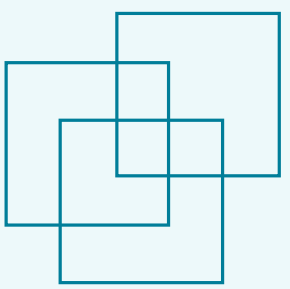
International
Labour
Office

WASH@Work

a Self-Training Handbook



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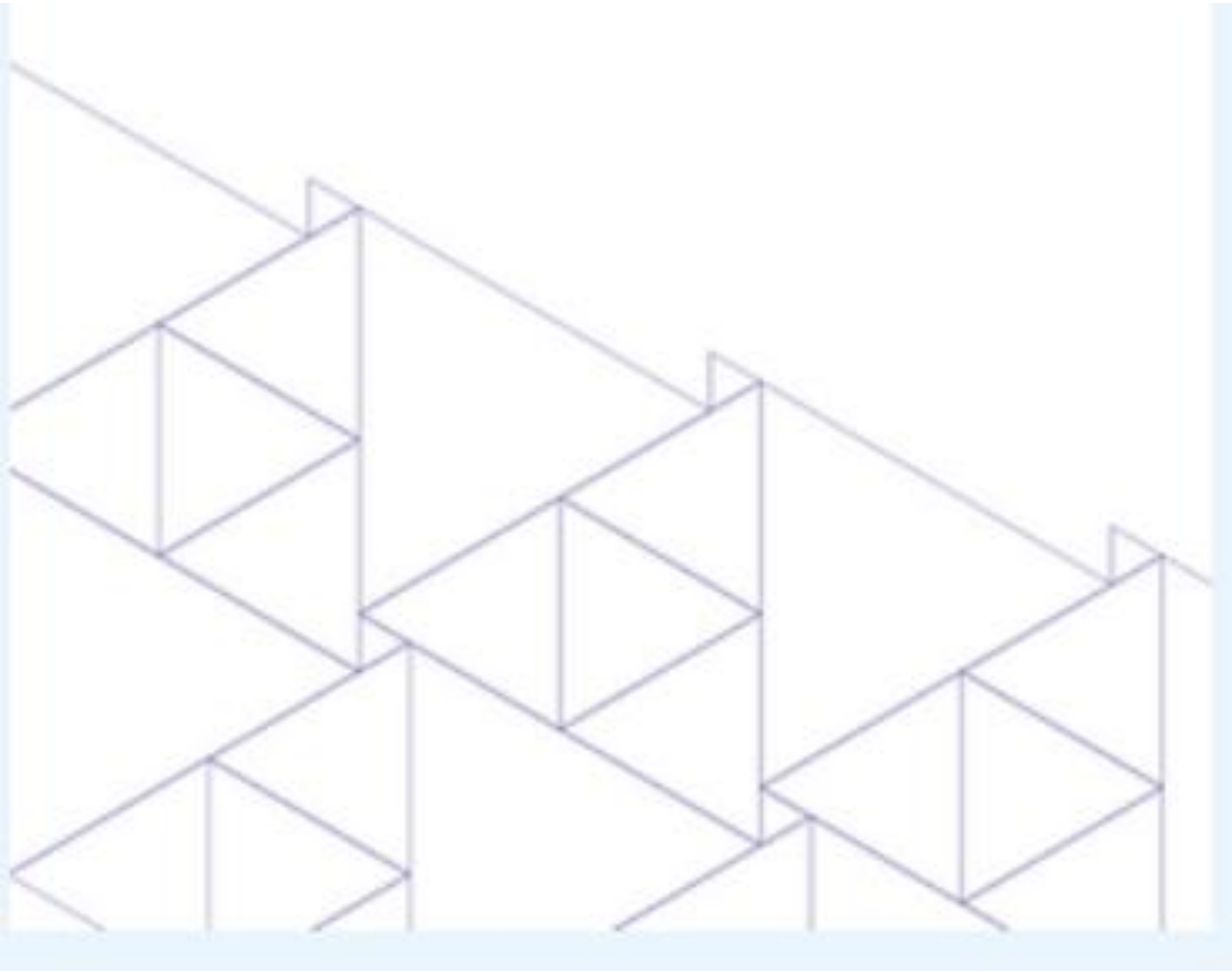
Revised 2020



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PREFACE

The link between health and access to safe water, sanitation and hygiene (WASH) is well documented. Since workplaces represent a major focus in the life of workers and employers, access to WASH in workplaces can contribute greatly to both occupational and general health. In an effort to advance towards both Sustainable Development Goals (SDGs) number 6, to ensure universal access to water and sanitation, and number 8, to ensure decent work and sustainable economic growth, it is crucial to propose effective solutions that improve working conditions, increase productivity and reach the most vulnerable communities. Actions towards these ambitious objectives require coordinated efforts by governments, workers and employers, at multiple levels.

The ILO promotes decent work in all economic sectors, at the country level and in global supply chains. As part of this effort, ILO's member States and the social partners (employer and worker organizations) have adopted a broad array of international instruments to promote occupational safety and health (OSH). The Centenary Declaration adopted by the 108th International Labour Conference (Geneva, 2019) established that OSH will be considered a fundamental right of workers.

The ILO has developed several training tools dedicated to promote safety and health in the workplace. Most of these tools highlight the importance of access to WASH in the workplace for attaining the ILO's strategic objectives. For workers in vulnerable settings like the rural economy, WASH is a particularly important means to improve working conditions. Other initiatives include research to expand knowledge of the most pertinent public policies for workers and their families in this area.

The ILO seeks to create awareness among governments, employers and workers about these issues in collaboration with several UN-Water members and partners including UNICEF, WaterAid, The Pacific Institute and several Multinational Enterprises, united in the WASH4Work initiative. To further these objectives, the ILO Sectoral Policies and Governance and Tripartism Departments presented in 2016 four self-training modules, under the title *WASH@Work: a Self-Training Handbook*, which adapt existing ILO training tools on OSH to provide governments, workers and employers with the necessary skills to implement the general principles contained in relevant ILO instruments.

The modules provided basic skills to practitioners from governments, for workers' and employers' organizations to implement the relevant ILO

standards and Codes of Practice. This includes recognizing the importance of access to water and adequate sanitation and hygiene; how to configure workplaces to make them appropriate for workers to adequately and conveniently access WASH provisions; and supervising provisions of WASH installations and facilities. The modules also provided checklists to help improve working conditions and productivity.

The handbook was well received. After conducting an assessment of style and impact in collaboration with UNICEF, the ILO has revised the content to include the latest Codes of Practice and to broaden the audience to address workers and employers in the rural economy, the garment sector and others to further the goal set by the WASH4Work initiative. Further feedback indicated a need for a manual that was more user-friendly and targeted to frontline managers and workers in the workplace settings. This manual builds on the first manual. More emphasis has been placed on application by employers and workers' organizations, including a section on the assessment of WASH in workplace settings, monitoring and training and education of workers. The 2016 edition will continue to be available.

This version was edited by Kay Mattson and Carlos Carrion-Crespo, and was validated in a workshop held in Blantyre, Malawi with the presence of the Hon. Minister of Labour, Martha Lunji Chanjo Mhone, and representatives of the Tea Association of Malawi, the Ministry of Labour, the Employers Consultative Association of Malawi, the Plantations and Allied Workers Union, the Malawi Congress of Trade Unions, National Smallholder Tea Growers Association, Blantyre ADD, Eastern Produce Malawi, and the tea estates from Makandi, Conforz, Naming"omba , and Mchima. The meeting started from the 16th of September, 2019 to 17th of September, 2019 at Malawi sun hotel in Blantyre where a total of 43 members from different estates and labor associations attended. Their names can be found in Annex 3.

We would like to thank Gracious Ndalama, Monitoring and Evaluation Assistant and Florence Kwiya from the ILO Office in Lilongwe, who organized the validation workshop. In addition, we thank Halszka Graczyk, from the Labour Administration and Occupational Safety and Health Unit of the Department of Governance and Tripartism for her review.

We hope that these modules will prove useful in promoting practical approaches to support employers and workers towards the realization of the SDGs in workplace settings.

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Participants in the tripatite validation workshop of the revised WASH@Work self-training handbook. The Minister of Labour of Malawi, Hon. Martha Lunji Chanjo Mhone, led the government delegation. Representatives of the government, employers and unions discussed the text in plenary sessions and mixed breakout groups.

CONTENTS

INTRODUCTION 1

How to use the WASH@Work handbook 2

WASH in the workplace: the decent work approach, assessment & monitoring 6

MODULE 1: WATER 20

GUIDE 1.1. Safe drinking water 21

GUIDE 1.2. Water for personal and workplace hygiene 35

GUIDE 1.3. Drainage and vector control and work in water-related risks 39

Employer's Action Manual: Water 43

Workers' Action Manual: Water 53

MODULE 2: SANITATION 60

GUIDE 2.1. Sanitary facilities 62

GUIDE 2.2. Wastewater and faecal sludge management 70

GUIDE 2.3. Solid waste management and disposal 77

Employers' Action Manual: Sanitation 83

workers' Action Manual: Sanitation 96

MODULE 3: HYGIENE 102

GUIDE 3.1. Hand hygiene 103

GUIDE 3.2. Showering and bathing 111

GUIDE 3.3. Laundering 119

GUIDE 3.4. Food hygiene 122

GUIDE 3.5. Menstrual Hygiene Management (MHM) 128

EMPLOYERS' ACTION MANUAL: HYGIENE 131

WORKERS' ACTION MANUAL: HYGIENE 143

Annex 1: International Labour Standards and Codes of Practice on Access to WASH 148

Annex 2: References 170

Annex 3: Participants in the Validation Workshop 175

ABBREVIATIONS

CKD	Chronic kidney disease
FAO	Food and Agriculture Organization
HealthWISE	Work Improvements in Health Services (ILO/WHO)
HIV/AIDS	Human immunodeficiency virus / Acquired immunodeficiency syndrome
HRI	Heat-related illness
ILO	International Labour Office
IUF	International Union of Food Workers
OSH	Occupational safety and health
PPE	Personal protective equipment
SDGs	Sustainable Development Goals
UN	United Nations
UNICEF	United Nations Children's Fund
WASH	Water, sanitation and hygiene
WISE	Work Improvements in Small Enterprises
WARM	Work Adjustment for Recycling and Managing Waste
WHO	World Health Organization
WIND	Work Improvement in Neighbourhood Development
WISCON	Work Improvement in Small Construction Sites
WISH	Work Improvement for Safe Home
WWAP	World Water Assessment Programme

INTRODUCTION

In 2010, the UN General Assembly recognized access to safe water and sanitation as a human right. In 2015, all governments committed to achieve universal access by 2030 (SDG 6). The right to safe drinking water, sanitation and hygiene is fundamental to the realization of the right to health and well-being, including the right to healthy occupational and environmental conditions (International Covenant on Economic, Social and Cultural Rights). This includes the right to access to safe drinking water and adequate sanitation facilities (UN 2016). The lack of access to safe drinking water and sanitation also reduces the capacity of the rural poor to work their way out of poverty (ILO 2008a Report IV), and hinders gender equality.

Despite these universally recognized rights, there are almost 230,000 work-related deaths annually attributed to communicable diseases; in Africa, they are the highest cause of work related deaths. For women globally, work-related deaths attributed to communicable diseases are the most common reason, with 32.50 percent attributed to communicable diseases. Many of the communicable diseases are directly contributing and preventable factors related to poor drinking water, sanitation and hygiene, and the related lack of knowledge (SH 2017). Poor WASH conditions are a frequent cause of both morbidity and mortality worldwide (Uddin *et al*., 2016; Khanna and Das, 2015; Winter and Barchi, 2016). There is limited knowledge in middle- and low-income countries on WASH in non-household settings, such as workplaces and data show that WASH access is lower in workplace settings than in household settings (Cronk *et al*., 2015). Also, the international community focussed on sanitation only recently.

The ILO's Centenary Declaration for the future of Work (2019) categorized OSH as fundamental to decent work. Population groups exposed to decent work deficits – in particular children, rural women, adolescent girls, people with disabilities, undocumented migrant workers, homeless and immunocompromised populations (e.g. people living with HIV/AIDS) – are the most affected and face the greatest risks from poor WASH conditions both at work and outside the workplace.

The following modules provide a framework for the promotion of safe and healthy working conditions through access to WASH. Relevant ILO and academic literature on the links between access to WASH and the scope of WASH provisions are included throughout the handbook and also in Annex 1 to illustrate their importance and to provide background information on the topic for employers and workers who desire to go deeper into the subject matter.

