

# Sanitation strategies for reducing open defecation in rural areas of India and Ethiopia

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## ABSTRACT

Sanitation change continues to be on the forefront of the global development agenda, even as it is becoming clear that the targets established in the Sustainable Development Goals will not be met. But since improving access to safely managed sanitation facilities remains a cost-effective and impactful measure to improve people's lives, it is still important to assess currently implemented policies to be able to learn from best practices and to understand how different approaches work under different contexts. This paper provides comparative analysis of country-level policies in India and Ethiopia, two countries that achieved notable progress in eliminating open defecation through distinct sanitation strategies, with the aim of confronting the advantages and disadvantages of both approaches. While in India the primary emphasis has been on the supply-side, i.e., provision of subsidized sanitation infrastructure, Ethiopian strategy prioritized the demand-side by addressing change in sanitation behavior through Community Total Led Sanitation. The analysis shows that neither of the strategies can fully achieve the sanitation change and a combination of both seems to be the most impactful approach in combating open defecation. It also argues that policymakers must consider not only local socioeconomic and budgetary constraints but also historical, institutional, sociocultural, and geographical specifics in deciding what type of subsidies would be the most fitting. At the same time, they also need to address the appropriate social norms to achieve the desirable change in sanitation behavior.

## KEYWORDS

sanitation change; environmental health; India; Ethiopia; Sustainable Development Goals

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## 1. Introduction

The sixth Sustainable Development Goal (SDG) includes a target to end open defecation (OD) and secure access to adequate and equitable sanitation for all by 2030, which has been recognized as one of the most challenging features among all SDGs' targets (Moyer and Hedden 2020). The progress has been uneven so far (e.g. WHO/UNICEF 2019; Desphande et al. 2020) and it is unlikely that the global sanitation target will be met (UN 2018; Sadoff et al. 2020). The aim of this study is to provide a comparative analysis of sanitation policies used to address household-level sanitation in India and Ethiopia; two large countries that are major influencers of recent trends in the global sanitation indicators. Despite their dissimilar levels of socioeconomic development, until recently the majority of both Indian and Ethiopian households practiced OD (Tab. 1). However, between 2000 and 2017, Ethiopia and India achieved the largest and third largest decrease in OD rate worldwide, respectively, accounting for 4% and 60% global reduction of people practicing OD (WHO/UNICEF 2019). The more recent data (WHO/UNICEF 2021) shows further reduction of OD in both countries with India being ahead.

The strategies adopted by India and Ethiopia led to distinct outcomes (Tab. 2) with distinct remaining issues. In Ethiopia, the dominant sanitation infrastructure is low-quality facilities that do not ensure safe separation of fecal material from human contact (see Novotný and Mamo 2022). This makes presumed health impacts of the widened availability of latrines uncertain (Freeman et al. 2022; Aragie et al. 2022) and presents a risk of OD slippage (Abebe and Tucho 2020). Unimproved sanitation facilities are much less

prevalent in India, but the key challenge is to ensure consistent use of available toilets (Coffey et al. 2014; Jain et al. 2020; Gupta et al. 2020), which seems to be less an issue in Ethiopia (e.g., Novotný et al. 2018a).

## 2. Objectives and methods

The aim of the article and its main contribution to the knowledge on sanitation practice is a comparison of the two diametrically different sanitation policies and strategies to tackle OD. Both national strategies are on the opposite side of the current sanitation practice spectrum; India with fully subsidized toilet constructions and Ethiopia focusing on behavior change. This juxtaposition clearly shows each one's advantages or disadvantages and yields important lessons learned for further upgrades to or implementation of any revised sanitation directions either of the two countries or countries with similar trajectories might employ.

We used comparative analysis to explore both strategies across four domains: Political framing and support, Main narratives and legal ground, Financing, and Sanitation approach, which is further divided into sub-domains: behavior-change components and technology promoted. These domains were selected as the most contested ones based on our literature review.

In the remainder of this article we will firstly outline the development of sanitation policies in India and Ethiopia, especially the most recent sanitation schemes. The next section will compare in detail both countries' strategies along two main dimensions: political support and sanitation change approaches, each of which covers several domains. The concluding

**Tab. 1** Basic development indicators and open defecation rates in rural and urban areas in India and Ethiopia.

	Population (millions)	GDP per capita (PPP, international dollars)			Human Development Index			Population practicing open defecation (%)		
		2020	2000	2019	Change (%)	2000	2018	Change (%)	2000	2017
India	1380	1920	6980	363	0.497	0.647	130	74	24	15
Ethiopia	115	507	2720	537	0.283	0.470	166	77	26	17

Sources: Data on GDP are from the IMF World Economic Outlook (October 2020), Human Development Index is based on UNDP data for Human Development Report, 2019 (Conceição 2019); Sanitation data are from WHO/UNICEF (2019, 2021).

