A STUDY OF THE SANITATION AND HYGIENE PROVISIONS UNDER SWACHH BHARAT, SWACHH VIDYALAYA PROGRAMME : ACROSS STATES/UTs IN INDIA

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Health and education are closely linked, as children thrive and learn best in a healthy environment. Water, sanitation and hygiene (WASH) play a crucial role in creating a safe and conducive learning environment for children in schools. India has committed to the United Nations Sustainable Development Goal (SDG 6) through the massive Swachh Bharat Mission or Swachh Bharat Abhiyan launched in 2014, aiming to provide sanitation and hygiene facilities to all by 2030. Given the programme's significance at national and global levels, it is essential to evaluate it comprehensively to replicate its successes and address the shortcomings. This mixed-method study focuses on assessing the status of the Swachh Bharat Swachh Vidyalaya (SBSV) programme with regard to the water component in various schools across different states and union territories of India. The findings will facilitate knowledge-sharing among states or UTs, allowing them to adopt effective strategies for improvement. Furthermore, these insights can serve as a model for other countries striving to achieve global sanitation goals.

Keywords: Swachh Bharat Mission, Sanitation and Hygiene, Sustainable Development Goals, Swachh Bharat Abhiyan (SBA), Clean India Mission, Toilets in Schools

Introduction

Investing in sanitation is vital for children's health, education and well-being, thus contributing to a healthier, equitable and prosperous society (WHO, 2018). Proper sanitation facilities help in enhancing children's dignity and self-esteem, fostering responsible behaviour and social skills (UNICEF, 2019). A high-quality school environment is essential for children to achieve academic goals and good health (Cummins and Jackson, 2001) as healthy children can fully participate in school and get the most from the education.

Sanitation means public cleanliness, using clean and safe toilets, keeping water sources clean and disposing of garbage safely (Hesperian Health Guides, n.d.). Poor sanitation and hygiene have also been associated with specific negative health outcomes, including diarrheal disease (Mara et al., 2010) which is the leading cause of child mortality and morbidity worldwide (WHO, 2024). It kills over half a million children each year and about 120,000 of them in India (Levine and Ren, 2023). Open defecation increases exposure to faecal pathogens, leading to diarrhoea and intestinal worm infections (WHO, 2015) which contribute to malnutrition, stunting and several health

issues among children (Checkley et al., 2008; Cooper, 2019). Further, with interventions promoting faecal containment show reductions in diarrheal disease and enteric parasite infections (Clasen et al., 2010).

Additionally, girls' inability to manage menstrual hygiene in schools, limits school attendance (Tjon, 2007; World Bank Group, 2018) which adversely affects their academic performance (Tjon, 2007; Adams et al., 2009). Inadequate sanitation facilities significantly hinder school attendance for girls during menstruation, affecting their hygiene and privacy (McMahon et al., 2011; Vashisht, Anvesha and Bharadwaj, 2018). Lack of basic facilities like water and toilets, and poor menstrual hygiene management (MHM) results from insufficient information, lack of privacy, washing facilities and sanitary pads (Jayashree and Jayalakshmi, 1997) and is linked to serious health issues (Dasgupta and Sarkar, 2008). Over half of schools in low-income countries lack sufficient and clean toilets for girls (Oster and Thornton, 2011).

Given the scale of these adverse effects and in response to SDGs laid down by the UN in 2017, India launched a flagship sanitation programme, Swachh Bharat Abhiyan (SBA) or 'Clean India Mission' in 2014. In tune with this, Swachh Bharat, Swachh Vidyalaya (Clean India, Clean Schools) programme of the Ministry of Education, Government of India was initiated to ensure functional and well-maintained sanitation and hygiene facilities in every school in India (MHRD, 2014). It mandates separate, well-maintained toilets and handwashing stations, encouraging menstrual hygiene by providing resources like sanitary pads, and promoting awareness programmes to educate the school community. By emphasising maintenance and cleanliness, the campaign seeks to support the attendance and participation of all children including the menstruating girls. It has been ten years since the programme is being implemented and is approaching its completion stage. In light of this, it is essential to evaluate its status in relation to the established aims and objectives. Accordingly, a study was conducted across eight states and two Union Territories of India with the following objectives.

Objectives

(a) To assess the status of sanitation and hygiene aspects (toilets, handwashing and menstrual hygiene components) under SBSV programme in schools

(b) To compare the performance of states and UTs (the top and bottom performing on SDG rank list of India) on the above components of sanitation and hygiene under the SBSV programme

Methodology

A mixed-method approach was adopted for the study. The SDG rank list of India (NITI Aayog, 2021) was used to identify a representative sample, selecting a total of ten states and Union Territories.

Sample

Based on the SDG rank list of India (NITI Aayog, 2021), four top performing states — Kerala, Goa, Himachal Pradesh and Uttarakhand, and four bottom performing states — Arunachal Pradesh, Bihar, Nagaland and Tripura were

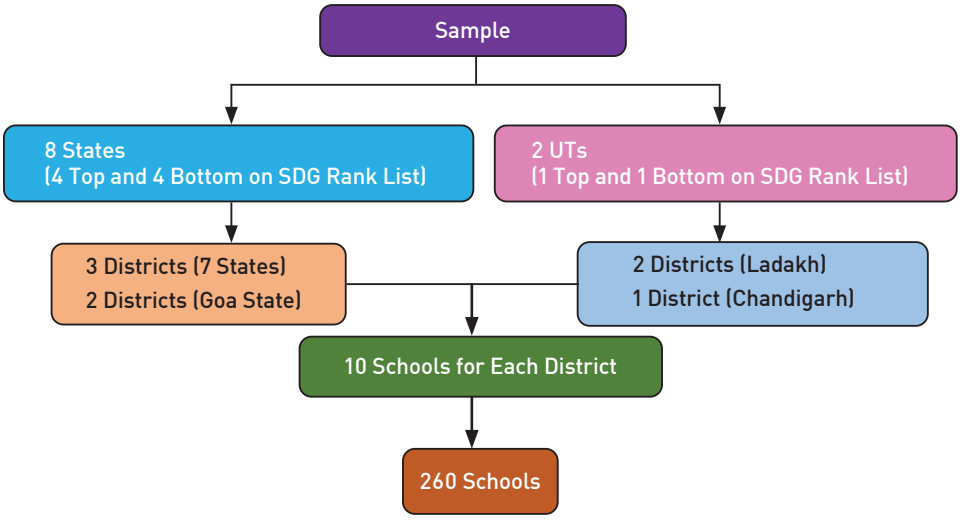


Fig. 1. Sample

selected as sample. Two Union Territories, Chandigarh (top performer) while Ladakh (bottom performer) were also included. The selection process encompassed 26 districts and 260 schools, as shown in Fig. 1. A simple random sampling method was employed to choose 10 schools from each of the 26 districts.

Three districts—one each from urban, sub-urban and rural areas—were selected from seven states. For the smaller states and Union Territories, all districts were chosen; two each from Goa and Ladakh, and one from Chandigarh. Due to difficulties such as hard-to-reach areas and lack of internet connectivity in parts of Arunachal Pradesh and Nagaland, suitable alternative districts with similar geography and demographics were provided by the states.

Tools

The WASH guidelines of the Government of India (GoI) (Clean India: Clean Schools Handbook, MoE, 2014) were used as the criteria. Two tools, a school proforma and a parent proforma, both in Hindi and English for completion by principals or head teachers and parents or guardians, respectively were employed. Guidelines were provided to them to navigate the questionnaires. A Document Review Template (DRT) was utilised to evaluate the literature collected. Draft tools were developed in-house and finalised after field-testing, validation with input from experts. The pilot study was carried out in five schools, three Kendriya Vidyalayas (central government schools) and two state government schools in Delhi.
The tools were filled by the respective stakeholders — school proforma by school principal and the parent proforma by five parents or guardians from each school in an online mode. Based on the feedback of the proforma and in consultation with the experts, the necessary changes were made to finalise the questionnaires, further, these

were translated into Hindi for the Hindi speaking states. Some details of each tool and the items are given below.

School Proforma

The school proforma had two sections: Section A targeted general information (school management, location, enrolment, demographics, etc.) and Section B with 33 items focused on sanitation and hygiene, assessing the availability, design, functionality, accessibility, and maintenance of toilets and handwash facilities (water sources, basins, washing points and soap availability) as per the WASH guidelines. Menstrual hygiene management was assessed for free sanitary pad provisions and waste disposal. Two open-ended questions were included for feedback on the SBSV programme.

Proforma for Parents or Guardians

Ten closed-ended items were used to obtain information on toilet availability, type, handwashing facilities, lighting, ventilation, safety, functionality and usability besides the menstrual hygiene facilities as per WASH guidelines.

Document Review Template

A document review template, with three sections, having 26 items to review the research reports and articles, handbooks, guidelines, websites, etc., to cull out information or findings on sanitation and hygiene component of the WASH indicators was employed.

Data Collection, Recording and Analysis

Both school proforma and parents or guardians proforma were developed as google forms and uploaded on google links. Separate links were created for the Hindi and English versions of the tools to be shared with the Hindi speaking and other states and UTs, respectively. Online mode of data collection was employed. Each respondent was assigned a unique code. To collect data from 260 schools from ten states and UTs, the State Project Directors (SPDs) were briefed about the study both verbally and in writing, obtaining their consent to participate. The state coordinators nominated by them were oriented on the process of data collection and were provided with the guidelines. The links of the tools were shared with the state functionaries or schools to gather data from respective schools and parents. Out of 260 school principals or head teachers, targeted from the sampled schools of the selected districts, 255 principals or head teachers (98.0 per cent) responded and 977 parents were part of the study. Five schools in all (two each from Nagaland and Tripura, and one from Chandigarh) did not provide the data, however, the percentage was calculated based on the number of schools that responded from a particular state or UT.

The literature collected included relevant indexed research articles, thesis, books/handbooks, reports, news articles and documents from different international and national (both governmental and non-governmental) were also procured. Separate folders were created for each category and information related to each item of the DRT (was searched using keywords of WASH components) and colour-coded.

Tables, bars and pie graphs were created using the quantitative data that was gathered from each respondent and then filtered in excel sheets. The data was then transformed into percentages for both the general and state-specific data. In order to have a clearer understanding of the many SBSV components inside and between the regions, states and UTs, it was thoroughly examined. In addition to generating tables and graphs for the data, a cross-sectional analysis of the data for a few elements inside the tool was also performed. To maintain the integrity of the data, certain qualitative replies regarding different WASH components that were provided by parents and principals were included verbatim. In addition, a triangulation of the data using several tools and items aided in presenting the case logically and providing evidence to draw relevant conclusions following a thorough examination in accordance with WASH component criteria.

Limitations

The following limitations were encountered in the course of the completion of the study.

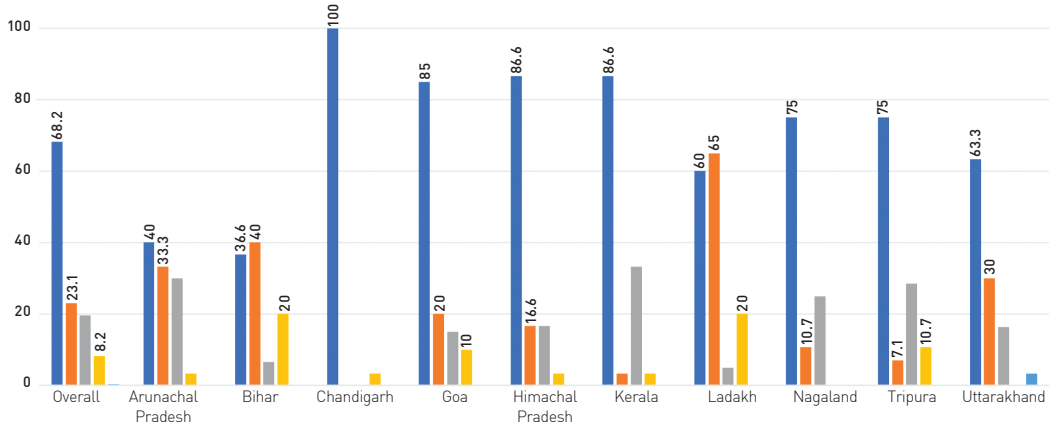
- Due to the Covid pandemic situation, the study was conducted in an online mode.
- The e-mode was limited to obtaining opinions of different stakeholders using questionnaires only.
- The online mode adopted could have impeded the participation of parents who were not tech savvy with the mode.
- The children were not involved as obtaining data from them could have restricted or limited the study only to the senior students as involving younger children was quite challenging.
- Five schools in all (two each from Nagaland and Tripura, and one from Chandigarh) did not provide the data and cited the reason of non-functional link of the tools.

Results and Discussion

This section discusses the toilets, handwash and menstrual hygiene provisions. The data is analysed against the norms laid down for each of these components by the MHRD under the SBSV programme.

Types of Toilets

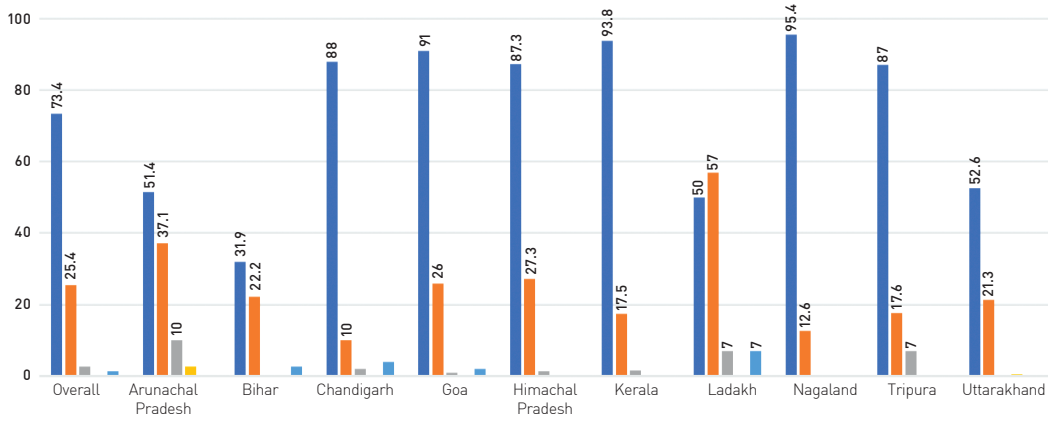
The norms suggest that there should be preferably improved toilets (flush or pour flush toilets, pit latrines with slab and composting toilets) over unimproved toilets (pit latrines without slab, hanging latrine, toilet seat or squatting plate over drain or a water body and bucket latrine) in schools. The data suggests that toilets in schools are predominantly the Indian flush toilets wherein Chandigarh, Himachal Pradesh, Kerala and Goa are ahead of others on this aspect (Fig. 2). The parents' responses affirm the statement on the availability of the types of toilets in schools across states/UTs (Fig. 3). Arunachal Pradesh and Bihar are lagging behind others. Only one school in Uttarakhand reported to have no toilet.