This handbook focuses on providing information specific to water, sanitation and hygiene (WASH) in workplace settings. It provides information and tools for employers and workers to improve and address WASH in workplaces, so employers comply with their duties under international labour standards on OSH. The 2016 version also covered the role of governments: Government officials and those interested are encouraged to refer to the 2016 handbook.

How to use the WASH@Work handbook

WASH@Work is a combined training and action tool designed to inform employers and workers on the needs for WASH at the workplace and potential actions that can be taken to address those needs. The tool is designed to encourage workers and employers to be involved in making their workplace safe, healthy, and productive. The tool is made up of two central elements:

Training Guides provide essential information on access to WASH at the workplace and describe the reasons why WASH provisions are essential to worker health and well-being. Keeping the workplace hygienic and sanitary is everyone's responsibility! For this reason, the Training Guides are intended for employers and workers alike to promote WASH at work, in coordination and cooperation with one another. After all, knowledge is power, and ensuring that both stakeholders are informed is the key to effective action. This also recognizes that collaboration will bring about more effective and more sustainable results.

The Training Guides are divided into three separate modules:

- Module 1: Water
- Module 2: Sanitation
- Module 3: Hygiene

Action Manuals for employers and workers are provided at the end of each Training Guide. Each action manual provides specific **"Checkpoints"** that employers and workers should strive to achieve for each module's topic area. Following each checkpoint, the action manuals also offer an explanation **"why"** a certain action is needed; and **"how"** actions can be taken. Boxes under the "how" section provide actions that should be considered to successfully fulfil the respective checkpoint.

A 'step by step' approach to action for Employers and Workers

The Action Manual **Checkpoints, why's** and **how's** will help you better understand needs, gaps and concerns at your worksite. The **Checklists** provide employers and workers a tool to assess the WASH conditions (your baseline or starting point) at your worksite, and will help you decide what your priorities for action could be. The aim of the checklists is to provide steps for planning and implementing workplace improvements in WASH. The checklist can also provide a means by which progress on your checkpoints can be monitored over time.

How to use the Action Manual

The Action Manual Checklists are a simple, but important tool for ensuring that all Checkpoints have been considered. The steps for using the Action Manual are provided below. Additional guidance and link to other tools useful for conducting a WASH workplace assessment and monitoring your efforts are include in Section 2.

Research available resources to inform your efforts

The problems related to work-related illness due to lack of access to WASH have been well documented. Now is the time to accelerate the implementation of key principles that can improve workplace conditions to support universal access to WASH. The planning team is encouraged to research and understand government laws and regulations and codes of practice on access to WASH relevant to your workplace environment. **Annex 1** provides one key source of information for this research. Government authorities who oversee WASH in your country or municipality, and other organizations who provide guidance on standards for your sector are also a resource you should reach out to. The handbook also provides examples of good practices, reminders, references to other training materials, and web links throughout the document.

STEPS TO IMPLEMENT THE RECOMMENDATIONS OF WASH@WORK

STEP 1: **Engage the planning group**	Identify a small group of staff, including elected worker and employer representatives, who have experience in and/or have responsibility on WASH and/or health in the workplace. It important to involve people who fulfil different functions in order to have a variety of perspectives. This participatory approach can provide different views of what are the goals, key concerns and priorities for action. At your first meeting, provide an overview of the purpose of the planning group and provide an overview of the handbook. Provide copies of the handbook for each person on the planning group and review its contents. Define the goals of the group and the roles of each member.
STEP 2: **Prepare to complete Checklists**	Review the Action Manuals and Checklists to make sure the planning group members understand what the Action Planning process will entail and how Checklists will be completed. Make copies of the checklists for everyone who will be involved in completing them. The checklists can be completed by individuals or groups with the results brought back to the full group for discussion. Take pictures of concern areas and document good practices. Photographs can be important tools to share good practices and inspire action
STEP 3:	Decide on which areas of the workplace will be considered in the assessment and the walk through. It will be more

Define the issues or workplace	efficient to focus on separate work areas if you work in a large enterprise. It also may also be helpful to focus your assessment on one module area (water, sanitation or hygiene) at a time. However, note that there are some overlaps among them. Section 2.1 provides an overview of risk assessment and hygiene and welfare assessment approaches to inform this work.
STEP 4: **Conduct the walk through**	Conduct your walk-through assessment using the Checklist questions; take time to ensure you are considering each Checklist question. Take detailed notes and photographs as needed. Pose questions to people in the area to better understand potential concerns.
STEP 5: **Fill in the Checklist**	Tick "YES" or "NO" based on your observations in the walk through. Ticking YES means that the action has been taken. However, remember that it could always be improved! Be mindful that conditions may also change over time. Ticking NO means that the action has not been taken and needs attention. Action is needed to fulfil this point.
STEP 6: **Consider suggestions**	Consider what you learned in the Training Guides and Action Manual to guide your ideas and suggestions for improvements or change. Write them down under each question as relevant.
STEP 7: **Decide on priorities**	Think about the importance of the different Checklist points. Analyse the root causes of the issues raised in the previous step. Decide on what concerns are posing the greatest risk and t should be considered as top priorities for action. If an area is defined as a priority need check the PRIORITY box for that area.
STEP 8: **Agree on order of priority**	Note all the points in the Checklist where the *PRIORITY* Box was ticked. Together with your group, discuss your findings and work to come to an agreement on an order of priority and discuss how and what actions can be taken.
STEP 9: **Develop Action Plan**	Discuss with your group how to efficiently address the priorities. Develop a timetable and assign responsibilities with achievable goals. Ensure that all group members understand the plan of action and set it into motion. Ideally your action plan should also seek support from managers and workers' representatives before proceeding, as this will provide more buy-in to your efforts and work to ensure that your efforts are sustainable.
Step 10:	The improvements can be implemented in phases,

Implement the Action Plan and monitor progress	according to the resources available. Follow the timeframe and establish a method to monitor and measure the results of the action steps you take, requesting that each group member report on their assigned tasks. This is critical to measuring both progress, as well as to determine what efforts were effective and where further improvements may be needed. Then, use the findings of the report to implement corrective measures, following the preceding steps.
Step 11: **Report your progress and provide feedback to authorities and other relevant stakeholders**	Make a report for managers and workers to be aware of the achievements and challenges. In order to strengthen transparency and enforcement, the report should be available to labour inspection services and the International Labour Organisation when reports are due or requested by the Committee of Experts on Conventions and Recommendations (CEACR), and other parties with legitimate interest.
	**IMPORTANT NOTE:** please adapt the checkpoints according to your situation – this is YOUR tool and it should be relevant to YOUR situation.

WASH in the workplace: the decent work approach, assessment & monitoring

Why is addressing WASH at work important?

The promotion of safe and healthy working conditions has been a fundamental objective of the International Labour Organization (ILO) since the Organization was founded in 1919. A significant body of international instruments and guidance documents have been developed by the ILO to assist governments and partners in preventing and managing workplace hazards and risks. Before drafting the Convention concerning Labour Clauses in Public Contracts, 1949 (No. 94), the Office conducted a study during World War II on the use of "Labour Conditions in War Contracts" in the United States, and found "[]…that men and women who work under decent conditions produce more per person than those who work under less desirable conditions; that work stoppages and labour shortages are less likely under better working conditions and that loss of man hours from accident or occupational disease *is reduced by a programme of safety and sanitation*" (ILO, 2008b). In 2016, the International Labour Conference resolution on Decent Work in Global Supply Chains called on governments to implement measures to improve the occupational safety and health for all workers, including in global supply chains, while increasing productivity (ILO, 2016). The above demonstrate that WASH is a critical component of a decent, healthy and safe workplace. (Additional standards and conventions addressing WASH in the workplace are covered in Annex 1.)

Decent work sums up the aspirations of people in their working lives. It involves opportunities for work that is productive and delivers:

- fair income,
- security in the workplace and social protection for families,
- prospect for personal development and social integration,
- freedom for people to express their concerns, organize and participate in the decisions that affect their lives and
- equal opportunity and treatment for all women and men.

Many of the discussions that led to the adoption of ILO Conventions highlighted the importance of WASH as a means to increase productivity by reducing illnesses caused by pathogens and parasites (called "vector borne diseases"). This happened, for example, when adopting the Hygiene (Commerce and Offices) Convention, 1964 (No. 120), and the Safety and Health in Agriculture Convention, 2001 (No. 184). The WHO (2012) estimates that investments in sanitation bring four-fold economic returns in increased health and productivity. For example, dehydration quickly reduces physical and mental ability, thus reducing productivity and increasing the risk of accidents. There is increasing evidence that even mild dehydration can play a role in various illnesses and good hydration has been shown to reduce the risk of various health risks (Manz 2007).

A synthesis of studies covering 27 African countries found that "increasing the access rate to drinking water significantly increases the growth rate of agricultural labour productivity" because of the better health of workers and less time they spend on fetching water. (Kiendrebeogo, 2012). In Vietnam, some factories did better when they went beyond merely avoiding conditions associated with sweatshops and instead created an environmentally comfortable and trusting workplace, including water and restroom satisfaction. Profitability was 7.6% higher where workers expressed greater satisfaction with water, air quality, restrooms, canteens and health services provided in the factory, if other conditions remain the same (ILO 2015c, Brown et al. 2015). These measures help workers recover energy during long working days, increases productivity, and decreases fatigue, work-related illnesses, and absenteeism.

Employers may wish to follow these cost-efficient and easy-to-implement examples from Vietnam:

- engage reputable drinking water companies;
- place drinking water stations away from dust, sunshine, rubbish, and toilets;
- ensure that workers have equal access to drinking water usage with no undue restrictions; and
- regularly clean water containers, replace old cup/bottles, and change water filters. (ILO 2009a)

Another study found that returns in performance among 300 factory workers of Confection et Emballages in Haiti largely compensated the modest cost of installing seven water coolers, because it significantly increased the level of attention and efficiency at work (Di Martino et al. 2003). The Russian-British Consulting Centre, in Russia, found that installing a commercial filter on the spigot in the kitchenette of its small office provided water at 10 per cent of the cost of bottled water (Wanjek 2005).

Other studies support the promotion of access to WASH. For example, good facilities for managing menstrual hygiene support the health, dignity and inclusion of female employees (Sommer et al. 2016).

The evidence demonstrates that WASH is a critical component of a decent, healthy and safe workplace. There are a variety of international labour standards and codes of practice that address WASH in the workplace, ILO's OSH Conventions since 1956 have included provisions for worker's access to safe drinking water, sanitation and hygiene. Standards are also directed at specific work place settings, such as the Plantation Convention, 1958 (No.110), which outlines specific requirements for agriculture workers and the provision of water for workers. Annex 1 provides an in-depth review of standards and codes specific to WASH in the rural economy, WASH in the urban economy, WASH in the service economy, WASH in maritime and offshore activities and WASH regarding the working environment. Employers and workers

engaged in WASH for Work activities are encouraged to read and become familiar with the codes and standards that are most relevant to their worksites. In addition to reviewing Annex 1, employers should also explore what, if any, standards apply to their particular industry.

Risk and hygiene and welfare assessment approaches

To create a decent, healthy and safe workplace, both employers and workers must play an active role and be engaged in monitoring these conditions in their work environment. To begin this process, employers and workers first need to know and understand the conditions in their workplace to a) establish potential risks or needs for worker health and safety, and b) identify what can be done to improve conditions that would work to improve health and safety of workers. This handbook provides workers and employers with knowledge and tools to enable them to conduct an assessment or their workplace. It also provides information on how to improve conditions. Included in the Action Manuals are Checkpoints and Checklists to assist in the assessment of worksite conditions related to water, sanitation and hygiene.

There are a variety of approaches to assessing WASH conditions and associated risks in the workplace. This section outlines several approaches and refers to others that workplaces are encouraged to explore. These approaches provide an overall framework to compliment the Action Manuals included in the three Modules.

Risk Assessment/Hierarchy of Controls Approach

In the risk assessment approach, employers and workers must evaluate and decide if their existing hygiene and other facilities and practices are enough to prevent and cope with the risks from the workplace hazards. Importantly, these measures should also promote worker well-being to increase productivity.

Occupational hygiene is the science that anticipates, recognizes, evaluates and controls hazards that "arise in or from the workplace, and that can impair the health and well-being of workers". At the same time, it takes into account "the possible impact on the surrounding communities and the general environment." (Weber 2011) Through this definition, it is clear that sound OSH practices should be based on an understanding of workplace risks. In turn, prevention should be the central strategy for protecting workers, as well as the wider community.

