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Sanitation is political: understanding stakeholders' incentives in funding sanitation for the Gaza Strip, Palestine

Mariam Zaqout^{a*} , Mariam Fayad^b , Dani J. Barrington^c , Anna Mdee^d 
and Barbara E. Evans^a 

^aSchool of Civil Engineering, University of Leeds, Leeds, UK; ^bIndependent Researcher, Gaza, Palestine; ^cSchool of Population and Public Health, The University of Western Australia, Perth, Australia; ^dSchool of Politics and International Studies, University of Leeds, Leeds, UK

ABSTRACT

The Gaza Strip is dependent on external aid to deliver basic services, including water and sanitation. Such services are not sustainable due to the Israeli occupation and the limited financial and technical capacities of service providers and the state. This paper examines the incentives of stakeholders in delivering sanitation services in the Gaza Strip through a qualitative institutional economics analysis of literature supplemented with qualitative key informant interviews. External aid is crucial to deliver basic services in the Gaza Strip. However, this has created a dependency that undermines the sustainability of sanitation services. Donor agencies often prioritise capital expenditure on visible infrastructure, such as wastewater treatment, without addressing its long and short-term operational needs; hence the Gaza Strip's needs are continually addressed as an emergency response. The Palestinian Authority and Hamas *de facto* governments lack sovereignty over the Gaza Strip and Palestine. Therefore, they also lack the capacity and incentives to create an enabling environment for delivering safely managed sanitation. This paper contributes to development policy literature, the politics of infrastructure and wider politics of settler colonialism and siege basic services such as water and sanitation.

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Introduction

The Gaza Strip is a densely populated area in Palestine, widely described by the international community as an 'open-air prison', with 2.1 million people living on 365 km² (PCBS 2020). Gazans have been living in a protracted humanitarian crisis for the past two decades due to the prolonged Israeli occupation and recurrent armed operations against them. Since the Islamic Resistance Movement (Hamas) won the Palestinian elections in early 2006, significant financial sanctions and constraints have been imposed against Palestine. Government of

CONTACT Mariam Zaqout  m.zaqout@ucl.ac.uk

^{*}Current Address: Institute for Innovation and Public Purpose, University College London, London, UK

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Israel (Gol) collects taxes on behalf of the Palestinian Government as stipulated in the Oslo Accord¹ (COHRE 2008), but after electing Hamas the tax transfer (borders customs and VAT) was frozen. The international community, including the European Union (EU), United States (US) and other Western countries, also imposed a 'No Contact Policy'. This meant that all financial assistance to the Hamas-led government was frozen, the government was subsequently referred to as the '*de facto* government', and it was not recognised internationally. Charrett (2019) suggests those sanctions are a form of siege; the condition to remove sanctions was for the *de facto* government to recognise the state of Israel and the 1967 borders. Such condition lacks any benchmarks for 'good behaviour' or operational measures to assess whether they broke those conditions.

Those sanctions were partially lifted in 2007 when Fatah President Abbas formed an emergency government in the West Bank, currently referred to as the Palestinian Authority (PA), to channel aid to his government (COHRE 2008; Barhoum 2021). However, forming a separate government has isolated the Gaza Strip, fuelled internal division, economic disparity and inequalities, between the Gaza Strip and the West Bank (World Bank 2018e; Farsakh 2008). This disparity is evident in access to water and sanitation services. For example, since 2010 access to improved water in West Bank has continued to improve (to 93% in 2016), while in the last two decades, access to improved water dropped from near-universal coverage to almost zero in all the governorates of the Gaza Strip (Farsakh 2008; World Bank 2018a). It is worth mentioning that the capacity of the PA to access aid is subject to its ability to control the Gaza Strip and Hamas in particular; during the latest Israeli aggression against the Gaza Strip in October 2023, the Gol withheld parts of the tax revenues transfer to the PA as a form of punishment for what is happening in Gaza (Scheer 2023). Additionally, the PA also *aggravates* the humanitarian conditions for the Gazans through its own sanctions on the economy of the Gaza Strip (Charrett 2021).

As this paper focuses on the Gaza Strip's context, it is vital to stress that it lies within the broader context of settler colonialism across historical Palestine. We do not wish to contribute to the trend of Gaza's exceptionalism that is only contributing to the colonial project of fragmenting the Palestinian territories. Baconi (2021) describes the Gaza Strip as a model of the Israeli colonial settler *de facto* annexation of Palestinian land through creating urban enclaves surrounded by Israel or Israeli-controlled territory to control it further, which he argues can potentially be the long-term model for similar enclaves across the West Bank and other parts of historical Palestine. The only difference, he argues, is that the Gaza Strip remains an unpacified area, as seen on the 7th of October 2023 when the Palestinian resistance broke their siege. The Israelis, the international community, and neighbouring countries have judged such acts as 'bad behaviour' that requires punishment not only through military operation but also complete isolation, cutting water, medical aid, food, and any form of economic flows into the Gaza Strip. This research was conducted in 2022 but its findings are relevant to the current escalation in the Gaza Strip.

Due to the lack of economic sovereignty in the Gaza Strip, the role of aid donors is vital to the development of water and sanitation. Despite continuous aid, water and sanitation services in the Gaza Strip lack sustainability and are far from achieving universal coverage. This comes as no surprise as relief and development programmes within the Gaza Strip often lack long-term developmental plans that promote its sustainability (Qarmout 2017). Water and sanitation services are undermined by the selective fund allocation towards certain types of infrastructure motivated by donors' biases and incentives (Qarmout 2017). In

sanitation, donors seemingly prefer to fund large-scale infrastructure, particularly wastewater treatment plants (WWTPs) while core infrastructure throughout the sanitation value chain² (SVC) are still lacking, stakeholders' incentives to fund public services like sanitation are shaped and perpetuated by the prevailing social norms and political dynamics and the perceived costs and benefits of these services for each stakeholder (Ostrom, Schroeder, and Wynne 1993). Batley and Harris (2014) argue these factors are 'a product of the service itself' and therefore it is crucial to unfold its characteristics to understand stakeholders' incentives. This study uses sanitation services in the Gaza Strip to explore the incentives of key stakeholders in funding sanitation services, the sustainability challenges in this region, and the potential to address these issues. We adapt concepts of institutional economics and political economy, using McLoughlin and Batley (2012) framing to analyse the predominant sanitation services and understand their relationships with stakeholders' incentives. 'Sanitation in the Gaza Strip' reviews the current sanitation services in the Gaza Strip and key sustainability barriers to their operations. The methodology of the study is set out in 'Applying service characteristics analysis', while the results and discussion are presented in 'Ambiguous roles and complex relations' and 'Findings'.