**Tab. 2** "Ladder" of sanitation services available in rural and urban areas in % (2020).

Type of sanitation service	India			Ethiopia		
	Total	Rural	Urban	Total	Rural	Urban
Improved safely managed (private toilet, handwashing facility with soap and water)	46	51	37	7	4	16
Improved basic service (private toilet)	25	17	42	2	1	6
Improved limited service (facility but shared with other households)	12	8	19	9	3	31
Unimproved (sanitation facility which does not ensure separation of excreta from human contact)	2	2	0	65	71	45
No service (open defecation)	15	22	1	17	21	3

Source: WHO/UNICEF (2021).

section discusses lessons learned and possible examples for the rest of the world to follow in the run up to 2030.

### 3. Overview of sanitation policies

#### 3.1 India

Inadequate sanitation received some attention during colonialism as a cause of poor health. After independence it received little attention until the 1980s (Duggal 1991; Khan 2006; Mushtaq 2009), when India introduced the Central Rural Sanitation Program. This first national sanitation scheme was ultimately unsuccessful, purely supply driven, and focused on the provision of uniform pour-flush toilets, which mostly remained unused (WSP 2010; Mohapatra 2019).

The scheme was restarted in 1999 as the Total Sanitation Campaign, aiming to make India open defecation free (ODF) by 2012. Although it called for a bottom-up community-led approach and for more emphasis on information, education, and communication activities, it retained fixation on toilet construction (Hueso and Bell 2013; Barnard et al. 2013; Mohapatra 2019). And while toilet coverage increased rapidly, the subsidized toilets were of poor quality, and again remained unused (Patil et al. 2014; Coffey et al. 2014; O'Reilly et al. 2017; Sinha et al. 2017). The Total Sanitation Campaign was remodeled into Nirmal Bharat Abhiyan in 2013, with the goal of universal access to sanitation set for 2022. This scheme was supposed to extend the focus on community-led approaches, but the issues remained. The implementation was inconsistent, poorly received, exclusionary, riddled with political interference, and toilet coverage increased only modestly (Routray et al. 2017; Mohapatra 2019).

On 2 October 2014, Narendra Modi launched Swachh Bharat Mission (SBM). Latrine construction was supposed to be again supplemented by various behavior change activities and information campaigns. It was implemented on an unprecedented scale and gained strong political support but faced criticism that it was again dominated by construction of subsidized toilets (Kumar 2017; Mohapatra 2019; Novotný et al. 2018b; Andres et al. 2020; Exum et al. 2020). But there is also evidence that the SBM performs better than the previous schemes and could support wider sanitation change (Curtis 2019; Hutton et al. 2020). While the toilet provision across rural India was the main focus of the SBM until 2019, the following second phase addresses the sustainability and behavioral aspects of sanitation change (e.g. Sarkar and Bharat 2021). It is also related to the ongoing government scheme called Jal Jeevan Mission that focuses on the provision of water at the household level to overcome a major barrier for toilet use in India (<https://jaljeevanmission.gov.in>).

#### 3.2 Ethiopia

Measures addressing hygienic sanitation in Ethiopia have been incorporated into government health programs since the mid of the 20th century. More specifically, introduction of health services dates back to 1946 when the international community sponsored training of health assistants and sanitary inspectors. This can also be characterized as the rise of Ethiopian endeavors towards sanitation change. Since then, the sanitation agenda has come indirectly under the Federal Ministry of Health (FMoH) competences and stayed exclusively there until recently (Kloos 1998; Feleke 2019).

A milestone in addressing sanitation issues was the introduction of the Health Extension Program (HEP) in 2003 which serves among other things as the implementation channel for national sanitation strategy and confirms the direction of sanitation being closely linked to public health policies. The newest program, called One WASH National Program (OWNP) reflects problems of the current sanitation situation, including strategies, financing and implementation. It has officially recognized the close linkages between water, sanitation and hygiene (OpenWASH 2016), aiming to achieve universal access in all three domains. The OWP and its related documents were signed by four different ministries (Water, Irrigation and Energy; Health; Finances; Education) proving an inclination towards the multi-institutional approach (National WASH coordination office 2018). The OWP stresses good governance; efficient use of human and financial resources; and capacity development at all levels as the key components of improving sanitation.