A key tool promoted by the ILO for managing OSH at a workplace is the *hierarchy of risk control measures approach.* This approach is outlined in the ILO Guidelines on OSH Management systems (2001) and the ILO Training Package on Workplace Risk Assessment and Management for Small and Medium-Sized Enterprises (2013). These methods work to improve working conditions to protect workers' health and safety. While it is not specific to WASH, it provides key steps on how to identify risks and how to address those risks through various control measures.

This risk assessment methodology includes the following steps:

Step 1 – Identifying hazards

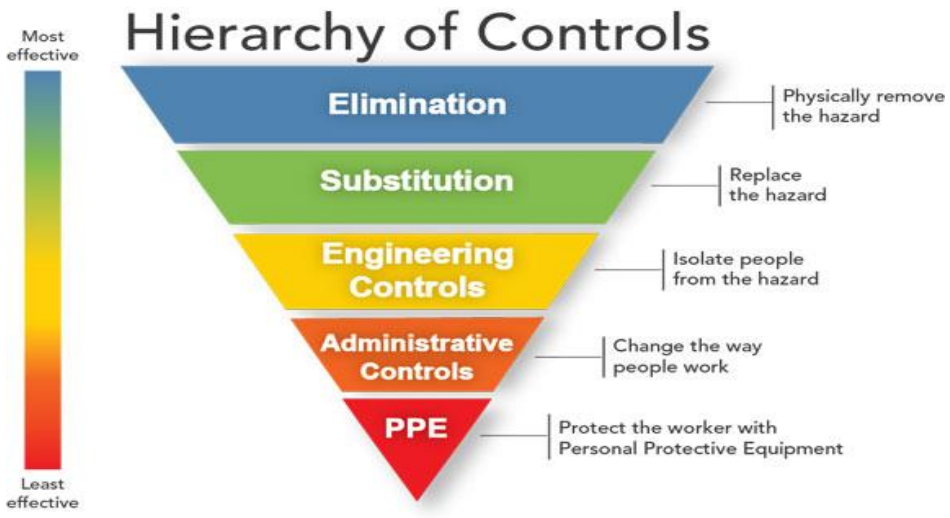
Step 2 – Identifying who might be harmed and how

Step 3: Evaluating the risk and identifying and deciding on what safety and health risk control measures will be taken

Step 4: Identifying who is responsible for implementing actions and the timeline

Step 5: Documenting/monitoring and reviewing progress

Once risks or hazards are identified during the assessment, we should undertake measures to address those risks. Therefore, a key component of the assessment is the Hierarchy of Controls, an internationally established framework to prevent and control occupational safety and health hazards by identifying effective interventions promoted by the ILO. The most effective intervention is to completely eliminate the hazard. The hierarchy of control measures contains five risk control measures, in the following order of priority:



Source: NIOSH, Hierarchy of Controls (Washington, DC: CDC, 2015),

Regarding WASH, these controls are applied as follows:

1. Elimination of hazards by physical means
2. Substitution- Tools, technology and engineering equipment, solutions which replace the hazard
3. Engineering Controls –changes in tools, equipment or other engineered measures to keep the hazard from coming in contact with workers
4. Administrative (procedural) controls– focused on changing the way people work

5. Personal protective equipment (PPE) – helmets, goggles, protective clothing or other garments or equipment designed to protect the wearer's body from injury or infection.

Risk control intervention examples

A key element of this approach is the identification of the water, sanitation and hygiene control measures (or interventions) that work to control or eliminate the identified relevant risks and hazards. The following table provides some examples of interventions, which may assist in the process of tailoring intervention to address identified WASH related risks identified during the risk assessment process.

Reminder

Review Annex 1 and complete the Action Steps in Modules 1 through 3 to identify potential risks and action steps that may be relevant to your specific workplace.

WASH hazard prevention/ control method	Examples of interventions
Elimination	☐ Decommission toilets that do not contain faecal matter safely and stop the practice of open defecation at work sites ☐ Discontinue the practice of workers using surface water or other unimproved sources of water for drinking water ☐ Discontinue – in agricultural settings – the use of known hazardous chemicals that pose a risk to work, community and environmental health
Substitution	☐ Eliminate/minimize the provision of beverages that contain few nutrients and provide a source of drinking water that is safe and protected from outside contamination. ☐ Replace solvent-based paint with water-based paints to eliminate fumes and enable workers to not have to use solvents to clean up after painting.

Engineering controls	☐ Provide water supply piped to premises that is treated prior to consumption ☐ Provide portable toilets in agriculture settings for workers' use ☐ Various high- and/or low-tech water purification/treatment technologies and devices ☐ Provide portable drinking water stations, water coolers, or water fountains, water backpacks or reusable water containers to enable workers to keep with them while working ☐ Provide air dryers or hands-free paper towel dispenser for drying hands after washing ☐ Improve and upgrade sanitation facilities (e.g. improved engineering in the construction of latrines)
Administrative controls	☐ Allocate rest breaks and support compensated breaks so that they are seen as part of the workday, to provide a work environment that encourage workers to practice good WASH habits ☐ Establish rules/guidelines for providing safe and private bathrooms and toilets for all workers ☐ Provide hygiene awareness training and information for both supervisors and workers ☐ Institute housekeeping practices, including the cleaning and maintenance of sanitary facilities, cooking areas, welfare facilities, locker areas, and temporary worker housing ☐ Require work clothes exposed to hazardous chemicals to be washed and kept at the workplace to avoid exposing workers' families
PPE and protective clothing	☐ Provide gloves, aprons, and other protective gear for improved hygiene ☐ Use separate clothes at work when exposure could be transferred between the workplace and the home

The design of WASH facilities should ideally take place during the workplace design stage. Regardless of when it occurs it should plan to ensure WASH accessibility for people with physical disabilities, gender-specific sanitary facilities, privacy issues, and other populations (Asfaw *et al.*, 2016; MacLeod *et al.*, 2014).

The table above provides examples for each hierarchy of control. For example, replacing sugar-sweetened soft drink beverages with safe drinking water would be "substitution" related to drinking water. (Davy et al., 2014). "Engineering controls" are devices or equipment to prevent or control WASH related hazards. "Administrative controls" refer to worksite policies and practices aimed at controlling WASH-related hazards and exposures, like cleaning and storing PPE and protective clothing, which provide a barrier between a worker and pesticides, only at the workplace. WASH principles are particularly relevant for the proper maintenance of PPE, as well as for effective decontamination after use to reduce the risk of hazardous exposures for workers, and for their families (in the form of "take-home exposures"). The ILO Code of Practice for Safety and Health in Agriculture (2011) promotes good housekeeping as a means to increase productivity by reducing lost time because of injuries and disease.

Under the *hierarchy of controls* approach, a WASH-focused hazard identification process takes place during the worksite walk-through inspections. During the walk-through, potential hazards are identified as well as measures to address those hazards. These measures include the provision of safe drinking water; gender-specific toilets that can be used in privacy and with dignity; hand-washing stations at critical locations to prevent the transmission of disease; sanitation facilities (e.g. toilets, showers, lockers for personal clothes); welfare facilities (kitchens, cantinas, rest areas); as well as general cleanliness of the work environment. This method can also be used to help identify less obvious organizational factors, like worksite policies and practices, related to rest-room breaks, work hours, and compensation practices that may shorten rest breaks (e.g. piece rate vs. hourly wages) and impeded workers ability, or willingness, to take breaks.

Reminder: An assessment should also address whether or not there are adequate hygiene and welfare facilities to address the hazards and risks at your particular workplace location(s) and if not what needs to be done to improve or introduce needed facilities. For example, workers' in an agricultural setting may be practicing open defecation because there are no toilets available to them. To address this hazard, the employer may introduce the use of portable latrines with handwashing stations that can be emptied when full and can be transferred from field to field as workers move.

WASH4Work Framework Approach

WASH in the workplace has received more attention recently, in part due to employers' increased desire to provide better working conditions for their workers, as well as increased understanding of the relationship between safe working environments, environmental and public health, and worker productivity. A variety of initiatives such as the **WASH4Work** initiative and the **WASH at the Workplace Pledge**, drafted by the World Business Council for Sustainable Development (WBCSD), have contributed to this result. In addition. The **CEO Water Mandate** has also contributed to this sector and teams are encourage to explore their resources and example at their website. Among these models are assessment processes and tools to assist in gathering data to assess and inform planning processes at the work place specific to WASH related to health and welfare.

The WASH4Work Framework for Action includes four phases to guide workplaces and their partners-preparation, engagement, action and feedback. As part of the Framework for Action, a WASH4Work: Baseline and Monitoring Indicator Guide has been developed by UNICEF. This resource provides key questions and detailed indicators for work places to consider specific to the business' commitment to WASH, awareness of WASH among management and employees, WASH facilities and menstrual hygiene management (MHM) and environmental WASH factors, such as water consumption and waste management.

The Guide also includes advice on how to collect the data from both employers and workers. It is designed for a wide variety of worksites from factories to agriculture worksites, like tea plantations. The data collected can be used to establish an in-depth baseline of WASH conditions and practices that can support an improvement plan and monitor activities. This tool also includes indicators for WASH condition at housing provided by employers, if any, or housing in the nearby community to enable workplaces to better understand the WASH conditions affecting their workers where they live.

Tea Estate Workers in Assam, India Gather to discuss their WASH Access
© Kay Mattson, 2015

Tip: The WASH4Work Indicators could be particularly useful to workplaces by providing data useful to your assessment and enable your team to complete the checklists in Modules 1 to 3.

The WBCSD is a global, CEO-led business member organization committed to transitioning companies to a sustainable world. As part of their work the WBCSD has developed an assessment aligned with its WASH at the Workplace Pledge initiative. The WASH Pledge Assessment Tool provides businesses with a method for assessing the current status of access to safe WASH at the workplace at a given facility of a company. The tool is designed to assist companies identify gaps towards compliance in their WASH pledge. Once implemented, the tool can provide a summary output and overall results score to assess the degree of compliance and an indication of where gaps exist. The WBCSD provides other resources on this effort on their website, including cases studies and how your company can sign on to the WASH Pledge.

WASH@Work Monitoring

All efforts to bring about change within a business need to be assessed along the way to measure if implemented activities and other changes, such as changes in policy or construction of facilities are bringing about the desired results. This process is referred to as monitoring and should be a key component of your planning and implementation efforts. A good monitoring system is thought about and planned for at the beginning of your WASH@Work strategy.

The assessment provides the baseline from which you can measure your results over time. This means that the tools you use to conduct your assessment or baseline, including the Checkpoints and Checklists in the modules, need to be revisited to assess what changes have occurred and whether or not you are meeting your desired objectives or targets. Ideally, monitoring should occur at regular intervals over your planned implementation timeline.

The complexity of your monitoring system will depend on how complex your plan is and what you want to measure. Regardless of the complexity of the system you design, you goal is to capture what happened, or changed, as a result of your efforts. Your monitoring system will also help you see what other issues may need to be addressed as you move forward in your implementation. It may identify issues that you perhaps had not thought about in the beginning that limit your ability to obtain the desired results, or which you could improve upon.

As the example below demonstrates, monitoring helps you identify issues that affect the results and those that limit the effectiveness of your efforts. A monitoring system does not only help you answer the question "Did we achieve what we planned to do?", but also a way to find out why something is working or not. Having a continuous monitoring process will help you better meet your intended results, as well as the overall quality of those results.

Hypothetical Example #1
Toilet facilities and improvements in menstrual hygiene

Your assessment identified the need for separate toilet facilities for female workers and the need for disposal bins for women to manage their menstruation at work. In your assessment you also found out, through focus groups with female workers, that women often miss work when they are menstruating. You identify that this is affecting your business' productivity and women's worker overall wellbeing. To address this, your plan of action includes building new female-only toilets that include covered bins for disposing menstrual materials.

During your assessment, you realize that you have human resource data on worker attendance by gender. You proceed with your plan and after six months you have built new toilets, which include bins for women to dispose of materials (you note this in the review of your checklist).

However, at your six-month monitoring discussion, female workers tell you that while the toilets are well received and women are using them, women are still missing work when menstruating. You review the HR data and find that there is little or no difference in female worker attendance since you built the new facilities. You conduct additional meetings with female workers to understand why, and discover that there are no affordable menstruation products for purchase in the workplace, and no place to store the pads that they bring from home. You also discover that while there are bins in the toilet stalls, there is no method to dispose of the pads at the facility, so women are reluctant to use them because their used pads may be disposed out in the open, along with other waste. They fear that other workers will see them.