Sanitation in the Gaza Strip

The population of the Gaza Strip predominantly use offsite sanitation (also called sewer-based sanitation). To have a safely managed offsite sanitation system, the wastewater collected from a household (HH) full-flush toilet must be conveyed through a piped network to a transfer station or directly to a central WWTP where it is treated and prepared to reuse or safely dispose of the final products. Safely managed offsite sanitation requires capital expenditure (CapEx), including the physical infrastructure (WWTPs, pipe networks, etc.), in addition to operational expenditure (OpEx), such as fuel required to run a treatment plant or the salaries for the operators. The Local Government Performance Assessment in 2016 suggested that 99% of Gazans have access to safely managed sanitation in the form of HH full-flush toilets connected to sewers and WWTPs (World Bank 2018d). However, this estimate does not reflect the quality of the service, and thus whether it is truly 'safely managed' as defined by the joint monitoring programme (WHO and UNICEF 2017). In 2018, sewerage coverage had reached 76%, only a small improvement in the last two decades, so the infrastructure is not even universal; let alone functional (El Swaity 2019).

Households or their landlord arrange for the construction of full-flush HH toilets. Some INGOs provide HH toilets but this is a temporary relief response to citizens of partially or fully demolished houses after an event of Israeli escalation (GVC and PHG 2017). The wastewater conveyance and treatment services are heterogeneous across the Gaza Strip, depending on location and level of urbanisation. The refugee camps have the highest sewerage coverage as the United Nations Relief and Works Agency for Palestinian Refugees in the Near East (UNRWA) office is mandated and has the resources to provide basic services to Palestinian refugees in those camps. Khan Younis governorate, which encompasses several rural towns, has the lowest sewerage coverage of 37%, compared to 93% in Gaza and North Gaza, 77% in the Middle Area, and 64% in Rafah (World Bank 2018d). Onsite sanitation users, mostly located in Khan Younis, either informally arrange emptying of their cesspits or submit a request to the concerned municipality to collect and transport

wastewater to a pumping station or discharge it to nearby sewerage manholes (Gaza City Municipality, 21.06.22).

Wastewater from offsite systems is conveyed by gravity *via* the sewer network to a pumping station to collect and screen, and then pumped to a WWTP. There are five plants across the Gaza Strip, each with different operational capacities, mostly using biological treatment to minimise energy consumption (Efron, Fischbach, and Giordano 2019). As the WWTPs are often receiving wastewater over their design capacities, have limited electrical power to operate, and are often missing spare parts, the wastewater (WW) is only partially treated. The partially treated or raw WW is disposed-of (approximately 108,000 m³ daily) in the sea or the Gaza Valley, which damages the environmental and aesthetic quality of the coast, the only leisure destination for the Gazans. In July 2017, the death of a five-year-old boy, as well as many unwell citizens, was attributed to swimming in faecally polluted seawater (United Nations 2017; Efron, Fischbach, and Giordano 2019).

Barriers to sustainable sanitation services

In the Gaza Strip, WWTPs are mostly overloaded and not functional due to the Israeli restrictions on the entry of energy, basic construction material and spare parts (Farsakh 2008; World Bank 2018a). For example, it took 20 years of lengthy planning and consultation with the Israeli authorities to construct the WWTP in the town of Bureij, funded by the German Financial Cooperation and completed in 2021 (KFW 2021). Even when sanitation infrastructure is in operation, it is susceptible to bombing by the Israeli army. Several water, sewer networks and treatment plants were completely or partially destroyed in the five Israeli operations in 2008, 2012, 2014 and 2021. Around US\$34 million in losses in water and sanitation the Palestinian Water Authority (PWA) and the Coastal Municipalities Water Utility (CMWU) estimated infrastructure during the 50 days of the Protective Edge Operation (GVC and PHG 2017).

After each escalation, millions of development aid dollars are donated to the Gaza Strip, although not through the *de facto* government (for reasons described earlier), to deliver humanitarian programmes. Various mechanisms have been established to channel aid to Gaza Strip without dealing with the *de facto* government. This includes direct transfers to the PA, setting up international agreements, and transfers through the Egyptian Government, who often acts as an intermediary in fundraising and ceasefire negotiations in any event of escalation by the Israeli occupation in the Gaza Strip.

Each of these mechanisms contributes to the inefficiencies and ineffectiveness of the development efforts in the Gaza Strip and deprives the Gazans from their legitimate right to participate in the reconstruction process. This mechanism has even legitimised the Gol's ultimate control over the 'dual use' list of imports, despite extensive involvement and monitoring by international donors (Martin and Klawitter 2017). Dual use is a phrase used to refer to construction material that can be used for military purposes. Government of Israel does not want Gazans to have access to materials that are needed for reconstruction, but which could be used for military purposes. In 2017 Oxfam reported that less than half of the approved water and sanitation projects were completed and around 3000 'dual use' items critical to these projects were not approved at the time, each item needs separate approval by the Gol even when the project itself is approved by the Israeli authorities (Martin and Klawitter 2017).

Applying service characteristics analysis

This study uses the service characteristics analysis developed by McLoughlin and Batley (2012) to explore the incentive issue behind the ineffective external aid to sanitation services in the Gaza Strip. The framework lays down key characteristics studied in institutional economics literature, such as excludability and rivalry, which define the economic nature of a good (Cremer et al. 2001; Harner et al. 1986; Ostrom and Ostrom 1980). It also lays down characteristics relating to market-failure and user demand characteristics (such as externalities, monopoly tendency, measurability and attributability) which we define in the following sections (Hyman 2011; Cornes and Sandler 1986). Since the stakeholders and the structural features in the five governorates of the Gaza Strip are almost identical, we use the Gaza Strip as a single case study. Figure 1 provides the distribution of the 25 municipalities (in cities and towns) across the five governorates of the Gaza Strip (MapsLand 2023). Using a case-based approach provides more nuances to the discussion about water and sanitation challenges instead of the generalisation that is often depicted when addressing progress in low and middle-income countries (Underhill et al. 2023).