- Indian Flush Toilets
- Pit Latrines with Slab/Compost Toilets (a pit dug in the ground and a cover slab or floor above the hole)
- Pour Toilets (Regular cisterns flush toilet except that the water is poured in by the user)
- Any Other
- No Toilet

*response values below 5 per cent have not been marked.

Fig. 2. Types of toilet in schools (in per cent)



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*response values below 5 per cent have not been marked.

Fig. 3. Parents' responses on types of toilets (in per cent)

Some parents raised concerns over the lack of availability of toilets and water in toilets.

Parents' Responses

1. 'Proper flush toilets to be installed and availability of water should be checked' —Arunachal Pradesh
2. 'Made (English)' toilets on every floor; Western toilets are mandatory and made it a point so that small children also access it" —Chandigarh–03

Separate Toilets for Boys, Girls and CWSN

The norms recommend that there should be separate toilets for boys and girls and CWSN with one toilet unit equipped with one water closet or thrush toilet (WC) plus three urinals. The ratio is one unit for 40 students in residential schools and 1:20 students in non-residential schools for both boys and girls.

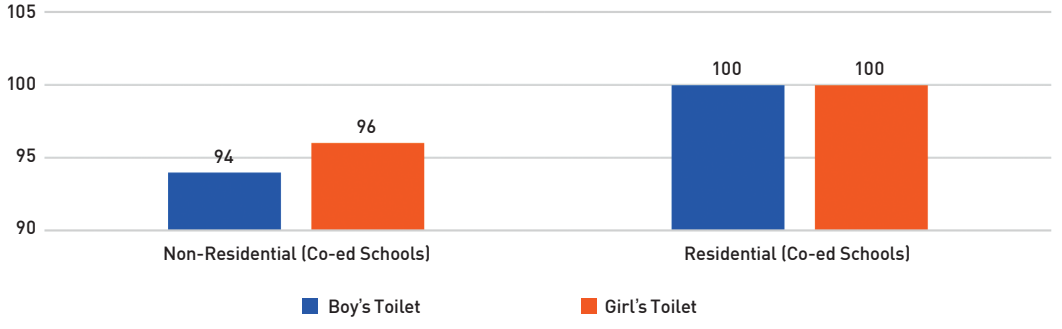


Fig. 4. Girl's and boy's toilets in schools (in per cent)

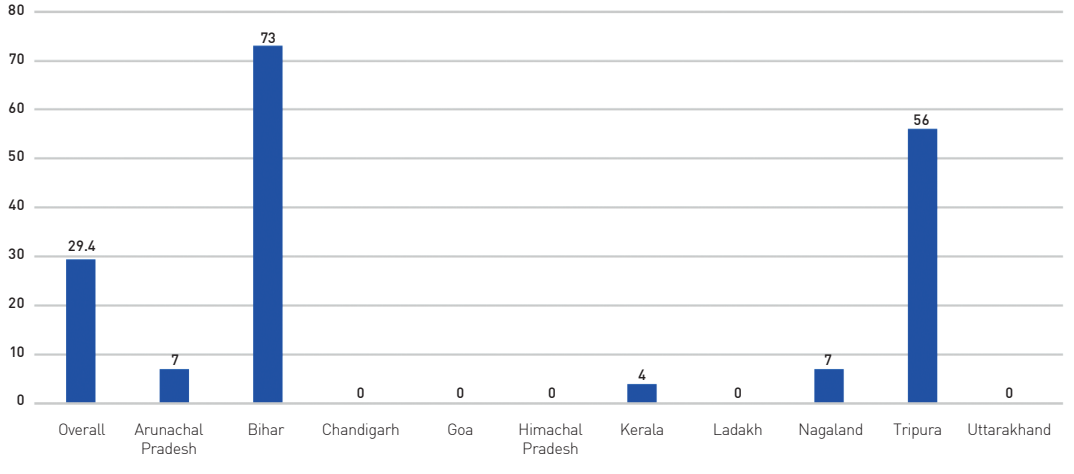


Fig. 5. Non-residential co-ed schools not observing norms for toilets

Almost all the schools have separate toilets for boys and girls (Fig. 4). The parents or guardians, too, conformed to this. Chandigarh, Himachal Pradesh, Ladakh, Uttarakhand and Goa are doing better and following the norms in non-residential schools (Fig. 5). Except Chandigarh and Himachal Pradesh, the residential schools in Arunachal Pradesh, Kerala, Tripura, Ladakh and Uttarakhand followed the norms (Fig. 6).

The situation for separate toilets for CWSN is grim across all states with Kerala and Himachal Pradesh doing better than others (Fig. 7). No sampled schools in Arunachal Pradesh have separate toilets for CWSN despite having such children in 5 schools.

Few principals and some parents have raised concern over the lack of toilets as stated below.

Principals' Responses

- "At first, we had no funds to improve the condition of toilets and handwash facilities for students. After we received the funds we improved the condition of toilets in schools"—Himachal Pradesh
- "Lack of area, lack of toilets"—Kerala
- "To construct toilets as per the strength of the students"—Himachal Pradesh

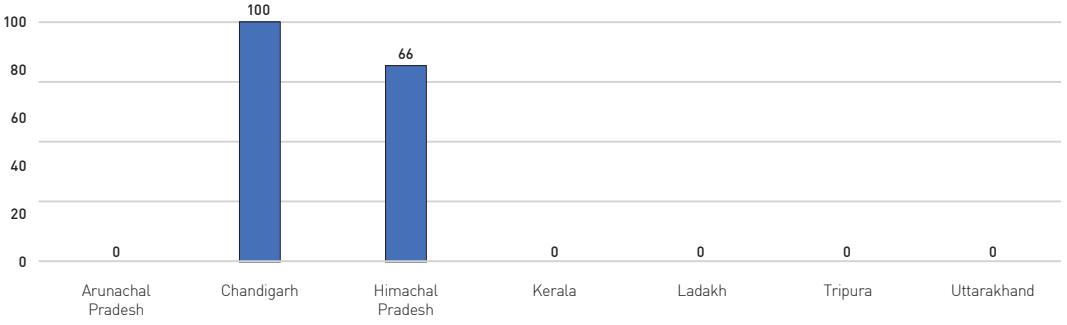


Fig. 6. Residential co-ed schools not observing norms for toilets (in per cent)

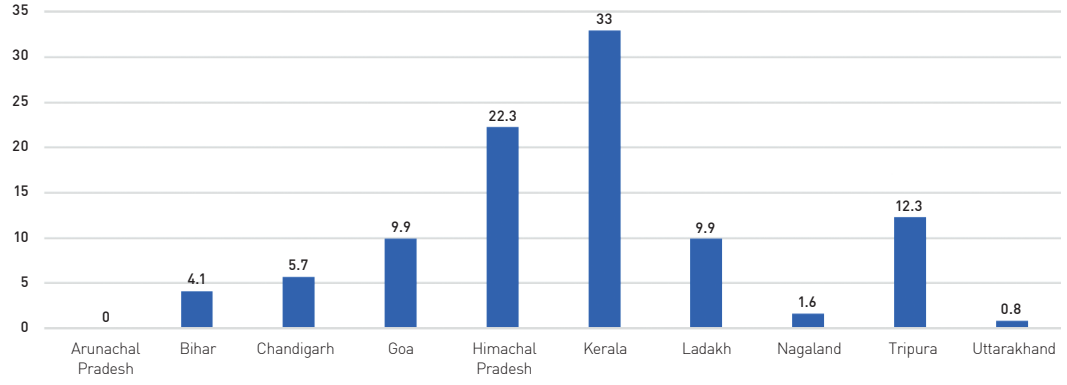


Fig. 7. Total number of toilets for CWSN (in per cent)

Parents' Responses

- "More toilets are required"—(14 responses) Arunachal Pradesh, Bihar, Himachal Pradesh-03, Kerala-02, Nagaland-04, Tripura-02, Uttarakhand
- "Need of toilets in school"–Arunachal Pradesh
- "पेशाब घर की आवश्कता है।" (4 responses) —Bihar–02, Kerala–02
- "Separate urinal, toilet and handwash basin for boys and girls are much needed" (11 responses)—Arunachal Pradesh, Bihar, Kerala–06, Nagaland–03
- "शौचालय और मूत्रालय के लिए और जगह की जरूरत है।" (3 responses) (Space for toilets and urinals is required)—Bihar–02, Goa
- "Provide more number of toilets and CWSN toilets"—Kerala
- "Improve the toilets"—Chandigarh
- "Toilets should be properly constructed and water for handwash should be provided regularly" (4 responses)—Arunachal Pradesh–02, Ladakh–02

As per the norms, teachers, support staff and students are expected to use the same toilets in schools. All the sampled schools have separate toilets for teachers or staff across states or UTs with Chandigarh, Goa and Ladakh leading (Fig. 8).

Principals' views aligned with parents' except in Arunachal Pradesh where 47.2 per cent parents said the schools have separate toilets for the teachers/staff as in Fig. 9 as against 56 per cent of the principals' responses. All the schools reported to have common toilets and Arunachal Pradesh, Uttarakhand and Bihar are leading on this aspect. Chandigarh and Himachal Pradesh need to look into this aspect (Fig. 10).

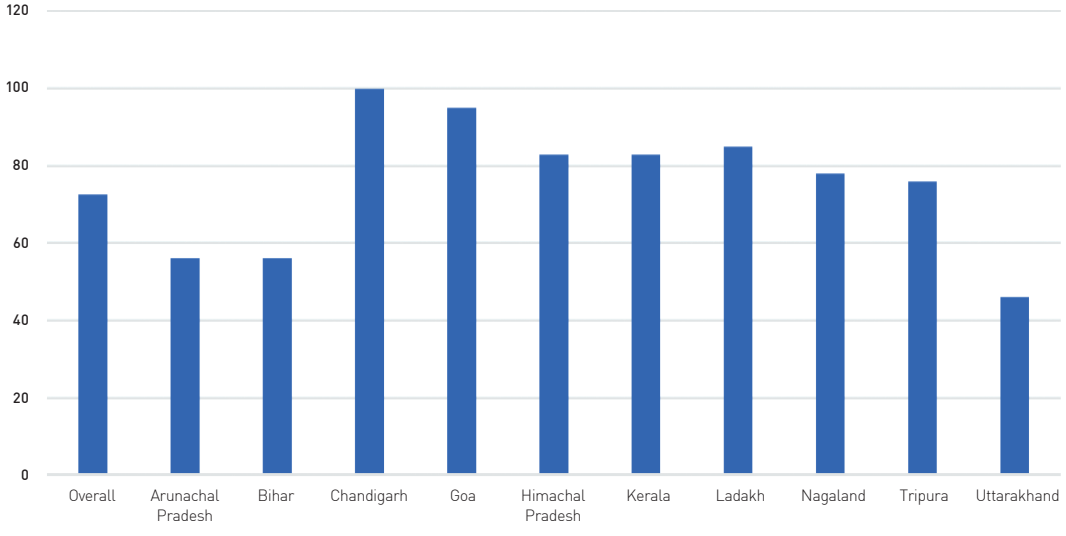
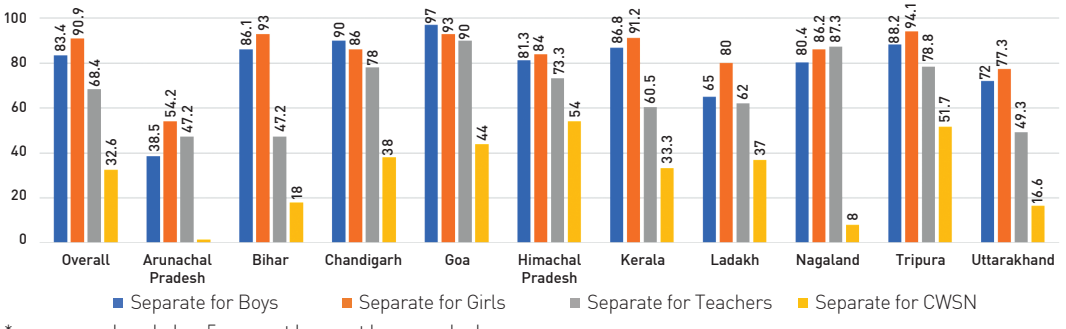


Fig. 8. Total number of schools with separate toilets for teachers or staff (in per cent)



*response values below 5 per cent have not been marked.

Fig. 9. Parents' responses on availability of toilets (in per cent)

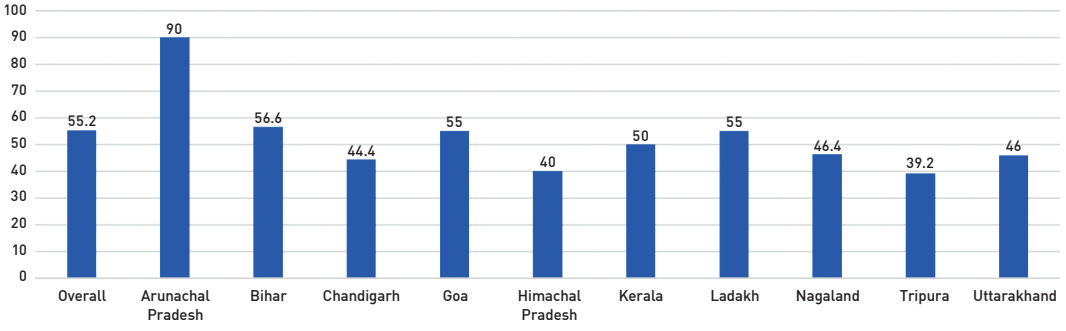
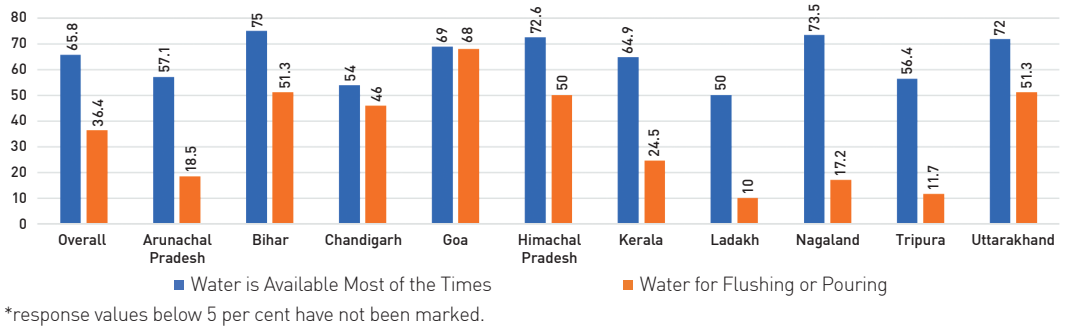


Fig. 10. Common toilets for all including girls, boys, teachers and staff (in per cent)



*response values below 5 per cent have not been marked.