### 4. Confronting current sanitation policies in India and Ethiopia

#### 4.1 Political framing and support

##### 4.1.1 India

In an unprecedented shift from previous schemes, through the SBM sanitation received one of the highest priorities among domestic policies, together with massive political support and attention. Public officials led by the Prime Minister Modi spearheaded the drive for sanitation change which was delegated to the Ministry of Drinking Water and Sanitation. SBM actually became one of the most important policies of Modi's administration, which also realized there are votes and publicity in toilets. Political representatives on the highest level committed themselves to sanitation and this commitment trickled down to the lower levels (Kumar 2017; Curtis 2019). But this political support goes hand in hand with overall politicization of social policies by the ruling party. This includes reproduction of caste and gender hierarchies which are now supported as drives for social mobility.

Occupational caste hierarchies are reimagined to provide a sense of inclusion and empowerment through pride and unity without tackling traditional purity-pollution hierarchical distinction (Gudavarthy and Vijay 2020). These issues coupled with former failed sanitation programs could be initiating distrust towards the government in states that are not ruled by Modi's BJP (Curtis 2019). However, there does not seem to be any difference in SBM outcomes in states governed by BJP and those governed by opposition parties so far (Bhattacharya et al. 2018).

#### 4.1.2 Ethiopia

In a show of a strong political will to improve sanitation, the Ethiopian government very proactively integrated SDGs in governmental strategies and documents, with the promise to achieve access to adequate and equitable sanitation and hygiene for all and end open defecation by 2030 (Baye 2021). In cooperation with foreign actors the government defined the need to tackle sanitation through an integrated and multi-sectoral approach (Wateraid 2016; OneWASH 2019). Following this shift a wide WASH platform was established and several new strategic documents and programs were launched, including One Wash National Program (OneWASH 2019; WHO 2015).

In spite of this proactive approach, sanitation remains a low political priority in Ethiopia. It is somewhat buried within a wide development portfolio, surmounted by water, hygiene and other issues that are perceived as more directly linked to health (WaterAid 2016). It is important to note that this article was written during the so-called Tigray War, which made sanitation even less of a priority than usual. Sanitation programs have been implemented through the Health Extension Program as one out of its 16 types of provided health-related services (Alemu et al. 2019; Banteyerga 2011). The coordination of activities beyond the federal level has been questioned as well as a lack of clear ownership of implementation and budget, lack of reliable or consistent data, along with a lack of clarity on roles and responsibilities are causing drawbacks in sanitation change (Freeman 2013; Abraham et al. 2019). The state, labelled as authoritarian (Aalen and Tronvoll 2009), works more in command and control manner. The Ethiopian government puts pressure on achieving successful results in health services, including construction of latrines and declaration of ODF status. Households are forced through the HEP to own latrines but their quality and impacts on health are not relevant. It is more about positive numbers than the real health and dignity impacts (Melberg et al. 2019).

## 4.2 Main narratives and legal ground

### 4.2.1 India

SBM represents a paradigm shift in framing of sanitation in India. It became part of a broader strive

for modernization, which also created better conditions for adopting modern toilets. Narendra Modi replaced the Nirmal Bharat Abhiyan with SBM soon after his election, creating his own signature cleanliness program, which spilled over into the political landscape, clearly demarking a line between "old dirty corrupted" India, and a "modern clean country" under his leadership. There is also no longer an aim to address caste and gender hierarchies, in a departure from previous rights-based social equality programs, which however did not enable social mobility and current approach is perceived as more honest (Curtis 2019; Gudavarthy and Vijay 2020). This also required changing traditional Hindu discourse surrounding purity and pollution (e.g. Coffey et al. 2014) which Modi's BJP successfully challenged (Curtis 2019). Public officials led by the Prime Minister broke taboos surrounding cleanliness and participating in SBM was seen as an enhancement of one's social status (Kumar 2017).

But India still lacks union or state law regulating rural sanitation, which thus has to be regulated by administrative directions. In this regard, SBM is focused mostly on individual needs without framing them in terms of individual rights. Making people responsible for sanitation and unable to hold the government accountable for the promises made (Cullet 2019), especially since the supreme court tends to decide environmental cases in a selective manner (Iyengar et al. 2019). But even if the right to sanitation was further cemented in law, there is no guarantee that it would be enforced. As is the case with manual scavenging, which is illegal in India but still practiced (e.g. Coffey et al. 2014).