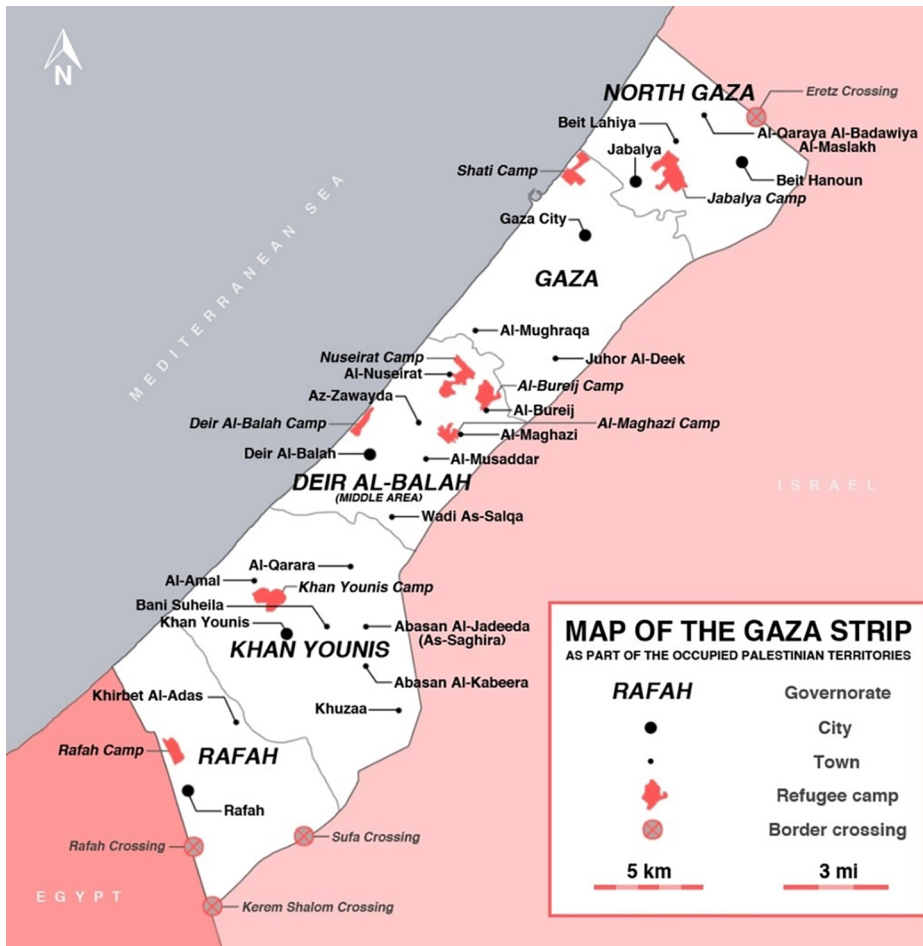


Figure 1. Map of the Gaza Strip and its Five Governorates.
Source: MapsLand 2023.

Data collection

This study adopts a qualitative approach that builds primarily on peer-reviewed and grey literature (from key organisations such as the World Bank Knowledge repository, Oxfam Library Open Repository, USAID, CMWU, PWA Website, the GIZ). In addition, MF conducted a series of in-person semi-structured interviews in June 2022 with water and sanitation experts (three interviews), INGO workers (four interviews), water public utilities (two interviews) and a worker at a local human rights organisation (one interview); [Supplementary Information A1](#) provides a list of these key informants. We opted for a small sample size to bypass the exploitive nature of research. Also, the service characteristics analysis is primarily built on literature and the interviews were intended to complement it; we adopt the notion of Silverman (2013) regarding the richness and validity of analysing documents as he endorses ‘finding’ data instead of ‘manufacturing’ it through empirical qualitative data collection tools. Some stakeholders could have provided vital insights to the study, including the PWA, World Bank and Gruppo di Volontariato Civile (GVC). However, they were not responsive when the first author contacted them *via* email or WhatsApp. Also, some donors, like the World Bank, do not have offices in the Gaza Strip, making it difficult to approach them. Besides, their publications were reflective of their position regarding funding sanitation in the Gaza Strip, unlike the stakeholders that we interviewed, so their insight was still included within the study. The interview questions ([Supplementary Information A2](#)) explored the funding issues in the sector, and the dynamics between external donors, water utilities and NGOs. The interviews also addressed the technical and political challenges of delivering sustainable sanitation services in the Gaza Strip. This study received ethical approval from the University of Leeds and all participants received an information sheet before agreeing to take part in this study and provided signed or verbal consent for their participation.

Data analysis

MZ analysed the economic and institutional characteristics of each service offered in the Gaza Strip across the SVC, using concepts defined in [Table 1](#). MZ then analysed the incentives of key stakeholders considering the economic and institutional characteristics of sanitation. As the impact and political reasons behind the Israeli restrictions and sanctions towards the development of the Gaza Strip, including sanitation, are well known; this analysis focused

Table 1. Definition of key institutional and economic characteristics of basic services.

| Characteristic | Definition |
|---|---|
| The nature of good | is defined by its excludability and rivalry. Excludability is the ability to deny non-payers access to a service and rivalry is when consuming a good/service by an individual subtracts it from others (Cremer et al. 2001; Harner et al. 1986; Ostrom and Ostrom 1980). |
| Monopoly tendency | of a good occurs when the technical and financial requirements of providing it pose entry barriers to small providers and support single provider markets (Nauges and van den Berg 2007). |
| Positive and negative externalities | are the benefits or costs to a third party that are not reflected in the market price of a service (Hyman 2011). |
| Visibility + measurability = attributability | is the ability of the user to assess the quantity and quality of the services and attribute its success/failure to the relevant stakeholders (Harris, Seim, and Sigman 2019). |

on the external donors' agenda. In the Gazan context, donors are the most influential stakeholders in water and sanitation provision. Consequently, it is crucial to unfold the underpinnings of slow progress in sanitation, despite the intensive funding that has recently begun to dry up. The stakeholders considered in the analysis were households, external large donors, small-scale donors, public service providers including municipalities, and the CMWU and their role (delivery or funding) sanitation services in the Gaza Strip.

We started our analysis by exploring the economic and institutional characteristics of sanitation services to allow the reader to reflect on how this analysis would play out in other contexts. However, this is not to dilute the sanitation issue in the Gaza Strip into a mere technical challenge as this would be a counterproductive in such context (Wildeman and Tartir 2021). In the following sections we emphasize the need to unpack the inherent structures at play that impacts sanitation and basic services in the Gaza Strip, including power relations, colonial dominance and the de-development and dependency processes.

Ambiguous roles and complex relations

The Palestinian Water Authority (PWA) is the main policy maker and regulatory body in the water and sanitation sector; other institutions like the Ministry of Health, Ministry of Local Government, Environmental Quality Authority, Palestinian Standard Institute, Ministry of Finance and Planning, UNRWA (inside the refugee camps), Ministry of Education and Higher Education, Ministry of Agriculture, and the Water Regulatory Council have mandates on specific issues (El Swaity 2019; WHO 2020). For instance, the Environmental Quality Authority is concerned with quality of the discharged 'treated' WW (El Swaity 2019). In reality, the PWA office in the West Bank is in charge of high-level communication and relations with external donors since it is affiliated to the Fatah-led PA, unlike the other governmental institutions, which are affiliated with the Hamas *de facto* government and who are not part of the sanitation decision-making process (WASH Expert #3, 03.07.22). There is also a discrepancy of how those government institutions perceive the sector; the PWA think water and sanitation are solely within its mandate and other institutions should not interfere, while the Ministry of Health, Ministry of Local Government identifies water and sanitation as part of its mandate along with housing and other public services (Farsakh 2008; World Bank 2018a).

