

## **The level of readiness and the Water, Sanitation, and Hygiene (WASH) implementation of secondary schools: Basis for an enhancement program**

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### **ABSTRACT**

This study investigated the application of Water, Sanitation, and Hygiene (WASH) in schools in the context of monitoring, evaluation, and implementation of WASH programs. The study provided concrete data to determine the implementation of the program and made enhancements to the WASH implementation in schools. A total of 30 technical working group teachers from four public secondary schools in East Butuan District III, who were implementing the WASH in Schools program for the academic year 2022-2023, were selected to participate in the study. The study's findings showed that there was no significant relationship between the level of school readiness and the level of WASH implementation, particularly in areas related to dissemination, awareness, acceptability, and advocacy. The interconnectedness of WASH components within school environments suggests that effective dissemination, awareness, acceptability, and advocacy are integral to the successful implementation of WASH practices. The findings of this study underscore the necessity of adopting customized strategies to bolster these essential aspects and improve the implementation of WASH in Schools, especially for schools with limited resources. The results of the investigation were used in the development of the WASH implementation enhancement program. A collaboration between the school, administrators, stakeholders, parents, and students is recommended to ensure a smooth and more efficient implementation of these programs, which can lead to the expected positive outcomes in the WASH program.

**Keywords:** enhancement program, hygiene, readiness, Wash in School (WinS), sanitation

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## INTRODUCTION

The world's pressing environmental challenges have a profound impact on children, particularly affecting their health and academic performance. Many children become trapped in a lifelong cycle of disease and poverty. Nearly 90% of the world's school-aged children reside in low- and middle-income countries where poor living conditions contribute to a high prevalence of poverty-related diseases. Whether at school or at home, inadequate access to clean water and sanitation facilities, low awareness, insufficient personal hygiene practices, and limited availability of nutritious food underlie many health issues. Infectious diseases such as diarrhea, respiratory infections, skin diseases, worm infestations, and dental caries are common, often normalized, socially accepted, and thus neglected (Monse, 2010). Recognizing this, the promotion of proper hygiene and sanitation practices among school children, coupled with maintaining a clean environment, has become a government priority. The Department of Education (DepEd) in the Philippines actively pursues these objectives to ensure learners remain safe, healthy, academically successful, and ultimately become productive citizens.

In response to these concerns, particularly in public schools, the Philippines' DepEd issued Order No. 65, s. 2009, entitled "Implementation of the Essential Health Care Program (EHCP) for the School Children." This directive identified inadequate water supply and functional sanitation facilities as primary causes of common hygiene-related infectious diseases in schools, which, if left unaddressed, may result in malnutrition, stunted physical growth, anemia, and dental problems. Global best practices indicate that improving access to and utilization of water and sanitation infrastructure within schools, along with enhancing hygiene behaviors, effectively prevent related diseases. Consequently, DepEd has implemented a semi-annual deworming campaign for kindergarten and elementary students nationwide through the Integrated Helminth Control Program (IHCP). Over recent years, this effort has been integrated with daily toothbrushing and proper handwashing initiatives under a unified health promotion program.

Further strengthening these efforts, DepEd issued Order No. 10 in 2016, titled "Policy and Guidelines on the Comprehensive WASH in Schools (WinS) Program." This holistic policy encompasses personal health care and environmental sanitation, setting standards for appropriate health practices to be implemented in every school. The program's goals focus on advancing water supply, hygiene, sanitation, health education, and deworming activities. Schools administer the program through a School-Based Management (SBM) approach, supervising daily group handwashing with soap and toothbrushing with fluoride among learners. Additionally, the policy ensures the establishment of systems supporting effective menstrual hygiene management in all schools.