Fig. 11. Parents' responses on availability of water in toilets in schools (in per cent)

Availability of Water and Drainage System in Toilets

Most schools across states or UTs have a water tap near the toilet seat as per norms (Fig. 11). However, the parents, in general, were concerned for water availability in toilets all day.

The lack of water for washing after toilet use in schools across Arunachal Pradesh and Ladakh is a matter of concern.

Almost an equal number of schools had a 'slope to drain', 'functional soak pit', 'flushing with water' as a drainage system in the toilets across states or UTs (Fig. 12).

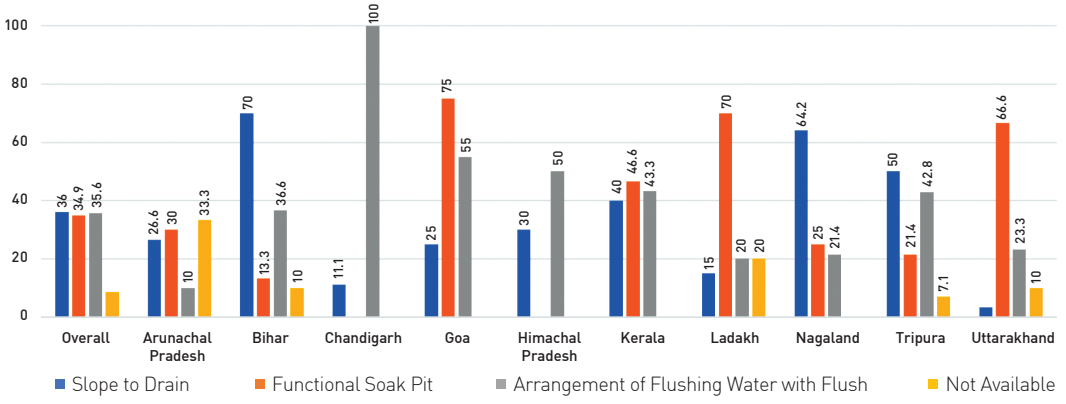
Some schools in Arunachal Pradesh, Bihar, Uttarakhand and Tripura had no drainage systems in toilets. Ladakh has some schools with toilets without drainage system.

A little more than one-third of the parents are satisfied with the working drainage system in schools (Fig. 13). However, due to the climatic and geographical constraints in Ladakh, the dry toilets without any flush system prevail which are highly eco-friendly.

Few principals and some parents have mentioned about the delayed maintenance of schools and lack of water supply.

Principals' Responses

- "Because of delayed maintenance of building by the concerned department, they faced difficulty in maintaining cleanliness" —Goa
- "Need for a proper water supply system round the year"—Ladakh
- "Maintenance grants should be increased"—Kerala



*response values below 5 per cent have not been marked.

Fig. 12. Availability of drainage system in toilets (in per cent)

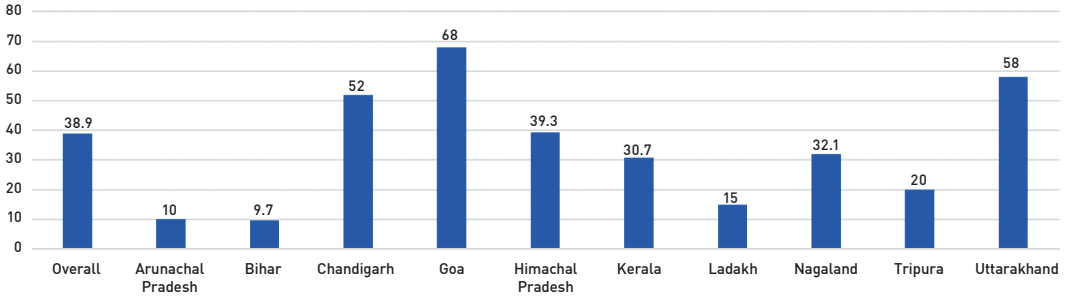


Fig. 13. Parents' responses on working drainage system (in per cent)

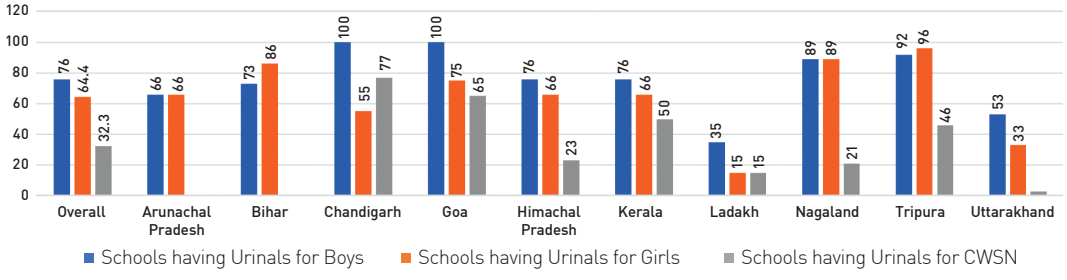
Parents' Responses

- "Toilets are not cleaned regularly and overhead water tank is leaking."—Tripura
- "Set up a proper sanitary system in villages and rural areas by constructing drains"—Arunachal Pradesh
- "Proper water connection and storage tank not available" (02 responses) —Arunachal Pradesh, Nagaland
- "Proper flush toilets to be installed and availability of water should be checked"—Arunachal Pradesh

Toilets or Urinals for Boys, Girls and CWSN

The norms for toilets or urinals for boys, girls and CWSN with separate toilets for boys and girls and CWSN with one unit generally having one toilet (WC) plus three urinals or squatting plates and partition between both boys' and girls' urinals. For non-residential schools, one toilet should preferably have three urinals or squatting plates for every 40 students (both boys and girls) and three urinals or squatting plates for 20 students (both boys and girls) for residential schools. The data reveals that 76 per cent of schools have boys' urinals and 64.4 per cent of the schools have girls' urinals overall (Fig. 14). Schools with boys' urinals outnumbered the ones having girls' urinals across the states or UTs except Arunachal Pradesh and Nagaland which reflected an equal number of schools.

Chandigarh and Goa are doing better with respect to urinals for boys and Tripura, Nagaland and Bihar are ahead of others with respect to girls' urinals. Chandigarh, Goa and Kerala are performing good for CWSN urinals. Arunachal Pradesh,



*response values below 5 per cent have not been marked.

Fig. 14. Urinals for boys, girls and CWSN (in per cent)

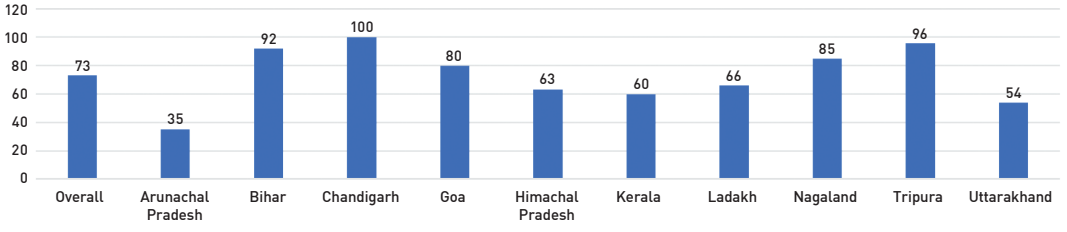


Fig. 15. Non-residential schools not observing norms for urinals (in per cent)

Uttarakhand and Kerala perform better with respect to schools adhering to norms for availability of urinals in non-residential schools (Fig. 15). For the residential schools, Kerala, Ladakh and Uttarakhand are doing better than other states or UTs (Fig. 16). Chandigarh, Goa and Nagaland have all the schools adhering to norms with respect to urinals (Fig. 17). However, Ladakh and Uttarakhand need to look into this aspect.

Many parents have raised concern over the need for separate toilets or urinals for boys and girls in schools as presented verbatim here:

Parents' or Guardians' Responses

1. "Separate urinals or toilets for boys and girls are much needed." (11 responses) Arunachal Pradesh, Bihar, Kerala-06, Nagaland-03
2. "शौचालय और मूत्रालय के लिए और जगह की जरूरत है।" (03 responses) Bihar-02, Goa-01

Accessibility of Toilets, Facility for CWSN and Height of Urinals

It is important that the toilets have ease of access (distance, height of urinals, facilities for CWSN) for all the children. Most of the schools have built toilet at a convenient

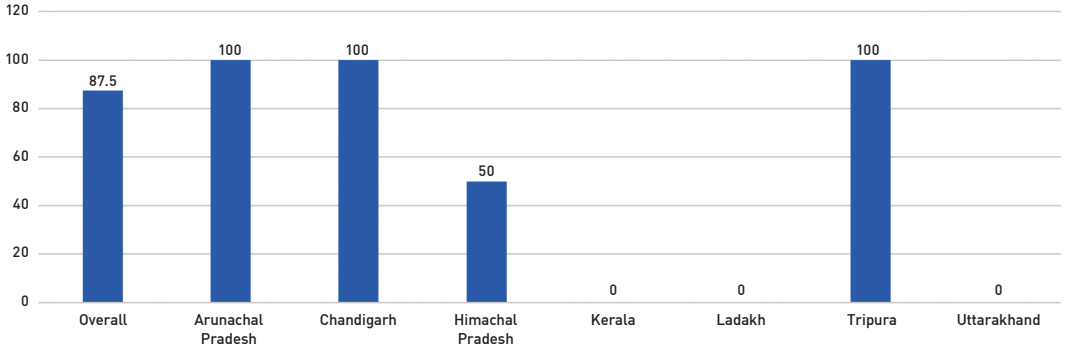


Fig. 16. Residential schools not observing norms for urinals (in per cent)

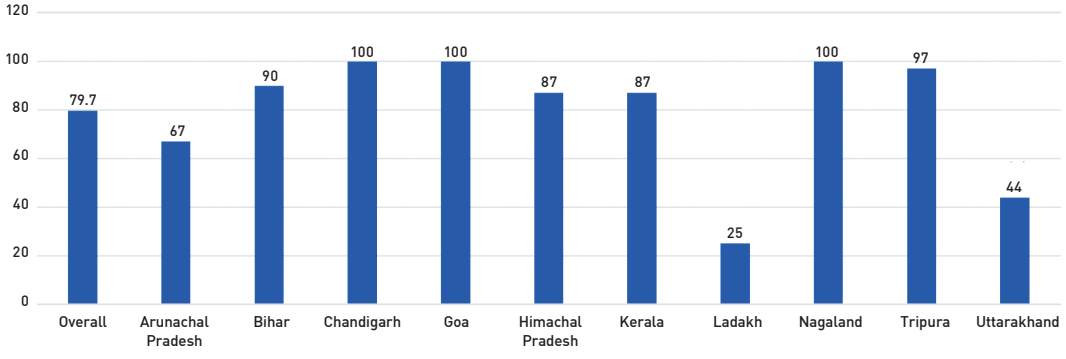


Fig. 17. Total number of urinals in schools (in per cent)

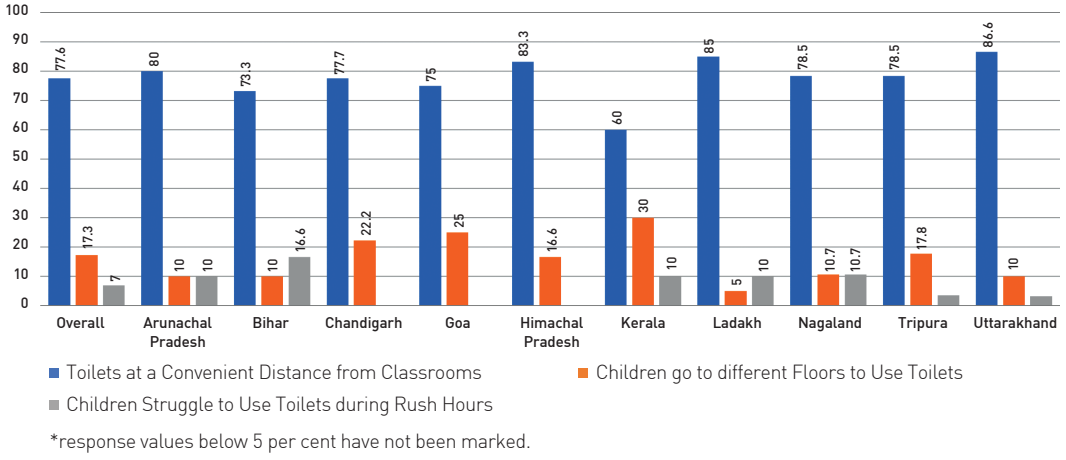


Fig. 18. Ease of access to toilets (in per cent)

distance from classrooms. Uttarakhand, Ladakh and Himachal Pradesh are doing better than other states or UTs on this (Fig. 18). A sizeable number of schools in Kerala, Goa and Chandigarh reported children going to different floors to use toilets. Except Himachal Pradesh, Chandigarh and Goa, a few schools from the rest of the states or UTs reported children struggling to use toilets during rush hours; Bihar reported the highest number of schools.

As per the norms, CWSN toilets in every school should be equipped with necessary facilities such as ramp, handrail and a wide door for wheelchair entry and a support structure inside the toilet. On an average, Himachal Pradesh, Kerala and Ladakh are ahead of other states or UTs with respect to availability of toilet facilities for CWSN (Fig. 19). It is surprising to see that there are schools across all states or UTs having CWSN but no toilet facility for them suited to their needs. Except Himachal Pradesh, this has been found across all states or UTs.