As a result of your monitoring system, you implement new measures to address these findings. During your next monitoring time frame, e.g. six months later, you find out that women's attendance at work has improved based on a review of your HR data and that there is an overall higher degree of satisfaction from female workers when you meet with them.

Tip: Longer term desired results, such as increased worker attendance or productivity, may be more difficult to measure and may take longer to observe. You may not be able to say directly whether your efforts were the cause for the observed changes. To get at some of these more difficult questions of impact, you may need to consider evaluating and/or committing more resources to studying the impact of your interventions.

How to monitor

While monitoring systems vary, a good strategy will typically include the following:

- Identifying **what** you will monitor (your key areas of interest);
- What **information** (qualitative) and/or **data** (quantitative) you will collect to monitor results;
- **How** you will obtain your information;
- **When**- how frequently you will gather the information;
- **Who** will gather/be responsible for collecting the information; and
- How you will **analyse and report** the information and who you will share the information with.

The extent of your monitoring system will depend on the resources available to do this, including human resources, budget, skills and time. Be sure to be realistic. Workers' representatives should participate and you might also consider working with others, such as a local community based organization or university to assist you in this effort. This can assist to support the collection of valid information and to prevent bias in the information that is collected. Regardless of the information/data collection methods (e.g. hard copies, on-line surveys, photos, spreadsheets, etc.) you develop to monitor your efforts make sure that you (or those you partner with) have a good system to keep and maintain the data you collect.

Hypothetical Example #2
Tea Estate Workers One Year Pilot Project Monitoring Data Strategy

What key areas of interest/indicator: Improved safe drinking water access for workers while working in the tea fields

What information/data: Qualitative information from focus group discussions on perception and satisfaction of water access and quantitative data:

- Number of water refill stations in the fields available to workers that contain water
- Number of liters of water workers report to drink in a typical day in the field
- Number of water quality tests of refill containers
- Number of workers with reusable water containers at the worksite
- Number of tea estate health clinic data

How: Data will be collected from tea estate worker interviews, direct observation, water testing for presence of E. coli, and data on visits to health clinics related to dehydration

When: Quantitative data will be collected at start of intervention (baseline) and quarterly for one year after installing drinking water stations. Data will be collected randomly (unannounced) in the fields. Focus group discussions with workers will be conducted at the start and at the end of the test period.

Who will collect the data: Data will be collected by a joint committee of managers and worker representatives to support worker health and by the health clinic.

How it will be analysed and reported: CBO will provide business with a report 15 days after the end of each quarter and a final report 30 days after the pilot. Data to be analysed using Excel to provide summative (frequency data) and water test results and change over

time including worker perception of changes. No workers names, or identifying information, should be included in the report. Final report will be presented to workers. Lessons learned and recommendations for any suggested improvements to be included in the report.

As the preceding pages show, WASH is an integral element in the measures to preserve the life and health of workers under international labour standards and codes of practice. The drafters emphasized particular measures to ensure the welfare and productivity of workers. Annex 1 discusses priorities for different industries that you should review and adapt to your workplace.

The labour standards addressed in this handbook outline the expectations that the international community has established for employers and workers to ensure that work is carried out in a sustainable manner by allowing workers to perform well during their entire working life, and that workers continue being healthy after retiring from the workforce. These instruments also provide a common platform for employers to protect the environment and populations surrounding workplaces.

This module and Annex 1 provide the background for the following training materials, which seek to provide basic skills to further these goals. Accordingly, the preceding information should be kept in mind when reading the remaining modules.

Place cover for module 1 here

MODULE 1: WATER

What is safe water at the workplace?

- "Water at the workplace" refers to the ability to access safe water for drinking, personal and workplace hygiene, within a reasonable distance from the working task or the worksite.
- Access to safe water at the workplace should be seen holistically, as an essential element for maintaining OSH through water drainage and pest and insect control important to public health.
- Access to safe water also includes interventions that reduce human exposure to contaminated water by providing mechanisms to promote hygiene and sanitation. It involves both behaviours and facilities, which work together to form a safe and healthy workplace.

Contents of this module

This module presents the importance of access to safe water necessary to maintain a safe and healthy working environment. This section focuses on three topics:

Guide 1.1. Safe drinking water

Guide 1.2. Safe water for personal and workplace hygiene

Guide 1.3. Drainage, vector control and water related risks

GUIDE 1.1. SAFE DRINKING WATER

Without safe water, people simply cannot stay alive, or thrive. The safety of drinking water is a growing concern in many countries, as water sources are increasingly under threat from microbial or chemical contamination. Contaminated water impacts individual health, as well as the economic, environmental health and social development of communities and nations. In many workplaces and living environments, diseases spread because of poor personal, food and environmental hygiene, insufficient water access and by the consumption of contaminated water. In addition, water stress, droughts and deforestation can threaten the quality of freshwater systems (Peña-Guerrero et al. 2020).

Key facts on drinking water

- 785 million people still do not have access to basic drinking water.
- 435 million people take water from unprotected wells and springs
- 144 million people use water from untreated surface water from lakes, ponds rivers and streams
- At least 2 billion people use a drinking-water source contaminated with faeces.
- Contaminated drinking water is estimated to cause 485,000 diarrhoeal deaths each year.

Source: United Nations Children's Fund and World Health Organization, Progress on household drinking water, sanitation and hygiene 2000-2017: Special focus on inequalities (Geneva: WHO .Joint Monitoring programme, 2019)

1. What is safe drinking water?

Safe drinking water, also known as "potable water" or "improved drinking water", is water that is *of sufficient quality to be used for drinking (as well as for cooking and personal and domestic hygiene) without causing risk to health.* Unfortunately, a lot of water that is intended for drinking is not safe. The three main threats to drinking water are microbial, chemical (the most common in most workplace settings) and radiological threats. Insufficient access to safe drinking water can also lead to dehydration and other heat-related illnesses, which we will discuss separately.

A. Microbial threats

Water may be contaminated with bacteria, viruses or parasites, which are linked to the transmission of numerous diseases.

- The greatest risk to health from germs in water is due to contamination with human and animal excreta.
- If there is an infection in a person, the microbe can multiply and spread in human excreta and infect others.
- Certain microbes can also multiply in food, drinks and water systems, increasing the risk of contamination and infections.

Waterborne diseases/disease agents (examples, not limited to):

Bacterial

- Dysentery
- Cholera
- Typhoid Fever
- Escherichia *coli (E.coli)*

Viral

- Hepatitis E
- Hepatitis A
- Polio

Parasitic

- Cryptosporidium
- Giardia
- Toxoplasma *gondii*

Source: World Health Organization (2017 4th edition). Guidelines for Drinking-Water Quality

B. Chemical threats

In addition to germs, water can also contain certain chemicals. Some chemicals are harmless, but others can cause negative health effects.

- Most chemicals in drinking water can cause concern after long exposure – usually years, rather than months. That is because the health effects may be cumulative, and worsen over time.
- Chemicals can get into water from different sources, including:
  - Naturally occurring sources (from rocks and soil)
  - Industrial or human sources (by- products of manufacturing or chemicals from mine tailings)
  - Agricultural activities (pesticides and fertilizers)
  - Other materials in contact with drinking water (disinfectants and chemicals in water piping)

Chemical contaminants in water (examples)

Naturally occurring

- Arsenic
- Fluoride
- Iron

Industrial sources and human dwellings

- Beryllium
- Cyanide
- Mercury

Agricultural activities

- Ammonia
- Endosulfan
- Nitrate

Water treatment/materials contacting drinking water

- Asbestos
- Chlorine
- Lead

Source: World Health Organization (2011). Guidelines for Drinking-water Quality.

C. Radiological threats

Drinking water may also contain radioactive substances that occur naturally or that arise from human activities may present a risk to human health in some areas. Radiological risks are typically less hazardous than microbes and chemicals. Except in extreme circumstances, the radiation dose in drinking water is much lower than that received from other sources of radiation. Testing of nuclear weapons, routine discharge from industrial and medical facilities and accidents have added human-made radioactivity to drinking water. These workplaces, which pose particular exposure to radioactivity are requested to review The WHO Drinking Water Guidelines (2017, 4th edition), Chapter 9 goes into greater details on risks, assessment and remedial measures.

D. Heat-related threats

Dehydration is a key cause of heat illnesses, including heat rash, heat stress, heat exhaustion and heat stroke. Working in environments with high air temperatures or high humidity, radiant heat sources, or strenuous physical activities have a high potential for inducing heat stress in workers. Examples may include:

- ☐ Indoor or closed-space operations like iron and steel foundries, factories, brick-firing plants, glass and rubber production facilities, , kitchens, chemical plants, underground mines, and smelters.
- ☐ Outdoor operations conducted in hot weather, such as agriculture, construction, mining, refining, and hazardous waste site activities, especially those that require workers to wear semipermeable or impermeable personal protective equipment (PPE).

Heat-related stress and climate change

Occupational risks related to heat stress are not limited to tropical low-income countries; they also affect developed countries. In addition, workers who are not used to hot environments but are suddenly exposed to a heat wave can suffer from heat stress. Climate change will increase this risk. It is important to ensure that workers have adequate hydration, as well as other provisions such as air conditioning, shady areas where they can avoid the sun, protective clothing and adequate rest breaks. In addition, access to first aid and medical care should be available to address heat-related stress conditions.

Source: *Working on a warmer planet. The impact of heat stress on labour productivity* (Geneva: ILO, 2019)

2. What sources provide safe drinking water?

To prevent disease, drinking water should be extracted from safe sources. While there are many sources for water, only improved drinking water sources should be trusted for drinking or cooking. An "improved" drinking water source is one that, by its construction or through active intervention, is protected from outside contamination, in particular from contamination from faecal matter. The WHO/UNICEF Joint Monitoring Program (JMP) has defined water sources as Improved and Unimproved. While these categories are specific to households, many also apply to workplaces. The JMP Report for 2018 (page 7) uses a "service ladder" to monitor progress towards the Sustainable Development Goals at the household level. It also addresses water quality (water free from faecal or chemical contamination).

Table 1.1.1. Core indicators used for global monitoring of drinking water.

SERVICE LEVEL	DEFINITION
SAFELY MANAGED	Drinking water from an improved water source that is located on premises, available when needed and free from faecal and priority chemical contamination
BASIC	Drinking water from an improved source, provided collection time is not more than 30 minutes for a round trip, including queuing
LIMITED	Drinking water from an improved source for which collection time exceeds 30 minutes for a round trip, including queuing
UNIMPROVED	Drinking water from an unprotected dug well or unprotected spring
SURFACE WATER	Drinking water directly from a river, dam, lake, pond, stream, canal or irrigation canal

Table 1.1.2. Improved and unimproved sources of drinking water.

IMPROVED DRINKING WATER	**Piped water into dwelling**	A water service pipe connected with in-house (or business) plumbing to one or more taps (e.g. kitchen and bathroom). Also called a household connection.
	Piped water to a yard or plot	A piped water connection to a tap placed in the yard or plot outside the house (or business). Also called a yard connection.
	Piped Water to a public tap or standpipe	A public water point from which people can collect water. It may have one or more taps made of brickwork or concrete. Also known as a public fountain or public tap.
	Tube well or borehole	A deep hole that has been bored or drilled, in order to reach groundwater. Constructed with casing, or pipes, to prevent them from caving in and protects the water source from infiltration by run-off water. Water is pumped up, which may be powered by human, animal, wind, electric, diesel or solar means.
	Protected dug well	A well that is protected from runoff water by a well lining or casing that is raised above ground level and a platform that diverts spilled water away from the well. It is also covered, so that animals and waste cannot fall in.
	Protected spring	A natural spring that is protected from runoff, bird droppings and animals by a "spring box", which is made of brick or concrete and is built around the spring so that water flows out of the box and into a pipe or catchment, without being exposed to outside pollution.
	Rain water	Rain that is collected from surfaces (by roof or ground catchment) and stored until used.
UNIMPROVED DRINKING WATER	**Unprotected spring**	A spring that is subject to runoff, bird droppings, or the entry of animals. Unprotected springs typically do not have a "spring box".
	Unprotected dug well	A dug well for which one of the following is true: 1) not protected from runoff water; or 2) not protected from bird droppings and animals. If at least one is true, the well is considered to be unprotected.
	Small tank or drum of water delivered	Water sold by a provider who transports water into a community using donkey carts, motorized vehicles and other means.
	Tanker truck	Water that is trucked into a community and sold from a water truck.
	Surface water	Water located above ground. Includes rivers, dams, lakes, ponds, streams, canals, and irrigation channels.