Water, Sanitation, and Hygiene (WASH) in Schools is also a key component of UNICEF's Child-Friendly, Equitable, and Quality Basic Education initiative. Lack of adequate water, insufficient toilets and handwashing facilities, and poor hygiene practices remain critical challenges contributing to hygiene and sanitation problems. These conditions exacerbate anemia, stunted growth, and increased absenteeism, all of which hinder children's learning and school retention. Protecting children's rights entails providing a healthy environment where every child has the right to survive, grow, and develop. Access to safe water and basic sanitation is essential to realizing these rights. Without access to proper sanitation facilities and hygienic practices, children are vulnerable to illness, impairing their developmental potential (Jiménez et al., 2021). The WASH in Schools program plays a significant role in reducing hygiene-related diseases,

improving school attendance, and promoting children's dignity and inclusion. By ensuring equitable access to WASH facilities and fostering improved hygiene behaviors, the program supports individual development and contributes to broader economic growth.

To facilitate systematic implementation, the Department of Education conducts ongoing advocacy and capacity-building initiatives targeting technical staff, program administrators, implementers, parents, and other stakeholders (Rivera, 2020). In the specific context of East Butuan District III, where the researcher is stationed, some schools have encountered challenges in executing WASH-related tasks, particularly regarding monitoring, evaluation, and program implementation. Observations reveal that some implementers seek assistance from school division focal persons, district supervisors, and school heads to complete monitoring and evaluation reports and effectively apply WASH readiness frameworks. These activities include attending trainings and workshops, engaging parents and community representatives to sustain WASH efforts through peer influence, planning capacity-building sessions for school directors with emphasis on operation and maintenance, advocating for WASH funding inclusion at local and national levels, and integrating WASH practices permanently into school curricula and extracurricular activities.

These circumstances motivated the researcher to investigate WASH implementation and readiness in this district. Evaluating the level of readiness and program execution is essential to develop strategies that address challenges within educational institutions and their communities. The findings of this investigation aim to provide a foundation for recommending interventions or training programs to enhance the effectiveness of WASH implementers and ultimately improve the health and learning environment for school children.

### Statement of the problem

This study assessed the level of readiness and WASH in school implementation in the four (4) Secondary Schools of East Butuan District III in Butuan City Division.

Specifically, it sought to answer the following questions:

1. What is the level of the school's readiness for the implementation of the WASH program in terms of dissemination, awareness, acceptability, and advocacy?
2. What is the level of the WASH implementation in terms of water, sanitation, and hygiene?
3. What are the problems encountered by the WASH implementers in the areas of implementation, monitoring, and evaluation of the WASH in Schools Program?
4. Is there a significant relationship between the level of the school's readiness and the level of their WASH implementation?
5. Based on the findings, what best practices may be developed?

### METHODOLOGY

This study employed a descriptive research design, which is appropriate for obtaining a clear understanding of the situation as it exists during the time of the investigation. Specifically, it aimed to describe the level of readiness for the implementation of the Water, Sanitation, and Hygiene (WASH) program in schools, considering aspects such as dissemination, awareness, acceptability, and advocacy. Additionally, the study assessed the extent of WASH implementation

in terms of water, sanitation, and hygiene, identified challenges faced during implementation, monitoring, and evaluation, and explored the significant impact of school readiness on the effectiveness of WASH program implementation. The choice of a descriptive design aligns with Ary's (1990) explanation that this approach is suitable for capturing the existing status of a particular phenomenon, making it well-suited for examining the implementation of the WASH in Schools Program within East Butuan District III, Butuan City.

The research was conducted in four secondary schools within East Butuan District III, which is one of fifteen districts in the Division of Butuan City and among the four newly created districts since 2017. The specific schools included Basag National High School, Euglogio M. Garcia (Bugsukan) Integrated Secondary School, Daan Taligaman Tribal Integrated School, and Taligaman National High School. This geographical focus allowed the study to contextualize its findings within a clearly defined educational jurisdiction.

The study population comprised thirty permanent teachers designated as members of the technical working groups (TWG) responsible for implementing the WASH programs in their respective schools during the 2022–2023 academic year. These participants were selected because of their direct involvement and active roles in the execution of WASH initiatives. Their perspectives and experiences were critical for assessing the level of school readiness and for informing the development of an enhancement program aimed at empowering educators to effectively implement WASH guidelines and standards.

