business cases will be developed based on the selected scenarios.

Limitations

This project was funded as a research project and therefore the process was stretched over three years with multiple research studies conducted and a lot of time spent analysing and re-analysing data and approaches. It is acknowledged that in most participatory planning scenarios, this level of detail will not be possible but hopefully the lessons learnt can help to identify the elements that were most important to the process.

Also, and as mentioned above, the scenarios developed as a result of this work have not yet been implemented in Babati and it is therefore not possible to say that this approach was successful in changing the sanitation picture in Babati. However, the project was successful in achieving its aim of creating a strategy for sanitation that has the buy in of all key stakeholders and which has momentum behind it. The development of the business plan to execute selected scenarios by BTC, BAWASA and key stakeholders demonstrates the commitment made during the scenario planning workshop. For that reason, it is felt that the experience is worth sharing at this stage.

The Babati context: summary of research findings

Socio-demographic characteristics

Babati has been given 'town' status but the process skipped several steps meaning that the liquid sanitation and household solid waste management infrastructure did not keep up with growth, given the relatively small population at the time, was on roads and drinking water. Babati was chosen for this project as one of the rapidly growing towns in Tanzania having grown from a population of 9,759 in 1978 to a current estimated population of 110,000 and facing serious sanitation and hygiene issues.

The formative research found that most households were living in a house they privately owned (85%) with an average family size of five. About 50% of households had a child under five years old. More than half of respondents were engaged in crop farming as a primary occupation and 60% of people had attained a primary level of education. The average monthly income of respondents was 96USD.

Sanitation and hygiene condition in Babati

The Political Economy Analysis that was carried out gave a good background to sanitation in Babati,

showing that the towns rapid growth had left infrastructure behind and that the focus had been on toilets and not on the wider sanitation chain. Recently however issues related to solid and liquid waste management have become clearer as the population has grown.

The formative research found that the current sanitation and hygiene behaviours in Babati were correlated with the education of participants, residence ownership and source of water making these important variables to study.

The management of wastewater in Babati is currently dependent exclusively on on-site sanitation systems. Based on the research 90% of households own toilets of which 7.4% share these facilities. The most common type of toilet is a pit latrine with a slab, accounting for 42%. Half of households empty their toilets when they are full – the other half abandon them and build a new one. Only 28% of households can be said to have access to safely managed sanitation, as per the JMP definition as shown by the SFD developed. In terms of hygiene, though most people were aware of the importance of hygiene behaviours only 21% of households had a handwashing station present. The most common method mentioned for treating water was boiling (82%) followed by chlorination (66%) though only 45% of respondents said they treated their water. Various unhygienic menstrual hygiene practices were also reported.

In terms of institutions there are public toilets at the bus station and markets. Whilst soap and water are available for handwashing long queues and limited time put people off using these. The condition of these toilets ranged from moderate to bad. Babati has a regional and a district hospital which have flush toilets and handwashing stations but the majority of them were observed to have no soap.

Residents who empty their toilets depend on the BTC owned desludging truck. The wastewater from this truck is disposed of in an open area about 5km from the centre of the town in an area where people are cultivating food crops.

Policy and institutional arrangements

Government agencies such as Babati Town Council (BTC) have the mandate to make by-laws and enforce them though often without the budget to implement policies. Historically sanitation management came under the role of the Local Government Authority (LGA). The local governments owned the infrastructure and equipment for liquid waste management. The establishment of town authorities such as the Babati Water and Sanitation Authority (BAWASA) was intended to improve efficiency in service provision by reducing the responsibility of the LGAs but the in Babati the LGA only handed over the sewerage systems and kept hold of the FSM equipment and services as these were seen as easier to manage and cheaper to run. BAWASA is legally mandated to remove liquid waste from the towns.

There are several departments within Babati Town Council but with no clear channels of communication between them. There is often duplication of effort and lack of institutional memory. During research for the PEA of Babati it was found that barriers to sanitation investment are financial incapacity, planning problems, challenges in enforcement of regulations, lack of political will and lack of a clear regulatory framework.

