SUSTAINABLE INFRASTRUCTURE PARTNERSHIP

FRONTAL VIEW OF THE HIGH DAM ON THE RIVER NILE, EGYPT ©Nae84/Shutterstock

EGYPT

MEETING THE SANITATION NEEDS OF RURAL COMMUNITIES THROUGH DECENTRALIZED SERVICE PROVISION IN EGYPT

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The International Good Practice Principles for Sustainable Infrastructure

set out ten guiding principles that policymakers can follow to help integrate sustainability into infrastructure planning and delivery. They are focused on integrated approaches and systems-level interventions that governments can make to create an enabling environment for sustainable infrastructure. This case study illustrates specific aspects of one principle in a country context, showing good practices and challenges, and considering potential for advancement or replicability.

GUIDING PRINCIPLE 6: EQUITY, INCLUSIVENESS AND EMPOWERMENT

Infrastructure investment must be balanced between social and economic priorities. Infrastructure should provide accessible and affordable services equitably to all, with a view to promoting social inclusion and fostering economic empowerment and social mobility, and respecting, protecting and fulfilling human rights. It should avoid harm to communities and users (especially those who are vulnerable or marginalized), be safe and promote human health and well-being.

BACKGROUND

In the last two decades, the progress of Egypt's sanitation infrastructure has been largely a story of success. 98% of Egypt's population has safely managed drinking water while, overall, 65% of the population now has access to safely managed sanitation services (Egypt, Supreme Standing Committee for Human Rights, 2022). However, the coverage and quality of sanitation services remains uneven. Only 47% of rural households had access to improved sanitation services in 2021, far lower than the 92% among urban households (United Nations Development Programme [UNDP] 2021). Furthermore, limited or ineffective investment in the existing rural water and sanitation infrastructure – as well as poor management – has meant it is often hazardous to local environments and fails to meet social needs (World Bank 2015).

As Egypt's rural populations have grown -- by almost 50% between 2000 and 2020 – traditional infrastructures for handling waste, such as *bayara,*[1] have become insufficient (World Bank 2020). This means untreated sewage flows into streets and vital freshwater sources, which are the lifeblood of Egypt's rural areas like the Nile Delta (World Bank 2015). Local environments become polluted and communities are left vulnerable to pathogens and diseases like diarrhoea, typhoid and schistosomiasis (UNDP 2021, p. 215). Due to biological factors and social norms around water and sanitation, women and children are particularly at risk.

To address these challenges, in 2016, Egypt piloted a new decentralized service delivery model through the Sustainable Rural Sanitation Services Programme (SRSSP). The SRSSP was initially piloted in three Egyptian governorates: Beheira, Dakahliya and Sharkiya. Covering 167,000 household connections, these governorates were chosen based on the potential for substantial positive impacts on environmental and public health. Within these regions are several key waterways that are vital resources for Egypt, including the Rosetta Branch, the main source of drinking and irrigation water in the region (Abdo *et al*. 2022). In research applying the widely used Canadian Water Quality Index, the Rosetta Branch was found to be marginal to poor for drinking use and aquatic life, due to a variety of sources of agricultural, domestic and industrial waste (El Sayed *et al*. 2020).

DECENTRALIZED SERVICE DELIVERY FOR RURAL SANITATION

At the heart of Egypt's problem of rural sanitation was a sense of distance between the national institutions responsible for improving sanitation and the rural citizens who use the facilities. In part, this was due to different organizations being responsible for different parts of service delivery. To a large extent, the Egyptian political system is highly centralized, with limited power devolved to the local level (Tobbala 2019). This can lead to a problem of transparency in service delivery, as there are limited direct channels for local users to influence administrators at the national level.

1 *Bayara* are trenches used as septic tanks.

In Egypt's rural sanitation, the lack of decentralized power meant there was limited agency at the local level to build new sanitation facilities and improve existing ones. Until the SRSSP was established, the National Organization for Potable Water and Sanitation Drainage (NOPWASD) was responsible for implementing sanitation infrastructure projects, while the operation and management was performed by individual, governorate-based Water and Sanitation Companies (WSCs). As a result, WSCs had limited funds and in-house capacity to build new, additional sanitation facilities at the local level (World Bank 2015). This also meant that there were limited channels for local service users to influence infrastructure planning, as the WSCs they engaged with did not have project planning or design responsibility.