In 2005, the CMWU, a Common Council of Services, politically independent and neutral service provider, was established to promote efficiency by coordinating water service provision for all municipalities in the Gaza Strip and established five regional offices across the Gaza Strip (CMWU, 05.07.22). It worked closely with the water and sanitation departments in the 25 municipalities. After the internal division between the PA and the *de facto* government in the Gaza Strip, Gaza City and Jabaliya municipalities withdrew from the CMWU (PCBS 2020). The PWA facilitates multilateral funding to the CMWU to bypass municipalities (which are affiliated with the *de facto* government) and comply with the policy of external donors who will not provide funding to the *de facto* government (CMWU, 05.07.22). Similarly, INGOs who provide water, sanitation and hygiene (WASH) humanitarian support work directly with the CMWU to bypass the *de facto* government and municipalities affiliated to it or provide support indirectly to municipalities through local NGOs (INGO #2, 25.06.22). One interviewee argues that the PWA has an authoritarian and top-down

relationship with municipalities; municipalities participate in national planning of the sector; but only the PWA sets funding priorities (Gaza City Municipality, 21.06.22). Such relationship is a demonstration of how the PA became an authoritarian government due to their deep entanglement with the international donor communities, where the latter offered state-building programmes to address the PA's corruption and inefficiencies (Seidel, Dana, and Tartir 2021).

The CMWU has become a focal point in the water sector for donors, which arguably increased burden on the CMWU and lowered its institutional strength (World Bank 2018b). CMWU supports municipalities to provide their services in return of agreed operational payment, but the municipalities are not able to meet their financial obligations due to low fee collection rates (CMWU, 05.07.22). The political division has impacted the governance of the water and sanitation sector, as one interviewee puts it

'we have two of everything; two opinions, two ministries, there is no agreement to one national plan, Ramallah [Fatah-led Palestinian Authority] don't have control on Gaza, and Gaza government [Hamas de facto government] does not care about any new institutional arrangements ...' (CMWU, 05.07.22).

In summary, there is no clear mechanism to identify local needs and incorporate into donors' priorities (Farsakh 2008; World Bank 2018a). International non-government organisations (INGOs) act as facilitators for some donors by implementing some projects of humanitarian and emergency nature. Those INGOs have been working since 2006 under the WASH Cluster umbrella, led by UNICEF, to promote coordinated, accountable and effective humanitarian work in the WASH sector (GWC 2022). Several UN agencies, INGOs, the PWA and service providers including the CMWU and municipalities, plan and coordinate the delivery of WASH humanitarian support (The WASH Cluster, 13.06.22).

Due to the protracted humanitarian crisis, the WASH Cluster and its member organisations have a permanent role in the water and sanitation sector, and they contribute to needs beyond their mandate, such as energy and chemicals procurements, due to the pressing operational needs of existing services (The WASH Cluster, 13.06.22). Although this aligns with the humanitarian-development-peace nexus, their work only offers a quick fix of a persisting issue and does not necessarily tackle longer-term transformational needs (Fanning and Fullwood-Thomas 2019). In addition, there is the Strategic WASH Advisory Group, a consortium of key organisations such as the PWA, UNICEF, Oxfam, JVC, MAAN and Hydrogena that is in charge of endorsing WASH strategic plans (INGO #2, 25.06.22).

External donors have further exacerbated the ambiguity of roles, coordination, and tension between the involved institutions; instating the division through the 'No Contact Policy' with the *de facto* government and their exclusive coordination with the PWA (World Bank 2018a). For instance, the work of the GVC, an INGO, lacked coordination with the Ministry of Interior Affairs due to that policy, which impacted the flow of the GVC's work and capacity to deliver HH level humanitarian interventions (El Swaity 2019). In addition, the lack of inclusion prompts the *de facto* government to dismiss the policies of the Fatah-led PA in the sector and other socio-economic and political activities in the Gaza Strip as discussed by Sen (2020). Most of the water and sanitation projects are VAT exempted by PA, but the *de facto* government levies its own local taxes from contractors, which undermines the available funding (El Swaity 2019).

The donors' relationship with the two Palestinian governments varies greatly. For instance, Muslim and Arab donors including Turkey and Qatar work closely with the *de facto* government as they do not favour Fatah over Hamas (INGO #1, 22.06.22; El Swaity 2019). Other organisations sign agreements with the PWA office in the West Bank but without direct coordination with the Gaza Strip office, and choose to work with local NGOs, who coordinate with the *de facto* government to facilitate work on the ground (INGO #2, 25.06.22). The United States Agency for International Development (USAID) has cut its funding completely since 2017 as part of the Anti-Terrorism Clarification Act, passed by Congress and then signed into law by President Donald Trump in 2018 (Knell 2019). As shown in Figure 2 there is a complex set of relations that leads to misunderstanding and conflict about roles and responsibilities. To enable the sustainable development of the sector, a constructive transition is needed to align the roles and responsibilities of those stakeholders towards clearly planned, integrated services.

Findings

Based on the service characteristics analysis, attached in detail as [Supplementary Information A3](#) we present the various perspectives of the key stakeholders based on their role from market failure theory point of view and how it would theoretically incentivise them to contribute to sanitation provision. This analysis addressed service characteristics across the whole sanitation value chain and key stakeholders whilst considering the governance context. Putting emphasis on the governance context has demonstrated its influence on defining the economic characteristics of each service across the sanitation value chain and the consequential incentives of each stakeholder. The following sections elaborate on this further.