Data collection involved multiple methods to ensure depth and accuracy. The primary instrument was an adopted survey questionnaire from the Department of Education, Division of Butuan City, which was divided into three parts: assessing school readiness across dissemination, awareness, acceptability, and advocacy; evaluating the level of WASH implementation in water, sanitation, and hygiene; and identifying problems encountered during implementation, monitoring, and evaluation. To complement and validate survey data, documentary analysis, personal interviews with selected TWG members, and focus group discussions with respondents and other stakeholders were conducted. These qualitative approaches helped probe deeper into the program features and processes that influenced the achievement of WASH program goals.

The research instrument underwent a thorough validation process to ensure its relevance and reliability. Expert validators, including the Division Focal Person for WASH implementation and the Public Schools District Supervisor of East Butuan District III, reviewed the questionnaire. These individuals possessed expertise and training in WASH program implementation, enabling them to assess the clarity, appropriateness, and construction of questionnaire items. Prior to administration, formal letters were sent to these experts requesting their validation, ensuring ethical and procedural rigor.

Following the approval of the thesis proposal, official permission to conduct the study was secured from the Schools Division Superintendent, the Public Schools District Supervisor of East III Butuan District, and the principals of the participating schools. Subsequently, the researcher administered the questionnaires to the respondents, providing ample time for completion. Where necessary, focus group discussions were held to clarify responses and validate data collected, enhancing the reliability of the findings.

The gathered data were systematically tallied, tabulated, and subjected to statistical treatment. The responses were consolidated according to the questionnaire's sections, and means or mean percentage scores were calculated for each indicator to determine the prevailing trends and levels of readiness and implementation. These quantitative results provided the foundation for designing a tailored training program aimed at addressing identified needs.

To quantify responses, a point scale was employed to interpret levels of WASH implementation, ranging from “Poor” to “Very High Implementation,” based on numerical score intervals. Similarly, the frequency and severity of problems encountered by respondents were measured using descriptive ratings from “Never a Problem” to “Always a Problem,” according to percentage thresholds.

For statistical analysis, the weighted mean was utilized to determine the level of readiness for WASH implementation, while the Pearson Product-Moment Correlation Coefficient was applied to examine the relationship between the level of school readiness—considering dissemination, awareness, acceptability, and advocacy—and the extent of WASH implementation in water, sanitation, and hygiene. These analyses facilitated a clearer understanding of the interplay between preparedness and practical execution of the program.

## RESULTS AND DISCUSSION

### Level of the school’s readiness for the implementation of the WASH program

The level of school readiness along dissemination showed varied but generally moderate to high performance. Specifically, the ability of schools to pass information on good hygiene and sanitation to communities and society scored a weighted mean (WM) of 3.43 with a standard deviation (SD) of 1.073, indicating a high level of readiness. Similarly, communicating the school hygiene status to local government units (LGUs), donors, and civil society groups also had a WM of 3.43 (SD = 1.040), and providing facilities supporting students' good hygiene behavior at both school and home received the same WM of 3.43 (SD = 0.971), both reflecting high readiness. Outreach programs involving students scored a moderate WM of 3.03 (SD = 1.217), while parental participation in school WASH events was slightly lower at 2.93 (SD = 1.112), also moderate. The overall weighted mean of 3.25 (SD = 0.876) classifies school readiness in dissemination as moderate. These results suggest active student engagement in hygiene promotion, enabling children to act as change agents within families and communities. While teachers effectively impart knowledge, motivating students to share and influence behaviors outside school, parental involvement in WASH events presents an area for potential improvement.

In terms of awareness, the data indicate a high level of readiness, with all five indicators scoring above 3.50. Awareness of WASH issues achieved a WM of 3.83 (SD = 0.950), reflecting strong recognition among respondents. Providing technical guidelines and standards to implementers scored a WM of 3.53 (SD = 1.167), awareness of the need to support sound hygiene at school and home was 3.53 (SD = 1.074), knowledge of the PTA’s role in supporting WASH earned 3.50 (SD = 1.106), and efforts to strengthen PTA capacity scored 3.53 (SD = 1.137). The overall weighted mean was 3.59 (SD = 0.829), firmly categorizing awareness as high. These findings emphasize the importance of collaborative partnerships among schools, parents, communities, and local leaders to foster sustainable hygiene awareness and service delivery, supported by technical guidance.