In the past NGOs and development partners invested directly in infrastructure but the focus has shifted to policy improvement and institutional strengthening which leaves the onus to invest with the LGAs. NGOs often work to build capacity of government but also with communities to help them realise their rights, which sets the NGOs at odds sometimes with authorities.

Private investors in sanitation usually focus on emptying, collection and transportation services, the sale of sanitary ware, and construction of facilities, though there are few private investors in Babati which is thought to be due to the lack of perceived profit potential in smaller towns.

Financing: source and main determinants for investment

Nationally politicians often do not see the value of investing in sanitation as it does not generate political influence. This means that investment in sanitation by the LGA can only happen if political leaders are triggered so that they feel the same community pressure to invest in it as they do for solid waste management.

BTC receives directives and guidelines from central government on budgets and spending. Allocation of funds are determined by local ward development committees but, with limited awareness of sanitation, the issue gets deprioritised. BTC therefore must use its internal income to fund sanitation investment. Before the project around 3% of the town council's budget was spent on WASH annually.

It was found during this project that household's investment in sanitation and hygiene appears to be influenced by their education level, which is linked to their perception, household incomes, and availability of other services such as water supply. However, the key motives that influence a household's decision to invest in improved toilets or use a toilet of any kind include: enforcement of existing rules and regulations, fear of disease outbreaks, comfort, raising social status, and a need to have a safe place for defecation/urination (safety) especially for children.

For institutions (LGAs, NGOs, Private Sector, etc.) good governance is the most important condition to enable participation and investment in improved sanitation and hygiene. Good governance ensures effective institutional coordination, capacity building, a clear roadmap to desired policy goals, and allocation of financial resources, civil society engagement and presence of enabling legislation (laws and by-laws).

Scenario proposed for Sanitation and Hygiene

The scenarios proposed stem from the analysis of the situation made during the formative research and on the basis of a vision expressed by the different actors. The vision developed for Babati, and that guided the development of the scenarios, is:

> "5 years from now Babati town is a role model in solid and liquid waste management with a clean environment, healthy residents, free from sanitation and hygiene related diseases, accessing safe water as well as effective and affordable sanitation and hygiene facilities."

Three sanitation scenarios were presented to the attending stakeholders of the scenario planning workshop (central government officers, local government representatives, community representatives, researchers, private sector representative, WaterAid team, and other sanitation and hygiene practitioners):

1. FSM – a system approach including technologies and mechanisms for containment, emptying, collection, transportation, treatment, disposal and/or reuse of sludge produced in onsite sanitation systems.
2. Sewerage – collection network with wastewater transported in big pipes to a treatment plant.
3. Alternative sewerage – decentralised-driven approach for management of wastewater

The scenario selected was FSM which has many advantages:

- Affordable in operation and maintenance
- Easy to manage
- Less energy consumption
- Cost-effective sustainable solution for urban sanitation
- Doesn't require huge capital expenses to be arranged like sewer-based solutions do
- Potential for use of end products for agriculture and energy
- Room for innovations

The proposed hygiene scenarios were:

1. Mainstreaming/comprehensive approach – implemented through ongoing WASH programmes and focussed at household level interventions.
2. Integrated approach – bringing together health, education, nutrition, agriculture and private sector and delivered through institutions.
3. Campaigning approach – implemented in nationwide or district/town-wide manner in a short interval using centrally designed campaigns.

It was agreed to combine the mainstreaming and integrated approaches.

The selected scenarios were said to be well aligned with the Babati Masterplan. It is worth noting that the selection of the scenarios was done by all participants after a SWOT analysis of Babati regarding sanitation and hygiene and a detailed presentation of the pros and cons of each of these scenarios as well as the conditions for the implementation of each of them.

Why planning for sanitation in small towns?