Source: WHO/UNICEF Joint Monitoring Program (JMP) for Water Supply and Sanitation. Core questions on drinking-water and sanitation for household surveys. 2006, p. 9.

Bottled water is also a source of drinking water. However, bottled water is considered to be improved only when the household, or workplace, uses drinking water from an improved source for cooking and personal hygiene. Where this information is not available, bottled water is classified on a case-by-case basis. In some work places communal bottled water is common. It's important that this water is determined to be safe.

Reminder: Work in animal operations and slaughtering

- Work activities with animals may involve exposures to animal wastes, with risks of exposures to bacteria, and groundwater contamination. One infection of significant concern from animal excreta is Escherichia coli (E.coli).
- Infections in workers, may occur as a result of contamination of water, including wells, with E. coli. Infection from drinking contaminated water can result in severe gastrointestinal diseases such as diarrhoea and severe kidney and other problems and may result in death, particularly in young children and vulnerable populations.
- Work activities involving animals should take into consideration the possibility of water contamination and take particular caution.

For more information, see: Safety and health in agriculture: an ILO code of practice (2010).

3. Worker drinking water requirements

Water is a basic need of the human body. The human body requires a minimum amount of water in order function to properly. Without an adequate amount, mild and severe dehydration can occur.

- **Mild dehydration** results in negative health effects, like loss of alertness and concentration, headaches and confusion. Mild dehydration can be reversed by increased fluid intake and may be enhanced through the use of salt replacement solutions.
- **Severe dehydration** can lead to kidney and urinary disorders, and can be fatal. Severe dehydration requires medical attention.

There is no established "absolute minimum" quantity of drinking water to maintain hydration. For each worker, minimum requirements for hydration vary and can depend on many different factors, including:

- Worker characteristics, such as age, body-weight/height, physical condition, degree of acclimatization, metabolism, health conditions, consumption of drugs or alcohol.

- The types of work tasks conducted, i.e., light, medium, or heavy work.
- Temperature and humidity.
- Clothing and personal protective equipment (PPE) worn.

Given that we lose water through perspiration, any work activities that cause workers to sweat, as well as warmer temperatures, are key factors to consider when determining worker hydration needs. The tables below present approximate values for consideration to determine if adequate water is available for your workplace setting and type of work being conducted.

Table 1.1.3. Hydration needs based on activity and temperature.

	Sedentary, Temperate Environment	Physically Active and/ or Increased Temperature
Female adult	2.2 litres/day	4.5 litres/day
Male adult	2.9 litres/day	4.5 litres/day

Source: Howard G, Bartram J. (2003) Domestic Water Quantity, Service, Level and Health. World Health Organization.

Table 1.1.4. Suggested hydration, based on temperature, activity and work/rest ratio.

Global Temperature ranges	Light (easy) work		Moderate work		Heavy work	
Celsius	Work/rest ratio limit	Water intake (litres/hr)	Work/rest ratio limit	Water intake (litres/hr)	Work/rest ratio limit	Water intake (litres/hr)
25.6-27.7	NL	0.5	NL	0.75	40/20 min	0.75
27.8-29.4	NL	0.5	50/10 min	0.75	30/30 min	1
29.4-31.1	NL	0.75	40/20 min	0.75	30/30 min	1
31.1-32.2	NL	0.75	30/30 min	0.75	20/40 min	1
>32.2	50/10 min	1	20/40 min	1	10/50 min	1

Notes:

1. Temperatures are based on Wet bulb Global temperatures (WBGT).
2. NL=no limit to work time per hour
3. If wearing mission oriented protective posture 4, add 6 °C to WBGT
4. If wearing personal body armour, add 3 °C to WBGT in humid climates
5. Daily fluid intake should not exceed 12 litres
6. Caution: Hourly fluid intake should not exceed one litre
7. Rest means minimal physical activity (sitting or standing), accomplished in shade if possible
8. These work/rest time and fluid replacement volumes sustain performance and hydration for at least four hours of work in the specified work category. Individual water needs may vary ± 1/4 lt/hr

Source: Published in Safety and health in agriculture. ILO code of practice. Appendix VI. Adapted from: Montain SJ, et al. Fluid Replacement Recommendations for Training in Hot Weather. Military Medicine, 164,7:502-508, 1999.

What about special groups of workers?

- **Young workers** are vulnerable to dehydration due to their developing bodies. They are less able to regulate their body temperatures in hot working conditions. Young workers generate more heat per pound of body weight than adults. They also may lack the knowledge for maintaining hydration while at work.
- **Pregnant women** require additional fluid replacement to ensure that foetal needs are met, as well as providing for expanding extra-cellular space and amniotic fluid. Pregnancy naturally elevates the body's temperature, making women more vulnerable to heat exhaustion.
- **Lactating women** have additional water requirements, of 750ml to 1 litre per day for the first six months of lactation.
- **Workers with disabilities** may face barriers to accessing drinking water facilities. They may also have different requirements for water intake.
- **Older workers** may not require additional volumes of water, but may be at greater risk from dehydration and more vulnerable to disease from contaminated water sources.
- **Ill or immunocompromised workers** may be more likely to get sick from water that is contaminated when compared to healthy workers. Based on their illness, they may already suffer from dehydration and require increased amounts of water, or electrolyte intake needs.

4. What are the workplace requirements for drinking water?

Access to safe drinking water at the workplace is a fundamental human right. To keep workers safe, healthy and productive, employers must guarantee access to safe drinking water, related materials (such as cups), and as well as maintenance of water sources. Recommendations for drinking water at the workplace are presented below.

A. Drinking water should come from an improved source

This means that the source should be from a protected source and assessed for water quality regularly and monitored to determine that water is potable, ideally by a water authority or independent lab.

- Running water should be provided if it is available and practical. Examples include piped water fountains, and water taps connected to a piped source.
- If running water is not available, potable water should be provided in containers. Examples include water coolers, jerry cans, or other closed containers. Containers should be:
  - tightly closed to protect water from being contaminated from outside sources;
  - equipped with a tap or a faucet for dispensing water;
  - regularly cleaned and disinfected to be sure that the container does not become contaminated; and
  - clearly marked as containing drinking water, or not.

Reminder: **Keep water safe**

In addition to ensuring that drinking water comes from an improved source (see table 1.1.1). Water should also be provided in a matter that keeps the water safe and free from contamination. This means that water should *never be provided in open containers such as buckets or pails*

that workers could dip into. Open water containers, like buckets, increase the risk of water contamination from airborne germs, insects and other animals; chemical hazards like pesticides; and exposures from workers' hands and dirty cups dipped into containers.

B. Drinking water should be palatable

Water should be pleasant in taste and be odor-free to encourage drinking.

- Ideally water should not have any taste that causes users to question its quality. It is important to remember that taste alone does not necessarily indicate a direct health problem (e.g. water that tastes slightly of chlorine does not pose a health risk), but if the safe water supply does not taste good, users may decide to drink from unsafe sources instead (e.g., untreated surface water from ponds or lakes) and put their health at risk.
- Water should be at an appropriate temperature, based on the workplace and environmental conditions. In warm temperature environments, water that is cool is more palatable than warm water, encouraging workers to drink
- For workers in mines, drinking water should be accessible above and below the surface of the mine

Reminder: Water vs. other drinks

Potable drinking water should always be provided for workers to maintain hydration. In certain cases, other drinks could be provided based on work place conditions, such as:

- Diluted flavoured drinks/juices
- Low salt concentration drinks
- Warm drinks for rehydration in cold environments

Drinks that should NOT be promoted nor provided:

- High sugar drinks, like soda
- High caffeine drinks, like energy drinks
- Alcoholic beverages

C. Drinking water should always be accessible

Accessing drinking water should always be easy and convenient for all workers at the workplace throughout the day.

- The needs of disabled workers should always be considered. Workplace drinking stations should be designed in a way that makes access easy for everyone with no unnecessary obstacles to reach them.
- In construction, agriculture or forestry settings, or where workers are required to move and change worksites often, drinking water should be available either at every worksite, or within a reasonable distance that is accessible to all workers during the workday. One easy solution is mobile water dispensing containers that have a spout. Another option is to provide workers with backpacks that contain potable water, with personal drinking attachments (see textbox below) or with reusable containers that they can refill and keep with them while they work.

Case study: Hands-free hydration

In El Salvador, a mixed-method intervention study was conducted among sugarcane cutters to reduce heat stress and dehydration without decreasing productivity. Sixty workers were provided an individual backpack-mounted water container with a connected flexible tube and mouthpiece for continuous and hands-free hydration. The intervention also included mobile shaded rest areas, scheduled rest periods, ergonomically improved machetes, and efficiency strategies. Health data were collected at different intervention stages. Post-intervention water consumption among workers increased 25 per cent compared to the baseline. Heat stress and dehydration symptoms decreased. Daily production per person increased from 5.1 tons of sugarcane to a high of 7.3 tons of sugarcane at post-intervention, which was greater than in other cutting groups. Participant focus groups provided positive reports on the programme components that seemed to significantly reduce heat stress.

Source: Bodin, T., et al., 2016. "Intervention to reduce heat stress and improve efficiency among sugarcane workers in El Salvador: Phase 1", in Occup Environ Med, Vol. 73, No. 6), pp.409-16.

D. Appropriate drinking container/cup should

be provided

Other workers can easily contaminate drinking water especially if they are sick or have been exposed to hazardous substances at the workplace. For this reason, drinking vessels should not be shared.

- Individual drinking vessels, such as cups or bottles should be provided for each worker for personal use only, and not shared between workers. Ideally these should be reusable to avoid waste.
- If single use vessels are not provided, potable water and soap should be available in close proximity to the drinking station to enable regularly cleaning of containers. .
- Hands may be contaminated and pose a health risk, and thus should not be used as a method for drinking water (i.e., cupped hands that are drunken directly from a tap).

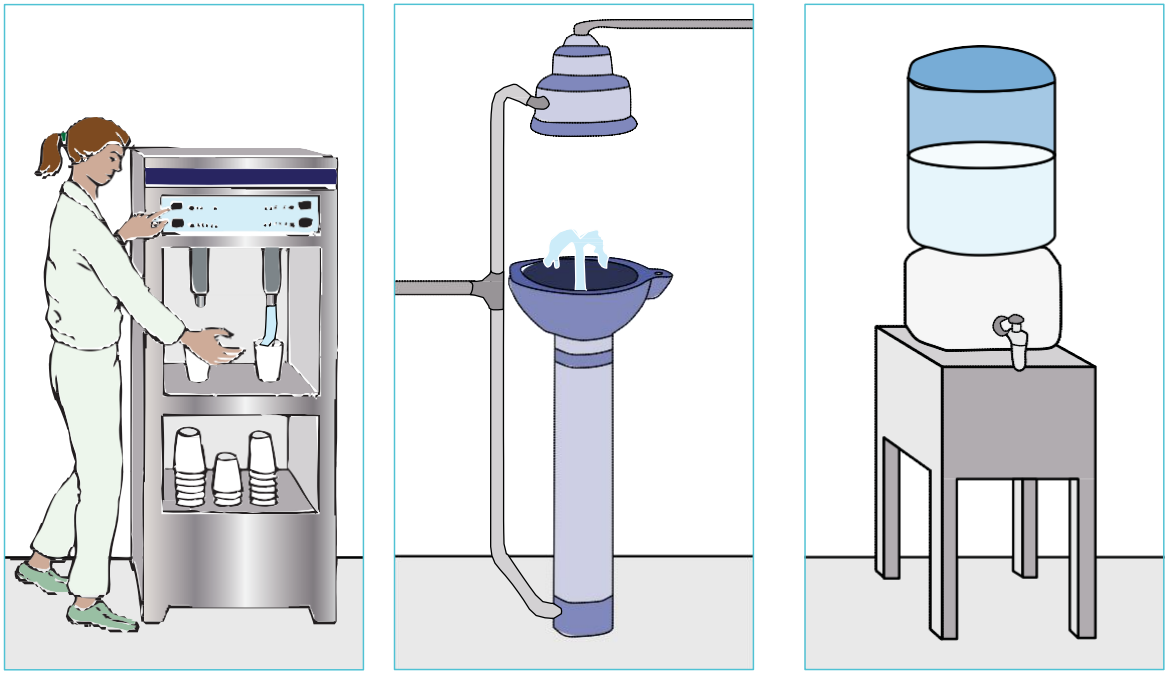


Figure 1. 1. 1. Appropriate ways of providing drinking water at the workplace. ILO/WHO HealthWISE Action Manual, 2014.