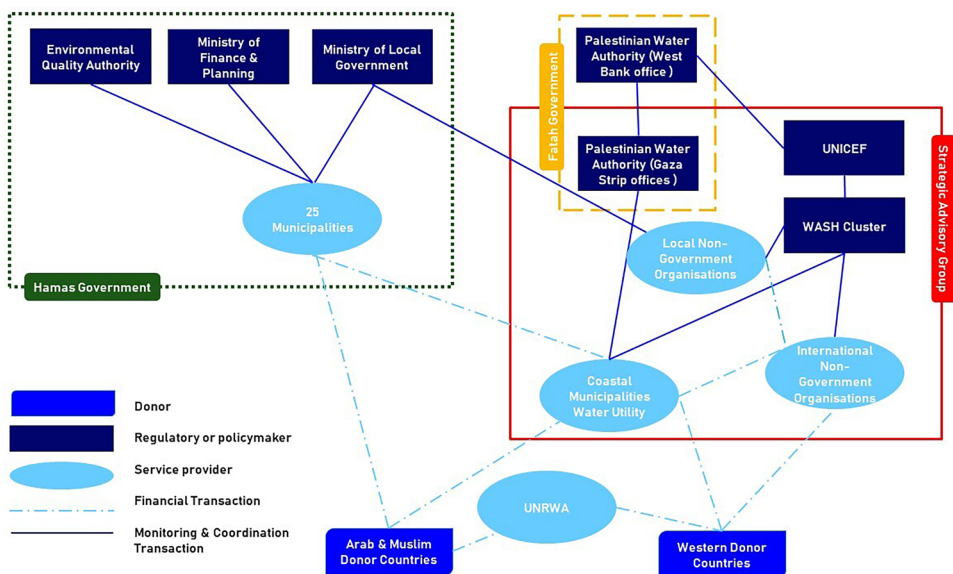


Figure 2. Key organisations involved in the delivery of sanitation services in the Gaza Strip.
Source: The Authors.

Public vs private goods

Wastewater treatment plants are natural monopolies, producing positive environmental and public health externalities; therefore, WWTPs are a public good. The sewer trunk and pumping stations are also public goods. In theory, this creates an incentive for the state to fund WWTPs, trunk sewers and pumping stations, to prevent public health issues and environmental deterioration. However, the economic and political conditions in the Gaza Strip disable, and sometimes discourage, state institutions from fulfilling their role. External aid is rarely coupled with real-financial commitment from the PWA or municipalities towards the capital or operational costs of donated infrastructure (Sarhan 2017; WHO 2020). Thus, municipalities have limited or no incentives to allocate resources towards this infrastructure, to leverage funds from private investors, or to encourage citizens' contribution (Ostrom et al. 2002; World Bank 2018e).

External donors with multilateral funding tend to make up for the supposed role of the municipalities to provide public services by funding the capital costs of public goods (e.g. WWTPs, pumping stations). Some self-interest may also push donors towards focusing on these positive externalities (e.g. environmental protection); the Gaza Strip shares the Mediterranean, a relatively static water body, with some EU countries that would be impacted by raw WW dumping (WASH Expert #1, 05.06.22). Similarly, Israel approves more WWTP projects compared to other sanitation projects; these are intended to protect their coastal waters (negative externalities), which are highly susceptible to WW dumping from the Gaza Strip (Barhoum 2021). One interviewee remarked,

'EU donors are concerned with the treatment as dumping sewage would ultimately impact some European countries as we share the Mediterranean, same for Israel; they approve WWTPs since it directly impacts their coast, this month Zakim [an Israeli settlement] had to close their beach for leisure due to pollution from Gaza' (WASH Expert #1, 05.06.22).

Stamatopoulou-Robbins (2020, 4) observes that aid for infrastructure in Palestine is often driven by '*globalist urgency around rescuing the planet from further human damage*'. During the PA first 15 years, donors committed to more than \$450 million for sanitation and over \$50 million for solid water management. Israel has also used environmentalism to undermine the Palestinian resistance. During the Great March of Return in 2018 at the borders with the Israeli settlements, Palestinians who used peaceful kites were depicted as 'haters of nature' as the Israelis claimed the kites damaged the nature. Charrett (2021) suggests that Israel, like the US settler colonial project uses imaginative geographies of terrorism to depict themselves as the rational managers of lands as opposed to the Indigenous population as a form of white supremacy and anti-Indigeneity. Sanitation services in the Gaza Strip, similar to the West Bank, are scrutinised by environmental standards dictated by the Gol, international community and the PA since the environment is a shared entity across borders. The Gaza Strip lacks a minimal functional system to achieve these standards, which put them in a situation of 'failure to build' adding more to the notion of non-sovereignty and gives more rationale for the Gol, PA and the international community to control it (Stamatopoulou-Robbins 2020).

Consumable operational materials such as fuel, chlorine, electricity, chemicals and spare parts fall short due to lack of funds and import restrictions. Municipalities cannot fulfil their financial obligations to the CMWU as their tariff collection does not exceed 30%; people are apparently willing to pay but often have other competing needs (CMWU, 05.07.22).

Thus, CMWU and service providers depend on donors' varying commitments informed by the political situation (El Swaity 2019), resulting in failure of projects and eventual loss of investments. Nevertheless, donors continue to build new WWTPs and pumping stations while, for instance, the CMWU has more than 500 water and sanitation facilities, none of which have sustainable operational plans and resources (CMWU, 05.07.22). Service providers are burdened with 'premature load bearing' of technology and assets, while donors question their failure to sustain those assets (Andrews, Pritchett, and Woolcock 2017).

Some smaller donors, including INGOs such as Islamic Relief, GVC and Oxfam, tend to focus their investments where '*projects have direct satisfaction for the population and the beneficiaries feel the service*' which can be easily demonstrated or in line with their humanitarian mandates (WASH Expert #2, 14.06.2022). Therefore, they often prioritise projects such as sewers and HH connections, which are more visible to beneficiaries than WWTPs, for example. The smaller INGOs work exclusively under a humanitarian aid mandate and combine infrastructure projects with private goods on the HH level, such as HH sewer connections, hygiene kits, water tanks and HH toilets (INGO #3, 25.07.22; WASH Expert #1, 05.06.22).

In the Gaza Strip, private investments towards sanitation at any significant scale are non-existent (Weinthal and Sowers 2019). Furthermore, delivering market-based water and sanitation is not financially viable as 75% of the population are considered in need of humanitarian assistance and cannot afford such arrangements (Foqahaa et al. 2020). Previous attempts at establishing a private concession contract for water and sanitation services in the Gaza Strip have failed (Saghir, Sherwood, and Macoun 1999). Under these circumstances there has been little or no interest from private operators apart from for the provision of HH toilets. The net effect is of ongoing projected capital investments in WWTPs, and some trunk sewers, but limited attention to long-term operational costs, and to HH connections and ongoing services, which are left to a patchwork of smaller donors and organisations.

Households in the Gaza Strip do not have incentives to contribute to public goods like safely managed sanitation, especially since they are barely paying the subsidised water bill. Additionally, Gazans are not able to see tangible benefits from this infrastructure to pay for it; the WWTPs are partially functional leaving the coast heavily contaminated (GVC and PHG 2017; World Bank 2018b). Households, however, bear the responsibility of HH level sanitation (private goods). The HHs or their landlords, in the case of tenants, provide a one-off connection fee payment to the water utility when they build the house, to install a HH sewer connection. The HHs, or their landlord, then pay a flat sanitation fee as part of their monthly water bill. Although there are no regulations to enforce connecting to the sewer network, HHs have a strong incentive to pay the connection fees because installing the sewer connection is conditional on this one-off payment. As the regulatory role of water utilities is non-existent, HHs do not have strong incentives nor financial capacity to pay the monthly sanitation fee; they continue to benefit from water and sanitation services free of charge without the fear of disconnection, making it a purely public good.