The provision of water and sanitation services in small towns is often complicated by a weak institutional base, a lack of economies of scale and fewer funding opportunities than larger urban centres. These challenges are compounded by a lack of attention by researchers, urban planners and policy makers to identify sustainable solutions to inclusive access to basic services, including sanitation. However, it is accepted that secondary centres that attract people from rural areas seeking agricultural markets and employment, grow both in size and number and deserve a lot of attention as far as SDG achievement is concerned. Inadequate planning and infrastructure investment in these urban settings have created over-crowding, poor living conditions and increasing inequality.

In addition, in many countries, the existing decentralisation processes have delegated responsibilities to municipalities, but without the necessary financial transfers. These limitations are most apparent in the delivery of basic services, such as water, sanitation and solid waste management (Luthi, 2017). Achieving the SDGs cannot therefore be possible without giving special attention to those human settlements that will host by 2030 most of the world's population.

WaterAid has made these small towns one of our key areas of focus, and it is important to reflect on planning mechanisms that will enable an inclusive and sustainable city-wide sanitation service. The Babati project serves this purpose and should be seen as an inspiring example for urban planners for an effective planning approach in small towns.

Lessons learnt in sanitation and hygiene participatory research and scenario planning

Data collection

Consider carrying out simple surveys, using mobile technology, to verify existing data. This should include some observation-based data collection. Involve local government officials in data collection to increase ownership of the results.

Currently the data used for the Joint Monitoring Programme, which informs the global process towards the Sustainable Development Goals, comes from national and local records and databases. The data collected during this project showed that this data might not always tell the whole story and may be only one perspective. Using simple mobile-based tools to carry out sanitation mapping local authorities can collect and analyse accurate data which can be used to inform decision making processes. For example the data held by the government in Babati did not include

any information on open defecation rates. The survey conducted by this study showed that 4.5% of the population of Babati still practice open defecation across all wards. The mapping exercise also revealed that the number of households with improved sanitation facilities is half of what was reported by Babati Town. It also revealed information about the sanitation chain and management of faecal sludge that was not previously reported. The key weaknesses of existing data collection methods are thought to be the use of manual forms which is time consuming and allows for more mistakes, a vested interest in reporting improvement and no clear methods for data verification. A lack of robust and clear data could lead to bad technology and investment decisions.

A deeper formative research study was carried out in 486 households. This study highlighted the importance of observation-based data collection as well as collecting information from interviews and focal group discussions. For example, whilst 97% of people interviewed reported washing their hands after using the toilet this was only observed in 46% of cases.

The involvement of local government officials in data collection increased the studies potential to reach almost all dwellings in the town and their participation in formative research ensured their acceptance of the results and helped the research to be fed into the planning process.

Partnerships

A variety of partner types (government, academia, NGOs) ensures that all roles are covered within the planning process. The expectations of all partners must be well-managed from planning stage and good coordination and communication maintained throughout. Invest time up front in identifying the right partners and to developing relationships.

The participatory planning process was led by WaterAid in partnership with the Nelson Mandela African Institution of Science and Technology (NM-AIST), Babati Town Council (BTC), the Babati Water and Sanitation Authority (BAWASA) and the Manyara Regional Secretariat. Representing government, academia and NGO sectors the partnership between these organisations was crucial in advancing the planning process. Each partner played an important role:

- NM-AIST was co-leader and responsible for all research elements. They ensured that data collection and analysis was rigorous and formed a reliable basis on which to develop sanitation planning scenarios.
- BAWASA provide technicians and experts and local knowledge of water and sanitation issues.
- BTC are able to facilitate, enabling other partners to do their work by providing information they need and linking them up with stakeholders as required. They can also communicate well with the community and have a good and existing relationship with them.
- Manyara Regional Secretariat coordinated and supervised the implementation of research and enhanced participation and accountability of Babati Town Council and BAWASA in the research process.