### 4.2.2 Ethiopia

Ethiopia's constitution from 1994 contains an article about ensuring a clean and healthy environment for all Ethiopians as a constitutional right, encoding access to improved sanitation. Nonetheless, also here we can find similarities with India, as no national law regarding access to improved sanitation currently exists (Côrtes et al. 2016). Meaning there is no enforceability and no legal recognition of the right to sanitation.

Policies and policy areas which directly underpin the sanitation sector and create a regulatory framework in Ethiopia are three: water, health and environment (MoH 2005; OpenWASH 2016). However, health is the main driver for sanitation change and efforts to achieve sanitation for all are rooted in maximization of public and private health benefits. That is why the primary policy in terms of sanitation action is a health policy, titled the Health Policy of the Transitional Government and implemented through the Health Extension Program. The introduction of the Health Extension Program represented an important paradigm shift from a long-standing curative focus to one of prevention (MoH 2005).

### 4.3 Financing

#### 4.3.1 India

On a macro level, SBM has been financed by the Indian government, which, in order to engage in such a massive task, negotiated a loan with the World Bank. Institutions like UNICEF, WaterAid, Bill and Melinda Gates Foundation, or the Tata Trust, provided technical support to and financial assistance for hiring sanitation consultants (Curtis 2019).

On a micro level, toilet construction is subsidized by up to 12 000 INR, of which usually 60% comes from the central government and 40% comes from the state governments. Information, education and communication activities received a maximum of 8% of the project expenditures (Ministry of Drinking Water and Sanitation 2018). In alignment with previous schemes, money spent on toilet construction were ex-post reimbursed to the household, which was criticized as ignorant to structural inequalities, and reinforced tendencies to not adopt toilets. It left no space for beneficiaries' inputs, and since higher castes often constructed toilets according to notions of purity and pollution, subsidized toilets become a symbol of caste and class discrimination (O'Reilly et al. 2017; Jain et al. 2020).

#### 4.3.2 Ethiopia

The sanitation sector in Ethiopia has been financed by a wide range of funding mechanisms. The financial resources were mobilized through the federal government and regional budget allocation, bilateral aid, donor support in the form of grants and loans, NGOs resources allocation, or Woreda and Community contributions (OneWASH 2016; Haile 2009). Nonetheless, the sector stays heavily aid-dependent (WSP 2010). To create a transparent cash flow a new financing system was set up and there is a division of transparent accounts (FIN 2019).

In terms of microfinancing, there is an agreement at the governmental level that the hardware subsidies are not supported in any kind (Alemu et al. 2017; WSP 2010; WHO 2015). However, there appeared to be recent recommendations from foreign NGOs (IRC) to subsidize the poorest households via the Ministry of Agriculture's Productive Safety Net Program (Achenbach 2022) but it is still not implemented in official policies or in practice. The micro-financing mechanism is based on the idea of a sanitation ladder. People buy the cheapest solution with no subsidy and immediately as it is possible they try to improve it.

### 4.4 Sanitation approach: behavior-change components

#### 4.4.1 India

Lack of behavior change is presumably the most criticized aspect of Indian programs and the government failed to reorient from latrine construction in past

schemes (Kurup 1991; Barnard et al. 2013; Hueso and Bell 2013; Routray et al. 2017). SBM guidelines designate information, education and communication activities as a core aspect of the program and declare toilet construction as only supplemental to behavior change, though only a fraction of the budget was allocated to it (Ministry of Drinking Water and Sanitation 2018). There is also a discrepancy between the official narrative and a covert narrative believed by implementing officials who perceive information, education, and communication activities as secondary (Hueso et al. 2018), even as OD is still practiced in states officially declared as ODF (Exum et al. 2020). Strikingly, notable behavior change occurred not in villages but in government offices where previously uninterested and disgusted officials started to be deeply involved in sanitation (Curtis 2019).

Diverse motivational components, both those aiming at positive motivation and coercive measures, were part of SBM. The Nirmal Gram Pushkar, a clean village award connected to a financial incentive, was not reinstated for SBM due to tenuous results and difficult verification process (Bernard et al. 2013; Mohapatra 2019). But model early-win districts were selected to motivate skeptical district officials and village leaders were encouraged with dashboards where they could update and compare their progress, with the best ones receiving prizes and praise on social media (Curtis 2019). The dashboards predominantly show the number of toilets constructed (Department of Drinking Water and Sanitation 2020). Coercive measures were heavily utilized during SBM, as officials pressured villagers to construct a toilet under a threat of government's benefits and rations withdrawal, or directly with fines and arrests by the police. Members of lower castes and BPL households were more often affected by the coercive measures and were further associated with filth because they are forced to use toilets that are not made according to notions of purity and pollution, and subsidies meant for them are captured by higher castes (O'Reilly et al. 2017; Cullet 2018; Gupta et al. 2020).