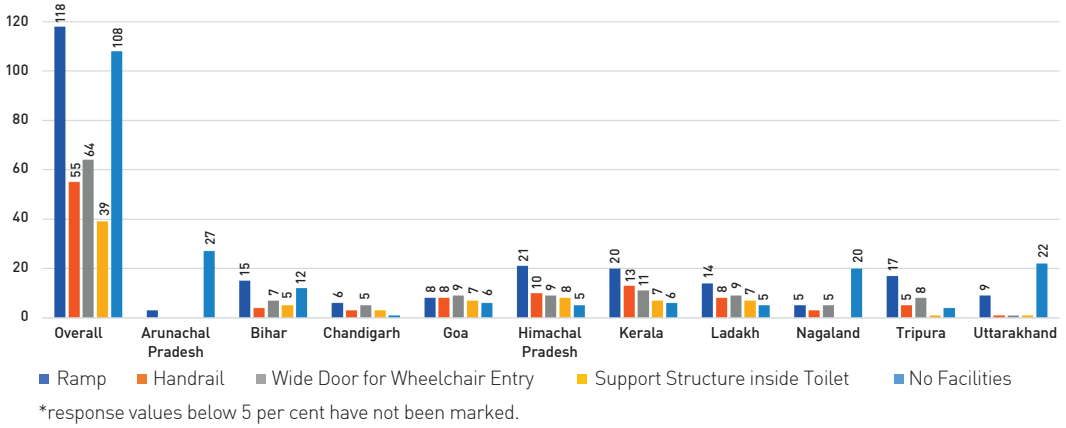
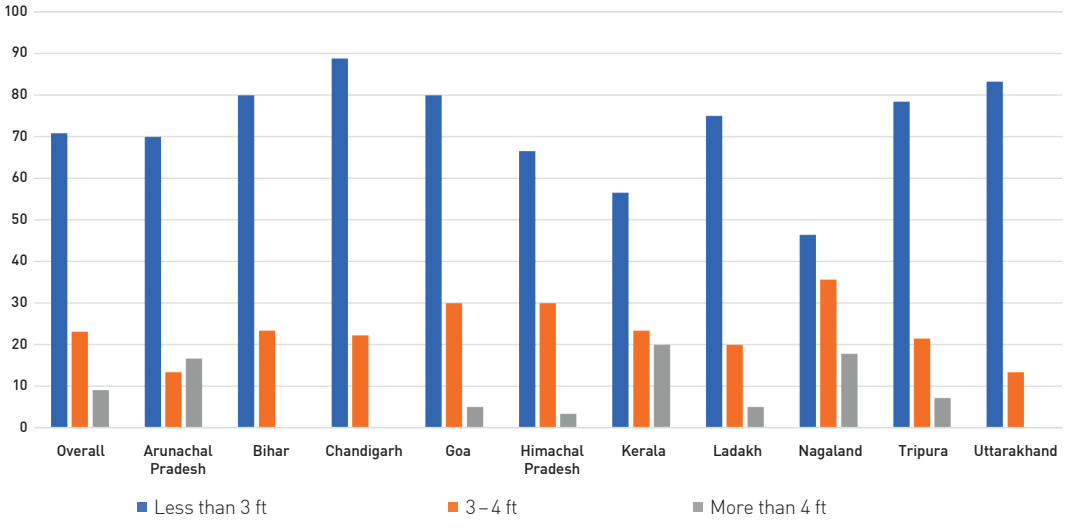


Fig. 19. Facilities for CWSN (in number)



*response values below 5 per cent have not been marked.

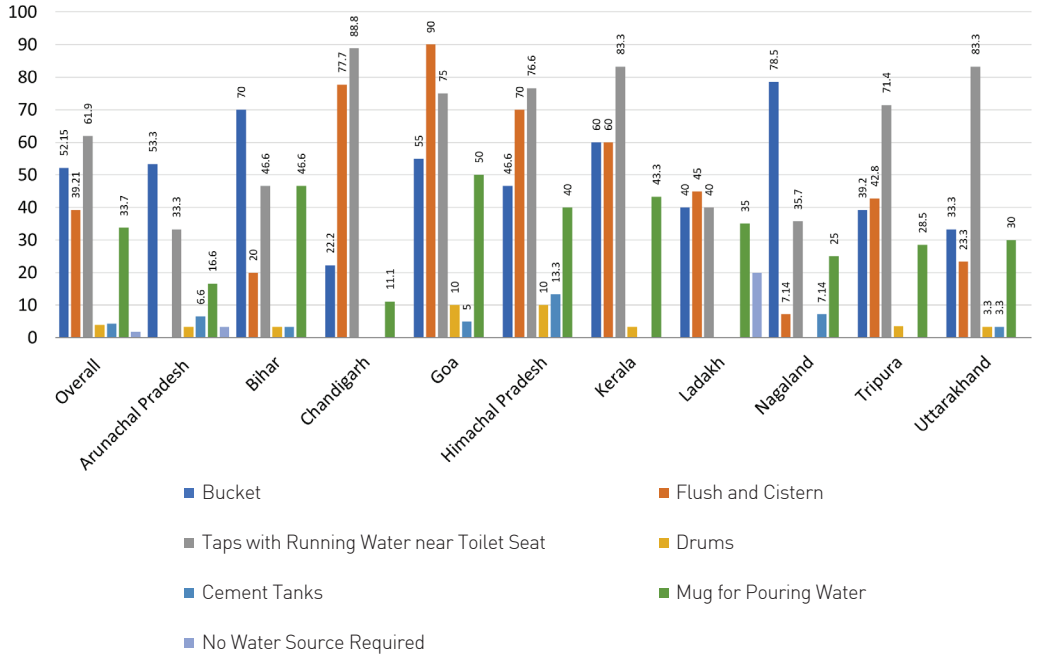
Fig. 20. Height of urinals (in per cent)

The norm for the height of the urinal facility directs that it should be suitable for children of all age groups in the school. All the sampled schools across the states or UTs have urinals at appropriate heights accessible to children of all age groups. Chandigarh, Uttarakhand, Goa and Bihar are performing better than others on this aspect (Fig. 20).

Functionality of Toilets and Urinals

The norms suggest that water should be available in toilets, and the flush, cistern and drainage system should be in working condition. The data suggests that the water availability in toilets is predominantly a tap with running water near the toilet seat (Fig. 21). Chandigarh, Kerala and Uttarakhand are ahead of others on this aspect. The flush and cistern are best available and functional in schools of Goa followed by Chandigarh and Himachal Pradesh. The parents' responses confirm this (Fig. 22). The data also reveals that majority of the schools' toilets for boys and girls are in working condition (Fig. 23). Tripura and Uttarakhand are exceptionally doing better with respect to working condition of toilets for boys and girls, while all the CWSN toilets in schools of Bihar, Goa, Himachal Pradesh, Nagaland and Tripura are in working condition. However, Bihar, Goa, Ladakh and Tripura recorded all the toilets for teachers and staffs in working condition.

The norms for urinals direct that they should be usable and functional. The trend is showing that all the states or UTs are following the norms and performing well on this aspect (Fig. 24), except in Nagaland, where 42.8 per cent of the urinals for boys and girls in schools are not in working condition.



*response values below 5 per cent have not been marked.

Fig. 21. Water availability in toilet (in per cent)

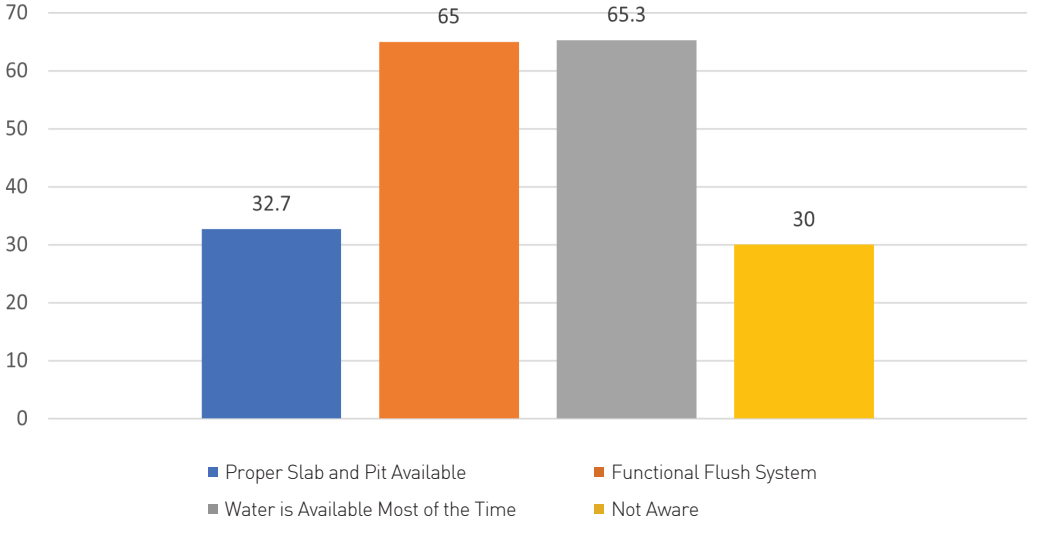
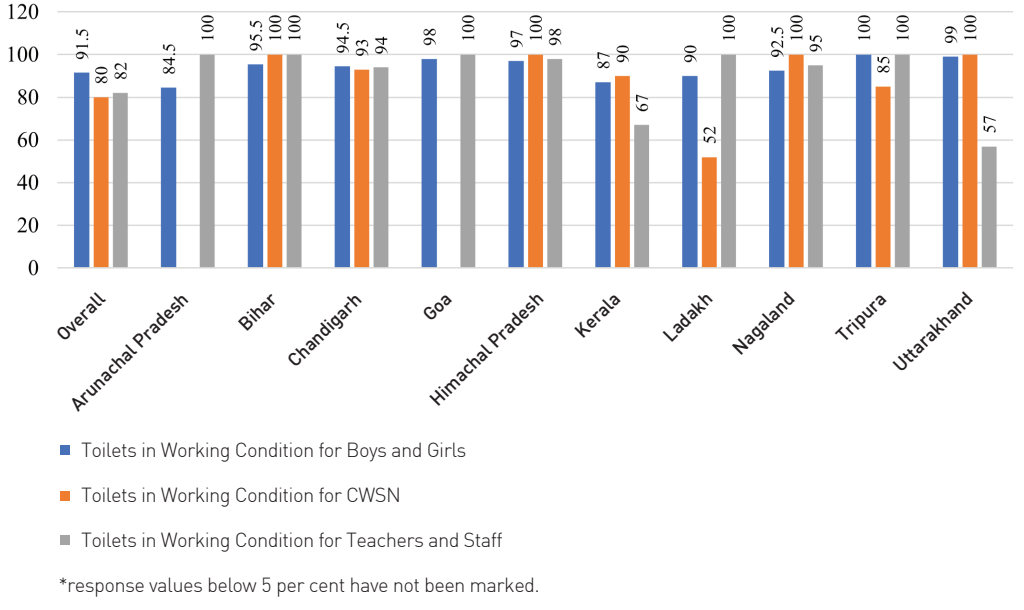
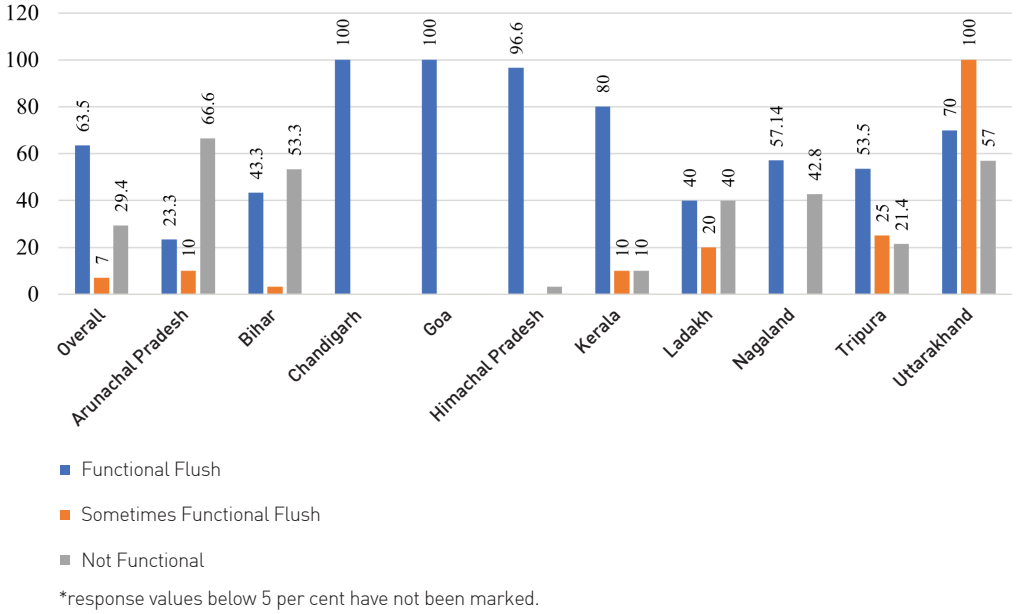


Fig. 22. Parents' responses on functionality of toilets (in per cent)



*response values below 5 per cent have not been marked.

Fig. 23. Working condition of toilets in schools (in per cent)

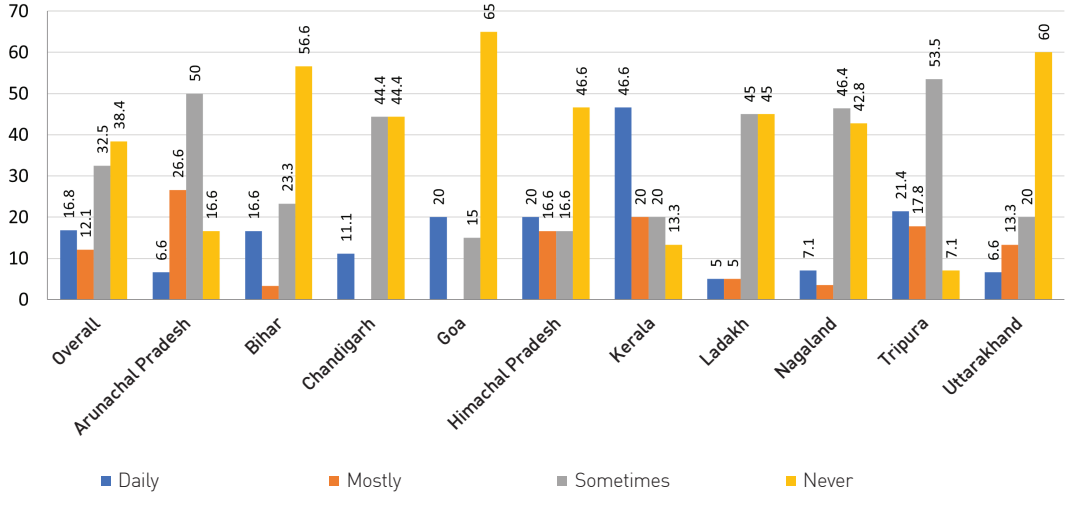


*response values below 5 per cent have not been marked.