Integrating research outcomes with operational planning was a new experience for all partners involved in the project. In the initial stages of the project some of the expectations were not well managed with government partners expecting a more operational, outputs-based approach focused on finding solutions to challenges faced by communities. However, partners' reflection meetings and learning exchanges to other towns help to shift these perspectives. Engaging with department and organisation directors whilst maintaining a separate contact point was found to be key to improving communication between partners. The relationships between partners was perceived as hierarchical and it was suggested that a model should be developed at project design stage which demonstrates the skills offered by each partner and their roles and responsibilities. It was clear that the partnerships were strongest when the project objectives aligned with that of the partners.

Integration

Undertake a broad sector analysis early on, analysing the linkages to sanitation and involve a wide range of these sectors in the planning process.

There has been a challenge in addressing the interventions which require a multi-sectoral approach. As this is going to be the focus for hygiene in Babati the sectors need to rectify this. Planning and implementation should both be carried out in partnership. There will also be other interventions happening simultaneously so flexibility and coordination will be required.

It has been learnt that there are sectors who were not involved throughout the research elements of the project who will now be involved in hygiene approaches in Babati. The scope should be widened from the start to take into account the interconnectedness of a wider range of sectors.

Understand other planning processes that might be happening in the city and ensure good coordination to maximise on the results of the sanitation work.

The development of any masterplans should be done, for a better coherence, after the scenario planning process. This would allow good integration of the solutions identified and proposed in a participatory way to the general development plan of the town which would in turn facilitate their appropriation by the different urban actors. In the case of Babati, for example, the process was reversed and engineers involved in a different planning process had

unilaterally proposed a sewerage network for the whole city. Once the two projects were aligned the actors realized that this was unfeasibile due to the limited resources of BTC and BAWASA.

Stakeholder mobilization

Allocate budget for regular and meaningful engagement with all identified stakeholders including exchange visits, involvement in data collection and opportunities for dissemination.

Stakeholder mapping was undertaken right at the beginning of the project giving a visual output showing the level of interest and level of influence of each stakeholder. The project was introduced to all stakeholders and the project team set objectives to see behaviour change in those stakeholders through the life of the project. In order to meet these objectives stakeholders were engaged throughout, taken on learning visits to other towns and invited to all key project meetings. One result of the exchange visits was that BTC and BAWASA directors were able to see the success of non-sewered approaches to sanitation and changed their mindset on FSM. The director for BAWASA had initially wanted the project to address water and by the end was a strong supporter of the project and participated in planning processes. It was learnt that getting this stakeholder buy in is vital for the information gathered to make changes.

A challenge faced by the project was how to use the research-generated evidence to inform the planning process especially as the process was already underway when the project started. By involving key stakeholders from BTC, BAWASA and the consultants developing the masterplan in collecting and analysing the data, findings from the research were able to feed into certain elements of the planning process. The Ministry of Education have made it a priority to ensure use of WASH guidelines in schools as a result of receiving the research findings.

Another challenge was the lack of funds in government to allow as many meetings to happen as the project would have liked to successfully engage with the relevant sectors. This includes joint sector reviews and meetings and a Technical Working Group.

Capacity building

Consider capacity development needs and opportunities of stakeholders in small towns. This has multiple advantages including an enhanced mutual understanding throughout the project, more chance of sustainability after the project is finished and increased potential for other collaborations.

The research project has helped to build the capacity of partners in a number of areas:

- a collaboration with the University of Leeds has helped the team to develop the Shit flow Diagram for Babati Town
- two master students from NM-AIST completed research work and publications as part of the Babati research project
- the participation of BTC and BAWASA team in the entire research process helped to build their research and planning skills. From an initial financial motivation in the project by BAWASA developed over the first year into a deeper motivation linked to the potential capacity gains for their staff.
- with support from SHARE, training on qualitative data analysis was provided to the research team
- constant technical support to the research team has been received from the SHARE director of research

Technology choice

Look to maintain any existing infrastructure before considering other technologies. Consider blending approaches based on findings from research and data collection.