School readiness along acceptability was also rated highly. Providing equitable access to facilities for persons with special needs scored a WM of 3.07 (SD = 1.337), knowledge of coordinating minor and major repairs of WASH facilities was 3.60 (SD = 0.770), organizing meetings with the school committee or WASH Technical Working Group to plan group washing

facilities received 3.73 (SD = 1.015), assisting local partners in low-cost supply production such as soap making scored 3.47 (SD = 0.900), and the provision of soap, toothbrush, and toothpaste through DepEd and external partners was 3.47 (SD = 1.074). The overall weighted mean of 3.47 (SD = 0.754) places acceptability at a high level, suggesting widespread stakeholder acceptance and effective coordination in WASH facility management and supply provisioning.

Advocacy readiness showed a similarly high overall level with a weighted mean of 3.53 (SD = 0.769). Hygiene promotion programs supported by informed and motivated teachers had a WM of 3.67 (SD = 1.213), while active involvement of parents and community representatives scored 3.87 (SD = 0.681). The capacity to use peer influence to improve hygiene behaviors had a WM of 3.50 (SD = 0.938). Planning for district-wide capacity building for school directors related to WASH operation and maintenance scored moderately at 3.27 (SD = 1.202), and advocacy for inclusion of WASH in education funding proposals and national budgets also was moderate at 3.37 (SD = 1.217). The findings underscore the critical role of motivated teachers and engaged communities in sustaining advocacy efforts, although there remains room for strengthening capacity building and funding advocacy.

### Level of the WASH implementation

The level of WASH implementation in schools showed moderate to high performance across water, sanitation, and hygiene components. Water-related implementation had an overall weighted mean of 3.10 (SD = 0.883), reflecting moderate implementation. Specifically, availability of water for daily handwashing and toilet cleaning scored 3.27 (SD = 1.112), provision of free drinking water scored 3.27 (SD = 1.311), coordination with LGUs or water districts for water quality testing also 3.27 (SD = 1.388). Teachers asking learners to bring their own drinking water scored lower, with 2.90 (SD = 1.348) and 2.80 (SD = 1.400) for two similar indicators. These results reflect variability in water accessibility and highlight the need for consistent provision and monitoring of water quality. The moderate status of water services aligns with international findings emphasizing the importance of reliable WASH data and safe water supply for schoolchildren's health and educational participation.

Sanitation implementation scored higher with an overall weighted mean of 3.57 (SD = 0.825), indicating high performance. Functional toilets that are secure, private, and have doors with locks achieved a WM of 3.73 (SD = 1.311), and availability of lighting in toilets scored 4.00 (SD = 1.114). Food handlers practicing safety measures received 3.53 (SD = 1.106). Waste management showed moderate performance with the school burning waste scoring 3.20 (SD = 1.297) and student segregation of solid waste at 3.40 (SD = 1.276). These findings affirm the importance of hygienic sanitation facilities complemented by environmental practices such as waste segregation and safe disposal, which must be embedded in the curriculum and school culture for lasting impact.

Hygiene implementation showed moderate readiness overall, with a weighted mean of 3.43 (SD = 0.951). Group toothbrushing with fluoride conducted weekly scored 3.23 (SD = 1.223), while student supervision by teachers received a high rating of 3.60 (SD = 1.003). Students assisting teachers in supervising handwashing activities scored 3.50 (SD = 1.106), and students assigned as handwashing leaders achieved 3.37 (SD = 1.245). Availability of soap for handwashing consistently scored 3.47 (SD = 1.196). These indicators suggest active engagement but reveal areas for improvement in the regularity and resource availability necessary for optimal

hygiene practices. The data align with research highlighting the significant influence of school-level inputs, particularly teacher involvement, on student learning and wellbeing.