Full-flush toilets are the main toilet technology offered by the private sector in a competitive market for HHs or their landlords. Municipalities are not responsible for installing or subsidising HH toilets regardless of the economic situation of the HH. It is not also part of the strategic plan of any of the state's institutions to engage with this part of the SVC. The

Israeli violations against civilians often result in a complete or partial destruction of residential housing, subsequently destroying toilet facilities and HH sewer connections, as well as all the other infrastructure across the SVC. INGOs provide some support to rehabilitate these sanitation facilities. The priorities, scale of rehabilitation, and the targeted beneficiaries depend mainly on the scope of the funding organisation. For instance, Oxfam GB provide hygiene awareness, toilet rehabilitation, and support for private service providers (INGO #2, 25.06.22). Other organisations work closely with water utilities to provide sewer network rehabilitation. [Figure 3](#) provides a representation of the current contribution of key funding stakeholders, where the circle's size is indicative of each stakeholder's share.

Humanitarian aid vs sustainable development

Since 2006 the nature of donor-funded projects has changed from developmental to humanitarian support (INGO #2, 25.06.22). A WASH expert argued, based on findings from his evaluation assignment on the work of an international donor (from 2016–2020), that current water and sanitation projects only prevent short-term humanitarian crises, and donor agencies deliberately obstruct the longevity of their projects' outcomes (WASH Expert #2, 14.06.22). Lack of development-oriented funding has forced the WASH Cluster to work beyond its mandate and support service providers to continue providing non-emergency water and sanitation services, whilst it is not equipped to such work (WASH Cluster, 13.06.22). Besides, the WASH Cluster is restricted by the humanitarian donors' agenda *'If the humanitarian sector donors stated no fuel projects, none of the INGOs will support any fuel project'* (CMWU, 05.07.22).

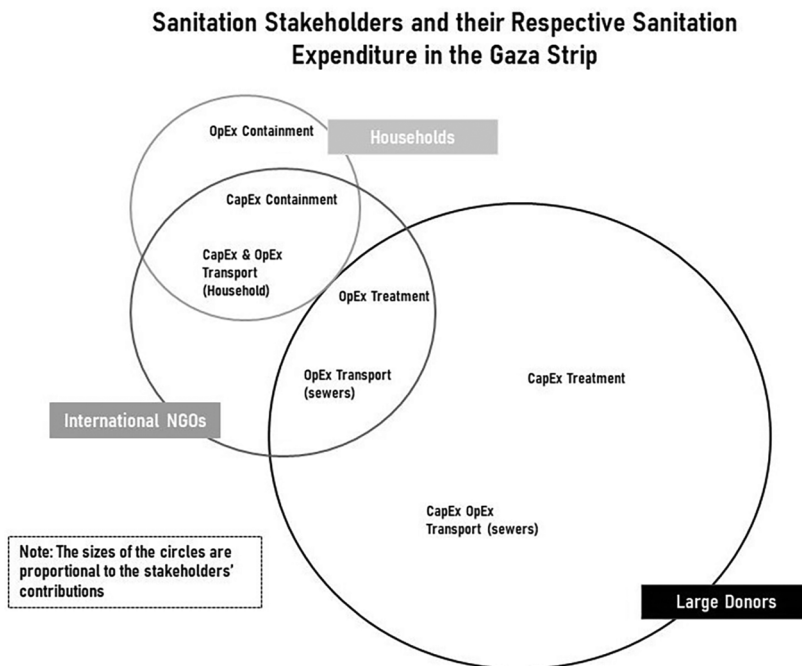


Figure 3. The key sanitation stakeholders and their funding priorities in the Gaza Strip.
Source: The Authors.

Donor agencies are aware that their recipient organisations are donor-driven but those donors do not seek to address this issue; an audit of World Bank projects for the Gaza Strip in 2018 concluded that the current projects are donor-driven with *ad hoc* emergency fashion, and distorted by Israeli restrictions' (World Bank 2018c). The complex humanitarian conditions require adapting the humanitarian-development-peace nexus to ensure that development efforts are sustained, as focusing on immediate crises only does not promote developing infrastructure, economy, or self-sufficient institutions (More 2005; Jebril and Deakin 2022). This requires understanding the colonial history and reality of the region and addressing its political bottlenecks. Nevertheless, the neoliberal political system that governs development aid in the Gaza Strip and other contexts only elects for apolitical economic and technical solutions (Seidel, Dana, and Tartir 2021). The 'Deal of the Century' introduced by Donald Trump in 2020 to relocate the Gazans to Sinai Egypt and providing financial aid to 'unleash the economic potential' is an example of the constant attempts to depoliticise and to hide the apartheid and colonial regime in the Gaza Strip.

The outputs of services that are used jointly, such as faecal sludge and wastewater treatment (for example, a reduction in pollution in water bodies), are difficult to measure; this is one reason why their 'performance' is usually reported and subsequently monitored in terms of inputs and average potential users (Ostrom and Ostrom 1980). For example, the 'performance' of WWTPs is often described by calculating the number of people/HHs that could potentially be served given the WW treatment capacity, but rarely measures the actual number of households whose wastewater reached the plant, the volumes of wastewater treated, or the level of treatment achieved. This makes it difficult for donors to confidently report their *actual* contribution and level of support to the recipient state and can only declare their financial contribution at the design level (e.g., contribution per litre WW to be treated, or HHs to be served, which may or may not be the eventual reality). The net result is a skewed perception of the relative impact of financial contributions – since the mere donation of infrastructure does not translate to increased state or service capability (Andrews, Pritchett, and Woolcock 2017). It is plausible to argue that donors benefit from the high visibility from funding these operations, without being effectively held accountable for their long-term impact, sustainability or lack thereof (Andrews, Pritchett, and Woolcock 2017).

Donors excessively spend on short-term humanitarian-oriented solutions ranging from hygiene kits to small-scale emergency desalination and WWTPs, instead of delivering infrastructure that meets the needs of the growing population (WASH Expert #1, 05.06.22; WASH Expert #2, 14.06.22). WASH aid projects like distributing hygiene kits and toilet rehabilitation peak after an Israeli escalation, to address internal displacement and destruction of residential buildings (GVC and PHG 2017). Some NGOs struggle to attract funding when their projects are associated with rehabilitation of existing water and sanitation infrastructure due to the Israeli violations and resort to small-scale humanitarian projects (INGO #1, 22.06.22). Al-Daqaq et al. (2004) suggest that donors have eventually pitted NGOs against one another in an unhealthy competition for funding.