The research findings that over 80% of sanitation facilities in Babati town were pit latrines helped to move stakeholders' perceptions from being focused on sewers to exploring other decentralised sanitation options. A thorough analysis of the context is required to ensure that options are both appropriate for the present whilst taking into account planning for the future. SFDs were shown to be a good way to explore the current situation and discuss technology choices.

Implementation of any sanitation or hygiene technologies will depend on environmental factors and consideration should be given to blending several approaches or technologies rather than focusing on one solution in a given context. It was also learnt that it is important to maintain the existing sanitation and hygiene infrastructure and systems as this is the most efficient approach.

The German based bank KFW showed interest in loaning money to Babati for sanitation infrastructure particularly a Wastewater Treatment technology biodigester. Engaging this donor in the project and inviting them to hear the results of the research etc. has led them to be more flexible in the funding they are offering.

From plan to action

After developing and selecting scenarios the next step for this project is the implementation of the scenarios. This process was initiated in Babati by the establishment of a monitoring committee, a proposal to recruit a consultant to prepare a business case, and advocacy with donors working in the area. This was led by BTC and BAWASA indicating that the time spent investing in these partners has been fruitful. It will be vital to learn from others, including cities studied in the 'A Tale of Clean Cities' study, in taking this work forwards and to keep the momentum that has been created in Babati.

Training

It should be noted that conducting a scenario planning process requires a certain level of knowledge in sanitation and hygiene as well as some information on the newest approaches developed over the last few years for small town sanitation and an understanding of available technologies. Indeed, because of the increasing attention given to these urban centres, new tools are being invented to tackle the issue of WASH service delivery in these cities. In the Babati project, for example, experts at NM-AIST were trained in the SFD methodology, the results of which guided the choice of scenarios. To implement these scenarios further training in certain technologies and approaches included within the chosen scenarios may be necessary and this will have to be taken into consideration during planning and development of the business models.

Communication and advocacy

Sector influencing is one of WaterAid Tanzania's priority areas. In recent years WaterAid Tanzania has changed its focus from being a WASH service provider to sector influencing through the use of evidence, best practice and key lessons that are generated from its work on the ground. WaterAid's work has informed policy and programming of Tanzania's Water Sector Development Program (WSDP) particularly WASH in health care settings, School WASH, the current initiative on the private sector, and sanitation and hygiene planning in urban and small towns. As part of our sector influencing work, this research project was used in several forums to communicate to national government and the wider sector with the purpose of influencing policy linked to sanitation and hygiene planning in growing towns or "cities of tomorrow". Examples of dissemination opportunities that were maximised are:

- during the launch of WaterAid Country Strategy (CPS) 2016-2021 which was attended by Vice President of the United Republic of Tanzania (focusing on the role of research in urban sanitation planning). [1]
- during sanitation week which was organized as part of World Toilet Day (WTD) commemorations organised by the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC). This was a strategic platform for dissemination of our research findings and sharing of key lessons on how other towns across Tanzania can use similar research to improve their sanitation coverage. The presentation triggered interest to use or apply Babati experience in other towns of Tanzania.
- during an experience sharing workshop on urban sanitation that took place in Dar es Salaam officiated by the Permanent Secretary (PS) Ministry of Water Prof. Kitila Mkumbo. The outcome of the meeting was the commitment from the PS to develop a sanitation policy.

We found that engaging key decision makers in sanitation and hygiene service dialogue is an important and useful way to influence decision makers. Engaging key ministries and stakeholders at each stage of the research process is critical in ensuring ownership of the project and research findings. Babati Town Council and Babati Water and Sanitation Authority (BAWASA) are now in the driver's seat to ensure selected sanitation and hygiene options based on research findings are implemented. BAWASA have now integrated sanitation in their business plan and are working hand in hand with WaterAid and other stakeholders on how to implement FSM with a focus on looking for funds to support this initiative. Navigating whom to engage, when and constant follow up is very important to ensure that research or any project interventions are incorporated into overall plan of Regional and local Government Authorities plans such as a spatial masterplan.