Fig. 24. Functional toilet flush or cistern in schools (in per cent)

Clogging of Drains and Foul Smell in the Toilets

According to norms, the drainage system should be in working condition and there should be minimal odour (no foul smell) in and around toilets. Most of the states did well on this aspect with a lesser number of schools reporting daily (16.8 per cent schools) and mostly (12.1 per cent schools) clogging of drains (Fig. 25).



*response values below 5 per cent have not been marked.

Fig. 25. Clogging of drains (in per cent)

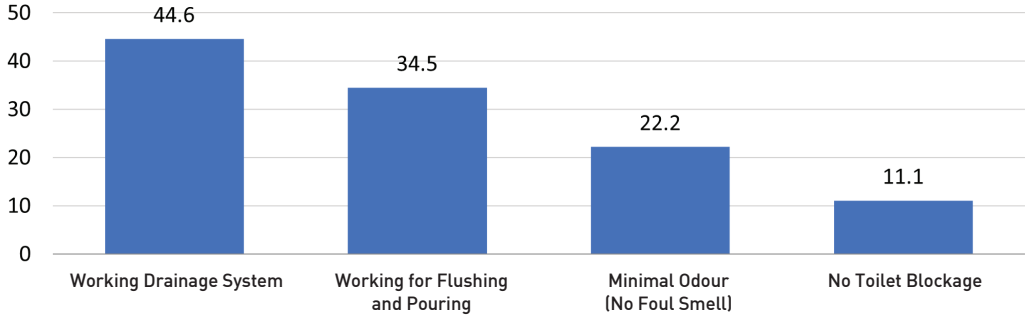
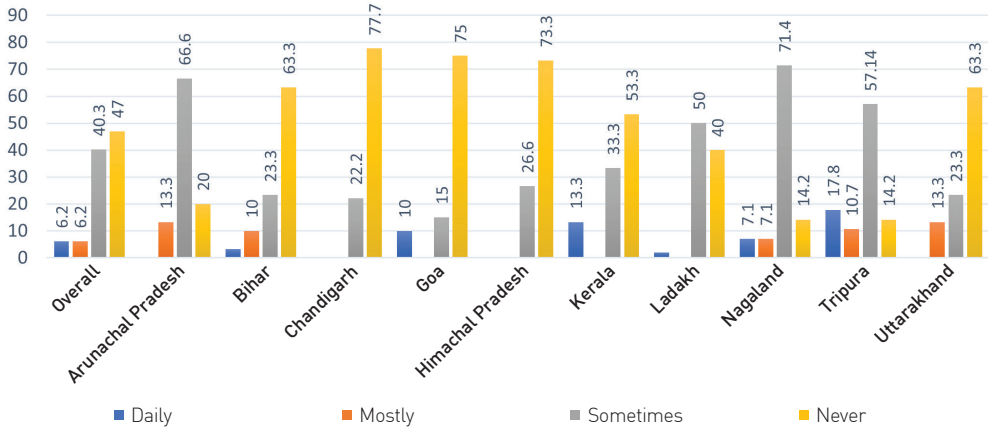


Fig. 26. Parents' responses on condition of drainage in school (in per cent)

The parents' or guardians' responses were in consonance with the principals' responses that less than half of the schools never experienced clogging of drains (Fig. 26).

Goa, Uttarakhand and Bihar reported a better performance on never clogging of drains while Kerala, Tripura and Arunachal Pradesh are lagging behind on this aspect. A large variation existed state-wise on this indicator where Chandigarh, Goa, Himachal Pradesh, Uttarakhand were found to be doing much better as compared to other states which were also above average with regard to 'no foul smell' in toilets (Fig. 27). However, the parents or guardians did not seem to agree with their responses, which revealed that less than one-third of schools have 'minimal odour' or 'no foul smell' in the toilets (Fig. 28).

Few principals and parents have mentioned about the blockage of drains in toilets, delayed maintenance and foul smells in schools. The verbatim statements are presented in the following—



*response values below 5 per cent have not been marked.

Fig. 27. Foul smell in toilets (in per cent)

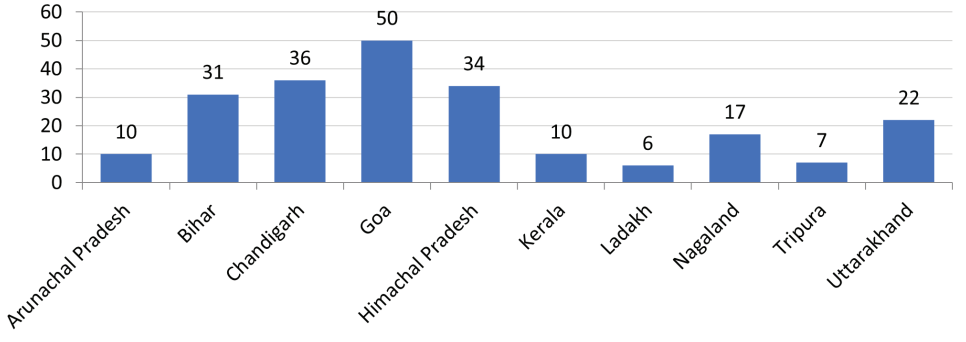


Fig. 28. Parents' responses on minimal odour or no smell (in per cent)

Principals' Responses

- "All toilets were blocked and were in worst conditions. School management with the help of parents made rapid arrangements for functioning of toilets and school campus"—Himachal Pradesh
- "Because of delayed maintenance of building by the concerned department, they faced difficulty in maintaining cleanliness"—Goa

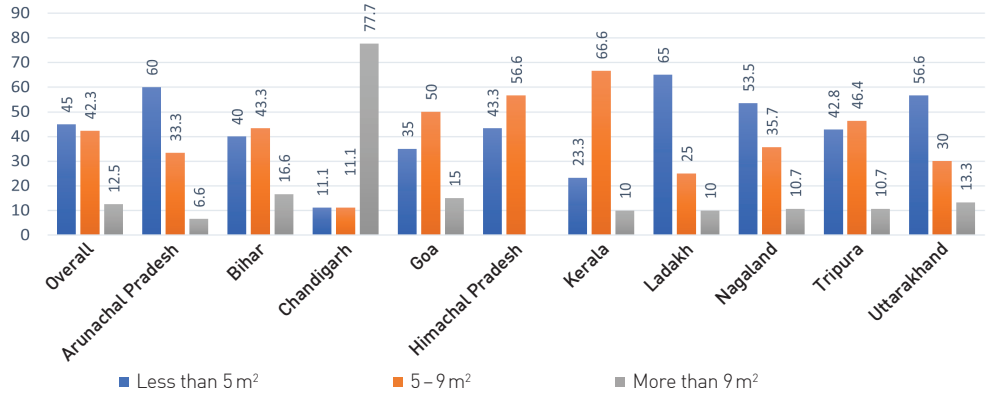
Parents' or Guardians' Responses

- "Washroom should not be stinking" —Chandigarh
- "The quantity of toilets should be increased and toilet deodorants should be used"—Uttarakhand
- "Need to think about toilet cleaning and flush system"—Himachal Pradesh

Provision of Size, Light and Ventilation in the Toilets

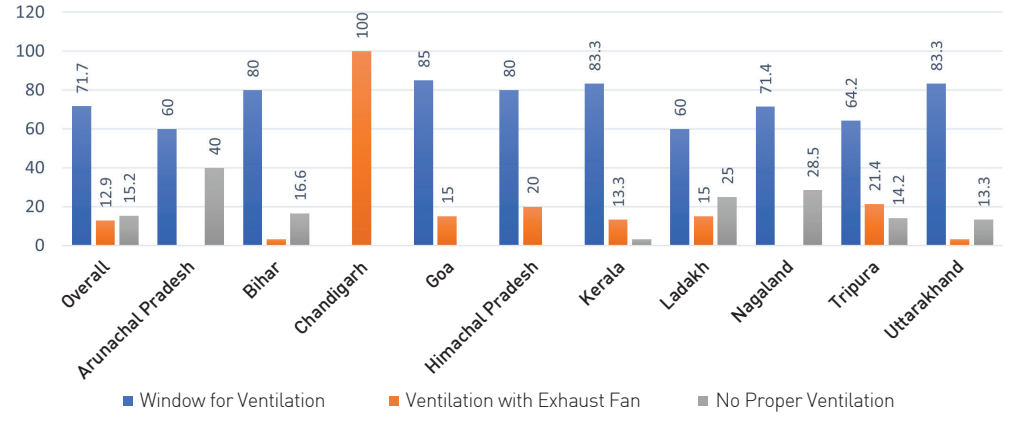
The norms suggest that the size of the toilet should be suitable for all age groups of children and there should be approximately 4 m^2 space for boys and 7 m^2 space with adequate squatting area for the girls. The data suggests that the hilly states or UTs have more small-sized toilets and these do not have adequate space especially for girls and Ladakh is the most prominent among all with Chandigarh and Kerala reporting the least number of such schools (Fig. 29).

With respect to light and ventilation, the norms recommend that there should be proper natural light and air ventilation arrangement in the toilets and urinals. One opening for natural ventilation in each toilet (450 mm × 450 mm) at an appropriate height and location. Chandigarh is leading on ventilation with exhaust fan in toilets, while Kerala, Uttarakhand and Goa are doing good with respect to window for ventilation (Fig. 30). In Nagaland and Arunachal Pradesh, the school toilets were constructed not in convergence with complementary facilities like ventilation with exhaust fan. Among states and UTs, Goa, Chandigarh and Kerala perform better with respect to the provisions of natural and electrical light. The others have 'only natural light' predominantly across schools (Fig. 31).



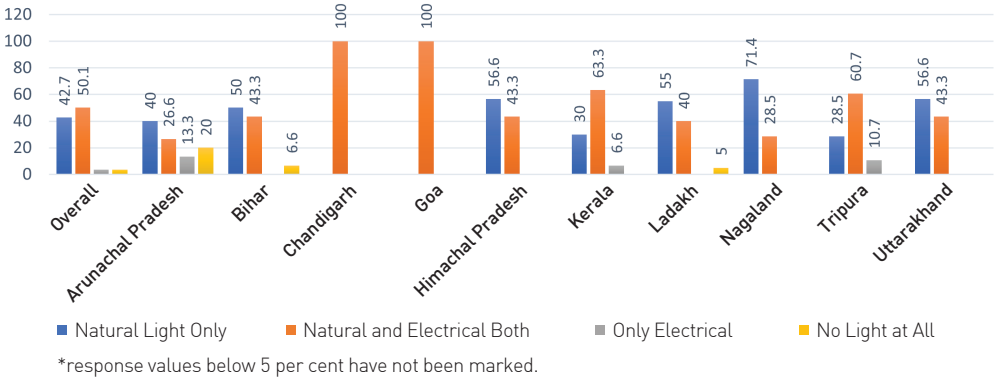
*response values below 5 per cent have not been marked.

Fig. 29. Size of toilet (in per cent)



*response values below 5 per cent have not been marked.

Fig. 30. Ventilation (in per cent)



*response values below 5 per cent have not been marked.

Fig. 31. Provision of light (in per cent)

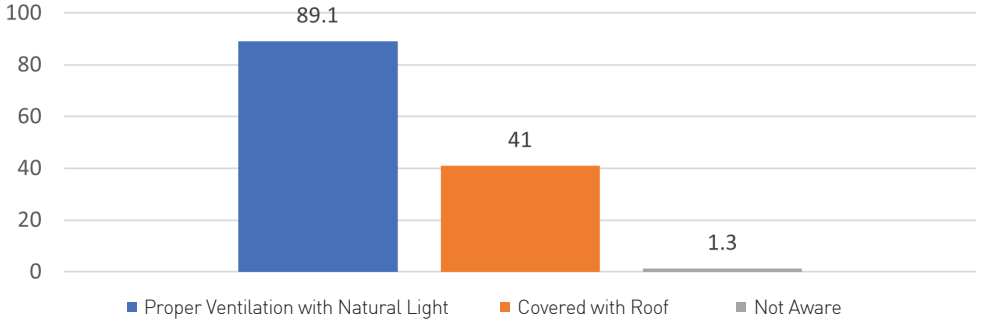


Fig. 32. Parents' responses on light and ventilation (in per cent)

Provisions for Privacy Arrangements

The norms say that there should be at least one secure door with a child-friendly latch in each toilet on each door. Except few schools in Arunachal Pradesh, all the schools across states or UTs have secured door in toilets (Fig. 33). Two-third of the parents' or guardians' responses affirm the same that the majority of the schools have toilets with secure doors (Fig. 34). However, those from Arunachal Pradesh and Ladakh do not seem to agree with the claim made by the principals or head teachers. Majority of the schools have latch attached at appropriate height (Fig. 35 and 36). Bihar, Goa, Uttarakhand and Himachal Pradesh perform better with respect to doors with latches at an appropriate height than other states or UTs. Arunachal Pradesh and Ladakh need to improve providing both 'door and latch' facility in toilets whereas Tripura needs to provide child accessible latches.

As per guidelines, two hooks for children to hang clothes may be attached to the door at a child-friendly height. The facilities were better available in Goa, Bihar and Kerala. The north-eastern states did not show an encouraging picture, especially Arunachal Pradesh and Nagaland. The other states and UTs are at an average in availability of hooks.