Egypt has acknowledged these governance and participation challenges, and is therefore experimenting with a more decentralized and responsive model of service delivery under the SRSSP and other related initiatives. The most important change involved empowering local WSCs, which will gradually be given more responsibility to independently design, build and manage new sewage treatment facilities. An important mechanism for achieving this and ensuring quality is through performance-based capital grants (PBCGs). Under the PBCG system, local actors must comply with minimum conditions relating to service for funds to be released.[2] In the context of the SRSSP, the PBCG required WSCs to audit their activities and submit plans for how they would use their funds to improve rural infrastructure at the local level. As of 2021, 25 contracts had been awarded to WSCs for 54,000 new household connections in Dakahliya and Sharkia, marking 30% progress towards the project's aims of 178,000 new connections in rural areas (AIIB 2021).

By empowering WSCs, greater responsibility for building and improving sanitation infrastructure is given to local actors, who have a more accurate perspective on the social and economic needs of rural communities. As the capacity of WSCs has improved – through training on environmental assessments, new or improved procedures and standardization of environmental measures – local communities have had more intimate and meaningful access to authorities that plan, implement and maintain sanitation infrastructure. National authorities report that this has reduced the time and expense of projects, while allowing authorities to better anticipate future problems and optimize project implementation.

PRO-POOR SANITATION INFRASTRUCTURE

To be effective, the decentralized provision of sanitation also required a pro-poor strategy: worldwide, poorer people are much more likely to experience inadequate sanitation and related negative health consequences (World Bank 2017). In Egypt, the SRSSP incorporated financial and regulatory incentives to promote sanitation infrastructure investments in poorer rural communities where the needs are often greatest, rather than simply targeting the most cost-effective options.

As part of its pro-poor strategy, the SRSSP put in place incentives to encourage WSCs to improve sanitation for the poorest citizens living in the most rural areas of the three governorates. The most underserved are often those living in communities on the fringes of villages, known as "satellites", which are not even connected to the basic infrastructures of rural villages. Under the SRSSP, 10% of any new sanitation connections built must be in satellites. This is enforced though a Disbursement Linked Indicator (DLI), making connections in satellites a condition for the release of funds (World Bank 2015). These conditional loans and the PBCG system encourage WSCs to prioritize social outcomes as well as efficiency and economic criteria.

Regarding regulatory incentives, changes to the environmental assessment system were also used to encourage WSCs to build sanitation infrastructure in smaller, rural communities where profits are typically lower. Under the old Environmental Assessment system, all sewage treatment facilities were treated as high risk installations, regardless of their size and the amount of sewage treated by the plant each day. This disincentivized the building of small treatment facilities in rural areas, as the regulatory complexities for installation were the same for small plants as for large ones. In new changes under the SRSSP, the level of environmental risk of a plant is linked with its size, making it simpler to build sanitation facilities in rural areas. This is because the small-scale sanitation infrastructures required in rural areas are now subject to a less stringent process for environmental assessment than large urban plants due to their lower risk, making rural sanitation simpler to install and more cost-effective.

Together, incentives systems and changes in regulations have made it far more attractive for newly empowered WSCs to build new sanitation facilities for the communities that need them most.

2 This is a commonly used system to encourage local actors to perform functions better and reduce the risks associated with decentralization (UN Capital Development Fund [UNCDF] 2021).

SMALL WATER SUPPLY PLANT ©socrates471/shutterstock

PUBLIC PARTICIPATION FOR SOCIAL INCLUSION

While there were formal channels for handling complaints about sanitation before 2016, the SRSSP initiated Local Community Committees (LCCs) and a new Grievance Redress Mechanism (GRM) to improve inclusion in service delivery. One shortcoming in the way complaints were handled at the local level was that WSCs, as indicated, did not have influence over project design or planning (World Bank 2015, p. 36). Meanwhile, a lack of technology in communications led to slow response times. As acknowledged by the Special Rapporteur on the Human Right to Water and Sanitation in 2014, when participatory processes fail to address entrenched power structures and marginalization, they risk reinforcing and legitimizing inequalities (Jimenez *et al*. 2019). To address social inequalities in sanitation, government ministries in Egypt recognized the importance of finding meaningful ways for rural citizens to participate in decisions.