Results of this work will continue to be disseminated globally through a number of channels. It is hoped that NIMR will provide the opportunity for sharing of the findings in annual scientific meetings and several papers have been prepared for peer-reviewed journals.

Financing

Babati Town Council and its partners will need to find funds to implement the business plans created from the planned scenarios. The government set up and operationalised the National Water Investment Fund (currently focusing on rural water) and this fund accounts for about 80% of government contributions to rural water supply. It is hoped that in the future these funds might be able to also be used for sanitation but this remains a challenge. BAWASA's own sources can be used as capital investment.

KfW development bank has plans for faecal sludge management work in Babati and the presentation of this projects research findings will be used to inform their investments decision. It was important to invite them to meetings from the start of the project to develop this interest.

At household level there are negative perceptions around the costs of constructing improved latrines which will need to be challenged.

Discussion and conclusions

How far did we come to achieving our initial objectives?

The project produced a shared vision for sanitation and hygiene in Babati town and a consensus on a scenario which aligns to that vision. This means that our initial objective for the project was achieved. It was furthered by the willingness of BTC to integrate that scenario into the

[1] See http://www.shareresearch.org/putting-water-sanitation-and-hygiene-centre-development for more information

Babati town masterplan and by their creation of a committee to drive forward the next steps towards making the scenarios a reality. There is also a growing interest by UK utility companies in developing a water operator partnership with BAWASA as a consequence of this study and the exposure gained through the dissemination efforts which will ensure that capacity building continues past the end of the project.

Which opportunities for progress were found to be particularly useful/important?

It was found that the following factors were important features of Babati town which helped make the project successful:

- A clear mandate of local authorities in sanitation service delivery: sanitation authorities such as DAWASCO/DAWASA, and BAWASA are legally mandated to remove liquid waste from the towns/municipalities.
- A spike in citizen demand or political priority (such as a crisis, a national campaign, or a policy/regulation change): the upgrading of Babati to a town status led to a mindshift with the prioritization of water and sanitation service delivery as it happens in a normal town
- Political directives from the central government: the president's order to clean environment on every Saturday for example sets the precondition for inclusive sanitation
- A municipal champion making sanitation a priority
- An ongoing process of planning
- A donor's interest in the city
- A linkage between researchers and decision makers

What drove the process once the project started?

The **commitment** of Babati Town Council and the Regional Secretariat to meet the desired target was key to driving this process forward. This reinforces the need for existing political will as an opportunity for progress. It was then important to engage key decision makers in sanitation and hygiene through **frequent meaningful dialogue** from the inception of the project. Quarterly review meetings with time for reflection encouraged this engagement. In this context the signed MoU was a necessary tool for working out a **common understanding** and **managing expectations** throughout the project and it was used to resolve disagreement once the process started. Opportunities for **capacity building** were sought throughout the project including exchange visits, learning on tools and approaches and involvement in data collection and analysis. This kept the momentum going and ensured that all stakeholders were on board at each stage of the research. The **involvement of academia** was of big importance in the success of this project.

What should be considered for achieving results such as these at scale?

The research project has provided a unique learning experience and dissemination of research findings and key learnings at the sector level is critical for scaling up. It is also crucial to engage key ministries and stakeholders as well as the community at each stage of the implementation process to ensure ownership of the project. Solutions must be context specific and based on accurate data, though it is acknowledged that the formative research conducted for this project was too arduous and expensive to be replicable in a sustainable way in other towns. Financing can be a limiting factor and therefore exploring the possibilities of light financing is an option as donor money may not be available always to fund research work.

What about the process should be adapted for other contexts?

Ideally the process would have been designed to go beyond the analysis of the situation to integrate all aspects relating to actors' capacity building and monitoring of water and sanitation installations.

Also, the involvement of researchers has been expensive and would be difficult or impossible to replicate in all small towns. It is therefore important to lighten up the data collection process by relying as much as possible on secondary data and complementing it with in person data collection when needed.

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