Emergencies and humanitarian projects keep the work of the INGOs going, unlike achieving development (CMWU, 05.07.22; WASH Expert #2, 14.06.22). Similarly, in post-conflict Somalia, Iraq, South Sudan and Afghanistan, donors have prioritised immediate humanitarian projects such as water trucking and vouchers, which are cost prohibitive compared to rehabilitating existing water systems (development nature), because this would contribute to the long-term improvement of the sector (Mourad 2021). Such

a focus creates visibility, which is often political, for the donor countries, while maintaining the status quo, or worsening it in the recipient countries. Qita (2009) argues, based on her evaluation of the USAID assistance in the Gaza Strip that their assistance failed to reduce the economic vulnerability and dependence on external donors.

Donors continue to fund water and sanitation infrastructure in Gaza Strip as part of their commitment to 'bailing out' the PA through covering some of its duty towards the Gazans (Farsakh 2008). In order to comply with donors' policies, PWA (affiliated with the PA) primarily channel funding to CMWU (neutral service provider) to avoid dealing with Gaza Strip municipalities (affiliated with Hamas). Although the establishment of CMWU was originally intended to create efficiency by coordinating service provision on behalf of the 25 municipalities of the Gaza Strip, it has become a *de facto* utility in its own right in response to donor policy. CMWU tends to monopolise service provision and directs its efforts to locations where they have an established partnership with the municipalities (NGO #2, 25.06.22). For instance, the long-term lagging of sewer network development in Khan Younis could have been avoided if CMWU had more control/better engagement with the Khan Younis municipalities.

Besides, the 'No Contact Policy' against the *de facto* government in the Gaza Strip has detached aid efforts from local knowledge and undermined the capacities of the Gaza Strip (Andrews, Pritchett, and Woolcock 2017; Qarmout 2017). Similarly, the development process in Lebanon is 'dysfunctional' since the Israel-South Lebanon War began in 1999, as donors enforced their agendas and new policies that burdened the recipient government (Gharios, Farajalla, and El Hajj 2021). Qarmout (2017) argues that excluding the *de facto* government in the reconstruction and development efforts in the Gaza Strip has contributed to poor coordination and short-term focus in the various development and humanitarian sectors; and violating the OECD Fragile States Principles for Engagement (OECD 2007). Excluding the Gazans from the development of their own services is a natural result to how the Israeli occupation has depicted them to the outsiders. After Israel 2005 disengagement from the Gaza Strip and Hamas's success in the elections in 2006, Israel Security Cabinet declared the Gaza Strip as 'a hostile territory', which resulted in external sanctions against the now *de facto* government and the Gazans (Li 2006). Development aid agencies have confirmed to this view that characterise the Gaza Strip as a site of 'unruly behaviour' that needs to be 'saved, fixed or tamed' through neoliberal infrastructure projects (Charrett 2021), where they only sit as passive recipients.

The superiority of the Israeli occupation

Article 59 of the Fourth Geneva Convention in 1949 states that '*if the whole or part of the population of an occupied territory is inadequately supplied, the occupying power shall agree to relief schemes on behalf of the said population and shall facilitate them by all the means at its disposal*' (ICRC 1949). The impact of the Israeli occupation on the water and sanitation sector across the Gaza Strip has been evident since the start of the ethnic cleansing operations in 1947/48. These expelled Palestinians of 23 towns and 351 villages across Palestine and resulted in 80,000 Palestinians fleeing into the Gaza Strip, quadrupling its population in less than a month, and putting extensive pressures on its resources and infrastructure (Cheal 1988). This scenario has recurred as Israeli occupation has forced thousands of Gazans to flee the South of the Gaza Strip after the 7th of October 2023. For the past 75 years, Israeli

water experts portray Palestine as a 'wasted' space that with support from US hydrocrats, would acquire control and thus 'modernise' (Underhill et al. 2023). This narrative is connected closely to the West Bank, Palestinian service providers are constantly denied permits (from the Gol) to extend their sanitation infrastructure on the premise that Israel and the West Bank *form a single environment* and therefore they must comply with the prohibitively expensive Israeli tertiary treatment standards (Stamatopoulou-Robbins 2020). Interestingly, this was not the case in the 1970s when Israel allowed the construction of basic biological treatment plants in cities that they occupied but did not formally annexe possibly to protect the Israelis' public health and economy connected to those cities (Stamatopoulou-Robbins 2020).

Since the Israeli occupation forces left the Gaza Strip in 2005, a new era of apartheid and colonial settler violations has emerged. The repeated escalations always leave severe destruction of water and sanitation infrastructure, causing public health deterioration. International and national organisations often coordinate with the Israelis to provide protection for Gazan water and sanitation infrastructure. For instance, the International Red Cross coordinated with Israeli and Palestinian sides by sharing GPS locations of the water and sanitation facilities with the Israelis during the May 2020 escalations, but this did not prevent them from being bombed (CMWU, 05.07.22). The Israeli forces constantly destroy water and sanitation infrastructure even though such infrastructure is protected under International Humanitarian Law. Funding agencies do not prosecute Israeli forces for their violations against assets donated for humanitarian uses.

Therefore, the development of the sector and the rehabilitation of destroyed infrastructure are obstructed by the tightened blockade throughout the Gaza Strip and the imposed restrictions on the import of essential building material to rehabilitation and reconstruction, which leads to loss of investments (GVC and PHG 2017). The progression in the politics of the Israeli occupation, such as the Oslo Accord, and the involved parties has often prioritised the '*concept of Israeli security – and not its illegal occupation – [as] the defining element of Palestinian political economic life*' (Farsakh 2008). The Israeli occupation prohibits the entry of basic building material including steel pipes 2 inches and above, as they claim it would be used for military purposes (dual use) (INGO #2, 25.06.22).