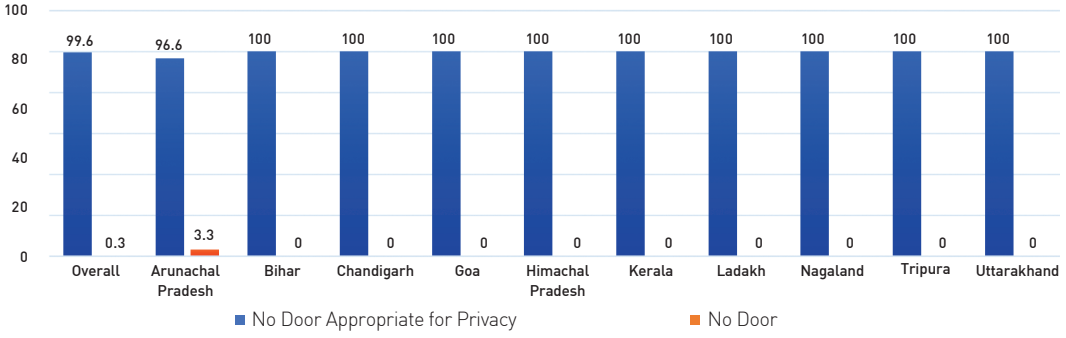


Fig. 33. Doors of toilet (in per cent)

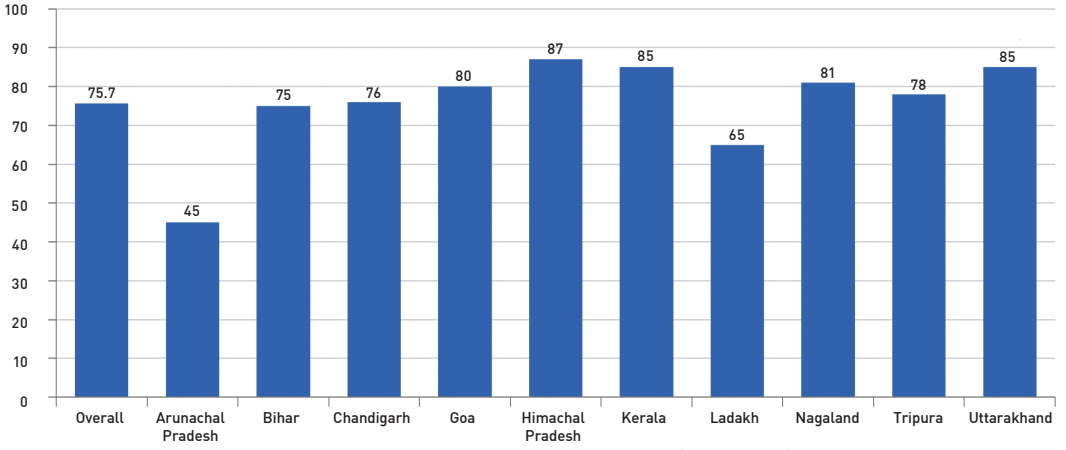


Fig. 34. Parents' responses on secure door (in per cent)

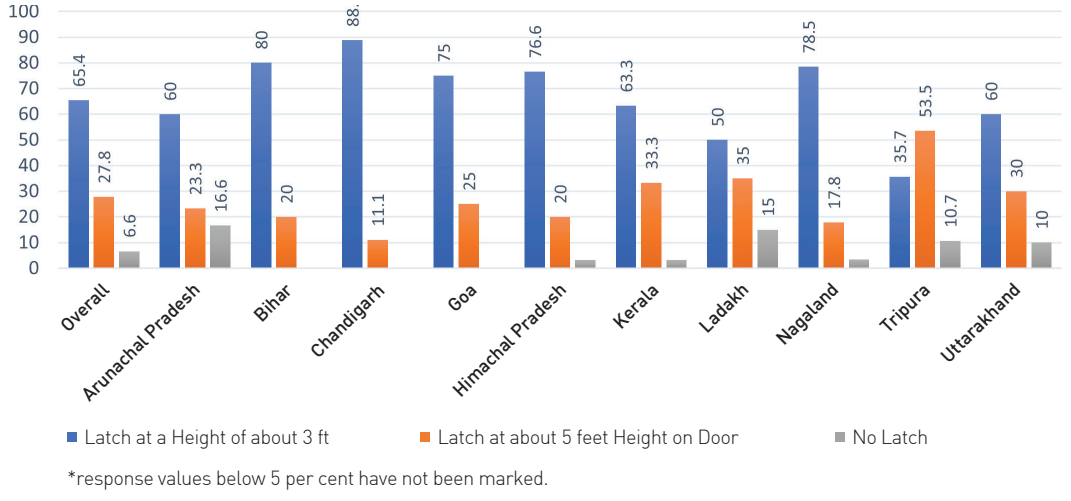


Fig. 35. Latch in toilets (in per cent)

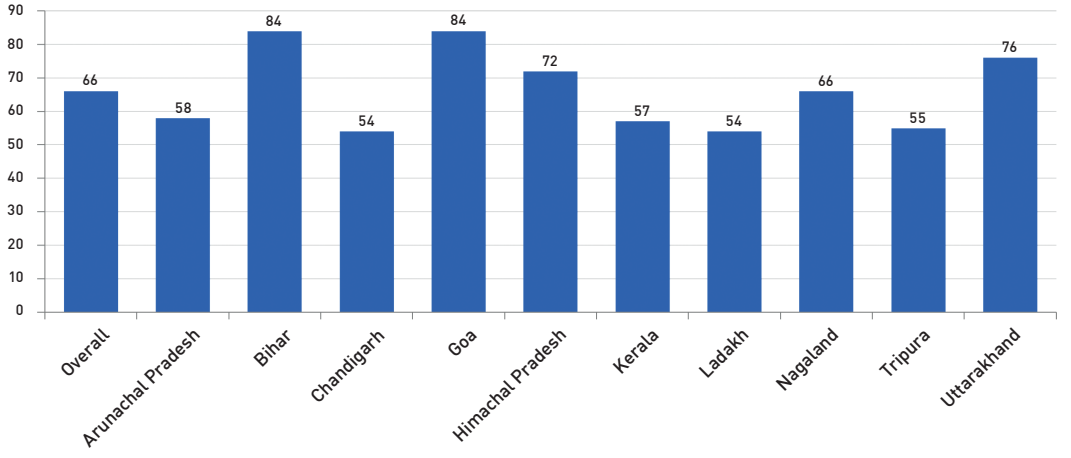


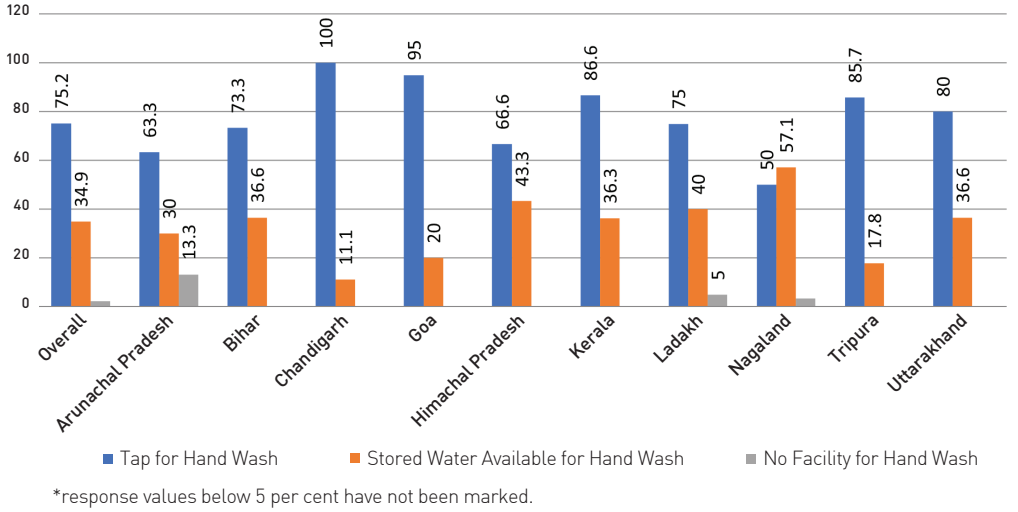
Fig. 36. Parents' responses on door with latch at appropriate height (in per cent)

Availability and Access to Handwash Facilities

As per norms, there should be separate handwashing stations outside or away from the toilet to wash hands before Mid Day Meal (MDM). The findings suggest that the handwash facility before the MDM is available in all states as per norms. Chandigarh, Goa and Kerala are doing better with respect to handwashing using tap water, before the MDM (Fig. 37).

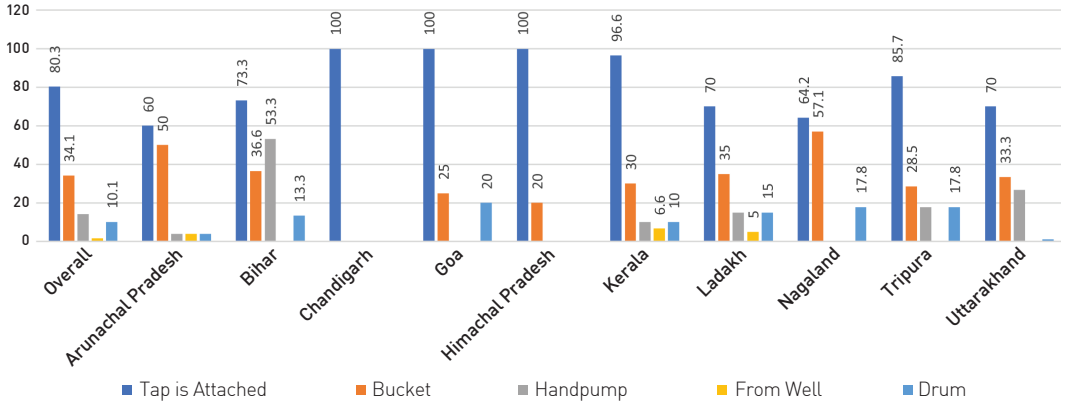
Also, the norms suggest that there should be separate handwashing points for

handwash after toilet use and a wash basin or handwashing point (with water provision) close to the toilet units that is wash basin either inside or attached to every toilet (with running water or water provision through hand pump, bucket, drum, etc.). The data suggests that Chandigarh, Goa, Himachal Pradesh and Kerala are doing better for the availability of taps for handwash before or after MDM and after toilet use (Fig. 38). Few schools of Arunachal Pradesh, Ladakh and Nagaland are a matter of concern on this aspect. Majority of the parents or guardians were satisfied with the availability of water for handwash after toilet use in the schools (Fig. 39).



*response values below 5 per cent have not been marked.

Fig. 37. Handwash before MDM (in per cent)



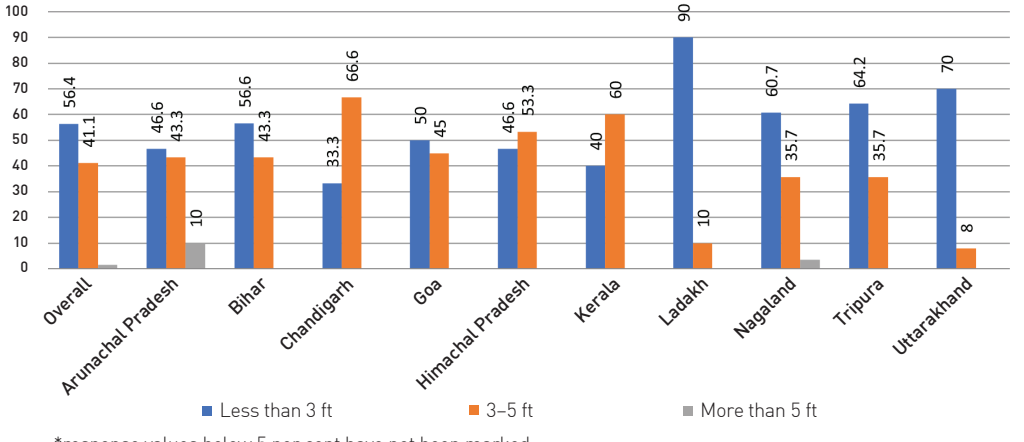
*response values below 5 per cent have not been marked.

Fig. 38. Sources of water in handwashing points

Fig. 39. Parents' responses on children washing hands after using the toilet (in per cent)

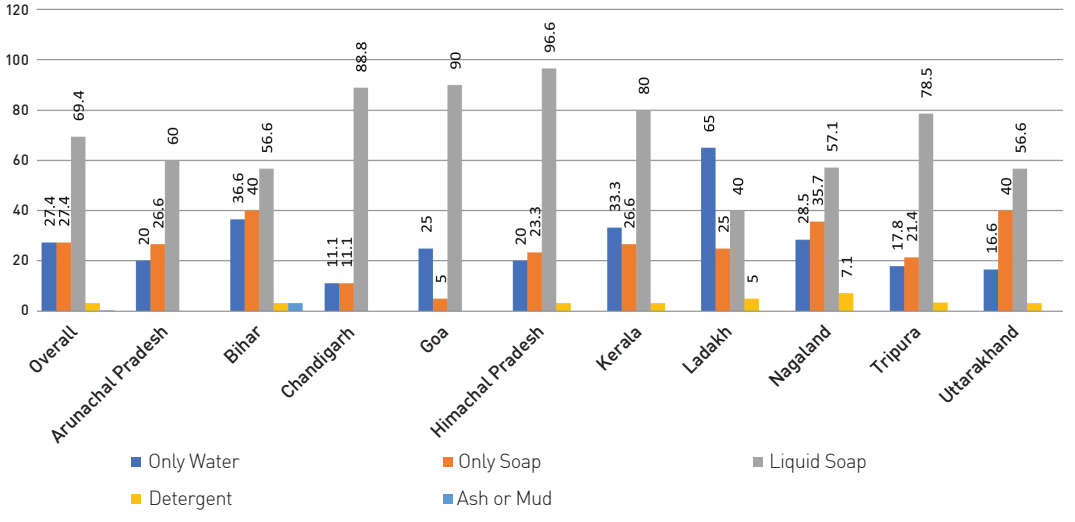
The norms say that height of wash basin should be made available at the child's accessible height. Our data reveals that Ladakh, Tripura and Uttarakhand are performing better on this aspect. Few schools in Arunachal Pradesh and Nagaland need to look into this aspect (Fig. 40). The norms also suggest that soap should also be made available at handwashing points. Himachal Pradesh, Goa, Chandigarh, Kerala and Tripura performed well with the provision of liquid soap for handwash (Fig. 41). Although a significant number of parents reported availability of 'soap' for handwash; some of them from Arunachal Pradesh, Ladakh, Chandigarh and Nagaland mentioned no facility for handwash.

It has been observed that almost all the schools have soap for handwash before MDM and after toilet use with soap to be easily available in around two-thirds of the schools. Himachal Pradesh, Chandigarh, Goa and Uttarakhand outperform the other states or UTs for easy availability of soap at washing points for MDM and toilet use (Fig. 42). Ladakh, Arunachal Pradesh and partially Bihar continue to be the bottom performing states or UTs on this aspect. The parents' responses are in parallel with the principals' responses except that Chandigarh is reported at the bottom in providing soap for handwash (Fig. 43).