#### 4.4.2 Ethiopia

Unlike India, behavior change approaches have been central to Ethiopian sanitation programs. After some NGOs successfully implemented Community-Led Total Sanitation (CLTS) in rural areas of Ethiopia, CLTS got wider acceptance and was formally adopted by the Ethiopian government as a key national sanitation approach. The Ministry of Health developed the National CLTS Implementation Guideline to support the uptake of CLTS throughout the country (more specifically, Ethiopian variants of CLTS have been referred to as CLTSH – Community-Led Sanitation and Hygiene). The implementation is rolled out across the country through the Health Extension Program (UNICEF 2017) and via woreda-level trained professionals (One Wash 2016). The main stress is to

address social determinants of health and affect the behavior of targeted groups (Asseffa et al. 2019).

The CLTS approach is community based, assuming that community behavior changes gradually. It involves early adopters (model families), then moving to the next group ready to change. Those resistant to change are gradually conditioned to change because of changes in their environment (Chawica et al. 2012). After some criticisms of the HEWs only visiting households and using household-centered approach, rather than CLTS community methods, the Ethiopian government in its One WASH program II (2018) officially addresses the need for designing a “community-centered approach”. This new approach officially activates members of communities and other actors at the community level, such as community leaders, health sector actors, development agents, teachers and students etc. Community based approach is meant to be complementary to CLTS approach and to enhance other efforts and follow ups to change sanitation practice (National WASH coordination office 2018). Nonetheless it is a new initiative which has not yet been evaluated and monitored, thus there is no evidence of real results.

The official motivation strategies used to implement sanitation programs are mainly ODF certification, which rewards the community’s achievement and encourages them to further improve sanitation behavior and increases the ownership of the entire process. However, the competition between villages encourages some officials to declare ODF status before it is reached. It creates strong pressure on constructing latrines but not on behavior change itself (Behailu 2015). It was reported that the pressure may take a form of sanctions (mostly financial, exceptionally jail or threatening by it) of households without latrines (Novotný et al. 2018a). Moreover, 15% of households fall back to open defecation after declaration of ODF status within one or two years after village ODF declaration. The reasons vary but one of them is incorrect implementation of CLTS activities (Abebe and Tucho 2020).

#### 4.5 Sanitation approach: technology promoted

##### 4.5.1 India

Twin pit pour flush toilets have been most widely recommended under SBM, although states can choose different options. Row toilets or complexes are also recommended, but their design should keep them affordable, e.g. the pits should not be unnecessarily large, while also making the superstructure acceptable for the beneficiaries. Community Sanitary Complexes should be constructed in places where individual latrines are not suitable, usually due to lack of space, or at public places (Ministry of Drinking Water and Sanitation 2018). The concept of sanitation ladder is therefore not utilized in India and twin pit pour flush toilets are the basic sanitation facilities

provided. But there is a broader “WASH ladder” which starts with the provision of a toilet and continues with a household tap water connection or a concrete house (Ministry of Jal Sakthi 2019).

Twin pit pour flush toilets were chosen for their relatively easy fecal sludge management, but they are often not accepted and misunderstood by the communities. To prevent pit emptying people tend to merge the two pits or disconnect the toilet altogether. Containment pits are preferred but they are often built in poor quality and without proper management knowledge (Gupta et al. 2020; Chandana and Rao 2021). Water scarcity also represents a major barrier in community acceptance, as people in water-scarce regions prefer to use water for washing rather than sanitation (Bhattacharya et al. 2018).

##### 4.5.2 Ethiopia

The National sanitation strategy recognizes the need for different variations of latrines depending on regional context, geographical conditions, desires of local population etc. (Ministry of Health 2005). Unlike in India, there is an agreement at the governmental level that the hardware subsidies are not supported in any kind. The complete responsibility for building latrines lies in households themselves (Alemu et al. 2017; WSP 2010; Ministry of Health 2005). At the same time the Ethiopian sanitation strategies work with the idea of a sanitation ladder. It assumes that people start with a basic latrine construction and when they have an opportunity they improve their latrines. For those reasons people are encouraged to build traditional pit latrines with basic structures from various local materials in order to reduce the costs and quickly adopt improved sanitation behavior.

Nonetheless the cheapest solution does not always lead to behavioral change. As the evaluations showed the change is not as sustainable as it is officially proclaimed (Asseffa et al. 2017; Crocker et al. 2017). The current numbers (One WASH 2018) shows that 20% still has no access to latrines and most of the rest only to unimproved traditional pit latrines (Fig. 1).