External aid donors abide by the Israeli restrictions, such as the 'dual use' ban on imports and prioritise the Israeli security concerns over the political and economic sovereignty of the Palestinians in the Gaza Strip and West Bank. In Mourad's (2021) review of international aid to post-conflict Somalia, he found that a key hindrance for sustainability was ignoring the transboundary issues with Ethiopia and Kenya. Although the conflict is different, it is relevant to the Gaza Strip's transboundary and borders control issue with the Israelis. External aid donors choose to continue paying the cost of the occupation instead of challenging the Israeli restrictions and working with the Palestinians to achieve autonomous sustainable development (Farsakh 2008). To *accommodate* the intensified economic and political restrictions by the Israelis, external aid donors ultimately instate a dependent development on the Israeli occupations and donors (Qarmout 2017; Roy 1987). Tannira (2021) suggests that in doing so donor further the legitimacy of the Israeli occupation and its de-development of Palestinians in the Gaza Strip. Ultimately, lack of sovereignty of the Gaza Strip leads to failure to build and maintain infrastructure and therefore it gives the Israeli occupation the right to control building (Stamatopoulou-Robbins 2020). Donors refuse to fund key infrastructure if the Israelis do not give permission to construct it; many projects have faced more than 10-year delays because of the Israeli delays in issuing permits (CMWU, 05.07.22). One

interviewee argues that it is a political decision to obstruct sustainable infrastructure in Palestine to uproot the Palestinians from their lands by only allowing short-term humanitarian relief instead of sustainable development in the region, to comply with the Israeli's policies to displace them (WASH Expert #2, 14.06.22).

Finally, it is also vital to highlight the exploitive nature of the Israeli occupation as it benefits from aid. According to Hever (2015) 72% of aid to Palestinians ends up benefiting Israeli companies and funding the occupation. This is since the Palestinians, and in turn the aid process, are major consumers of Israeli goods (de Beer 2010). Therefore, it is crucial for donors to acknowledge how their passive role in humanitarian aid is further exacerbating the poor development of the Gaza Strip and Palestine in general by sustaining economic dependency that benefits the Israeli occupation (Zureik 2018; Roy 1987). The Israeli occupation ensures that the economy of Palestine as a whole is strongly tied to the Israeli economy. It is portrayed differently in through different sectors including WASH, energy and trade restricting diversifying and the growth of their economy and keeping the West Bank and the Gaza Strip as two isolated and fragmented entities (Sayigh 1986). The West Bank and Gaza are 'captive market' for Israel's export and one of the largest importers from Israel. In the sanitation sector, one might wonder why Israel does not export its technology to the Gaza Strip despite being celebrated as having one of the most advanced wastewater treatment technologies. Some scholars attempted to dilute this reality of such as 'stunted dependency' by conceptualising the two economies as interdependent since, for example the Palestinian labour is engaged in the Israeli economy. This is not true since Israel only involves Palestinian labour on the lower ladder of skills (Sayigh 1986).

Conclusion

External aid is crucial to providing sanitation services in the Gaza Strip. The population of the Gaza Strip have been living in a protracted humanitarian crisis due to the prolonged Israeli occupation, its repeated armed escalations, and movement restrictions on goods and people contributing to the de-development of the Gaza Strip's economy and dependency on external aid. However, the agenda of external aid in the Gaza Strip and sanctions against the *de facto* government have exacerbated internal division and hindered potential reconciliation of the two ruling political parties, even at the level of service provision. In our service characteristics analysis, we explain how externalities, represented by wastewater treatment plants (WWTPs), due to donors' concerns about the environmental degradation of the Mediterranean Sea, overshadow the preceding segments of the SVC and their combined individual-level benefit(s). The focus on WWTPs demonstrates the importance of scale and type of benefit for external donors in defining funding priorities.

This paper contributes to development policy literature as well as the politics of infrastructure and the wider politics of settler colonialism and siege This paper provides evidence, by using institutional economics concepts, of the dominant role of external donors in shaping service provision, state capability, and infrastructure sustainability in the recipient countries, and in masking or ignoring the political dimensions of service provision. We argue that the incentives of external aid in funding capital expenditure of assets and short-term (emergency-oriented) projects without ensuring its sustainability is driven by years of donors' policies that enable the de-development of the Gaza Strip while continuing paying

the cost of the Israeli occupation. It is vital to include the Palestinian service providers and other government bodies in planning and promoting their autonomous engagement to sustain their ownership of the implemented aid projects. This comes by acknowledging the persisting injustices and barriers to deliver effective services in a context where the recipients are disempowered and cannot escape the de-development of their economic life.

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Notes on contributors

Mariam Zaqout is a postdoctoral researcher at the University College London Institute for Innovation and Public Purpose as part of the Global Commission on the Economics of Water. She has recently finished her PhD thesis from the University of Leeds where she focused on incentives of sanitation stakeholders to fund/allocate resources across the various sanitation services. Mariam has more than 6 years research experience in the political economy of water and sanitation. She also researches livelihoods in sanitation jobs.

Mariam Fayad is a humanitarian worker currently working at NGOs in the Gaza Strip, Palestine; she worked in several sectors such as shelter, WASH, food security, and livelihood. She got her master's degree in water, sanitation, and health engineering from the University of Leeds. Since then, she became very interested in academic research, and currently, as an early researcher, she is keen to conduct more research in political economy, funds allocation, and the social aspect of humanitarian and development projects with a focus on WASH.

Dani J. Barrington is Senior Lecturer in the School of Population and Global Health at The University of Western Australia and a Visiting Lecturer in Water, Sanitation and Health at the University of Leeds. She specialises in participatory, trans-disciplinary research, particularly with regards to 'taboo' topics like toileting behaviours, menstruation and incontinence. Her work focuses on how we can break the silence around such topics so that WASH professionals and communities can work together to develop products, services and facilities that people actually want to use.

Anna Mdee is Professor in the Politics of Global Development. She has more than 20 years of experience of research in development policy and practice with a focus on water and sanitation governance. She is a specialist in interdisciplinary and collaborative international applied research, which critically reflects on power and politics in interventions; the gap between policy and implementation; and the politics of data and 'evidence'-based policy production.

Barbara E. Evans is Professor of Public Health Engineering at the University of Leeds. She spent 20 years working at the World Bank as a consulting engineer before joining the university, and is committed to bridging the gap between research, policy and practice. Her research interests are cross-disciplinary and include investigating how cities can deliver effective, fair and sustainable sanitation and water services, with a particular focus on poor communities and those lacking land tenure; the intersection of public finance and development investments; and the costs and impacts of poor sanitation in the era of climate change.

Notes

1. Oslo Accord is the first peace agreement (Declaration of Principles on Interim Self-Government Arrangements) between the Palestinians and Israelis and mediated by the United States in 1993. In the accord, Israel recognised the PLO as the sole representative of the Palestinians, and the PLO recognised Israel's right to exist in peace.
2. Sanitation Value Chain is a concept that describes the flow of human excreta, starting from demand creation, collection, emptying and transport to treatment, reuse or disposal of faeces and urine.

ORCID

Mariam Zaqout  <http://orcid.org/0000-0001-6978-8252>

Mariam Fayad  <http://orcid.org/0009-0008-7386-0120>

Dani J. Barrington  <http://orcid.org/0000-0002-1486-9247>

Anna Mdee  <http://orcid.org/0000-0002-8260-1840>

Barbara E. Evans  <http://orcid.org/0000-0001-9815-3141>

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