Figure 1.1.2. For this Brazilian labourer, fresh water provides a break in a long day of work. ©Cassidy K./ILO

E. Drinking water provisions should be appropriate for workplace conditions

Workplaces differ dramatically based on sector and work task. The best way to understand the most appropriate methods of drinking water provision are to conduct a workplace assessment. Elements to consider include:

- Temperature and humidity of working environment (Table 1.3).
- Type of work activity (light, moderate, or heavy).
- Location of work tasks and proximity to drinking stations.
- Individual needs of workers (i.e., are there any workers with special needs such as pregnant women).
- Risk for water contamination. For example, pesticides and fertilizers can contaminate water on agricultural lands, and thus extra care should be taken to ensure that water is protected from potential contaminants for workers in these settings.

Table 1.1.4. Considerations for drinking water provision based on hot and cold working conditions.

In hot working conditions (for example, outdoor in tropical climates, or in mines/ foundries):
• Provide water at low salt concentration or dilute readily available flavoured drinks • Encourage workers to drink at least hourly • If the work is mobile where it is not feasible to have a set drinking water station, arrange for water to be brought to workers or for mobile water stations. • Consider drinks that are at 15 to 20 °C, as these may be more preferable to iced drinks • For physical work in hot conditions, one litre or more per hour per workers may be required • Provide shaded rest areas for workers to take breaks and to drink water
In cold working conditions (for example, in outdoor work during winter season, or in cold storage work):
• Provide heated rooms or shelters where workers can drink water or other liquids to maintain hydration • Provide warm drinks for rehydration, ideally with low or no-caffeine. • Encourage workers to bring insulated containers with them to the work place for warm drinks, such as hot water and tea.

Reminder

Do not provide, and discourage the drinking of alcohol, caffeine, carbonated drinks or drinks with a high salt or sugar content. Alcohol consumption inhibits judgement and coordination, dehydrates the body and makes it more susceptible to heat and cold stress.

GUIDE 1.2. WATER FOR PERSONAL AND WORKPLACE HYGIENE

In addition to safe water for hydration needs, there are other workplace needs where access to water is crucial for worker health, wellbeing, and productivity. Access to water for all workers is necessary for the management of:

1. Personal hygiene (for washing and bathing)
2. Workplace hygiene (cleaning and laundering)
3. Food hygiene (preparing food/cooking)

1. Water for personal hygiene

Access to water at the workplace is required for maintaining personal hygiene through the proper use of sanitary and washing facilities. Poor hygiene at the workplace can be related to a lack of sufficient quantity of water supply. For these reasons, workplaces must provide adequate water for both drinking water as well as for personal hygiene.

Sanitary facilities

The type of sanitary facilities provided, including those that require water for flushing (flush or pour flush toilets) or dry facilities (pit latrines or composting toilets) has a big impact on water requirements. Flush toilets often require large volumes of water, while pour flush toilets or latrines may require much less, and dry latrines none at all. Whatever the design, employers are responsible for ensuring that the necessary amount of water is available to maintain sanitary and functional facilities.

Additional quantities of water may also be necessary for personal cleansing with water or a hand-held bidet sprayer (i.e., anal washing), where toilet paper is not used. This will be in function with the cultural context of the workers, which must be taken into consideration when designating the amount of water needed for sanitary facilities.

Estimates of water needs for sanitary facilities that use water:

- Flushing toilets: 10-20 liters per person per day
- Pour-flush toilets: 1.5-3 liters per person per day
- Anal washing: 1-2 liters per person per day

Source: UNICEF (2013). WASH in Schools Guidelines for Lebanon

Handwashing and bathing

It is essential to wash hands with soap and water at critical times to maintain good personal hygiene and prevent diseases at work.

Further, in some work places workers handle and/or are exposed to contaminants, e.g. work with or slaughter animals, have contact with hazardous chemicals, e.g. pesticides, or have significant contact with dust (e.g. coal or rock dust) and should have access to facilities for handwashing and bathing after having contact with such substances.

Risks from contaminated water when washing

Water for handwashing and bathing should be safe and not pose risks to workers:

- *Should not contain hazardous chemicals that would expose workers to potential health risks.*
- *If handwashing/bathing water is not potable (e.g. safe for drinking) signage should clearly indicate that "water is for bathing only and not for drinking".*
- *Should be free of disease causing amoebas, e.g. Naegleria fowleri (*known as the *"brain-eating amoeba") is a free-living microscopic amoeba that has caused deaths associated with using domestic water supplies. During showering or bathing with amoeba-contaminated water, the amoeba can enter through the nose, and travel to the brain where it causes Primary Amoebic Meningoencephalitis, which is usually fatal.*

Source: CDC (2015). Facts about Naegleria fowleri and Primary Amoebic Meningoencephalitis.

Menstrual hygiene management (MHM)

Workplaces should also provide sufficient clean and safe water to meet the hygiene needs of menstruating women in the workplace during work hours. (Hygiene Module, Guide 1.5).

- ☐ Access to clean water should be guaranteed within toilet facilities for handwashing, as well as for washing of soiled menstrual materials in private, as needed depending upon local MHM practices.
- ☐ Clean water should also be available in private washing facilities or showers, as necessary, to maintain personal hygiene, especially for workers who work long distances from their homes.

2. Water for workplace maintenance

Access to water at the workplace is also necessary to maintain facilities through routine and specialized cleaning and laundering, as needed, on site. Maintaining hygienic conditions at the workplace promotes worker health, wellbeing and morale. It may include:

- Standard cleaning of workplace surfaces (e.g. floors, windows, ceilings, toilet facilities and canteens).
- Disinfection of surfaces when necessary (in settings exposed to hazardous substances, such as biological contaminants, such as animal or medical waste).
- Cleaning and Laundering of workplace materials, like towels, workplace clothing, PPE and bedsheets.

The amount of water necessary and the approach for cleaning and laundering will be dependent on the work sector and work tasks. Consult ILO instruments for recommendations on workplace cleaning based on the work sector in Annex 1.

3. Water for food hygiene

Water is essential for cleaning, preparing and cooking food. Water that will have contact with food that will be ingested must be safe from contaminants and not pose a health risk for workers. For this reason, all workers as well as any worksite canteens should have access to potable water for food and cooking related needs at work, including water for:

- washing foods;
- water for preparing and cooking foods; and
- water for cleaning utensils and cooking equipment.

The amount of water that workers require for cooking is difficult to specify as this will depend on the diet, the role of water in food preparation, and worker needs for cooking at the workplace, based on the work sector characteristics. At workplaces that are isolated, and where workers also have accommodations, such as on fixed offshore installations, or in the maritime industries, it is essential that potable water be provided in adequate amounts.

Estimates of water for cooking needs

While the amount of water needed for cooking will depend on the food consumed, most cultures have a staple food, for example rice, beans or potatoes. A minimum requirement for water supplies should take into consideration the amount of water needed to be able to prepare an adequate quantity of the staple food to provide nutritional benefit. The WHO has estimated that **three to six liters of water per day per person** is necessary to meet basic cooking needs.

Source: WHO (2013). How much water is needed in emergencies. WHO: Geneva, 2013.

GUIDE 1.3. DRAINAGE AND VECTOR CONTROL AND WORK IN WATER-RELATED RISKS

Water at the workplace should be approached as an environmental issue, one that has direct linkages to OSH. Certain workplace conditions can pose water-related health risks for workers and the broader community, and therefore appropriate risk management strategies and control measures are necessary. Climate change is also increasing these risks due to heavier rains and rising sea levels.

1. Drainage

It is important to protect surface water that is present at or around the workplace, or at worker housing, from coming in contact with wastewater and other contaminants. Rainwater or rising flood waters can increase the risk if appropriate drainage systems are not in place. The risks to surface waters may include hazardous waste, (such as medical facility waste or chemicals used in garment/leather manufacturing), overflowing septic tanks or pit latrines. Health risks associated with inadequate water drainage include:

- contamination of drinking water supplies at the work site and among communities near or downstream from the worksite;
- environmental contamination to rivers and the ocean that serve as a source of food for nearby communities; and
- establishing breeding places for insects or other organisms that carry germs or parasites from one persons or animals. These are called **vectors**.

For this reason, employers should conduct a workplace risk assessment to understand the potential for rising surface waters at your respective worksite whether that be a factory, mine, agriculture or other worksite settings. Actions that can be taken include:

- developing an adequate water drainage plan;
- site-planning and design to deal with stormwater drainage; and
- disposing wastewater through small-scale, on-site drainage systems, including allowance for appropriate run-off from irrigated agricultural land

The aim of appropriate drainage control at the workplace is for workers to work, and in some cases, to live and thrive, in an environment in which health risks are minimized from standing water, including stormwater, floodwater, domestic wastewater and wastewater from medical facilities. Appropriate drainage will also work to protect the community surrounding the workplace.

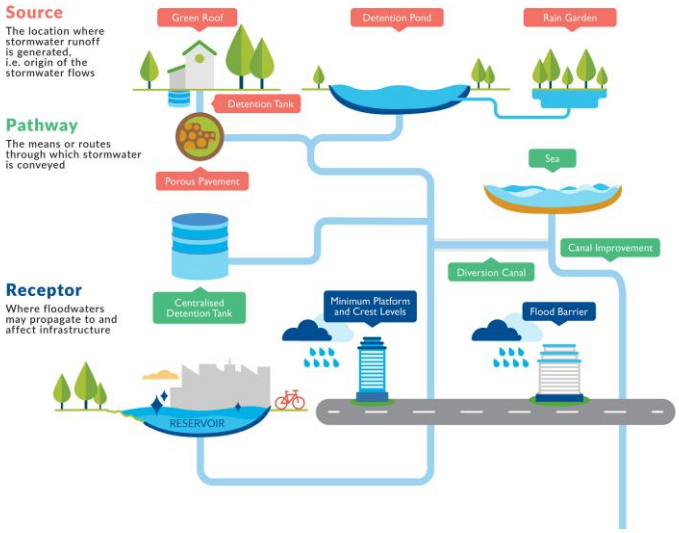


Figure 1.3.1. Examples of Singapore's' Source, Pathway, Receptor approach to addressing storm water/flood challenges. Source: Singapore national water agency PUB, "Managing stormwater for our future", https://www.pub.gov.sg/Documents/ManagingStormwater.pdf.

2. Drainage for vector control

Water drainage is particularly important for vector control at the workplace or workplace accommodations.

Vector-borne diseases (illnesses caused by pathogens and parasites) are a major cause of sickness and death, especially in situations where there is standing water and lack of drainage. Mosquitoes are the vectors responsible for malaria transmission, which is one of the leading causes of morbidity and mortality. Mosquitoes also transmit other diseases, such as yellow fever and dengue.

Drainage of water sources, as well as the prevention of standing water, at the workplace for vector control represents the most effective intervention to eliminate the hazard.

Vector-borne diseases associated with water (examples, not limited to):

- Japanese Encephalitis
- West Nile Virus
- Malaria
- Yellow Fever
- Dengue Fever
- Onchocerciasis

Source: CDC (2016). WASH-related diseases.

Reminder: Vector control is a comprehensive WASH issue

When it comes to keeping workplaces safe from vector-borne diseases, the action point extends far beyond water drainage. Vector control is a comprehensive workplace initiative that includes proper management of water, sanitation and hygiene, including:

- Excreta management
- Solid waste management
- Use of chemical controls
- Effective protection of food stores

3. Risks related to Work in Water

Some work sectors or work tasks require that workers work in or around water sources.

Examples include:

- Fishing
- Aquaculture
- Agricultural work with water dependent crops, such rice paddies
- Mining in water-filled areas

Working in or around water poses unique OSH risks that must be assessed and mitigated to protect worker safety and health. Annex 1 addresses some of these risks and how to address them for some of these types of workplace settings, such as off-shore and mining.

Waterborne diseases

There should be a full workplace risk assessment conducted to better understand which control measures should be taken for your given worksite to prevent waterborne diseases. Drainage is not always a risk reduction option when it comes to protecting workers from waterborne diseases. For example, some agricultural workers must spend long periods of time standing in water-dependent rice paddies. In this case, draining of the agricultural field is not a viable solution. Therefor these workers may be at risk for diseases unique to their worksite environment, such as schistosomiasis (see text box below) and therefore must take adequate protective precautions, such as wearing rubber boots.