## 5. Discussion

Throughout the past decades India and Ethiopia have developed their own specific approaches, both on paper and on the ground. And while much was achieved and many mistakes were made, their shared experience offers a great lesson to the rest of the world, that is running out of time to successfully fulfill SDG 6.2. by 2030. The following section and a summarization in Tab. 3 aims at distilling lessons learned from sanitation change drives in India and Ethiopia and offers best practices for other countries to follow.

Sanitation change habitually lacked strong political support, but the trend is rather improving (WaterAid



Fig. 1 Examples of household toilets common in rural Ethiopia (right side) and rural India (left side). Source: The authors.

Tab. 3 Confronting sanitation policies in India and Ethiopia.

	India	Ethiopia
<b>Political support and prioritization of sanitation</b> <i>Is there political will and support to improve sanitation? and political motivation?</i>	<ul style="list-style-type: none"> <li>Sanitation received <b>top priority</b> among domestic policies.</li> <li>Retained political commitment.</li> <li>Intertwining with ideological goals of right wing Hindu nationalism.</li> </ul>	<ul style="list-style-type: none"> <li>Sanitation has <b>not been among top development priorities</b>, and not even among WASH policies.</li> <li>There is political will for sanitation change.</li> </ul>
<b>Implementation fidelity</b>	<ul style="list-style-type: none"> <li>Implementation <b>did not follow the policy guidelines</b>, especially in prioritizing behavior change measures.</li> </ul>	<ul style="list-style-type: none"> <li>Policies are only <b>poorly reflected in practice</b>, and there is a high return rate to OD.</li> </ul>
<b>Main narrative(s) / framing/ Legal ground</b> <i>What is the development paradigm, how is the sanitation approach legally grounded?</i>	<ul style="list-style-type: none"> <li>Main political narrative for sanitation change is <b>modernization</b>.</li> <li>Sanitation recognized as a right but <b>not enforceable</b> due to lacking laws.</li> </ul>	<ul style="list-style-type: none"> <li>Main political narrative for sanitation change is <b>preventative health</b>.</li> <li>Sanitation recognized as a right but <b>not enforceable</b> due to lacking laws.</li> </ul>
<b>Financing (incl. Hardware subsidies)</b>	<ul style="list-style-type: none"> <li>Interventions <b>fully funded by the government</b>.</li> <li>At individual level standardized households hardware subsidies are a core aspect of SBM.</li> </ul>	<ul style="list-style-type: none"> <li><b>External funding</b></li> <li>Policy of <b>no hardware subsidies</b> for individuals</li> </ul>
<b>Technology promoted/used</b> <b>Sanitation ladder</b> <i>What types of toilets etc. are used?</i>	<ul style="list-style-type: none"> <li>Twin pit pour flush toilets were built in a majority of cases, disregarding local context.</li> <li>Sanitation ladder not utilized.</li> </ul>	<ul style="list-style-type: none"> <li>Widespread usage of <b>dry pit latrines</b>.</li> <li>Concept of <b>sanitation ladder relied upon</b> for upgrading but assumed progression along sanitation ladder has not occurred.</li> </ul>
<b>Behavior-change</b> <b>Community based</b> <i>Is behavior change included in sanitation approaches? And are they community based?</i>	<ul style="list-style-type: none"> <li><b>SBM did not prioritize behavior change approaches</b>.</li> <li>Community-based approaches not utilized and subsidies reproduced caste hierarchies.</li> </ul>	<ul style="list-style-type: none"> <li>The Ethiopian government applied the <b>CLTS</b> approach complemented by sanitation marketing.</li> <li>CLTS is a community based sanitation approach which stresses <b>behavior change</b>.</li> <li>The core of sanitation approaches is <b>behavior change</b></li> </ul>

2016), as exemplified by both Ethiopia and India, even as the overall narratives differ. India frames SBM as a part of an overall modernization effort and an issue of cleanliness – both in a physical and spiritual way, while Ethiopia constructs sanitation primarily as a health issue preventing the spread of diseases. This is not to say that sanitation in India is in no way seen as a tool for improving health, but the narrative communicated to the population revolves around shifting the country into the 21st century. These divergent narratives offer some deeper view into different motivations and subsequent results of sanitation policies. Health benefits of sanitation change are intangible and difficult to recognize in the short term. Linking the adoption of toilets to modernization as well as physical and spiritual cleanliness means a stronger leverage and directly measurable goal which is achievable by delivering sanitation facilities to every household. At the same time, it can be argued that the modernization narrative subverts behavioral aspects of sanitation change, as it is linked with toilet ownership, rather than use, thus disconnecting behavior change from the program's objective.