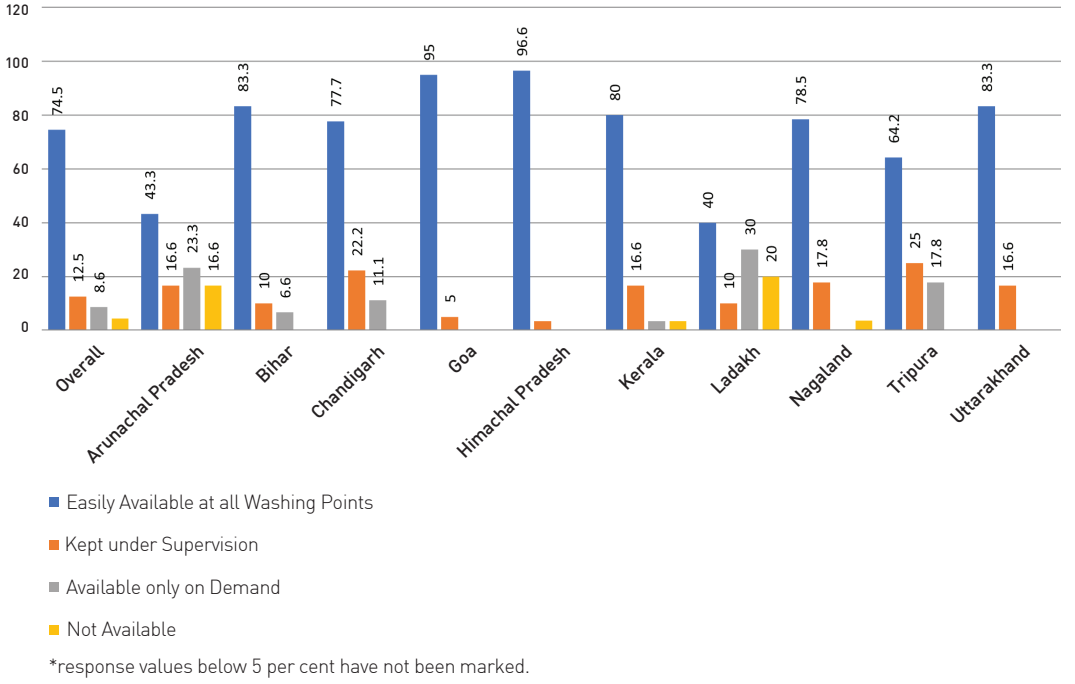
*response values below 5 per cent have not been marked.

Fig. 40. Height of toilet wash basin (in per cent)



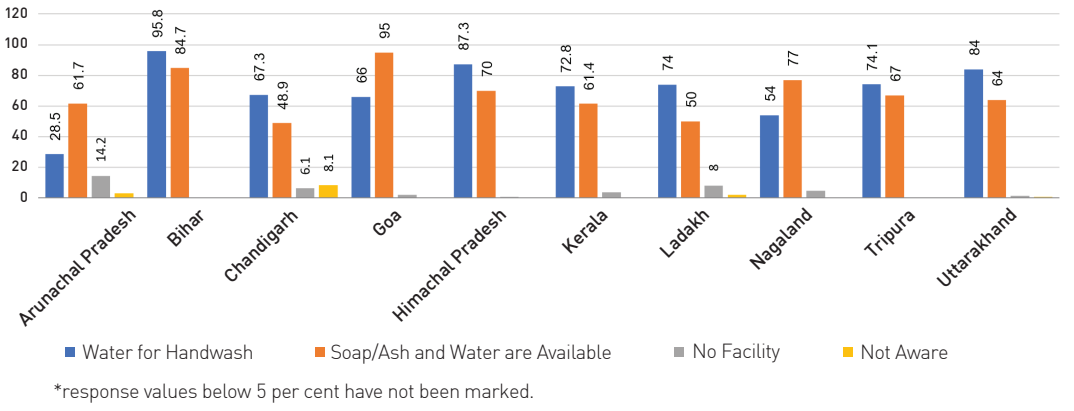
*response values below 5 per cent have not been marked.

Fig. 41. Provision of handwash after toilet use (in per cent)



*response values below 5 per cent have not been marked.

Fig. 42. Availability of soaps after toilet use (in per cent)



*response values below 5 per cent have not been marked.

Fig. 43. Parents' reponses on facilities of handwash in or around toilet (in per cent)

Few principals and many parents have raised concern over the involvement of parents, teachers and students in hygiene education and more handwash facilities in schools. The verbatim statements are presented below.

Principals' Responses

- "Teachers training on health and hygiene education is needed" —Arunachal Pradesh
- "Training is amicable for teachers and selected students for improvement of hygiene" (05 responses) — Kerala–04, Uttarakhand–01
- "Training or orientation programme should be conducted for parents, students, teachers and for community" — Goa

Parents' Responses

- "It is mandatory to put handwash points in the washrooms" (03 responses) — Chandigarh
- "Handwash basins for boys and girls |are much needed" (13 responses) — Arunachal Pradesh, Bihar – 03, Kerala – 06, Nagaland – 03
- "Water with handwash should be provided regularly for washing hands" (4 responses)— Arunachal Pradesh – 02, Ladakh – 02
- "Proper washbasins should be restored at school premises" (02 responses)— Arunachal Pradesh, Nagaland
- "Also proper arrangements of soap in toilets" (03 responses)—Chandigarh
- "Adequate water for handwashing"— Arunachal Pradesh
- "Students should be allowed to handwash every time before having their lunch instead of using sanitizers"—Uttarakhand

Provisions for Handwashing Points

The norm for handwashing says that there should be a handwashing point for every 20 children. The data reveals that Goa and

Himachal Pradesh are ahead of others with respect to handwashing points following the norm whereas Bihar and Tripura are performing the least (Fig. 44). Overall, all states or UTs need to improve on this aspect as fewer handwashing points especially in the schools with strength above 300 students lead to chaos before MDM and most of the students have to unfortunately consume food without washing hands (Fig. 45).

As per norms, the handwashing points should be close to the toilet units and should be inside or attached to every toilet unit. Most of the sampled schools across the states or UTs have a handwashing facility 'near the toilet' (Fig. 46). All schools in Chandigarh and some schools in other states or UTs have a handwashing facility 'inside the toilet'. The schools in Arunachal Pradesh, Tripura and Ladakh with 'no handwash facility' are a matter of concern.

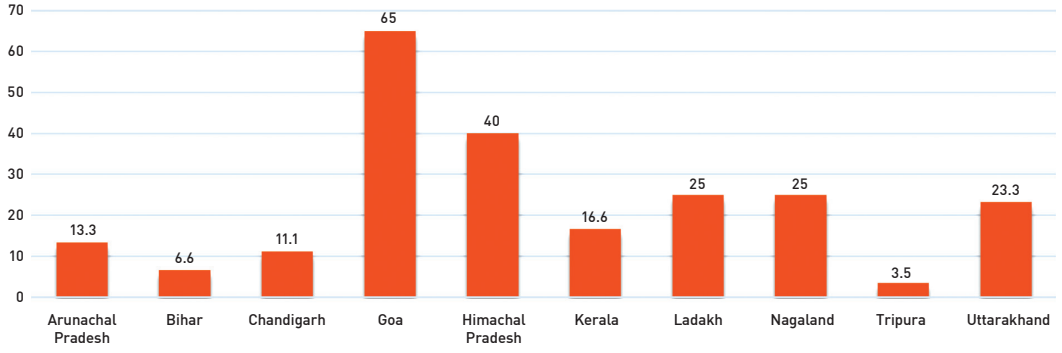
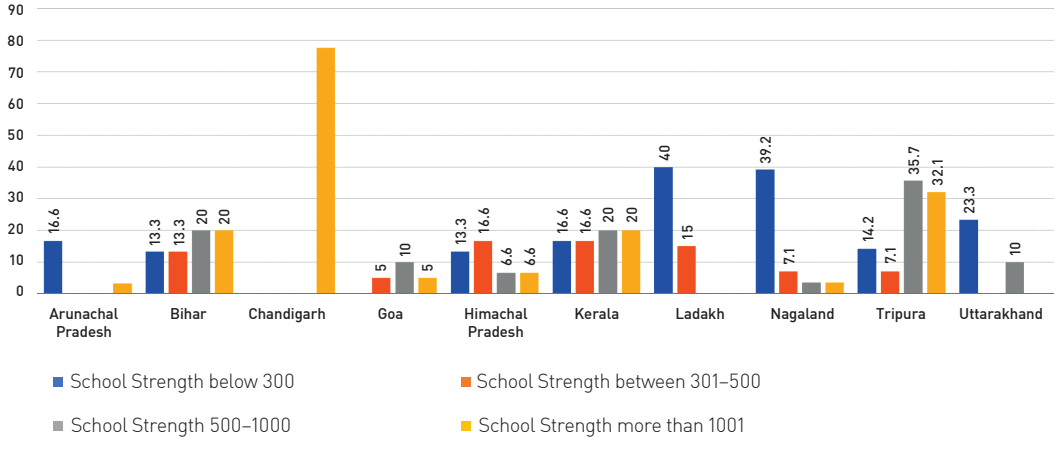
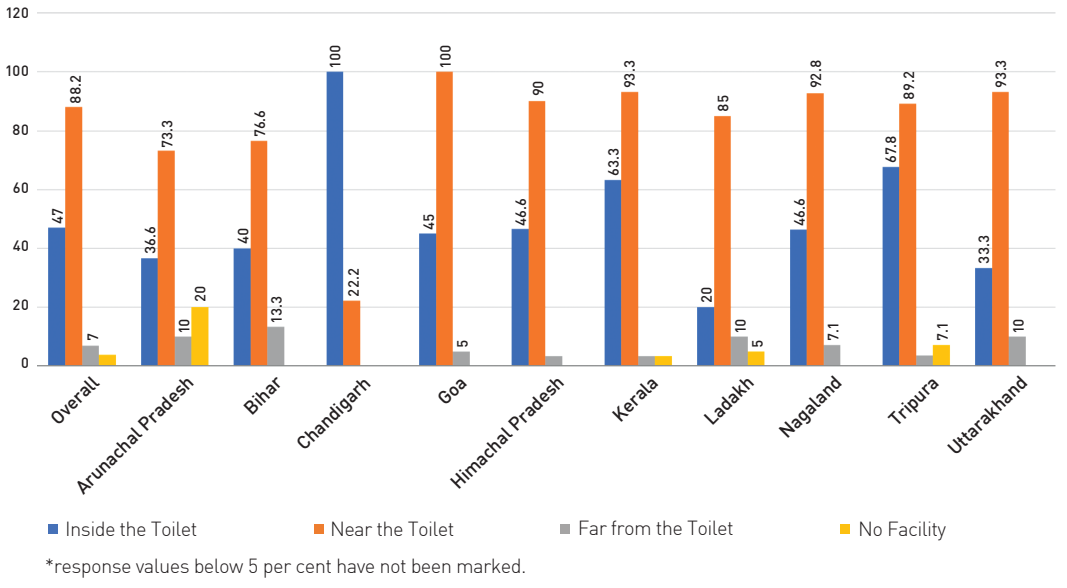


Fig. 44. Schools following the norm of handwashing points (one wash basin for 20 students) (in per cent)



*response values below 5 per cent have not been marked.

Fig. 45. Schools that are not following the norms for handwashing points (strength-wise) (in per cent)



*response values below 5 per cent have not been marked.

Fig. 46. Accessibility of handwash facility after toilet use (in per cent)

Menstrual Hygiene Management

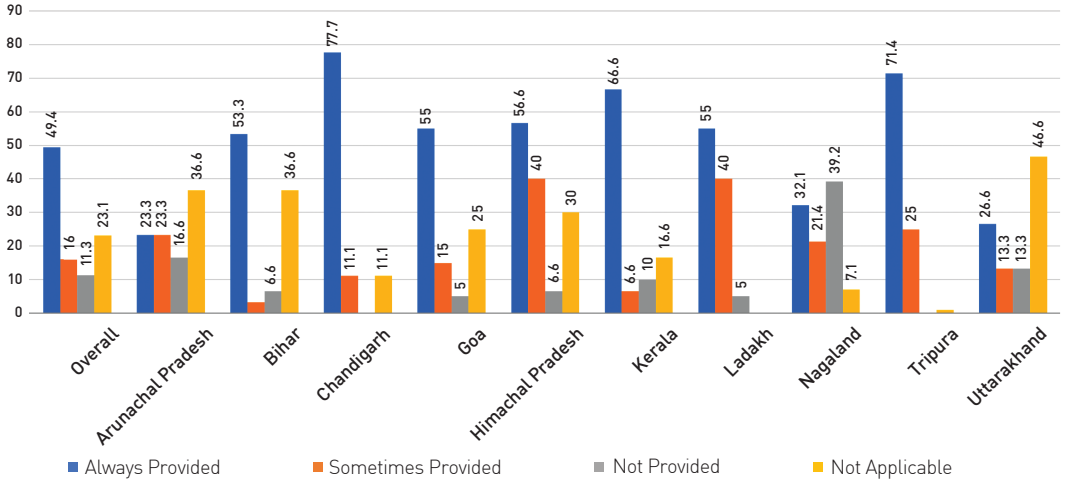
According to norms, the girls' toilet should have adequate sanitary pads, a rack for keeping sanitary pads, and water and soap facility for hand hygiene. The data reveals that nearly half of the sampled schools reported to 'Always provided' sanitary pads (Fig. 47). Chandigarh, Tripura and Kerala are doing better on this aspect whereas the hilly states are performing the least on this aspect. Responses of the parents or guardians were aligned with that of the principals or head teachers with regard to the availability of sanitary pads in schools for adolescent girls with more than half of them confirming the availability of sanitary pads in schools.

A large number of parents raised concerns regarding the improvement in menstrual hygiene facilities for their wards in schools. Their verbatim statements are given ahead.

- "Being a female guardian, I wish to improve or aware the kids regarding their menstrual periods to protect themselves in a good hygienic way. Need to improve for medical hygiene."
- "Medical facilities for physical sickness and hygiene must improve."
- "स्कूल में उपयुक्त सेनेटरी पैड की व्यवस्था की जाए" (Proper sanitary napkins should be made available in schools.)
- "It would be better if there were sanitary pads available in the schools."
- "There should be availability of sanitary pads, all the times."
- "Sanitary pads must be available in schools for girls."
- "Menstrual hygiene management and equipment are very important."