Key resource: Preventing Bilharzia

Bilharzia or Schistosomiasis is a major parasitic disease of tropical and subtropical regions. It is transmitted by larvae parasites of infected aquatic snails that penetrate the skin. It is primarily spread by contact with the water where the snails are found. Agricultural workers who stand for long lengths of time in places where aquatic snails are prevalent, such as rice paddies, are at particular risk for this disease. Acess to improved drinking water contributes to prevent this disease by reducing contact with contaminated water resources—for example, when collecting water or when using water for bathing or laundry from unimproved sources. Using improved sanitation facilities and ending open defecation also prevents the spread of diseases as feces that contain the eggs of schistosomiasis are not able to enter bodies of water.

For more information, see WHO's Fact Sheet on Schistosomiasis.

EMPLOYER'S ACTION MANUAL: WATER

Employers, as well as their organisations, play a vital role in promoting essential labour standards for OSH. Employers' organisations have a central role in providing employers information on how to manage OSH measures as they relate to WASH provisions, particularly small enterprises in the local informal economy. Employers are fundamental to developing and maintaining social dialogue (information sharing, consultations or negotiations) about WASH at work with government agencies, workers, workers' representatives, and trade unions. This includes access to safe water and management of water-related risks. Employers can follow the following checkpoints to address water related risks in the workplace.

Checkpoint E.1.1. Maintain transparent communication with the competent water authorities to ensure that the water provided comes from an improved source and is safe to drink

Why?

Water that does not come from an improved source, or that has not been tested to be safe, may be contaminated and cause illness in workers.

How?

- ☐ Develop a plan for the provision of safe drinking water.
- ☐ Review plans with the local authority to ensure the workplace complies with local drinking water laws and regulations.
- ☐ Make arrangements with the responsible authority to inspect and test drinking water sources, to ensure that it is safe to drink and free from contamination risks. If possible, obtain documentation from the authority that indicates that the water is fit for human consumption.
- ☐ If water is not available on site from an approved/safe source, make efforts to transport adequate amounts of safe drinking water to the worksite in safe and approved containers.
    - Water transport tanks, storage tanks and dispensing containers should be cleaned and disinfected, and approved by the responsible authority.
- ☐ Establish a system for regular water quality tests and overall water system review by the responsible authority, or have appropriately trained staff to undertake this activity. Document results.

Checkpoint E.1.2 Provide adequate amounts of safe drinking water that is easily accessible

Why?

Dehydration quickly reduces physical and mental ability, and can reduce productivity and increase the risk for accidents at the workplace. Potable water should be provided for drinking and should be protected from contamination. Non-potable water can make workers sick. Water that is not safe to drink should be clearly designated as unsuitable for human consumption.

How?

- ☐ Conduct a workplace risk assessment to understand drinking water needs, based on:
  - temperature and humidity;
  - activity level of work tasks;
  - individual worker characteristics, including disability; and
  - distances between work tasks and drinking stations.
- ☐ Provide safe drinking water only from approved sources, and according to national laws.
- ☐ Provide water in containers when running water is not available or practical. Ensure that containers are:
  - Tightly closed. Do not provide open containers such as buckets or pails that workers dip into!
  - Equipped with a tap or a cock for water dispensing.
  - Clearly marked with what they contain.
  - Regularly cleaned and disinfected.
- ☐ Make sure accessing drinking water is *convenient* for workers, considering their tasks. This includes tasks carried out away from the employer's facilities, such as in agriculture, mining and construction.
- ☐ Consider the needs of workers with disabilities. Design the workplace drinking stations in a way that makes access easy for everyone.
- ☐ Consider the needs of other vulnerable workers, such as pregnant women, older workers and persons with health conditions that may require more water and more frequent access to water while working.
- ☐ Provide personal drinking vessels or allow the use of personal reusable water containers, such as water bottles. Provide facilities and clean water and safe cleaning agents where water vessels can be cleaned regularly. Reduce one-time use containers, if possible.

Case study: Promote water over nutrient-poor sugary beverages

The promotion of drinking water is an essential component of workplace wellness initiatives. In many countries, the consumption of sugar-sweetened beverages has been increasing. A 2014 study (Davy et al.) recommended limiting the availability of vending machines and the selling nutrient-poor beverages, to prevent overweight.

Lesson learned: Improved access to and provision of safe drinking water and removal of nutrient-poor sugary beverages from the worksite may assist in promoting water consumption, thus maintaining the proper hydration of workers.

Source: Davy, BM et al. 2014. "Impact of individual and worksite environmental factors on water and sugar-sweetened beverage consumption among overweight employees", in Prev Chronic Dis, Vol. 11, No., pp. E71.

Reminder: The Hierarchy of Controls

The Hierarchy of Controls is an internationally established framework to prevent and control safety and health hazards by identifying effective interventions. The most effective intervention is complete elimination of the hazard.

The second most effective strategy is substitution, followed by engineering controls and administrative controls. A WASH-related example for "substitution" is replacing sugar-sweetened soft drink like beverages with safe drinking water.

Protect drinking water from potential contaminants:

- ☐ Clearly mark potable and non-potable water sources in recognizable signage.
- ☐ Prohibit drinking in places where hazards can contaminate drinking water. Enforce rules that allow drinking water only in designated areas.
- ☐ Keep water away from chemicals and other hazardous substances, and ensure that drinking water sources do not mix with water-run-off.
- ☐ Ensure that drinking water is not connected to a supply of non-potable drinking water. Contact the designated authority if in doubt.
- ☐ Clean and disinfect transport tanks, storage tanks and dispensing containers regularly as applicable, as recommended by the designated authority.
- ☐ Ensure testing of drinking water on a regular basis by the designated authority or qualified staff.

Case study: Water distribution systems can be contaminated, too.

In Europe, studies have reported that one-third of gastrointestinal illness outbreaks can relate to water distribution systems. A Spanish study described an outbreak of acute gastroenteritis (AGE) among employees at an appliance factory. An investigation identified 302 AGE episodes affecting 238 workers between June and September 2013. The environmental study detected a connection between an industrial water system and the canteen's drinking water at the factory.

Lesson learned: Develop transparent relationships with local water authorities, and conduct regular testing of drinking water to protect your health, and the health of your workers.

Source: Altzibar, JM. et al. 2015. "Outbreak of acute gastroenteritis caused by contamination of drinking water in a factory, the Basque Country", in J Water Health, Vol. 13, No. 1), pp.168-73.

Checkpoint E.1.3. Provide adequate amounts of safe water for personal and workplace hygiene

Why?

Water is a central element in maintaining both personal and workplace hygiene. Access to safe water is essential for cooking, cleaning and laundering needs in order to keep workers safe and productive.

How?

- ☐ Conduct a workplace risk assessment for water-related needs for personal and workplace hygiene.
- ☐ Provide safe water for handwashing, bathing and showering facilities that the workplace needs.
- ☐ Provide potable water for cooking, preparing food, and to wash food, utensils and materials, if workers need.
- ☐ Provide water for workplace cleaning and laundering, as needed, based on your work sector and activity.
- ☐ Follow national laws and regulations on water provision for other workplace needs.

Checkpoint E.1.4. Ensure effective drainage control, as well as management of water-related OSH risks

Why?

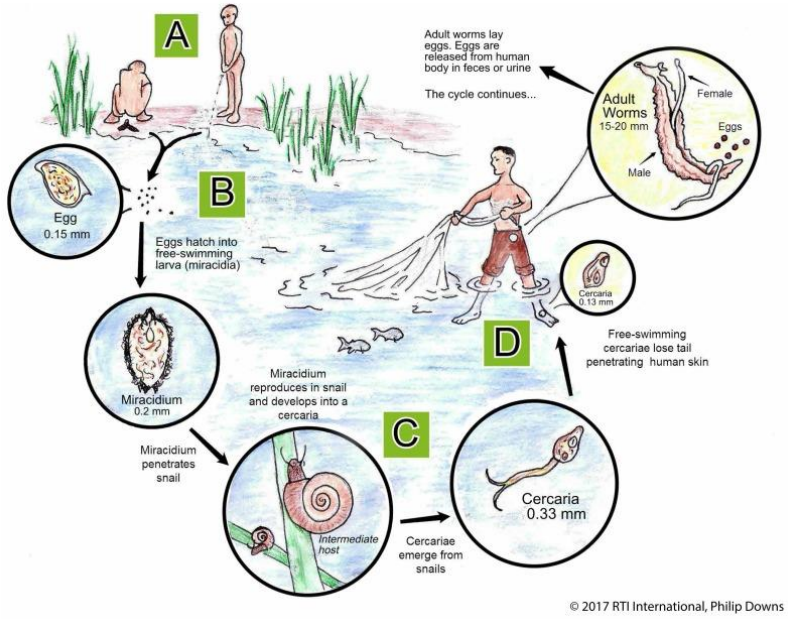
Water at the workplace is essential to worker health and productivity. However, water can also pose a health risk when it is contaminated, contaminate the surrounding community environment, or serve as a breeding ground for pests and insects, which transmit disease.

How?

- ☐ Conduct a workplace risk assessment for water-related risks, including vector-related risks and OSH risks for specific work sectors or activities.
- ☐ Eliminate or control standing water on site, such as in tires or buckets to prevent habitat for vectors, such as mosquitoes
- ☐ Cover the top of rainwater catchment basins and other necessary workplace containers with insect netting.

- Ensure that irrigation systems are designed and operated to discourage the propagation of disease, such as snails that contain bilharzia parasites. These measures may include improving water management practices, draining properly or installing screens at water intakes to block adult snails.
- Provide appropriate shoes and other PPE and ensure that workers wear it, if it is necessary to prevent risk of exposure to parasites.
- Ensure that all workers have access to sanitation facilities, to prevent open defecation that spread the disease (See Module 2). The life cycle of schistosomiasis is prolonged when an infected person defecates or urinates schistosomes eggs into bodies of water where snails are found, exposing others to the disease.

Figure 2. Source Downs et al., New Tools for the Schistosomiasis Elimination Toolbox, p. 2. https://www.ncbi.nlm.nih.gov/books/NBK532415/



Checkpoint E.1.5. Provide workplace training on hydration needs, access to safe water and water-related risks

Why?

Workers who are informed of how to properly manage their own hydration and workplace water needs, as well as water-related risks, will be better equipped to protect their health and safety, and may contribute to a more productive workplace.

How?

- ☐ Organize periodical workplace training sessions (for example, every three months) that integrate information on hydration, workplace access to safe water, and water-related risks into. for example, you can provide training on:
    - Why hydration is important, and key steps for ensuring workers stay hydrated.
    - Where drinking water facilities are and how to maintain them properly.
    - Where water facilities for personal and workplace hygiene are, and how to use and maintain them properly.
    - Why water drainage and vector control in the workplace are important.
    - Water-related risks specific to your sector and activity, and strategies to mitigate them.
- ☐ Provide specific instructions for water needs based on workplace sector and conditions. Consult Annex 1 for specific instructions.
- ☐ Where there are unprotected sources of water, install treatment equipment, adopt a water safety plan (see WHO 2005, Water Safety Plans) and enlist trained staff to manage them.

Checkpoint E.1.6. Record and report hygiene specific occurrences, incidents, diseases and accidents

Why?

Employers, and employers' organizations have the potential to gather and share valuable statistics on the incidence of water-related risks, illnesses and diseases, which would provide evidence towards the development of prevention programs, as well as workplace policies.

How?

- ☐ Develop a transparent and reliable record of water-related occurrences, incidents, diseases and accidents; or, integrate water issues into your existing system. Examples may include:
  - Malfunctioning drinking water facilities, or contamination of drinking water sources.
  - Outbreak of water related diseases.
  - Improper use of workplace water.
  - Water flooding and destruction or contamination of workplace facilities.
  - Record of maintenance and regular cleaning of facilities.
  - Record of drinking water quality testing results.
- ☐ Develop a transparent system for reporting events to the local authorities, including assigning responsibilities for such reporting.

Module 1: Water
Employers' Checklist

E.1.1	Do you have transparent communication with water authorities and providers to ensure that water is provided by an officially approved source and treated if needed?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
E.1.2a	Are you familiar with the national laws, regulations, and standards that pertain to your worksite settings?	☐ Yes ☐ No
E.1.2b	Do you provide drinking water in facilities that comply with national laws and regulations? (see the guiding questions below)	☐ Yes ☐ No
E.1.2c	Dou you dispose of water treatment facilities, if needed?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
E.1.3a	Do you provide adequate water for personal and workplace hygiene, including washing clothes or personal protective equipment (PPE)?	☐ Yes ☐ No
E.1.3b	Does the water you provide meet the requirements of national laws and regulations? How often is it subjected to inspection?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
E.1.4a	Have you put in place effective drainage strategies and facilities?	☐ Yes ☐ No
E.1.4b	Have you put in place water-related OSH risk management strategies to protect the workers and the surrounding community from potential contamination?	☐ Yes ☐ No

	What action do you propose? Suggestions:	☐ Priority?
E.1.5	Do you provide workplace training including information on hydration needs, access to safe water, and risks?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
E.1.6	Do you have a staffed, reliable and transparent system to record and report water-related incidents, diseases and accidents and for recording regular cleaning and maintenance activities and for recording water quality testing results, as needed?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?