Political support is undoubtedly crucial for successful sanitation change. And we have seen politicians using the sanitation theme to win elections, as they did in India (Curtis 2019). And while this is generally a positive trend, inclusion of politicization of sanitation is also concerning, as again demonstrated by the Indian experience. SBM is now too important to fail and officially reported achievements are often exaggerated (Curtis 2019; Exum et al. 2020). Further, it created a political narrative around social policies that labels critics as outsiders disintegrating the nation, while encountered issues are blamed on previous governments' right-based programs, which in turn makes Modi's regime programs reproducing caste and gender hierarchies seen as more efficient (Gudavarthy and Vijay 2020). Although it is clear that gaining political support enables massive change in a short time, policy makers must be cautious when entangling sanitation policies with politics. A possible safeguard, that neither Ethiopia or India deployed, would be a legal framework that would codify the right to sanitation into the national legislature, which could provide the public with means to keep politicians accountable by making them entitled to sanitation, rather than responsible for it (Cullet 2018).

The actual implementation and realization of sanitation policies is also dissimilar. Modi's government singled out sanitation by granting it top priority among domestic policies and establishing a dedicated ministry of Jal Sakthi. While in Ethiopia sanitation became part of a broader One WASH program, an integrated, multi-sectoral, and multi-level approach created in response to uncoordinated projects and programs. This should minimize duplication of activities and spending, but requires a complex coordination and clarity of stakeholders' roles. In contrast, the

Indian single institution approach allows for a more streamlined process. This reflects local contexts, as water supply is a far greater issue in Ethiopia, where the emphasis is more on water resources management and sanitation is just an accessory. With limited resources, it is seen as unfeasible to prioritize sanitation (Siraj and Rao 2016). India meanwhile struggled with often culturally grounded dislike of toilets and a preference for OD (Coffey et al. 2014; Sinha et al. 2017), and thus needed to mobilize attention into this single category. Integration of water-related sectors under one management is a popular trend in the current development discourse but in this case it can be argued that it was the preferential treatment of sanitation in India that led to the massive improvement in coverage under SBM, and thus might be advantageous for countries that are seriously falling behind in achieving sanitation change.

Both countries used different strategies for achieving sanitation change. Ethiopia has followed a global trend in using CLTS, which primarily targets behavior change through construction of new social norms with no external financial support. Indian programs meanwhile heavily relied on subsidized toilet construction and behavior change activities were only marginally implemented. Similarly, Ethiopia successfully utilized community-driven aspects of CLTS, where communities pressure individuals to alter their behavior due to changes in their environment. In the Indian context, community focused interventions are troublesome due to the omnipresent structural disadvantages and caste hierarchies, which often put an overwhelming blame for failing to adopt safe sanitation on individual households, thus creating social stigma towards usually disadvantaged groups (Jain et al. 2020). And while this could have been overcome by proper planning and context-sensitive policies, we would argue that SBM had neither of those.

Ethiopia and India also applied diverse motivational components for changing people's behavior. Both use some form of awards or recognition for ODF villages. India shifted its awards into the digital sphere, while Ethiopia kept its standardized certification protocol. Coercive measures are more complex and there have been documented cases of abuses and hard pressure in both countries. When withdrawal of government's benefits and rations, or direct fines and arrests by the police, are used as a tool to pressure villagers into constructing a toilet, lack of sanitation is used as a basis for denial of fundamental rights rather than an entitlement flowing from fundamental rights, which is again associated with the fact that both countries lack a sanitation-related legal framework. This is a frequent issue with development policies and goals, to which countries sign up but ultimately do not prescribe these policies into laws (Cullet 2019). In India these aspects of command and control are inherently bound to caste relationships and graded inequality, as they unevenly affect lower castes and

poor households (O'Reilly et al. 2017; Cullet 2018; Gupta et al. 2019).

The financing mechanisms for toilet construction in both countries are on the opposite ends of the spectrum. While the Ethiopian policy strictly forbids any individual household subsidies for latrine construction, in line with basic principles of CLTS, toilet construction in India is fully subsidized. The household subsidies definitely bear much of the responsibility for India's rapid rise in sanitation access but it is too early to fully judge what their long term effect will be. Traditionally, individual subsidies are blamed for hindering behavior change, but in this case they could have had an important role in creating a critical momentum to kick start a sustainable sanitation change. Meanwhile the Ethiopian approach, with complete responsibility for latrine construction left on individual households, pushes the families to the cheapest solutions, which are often low quality and non-durable latrines, not accepted by the owners. It is followed by the idea of sanitation ladder where the individuals climb up to reach the better sanitation solutions immediately as they can.