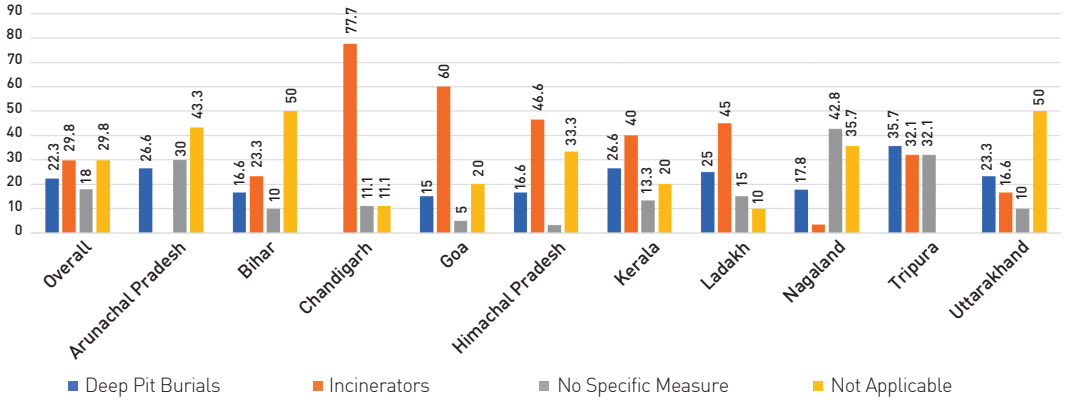
- "विद्यालय परिसर में छात्राओं के लिए फ्री सेनेटरी पैड डिस्पेंसिंग मशीन भी लगनी चाहिए" (Free sanitary pad dispensing machine should be installed in the school complex.)

For the menstrual w aste management, the norms direct that there should be an incinerator (electric/manual) and an arrangement of deep pit burial within the school premises. The data reveals that Chandigarh, Goa and Himachal Pradesh are ahead of other states or UTs with respect to incinerator installment in schools while the north-eastern states need to look into on this aspect. Tripura, Kerala and Uttarakhand have better pit burial facilities and schools in Chandigarh is a matter of concern on this aspect (Fig. 48).



*response values below 5 per cent have not been marked.

Fig. 47. Provision of free sanitary pads



*response values below 5 per cent have not been marked.

Fig. 48. Disposal of menstrual waste (in per cent)

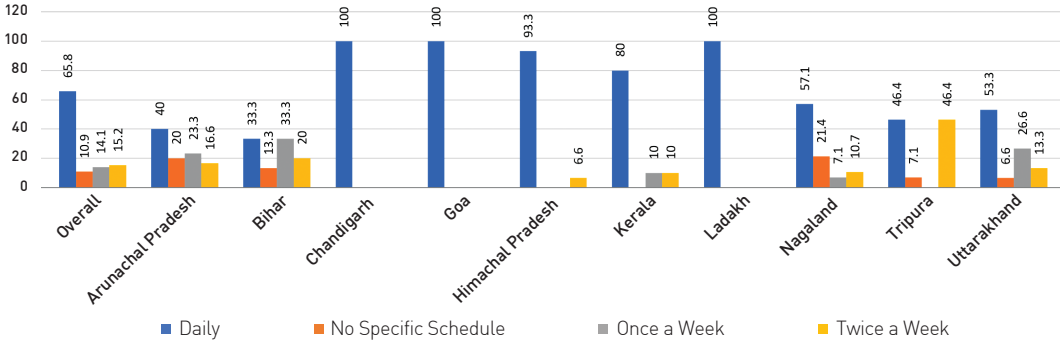
Few principals have asked for sanitary pads' incinerator in schools. Their verbatim statements are presented below.

Principals' Responses

- "Provide incinerator"—Kerala
- "Provide sanitary napkins incinerator in government schools"—Nagaland

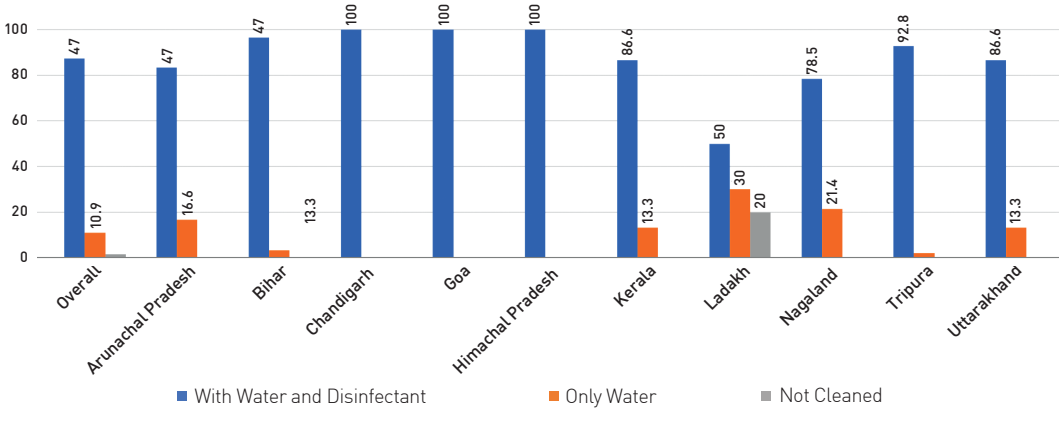
Cleanliness of Toilets

The norms recommend that the toilets should be clean and dry, and daily cleaning of the toilets with appropriate cleaning material (with soaping agents and disinfectants) should be maintained. Our findings suggest that all the schools in Chandigarh, Goa and Ladakh recorded daily cleaning of toilets and the schools in Bihar, Arunachal Pradesh and Uttarakhand need to look into this aspect (Fig. 49). Furthermore, all the schools in Chandigarh, Goa and Himachal Pradesh reported using disinfectants for cleaning toilets. Ladakh and Arunachal Pradesh need to improve on this aspect (Fig. 50).



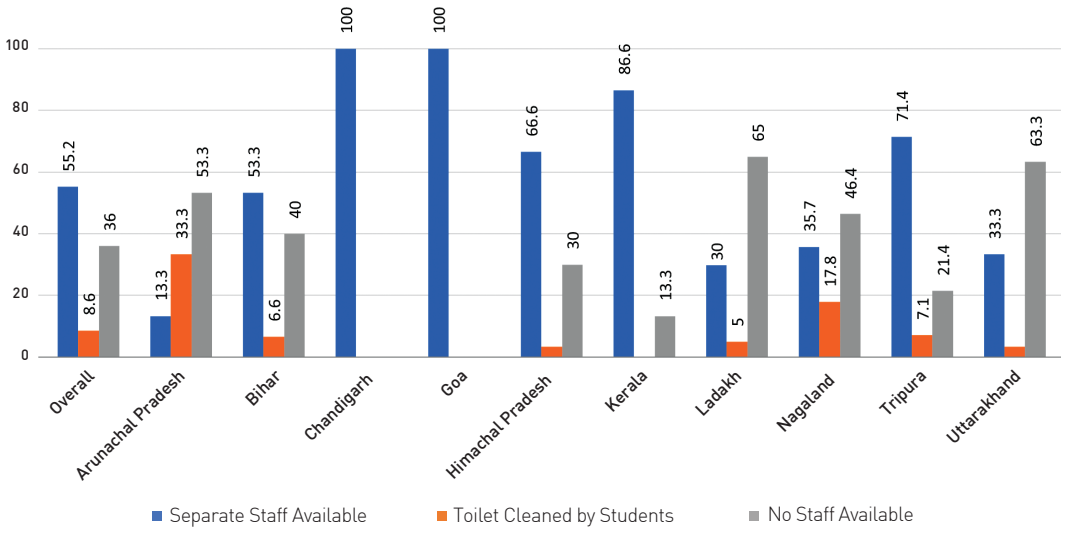
*response values below 5 per cent have not been marked.

Fig. 49. Cleaning of toilets (in per cent)



*response values below 5 per cent have not been marked.

Fig. 50. Toilet cleaning techniques (in per cent)



*response values below 5 per cent have not been marked.

Fig. 51. Staff for toilet cleaning (in per cent)

Goa, Chandigarh and Kerala are performing better with respect to availability of separate staff for cleaning toilets (Fig. 51). Schools in Himachal Pradesh, Tripura and Kerala need to look into this aspect. However, all the schools in Chandigarh, Goa, Himachal Pradesh and Ladakh reported cleaning classrooms, corridors and school premises 'once a week'. Other states or UTs reported a large percentage with respect to cleaning school premises 'once a week'. Arunachal Pradesh recorded the lowest number of schools on this aspect.

Many principals and parents have raised concern over the lack of staff for cleaning toilets. Their verbatim statements are given below.

Principals' Responses

- "Limitations in working class manpower"—Goa
- "No staff is available for the maintenance of toilets"—Himachal Pradesh
- "Staff problem"—Himachal Pradesh
- "Need sufficient staff for the programme"—(6 responses) Chandigarh, Himachal Pradesh, Uttarakhand-04
- "Requirement of regular or daily wages cleaning staff"—Bihar
- "Staff for cleanliness of school is required"—(06 responses) Himachal Pradesh, Kerala-02, Ladakh-02, Tripura
- "Staff for school cleanliness should be employed by government and proper tools should be provided to them for this"—Himachal Pradesh

- "Post of sweeper should be created in all schools"—Himachal Pradesh

Parents' Responses

- "Worker's salary more because workers do not set leave any day"—Chandigarh
- "Appointment of permanent sweeper", (28 responses) — Bihar-05, Himachal Pradesh-08, Kerala-03, Tripura-06, Uttarakhand-06

Findings and Conclusion

- The findings indicate that over half of the schools across states or UTs are equipped with Indian flush toilets, followed by pit latrines and pour toilets. All residential schools comply with norms for separate toilets for boys and girls, and the non-residential schools also observe this considerably. More than two-thirds of schools have separate toilets for teachers, with Chandigarh being the only region, where all schools offer separate facilities for both teachers and support staff.
- All states or UTs lack adequate toilet and urinal facilities particularly for girls and children with special needs (CWSN). Goa and Chandigarh, however provide better access to urinals, while Tripura, Nagaland and Bihar do well in providing girls' urinals. None of the non-residential schools across states adhere to urinal norms, though residential schools in Kerala, Ladakh and Uttarakhand comply fully, while those in Arunachal Pradesh, Chandigarh and Tripura do not.
- Most urinals for boys and girls are operational, but only two-thirds of CWSN urinals are functional wherever available. Two-thirds of schools have functional flush systems, with Chandigarh, Goa and Himachal Pradesh performing best.
- Water availability in toilets generally meets norms, except in some schools in Arunachal Pradesh and Ladakh, where schools lack water for post-use washing.
- Drainage systems in toilets are primarily slope to drain, functional soak pits and flushing mechanisms, with a few schools in Arunachal Pradesh, Bihar, Uttarakhand and Tripura lacking any drainage systems.
- Most schools report minimal clogging but foul odours with Goa and Himachal Pradesh performing better. Two-thirds of schools have toilets with windows for ventilation and a few have exhaust fans. However, many schools (except in Chandigarh and Goa) lack adequate lighting and ventilation. Himachal Pradesh, Uttarakhand and Nagaland excel in these areas.
- More than half of the schools meet size norms for toilets but hilly states or UTs often have smaller-sized toilets, particularly affecting girls, with Ladakh having the most and Chandigarh the least such schools.
- Most schools have toilets with doors for privacy but Arunachal Pradesh, Uttarakhand, Tripura and Ladakh were lacking on this. Except Goa, cloth hooks are largely absent in schools particularly in the north-eastern states.

- Two-thirds of school toilets are cleaned daily and over half (55 per cent) of schools have dedicated cleaning staff. Chandigarh and Himachal Pradesh perform better on the former, whereas Goa and Ladakh perform better on both the aspects.
- Eighty-five per cent of schools have handwashing points, with all schools in Chandigarh, Goa and Kerala equipped.
- Water for handwashing is generally available, and taps are accessible before or after mid-day meals (MDM) and toilet use, particularly in Chandigarh, Goa, Himachal Pradesh and Kerala.
- Soaps are available in most schools but some schools in Ladakh, Arunachal Pradesh and Tripura lack soap for handwashing before MDM.
- Nearly half of the schools provide sanitary pads, while less than one-third, primarily co-ed schools, do not.

Overall, the SBSV programme has met its targets, though progress varies from state to state. Significant improvements have been made in the availability of separate and functional toilets for boys and girls, and handwashing facilities. However, more efforts are needed in menstrual hygiene management, cleanliness, waste management and providing toilets for children with special needs (CWSN). States or UTs with higher SDG rankings, such as Goa, Chandigarh, Himachal Pradesh and Kerala, perform better across most SBSV components with Goa and Chandigarh taking the lead mostly. Tripura and Ladakh follow these and also show commendable performance, while Nagaland and Arunachal Pradesh continue to lag. Expectations for Kerala and Uttarakhand are high, yet they fall short on some critical indicators. Bihar performs at an average level across most aspects.

Suggestions

- The SBSV programme aims to promote equity by providing adequate toilets and menstrual hygiene facilities for girls, thereby enhancing their school participation. However, many states or UTs fall short in this regard. While separate girls' toilets exist, they must meet size and privacy standards, particularly in hilly regions and for Children with Special Needs (CWSN).
- Many schools, especially in Tripura and Bihar, have non-functional toilets. Principals and School Management Committees (SMCs) should be held accountable for regular monitoring and audits are necessary to identify schools lacking facilities, such as one in Uttarakhand without a toilet.
- Handwashing facilities and soap availability have improved but some schools still lack these essentials in states or UTs like Arunachal Pradesh, Ladakh and Nagaland.
- Menstrual hygiene management requires attention, including the provision of sanitary pads, privacy and proper disposal methods like incinerators.
- Waste management beyond toilet waste is often neglected. States or UTs should implement segregation

and recycling practices, ensuring collaboration with stakeholders and promoting awareness through educational activities.

- Schools in Arunachal Pradesh and Ladakh must ensure water availability for post-toilet washing. Improvements are also needed for urinals in non-residential schools in Chandigarh, Tripura and Bihar, as well as addressing drain clogging in Arunachal Pradesh, Ladakh and Kerala.

Overall, it is suggested that there is significant potential for further research in this area. Some of the recommendations include—Undertaking research studies in additional states or UTs and at the state, district or school levels to understand contextual factors affecting outcomes; compiling and sharing best practices in WASH components across states or UTs; performing in-depth case studies in good and bad performing states and UTs and evaluating the long-term impact of the SBSV programme on learning, health and well-being, particularly for girls, as well as community participation.

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