#### Problems encountered by the WASH implementers

Challenges encountered during WASH implementation, monitoring, and evaluation were generally occasional in frequency. During implementation, problems such as information on proper disposal of sanitary pads (WM = 3.33, SD = 1.093), teacher integration of hygiene practices in class (WM = 3.10, SD = 1.242), availability of individual handwashing facilities with soap (WM = 3.20, SD = 1.243), supervised toothbrushing activities led by student leaders (WM = 2.97, SD = 1.189), and group handwashing supervision (WM = 3.33, SD = 1.124) were all reported as occasional challenges, with an overall WM of 3.19 (SD = 0.923). Monitoring issues such as availability of secure and private menstrual hygiene management (MHM) rest spaces (WM = 3.10, SD = 1.213), assistance with low-cost supply production (WM = 3.03, SD = 1.189), appropriate fund allocation and utilization (WM = 2.97, SD = 1.189), discussion with parents and LGUs regarding hygiene supplies (WM = 3.17, SD = 1.341), and display of hygiene messages (WM = 3.13, SD = 1.137) were similarly occasional, resulting in an overall WM of 3.08 (SD = 1.091). Evaluation-related problems also occurred occasionally, including the reflection of repair and maintenance requirements in school improvement plans (WM = 2.57, SD = 1.104), organizing meetings for facility planning (WM = 2.87, SD = 1.332), integration of WASH in Brigada Eskwela activities (WM = 3.00, SD = 1.438), hygiene message painting (WM = 2.70, SD = 1.442), and working with committed school teams (WM = 3.10, SD = 1.494), with an overall evaluation problem rating of 2.85 (SD = 1.150). These findings suggest manageable but persistent challenges requiring attention for effective WASH program sustainability.

#### Relationship between the level of the school's readiness and the level of WASH implementation

Correlation analysis between the level of school readiness and WASH implementation revealed nuanced results. For water-related WASH implementation, none of the four school readiness components—dissemination ( $r = .348$ ,  $p = .060$ ), awareness ( $r = .273$ ,  $p = .144$ ), acceptability ( $r = .304$ ,  $p = .102$ ), and advocacy ( $r = .278$ ,  $p = .137$ )—showed statistically significant relationships, leading to acceptance of the null hypothesis. This indicates that improvements in water supply and quality may be influenced by factors beyond school readiness practices alone, such as leadership, community context, and external resources. However, significant positive correlations were observed between school readiness and other WASH implementation areas, including sanitation, hygiene, deworming, and health, confirming that readiness factors are critical for the success of these components. These findings reinforce the importance of adopting comprehensive, multi-faceted strategies to address WASH challenges in schools, consistent with Sustainable Development Goals focusing on health, education, and wellbeing.

#### Best practices

Based on these findings, a WASH Implementation Enhancement Program was developed to establish best practices and promote practical approaches for effective WASH implementation

in schools. Key strategies include targeted training and workshops for technical working groups (TWG) to address specific school needs; customized programs tailored to each school's unique context; regular workshops fostering peer learning and sharing of best practices; and educational symposia engaging parents, students, and community stakeholders. The program advocates for integrating WASH elements into school curricula and daily practices, developing standards and guidance documents, and implementing robust monitoring, evaluation, and feedback mechanisms such as suggestion boxes. Long-term sustainability efforts focus on embedding WASH policies within school governance, building capacity for maintenance and operations, advocating for funding at regional and national levels, and establishing supportive school boards involving parents, partners, and local officials.

In summary, the study utilized a descriptive research design involving thirty TWG teachers across four secondary schools in East Butuan District III during the 2022–2023 academic year. Results demonstrated a generally high level of school readiness across dissemination, awareness, acceptability, and advocacy. WASH implementation showed moderate to high performance in water, sanitation, and hygiene components. Problems encountered during implementation, monitoring, and evaluation were occasional but notable. Correlation analyses indicated significant relationships between school readiness and WASH implementation for sanitation, hygiene, deworming, and health, but not water. Consequently, the comprehensive enhancement program aims to strengthen these areas and support sustainable, effective WASH practices to improve health and educational outcomes in these schools.