Changes to the GRM and planning worked in tandem to produce a more inclusive model for service delivery in rural Egypt. Any grievances were handled by Complaint Unit call centres under the WSCs, which now had more meaningful involvement in planning. Meanwhile, LCCs would let rural citizens discuss issues with WSC representatives in person and would be used to handle complaints at the project level. This led to further improved communications channels, as citizens suggested creating specific webpages for each sanitation project to connect with the WSCs, as well as a WhatsApp group for a range of different stakeholders, to provide an active and ongoing forum for discussion. The Ministry of Housing, Utilities and Urban Communities (MHUUC) noted that improved engagement and communication led to the relocation of some facilities following reasonable complaints from local communities.

A World Bank progress review in 2018 found that that citizen engagement was much improved overall, but that women "did not participate as often or as deeply as their male counterparts" (World Bank 2018). Recent studies have shown that inadequate sanitation disproportionately affects women and girls due to factors including risks of gender-based violence and increased sanitation needs during menstruation and pregnancy (Kayser *et al*. 2019). Improving participation in decision-making generally leads to more gender-sensitive considerations of these health and safety problems.

In an attempt to resolve this problem of representation, local women's forums were created and more specific roles for women were determined in the LCCs and the GRM. Disaggregated data were also used to measure the effectiveness of this strategy, both in terms of gender balance at committees and long-term effects. The MHUUC observed that increased involvement of women had a positive effect on general awareness of the importance of sanitation projects in local communities, which in turn led to improved usage.

REPLICABILITY

Egypt continues to promote improved access to water and sanitation more broadly, including in the context of human rights. Indeed, Egypt's Supreme Standing Committee for Human Rights (2022) has recently stressed that "improving sanitation services for rural areas represents a critical investment in the right to health and well-being". New strategic plans and related initiatives, such as the presidential programme "Decent Life", all look to complement and advance on this topic, focusing on expanding basic services for poverty reduction. Decent Life seeks to achieve potable water and sanitation coverage of 100% across 29,500 satellites, while new projects have also focused on energy recovery for sewage sludge utilization and reducing water leakages. Phase 2 of the SRSSP has recently been piloted in a total of five governorates, with current technical progress at 55%.

For sanitation to be sustainable and meet the social needs of rural communities in the long term, systems of governance are just as important as the sewer or treatment facility itself. Egypt offers an example for how rural communities can be better included in formal governance to produce more equitable sanitation outcomes that better fit rural needs. Egypt's lessons of decentralized service delivery for sanitation infrastructure can serve as an inspiration for countries that have difficulties developing solutions that address social needs and environmental risks. The most replicable and valuable lesson from the SRSSP is how decentralized service delivery can improve infrastructure by allowing rural communities to play a central role in elaborating exactly what these social and environmental risks are, then co-developing solutions adapted to local realities.

The social and environmental problems may be different; Egypt is to some extent unique in its reliance on an extremely limited share of the surface water of the Nile, making the social and environmental risks of inadequate sanitation infrastructure more acute. However, with three out of every four people who lack improved sanitation worldwide living in rural areas, many countries could draw more broadly on the experiences of the SRSSP (World Bank 2017, p. 6). This is particularly true of the wider African region, where a large proportion of the population is rural, and which has some of the lowest rates of improved sanitation in the world. Looking beyond sanitation, similar inclusive delivery models could support the provision of other infrastructure, including transport or digital.

KEY INSIGHTS

- In Egypt's rural regions, decentralized sanitation planning and pro-poor strategies for funding have promoted sanitation infrastructure that meets the social needs of rural communities in the Nile Delta.
- Establishing local community groups and improving grievance mechanisms have simplified communications between sanitation providers and service users, allowing citizens to influence decision-making while reducing the implementation time, costs and risks of sanitation projects.
- When building sanitation infrastructure that included local communities and met social needs, Egypt has engaged communities in maintaining sanitation and reducing the pollution of vital Egyptian waterways.

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