Paradoxically, although toilets available to households in India are generally of much higher quality than in Ethiopia (Fig. 1), inconsistent use seems to be comparatively more of an issue there. Water demands for toilet use for both flushing and post-defecation cleansing, sanitation rituals and culturally shaped perceptions of purity and pollution, or attitudes towards toilets specific technology and safe fecal sludge management (Coffey et al. 2004; Routray et al. 2015; O'Reilly et al. 2017; Yogananth and Bhatnagar 2018; Satyavada 2019). Low acceptance and prevailing misconceptions about the rate in which the pits fill up point towards lack of beneficiaries' participation in the design process (Jain et al. 2020). But Ethiopia struggles with a similar issue as high rates of observed slippage from previously ODF declared communities is linked to low technical quality and non-durability of constructed latrines (Crocker et al. 2017; Delea et al. 2019; Abebe and Tucho 2020). Although according to estimates, people in rural Ethiopia tend to use toilets relatively consistently, if they satisfy at least simple hygienic conditions. Although there has been considerably less research on behavioral aspects of toilet use in Ethiopia than in India, possible explanations may lead to the chosen sanitation strategy that created social pressures on toilet use but also the mechanisms of surveillance by local authorities generally related to the command-and-control nature of Ethiopian governance (Novotný et al. 2018a).

The analysis shows that relying solely on behavioral approaches and sanitation ladder are not very efficient strategies, if implemented without any external financial support. Similarly, it is ineffective to simply provide every household with a subsidized toilet without further activities that would ensure sustainable use. The former "Ethiopian model" achieved some

behavioral change of inhabitants but pushed them to build latrines which do not fulfill their hygienic norms, with households not stepping up the sanitation ladder, but rather slipping back to OD. The latter "Indian model" led to a massive construction of hygienic toilets, but it in no way guaranteed sustainable sanitation change. Frail sense of ownership, poor targeting of subsidies that amplified preexisting structural inequalities, or lack of local participation and context insensitivity, might also be sources of slippage to OD in the long run.

Thus providing at least some financial assistance, especially to disadvantaged groups, which would allow them to construct safe, durable, acceptable, and appropriate toilets, should be used in tandem with behavior change approaches. And while the massive amounts of both political and financial resources available in India remain inaccessible for most countries, including aid-dependent Ethiopia, smart targeting of subsidies in combination with context sensitive community interventions could also lead to a critical momentum and multiplication effect (e.g. Pakhtigian et al. 2022) necessary for a wide-scale change. At the same time communities should be involved in selecting the final design and other decision-making processes to retain ownership. It is questionable whether the financial support should cover the whole cost of the facility, as in the case of the "Indian model". It will be important to closely monitor slippage rates back to OD in both countries to further evaluate both strategies. Nonetheless, the combination of changes to social norms and at least partial financial support to individuals seems to distill as the way towards widespread improved sanitation. With local context remaining crucial, continuous research into the micro-level conditions affecting sanitation change is still necessary to design sanitation policies. Though as shown by Chakraborty et al. (2021), an exaggerated focus on micro-level is also problematic since sanitation determinants tend to be geographically clustered and population-level studies are also necessary to fully understand how sustainable sanitation change can be achieved.

## 6. Conclusion

This article provided a comparative analysis of sanitation policies adopted in India and Ethiopia. Countries that recognized sanitation among their development priorities, implemented large-scale national programs, but chose contrasting approaches. Although both achieved remarkable progress in increasing toilet coverage, they faced specific challenges concerning sustainability of sanitation change and full realization of health and social benefits associated with hygienic and equitable sanitation.

As 2030, the ultimate deadline for the global community to achieve extraordinary advances in the

human condition, is less than a decade away, we must turn our attention to what was achieved in the past years and collectively learn from all the successes and failures alike. The strive of India and Ethiopia for universal safe sanitation offers a fair share of both. And with drastically different strategies can serve as examples and cautionary tales for other countries on the same journey. Each point where the Indian and Ethiopian policies clash can serve as a starting point for further research into suitability of national policies in countries such as Cambodia, where CLTS was also heavily deployed but calls for targeted household subsidies appear in recent literature (e.g., Kohlitz et al. 2021). And while it would be foolish to say that such effort would ensure that the World would fulfill the target 6.2 of the SDGs, it could nonetheless contribute to it.

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