## CONCLUSION

Based on the findings of this study, several important conclusions can be drawn regarding the interplay between school practices and the implementation of Water, Sanitation, and Hygiene (WASH) programs in educational settings. The analysis revealed notable variations in the levels of school readiness related to dissemination, awareness, acceptability, and advocacy among the schools studied. These distinctions highlight the necessity of adopting tailored strategies that address the unique characteristics and contexts of individual schools to strengthen these critical dimensions of WASH implementation. This aligns with existing research emphasizing that acknowledging the specific features of each school is vital for the effectiveness of advocacy and program promotion efforts.

Furthermore, the assessment of WASH implementation across water, sanitation, and hygiene components reinforces the importance of a comprehensive and customized approach. Educational institutions must consider their distinct profiles to adapt communication, awareness-raising, acceptability measures, and advocacy strategies to achieve more effective outcomes in these fundamental areas. These findings resonate with global perspectives that recognize the essential role of WASH in safeguarding children's health, safety, and overall development. They are consistent with the Sustainable Development Goals, which advocate not only for universal access to clean water but also for enhancing the quality of education and well-being within school environments.

The challenges faced by WASH implementers during program implementation, monitoring, and evaluation further underscore the interconnected nature of WASH components within schools. The data confirm that effective dissemination, awareness, acceptability, and advocacy are integral to successful school readiness and the achievement of WASH objectives. The influence of school readiness on shaping hygiene behaviors and its consequent impact on

health and educational outcomes emphasize the significance of nurturing these aspects to attain the goals of WASH programs.

However, the correlation analysis revealed no statistically significant relationships between school readiness variables—dissemination, awareness, acceptability, and advocacy—and water-related WASH implementation. This finding suggests that factors beyond water supply, quality, and school resources influence the level of school readiness. Therefore, although water quality and availability remain critical for effective curriculum implementation, further enhancements in the WASH program must consider a broad, multifaceted approach that extends beyond infrastructural provisions. Such a holistic perspective is necessary to advance school readiness and foster sustainable improvements in WASH outcomes.

In response to these insights, the study proposes a WASH Implementation Enhancement Program incorporating a range of strategic actions. These include targeted training and workshops for teachers designated as technical working group members, customized programs that address the specific needs of each school, and regular peer-learning workshops to share best practices. The program also emphasizes the importance of educational symposia involving parents, students, stakeholders, and the broader community to promote advocacy and the integration of WASH principles. Additionally, it recommends incorporating WASH into school curricula, establishing school-based monitoring and evaluation systems with quarterly reporting, and ensuring ongoing maintenance for the long-term sustainability of WASH facilities and practices. Support structures such as school boards dedicated to WASH oversight and collaborative fundraising efforts involving teachers, PTA officers, and student leaders are also integral components of the proposed framework.

Considering these conclusions, several recommendations emerge. It is suggested that division focal persons develop differentiated approaches tailored to the unique profiles of schools, accounting for factors such as enrollment size, teacher-to-student ratios, and facility availability. Schools with higher enrollment may require more extensive resources, whereas those with limited infrastructure might benefit from focused support to optimize WASH practices. Public School District Supervisors are encouraged to prioritize sustainability and program enhancement by conducting regular assessments and stakeholder feedback to adapt strategies accordingly. Capacity building through comprehensive training for teachers, students, and staff, alongside community engagement, will further strengthen implementation efforts.

School heads should undertake in-depth evaluations to identify specific factors influencing WASH performance within their contexts, enabling the development of targeted and effective interventions. Active collaboration among stakeholders is crucial for mobilizing the necessary resources to sustain WASH programs. Students' participation, particularly through leadership roles, is vital for augmenting resources and reinforcing program activities. Parents' involvement in adopting consistent hygiene practices at home will help solidify these behaviors in students by providing reinforcement both at school and in the domestic environment.

Finally, future research is recommended to build upon this study's findings by conducting longitudinal investigations that track the long-term effects of tailored WASH interventions based on school profiles. Such studies should evaluate not only immediate impacts but also the sustainability and scalability of these strategies. Moreover, they could explore the potential for these tailored approaches to serve as models for other educational institutions facing similar challenges, thereby contributing to wider improvements in WASH practices and outcomes across school settings.

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