Guiding questions on assessing water access in your workplace (E.1.3b):		
	Question	**Answer**
1.	What are the main sources of drinking water in your establishment?	
2.	What distance must the workers travel to the drinking water source?	
3.	What is the time in minutes of a trip to the water source, and back?	
4.	What is the functional status of the water points?	
5.	How often do you clean the water tanks, if any?	
6.	Is water continuously available at the water point, throughout the day/year?	
7.	Do you have a plan to provide water if the water point is not functional?	
8.	Is there a latrine within 100 meters of the water source?	
9.	Was water available in water point when you visited?	
10.	Has the water point been tested for chemical or bacteriological contamination?	
11.	Do you have the means to conduct quality tests of the water source?	
12.	How many workers use each water point?	

WORKERS' ACTION MANUAL: WATER

Workers, workers' representatives, and trade unions have long recognised the need to contribute to the promotion of OSH and the protection of worker safety, health and well-being. Through collective bargaining, information sharing, consultations and negotiations with employers, workers and their organisations have enhanced communication mechanisms in many sectors. Access to key WASH provisions at work, including safe water, is also an area of OSH that can greatly benefit from these processes.

The Checkpoints below provide key action areas where workers and their organisations can help achieve access to safe drinking water, as well as reduce and control water-related risks. This maintains safer working environments.

Checkpoint W.1.1. Use and maintain drinking water facilities appropriately, and comply with workplace guidance on hydration

Why?

Your employer is responsible for providing potable drinking water. In turn, workers who follow workplace guidance on hydration, as well as on the use and maintenance of drinking water facilities will stay safe, healthy and productive. Your actions should not have an adverse impact on water quality, to protect the health of all your co-workers.

How?

- Stay informed on workplace guidance on hydration management and the use and maintenance of drinking water facilities.
  - Attend trainings provided by your employer or by your representatives.
  - Ask your supervisor if you are unclear about workplace guidelines.
  - Encourage young and new workers to develop safe hydration habits.
  - Sensitize other workers that may be at greater hydration related risks, such as workers with disabilities.
- ☐ Drink water regularly, even if you aren't thirsty. Remember that once you feel thirsty, you may already be dehydrated.
- ☐ Choose water as the beverage to stay hydrated. Drinks with high sugar content or caffeine may promote dehydration.
- ☐ Do not drink alcohol while working or immediately before working.
- ☐ Use drinking water facilities for drinking, not for other needs.
- ☐ Use clean personal cups, reusable water bottles or other containers. Do not share them to avoid contamination. Clean them regularly.
- ☐ Refer to the appropriate table on drinking water (in Annex 1) according to your work sector.

Reminder: Monitoring dehydration

When working in hot environments or in physically demanding activities, sweating is a normal biological process that maintains your body temperature. However, extensive sweating can quickly dehydrate you. In some sectors workers need access to constant drinking water supply, such as in agriculture in hot humid climates to prevent dehydration. You should watch for early signs and symptoms of dehydration, such as:

- Feeling thirstier than usual
- Dark urine, or passing less urine than usual
- Headaches
- Dry skin
- Feeling weak or dizzy

For more information about hydration and working in hot environments, see Temperature at Work- heat. A guide for safety representatives from the Trades Union Congress (TUC).

Checkpoint W.1.2. Use and maintain water facilities for personal and workplace hygiene, and comply with workplace guidelines on water use

Why?

Having access to water in the workplace is essential not only for drinking, but also for washing, cooking and cleaning depending on the workplace. By following workplace guidelines on water use, each worker can help maintain a safe and healthy working environment for all workers.

How?

- ☐ Stay informed about, and follow, the specific workplace guidelines set out by your employer on water use, and for water facilities.
- ☐ Use only approved washing areas for handwashing and personal cleaning to ensure that water is potable and safe for use.
- ☐ Do not wash workplace material or equipment in personal washing areas, to avoid contaminating them.

Checkpoint W.1.3. Comply with workplace rules on water drainage vector control and working safely in and around water.

Why?

Water at the workplace and OSH extends beyond water for drinking. Water can also pose a health risk when it is contaminated, or when it is a breeding ground for insects that carry disease.

How?

- ☐ Know and follow the specific workplace rules on water drainage and vector control. For example:
  - Eliminate water from on-site vector habitats such as buckets, tires, or other containers that can serve as a breeding area for mosquitoes and other insects.
- ☐ Know and follow the specific workplace rules on working safely in or around water. The rules may include special precautions based on your work activity or work sector, for example, waterborne illnesses, such as schistosomiasis in standing water.
- ☐ Follow workplace guidelines for using water for cleaning and laundering, as relevant.
- ☐ Use potable water for all cooking needs, including washing of foods, utensils and cooking materials, and for cooking.
- ☐ Refer to the appropriate table on water according to work sector in Annex 1.

Checkpoint W.1.4. Monitor and report water-related risks

Why?

All workers have the right to safe water at the workplace, and to protection from water-related risks. With this right comes the responsibility of monitoring OSH risks as they relate to water, and reporting them before they become problems. Active monitoring and reporting supports a workplace culture of prevention, and may decrease accidents and illnesses.

How?

- ☐ Be aware of workplace conditions that pose a water-related health risk. For example:
  - Drinking water facilities that are broken.
  - Drinking water facilities that are unhygienic or contaminated, such as open water containers.
  - Changes in the taste or appearance of drinking water.
    - Changes in how drinking water looks, tastes or smells may mean changes in the quality of the water source or deficiencies in the treatment process, and should be investigated.
- ☐ Watch for improper use of drinking water and other water facilities and non-compliance by other workers. For example, workers who:
  - Do not use their own drinking vessels.
  - Contaminate drinking water sources, for example, by washing PPE in areas that are not meant for that.
  - Use non-potable water for cooking needs, especially if those foods are shared between workers.
- ☐ Report to a supervisor any situation or behaviour that may pose a water-related risk. Remember that risks can be:
  - potential (may cause a health concern in the future if not remedied), or
  - actual (risks that are actively causing a health concern).

Reminder: The Importance of Communication

Developing a culture of prevention at the workplace is neither a one-step nor a one-sided process. Workplace safety, particularly when it comes to WASH provisions, demands active and effective dialogue between employers and workers (including workers representatives, workers' organisations and trade unions).

Information sharing, consultations, and negotiations between employers and employees on key WASH issues, especially those that are particularly relevant to a certain work sector or occupation are key to providing a safe work environment.

Trade unions and other workers' organisations have long recognised the need to contribute to OSH measures at the workplace. As advocacy organisations, trade unions are in a position to disseminate knowledge and take direct action to influence labour law and practices as they relate to WASH provisions. In addition, trade unions are well placed to play a direct role to provide trainings and resources on the importance of WASH at work, particularly through workplace OSH committees.

Module 1: Water

Workers'; Workers' Representative; and Workers' Organization Checklist

W.1.1	Do you and your co-workers maintain water facilities proper for personal and workplace hygiene needs?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
W.1.2	Do you and your co-workers comply with workplace guidance on hydration for your particular workplace?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
W.1.3	Do you and your co-workers comply with workplace rules on water drainage and control of water-related risks as relevant to your workplace?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
W.1.4a	Do you and your co-workers actively monitor water-related risks and risky habits of other workers?	☐ Yes No
	What action do you propose? Suggestions:	☐ Priority?
W.1.4b	Is there a joint labour-management OSH committee in your workplace?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?

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MODULE 2: SANITATION

What is sanitation at the workplace?

- "Sanitation at the workplace" refers to the provision of facilities and services for safely disposing of human excreta, menstrual hygiene products, and workplace waste.
- "Workplace sanitation" is a comprehensive term that extends beyond just toilets. It also refers to the maintenance of hygienic conditions, through the proper use and cleaning of toilets, through services such as wastewater and faecal sludge management, solid waste collection. It also includes promoting individual employee hygiene behaviour, including the proper use of toilets and preventing open defecation.
- Sanitation also includes interventions that reduce human exposure to diseases by providing a clean work environment. It involves both behaviours and facilities, which work together to form a hygienic workplace.

Contents of this module

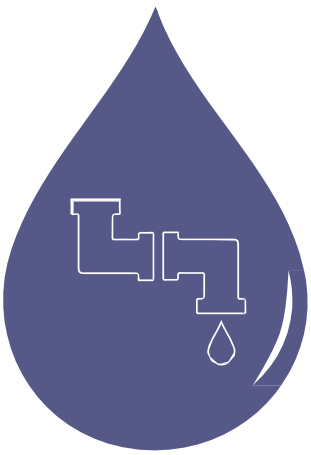
This module presents the principles of sanitation at the workplace and explains the importance of maintaining sanitary conditions to protect worker's health. The aim of the Training Guide is to inform employers and workers alike on the following topics:

Guide 2.1.

Sanitary facilities

Guide 2.2.

Wastewater and faecal sludge management



Guide 2.3.

Solid waste management

GUIDE 2.1. SANITARY FACILITIES

Why are sanitary facilities important?

Sanitary facilities, such as accessible toilets, are essential for all human beings. Sanitation has been recognized as a universal human right; however, many people around the world do not have access to toilets, and therefore go in the open – a practice known as open defecation.

Human excreta contain germs that can cause illnesses and diseases. When people become infected with these germs, their excreta will contain large amounts of the germs that can cause disease in others who have contact with it.

Sanitation related diseases (examples, not

- Diarrhoea
- Dysentery
- Cholera
- Hepatitis E
- Hepatitis A
- Typhoid Fever
- Polio

Source: World Health Organization (2015). Sanitation, Fact sheet N392.

The diseases caused by contact with human excreta can be serious and put a person's life in danger. For example, diarrhoeal diseases can mostly be prevented but killed 1.6 million children and adults around the world in 2017.

Additional Resources on Sanitation and Health:

- WHO Guidelines on Sanitation and Health (WHO, 2018)
- CDC Guidelines for reducing health risks to workers handing in human waste or sewage
- WHO Five Keys to safer food manual (WHO, 2005)

Key facts on open defecation

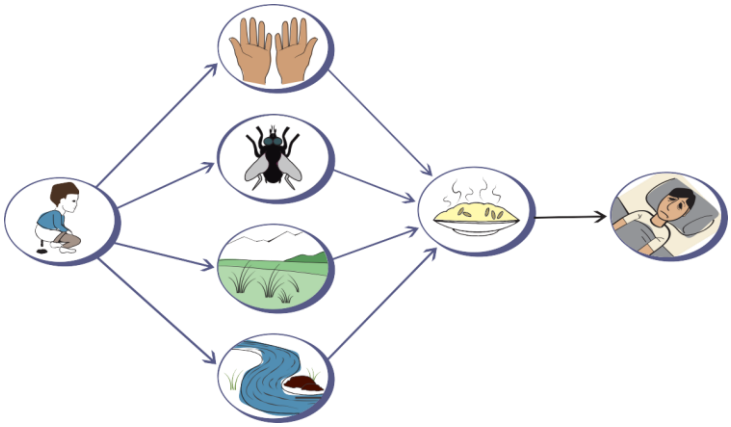
- Open defecation perpetuates a cycle of disease and poverty.
- The countries where open defecation is most prevalent have the highest number of deaths of children under 5, and the highest levels of malnutrition and poverty.
- 892 million people (1 of every 7) practice open defecation, including in street gutters, behind bushes or into open bodies of water.
- 9 out of 10 people who practice open defecation live in rural areas. But the number of people defecating in the open in towns and cities is increasing as more people move to urban communities without enough toilet facilities.
- Open defecation exposes people, particularly women and children, to harassment and violence.
- Open defecation poses other problems for women and girls who are managing their menstruation without safe facilities.

Source: World Health Organization (2015). Sanitation, Fact sheet N392.

Germs in excreta can infect others in different ways. For example:

- **Fluids:** Open defecation or poorly managed excreta can enter water sources directly, or from run off during rains/floods and contaminate water used for drinking.
- **Fingers:** Fingers or hands that haven't been washed after going to the toilet or changing a child's diaper can contain germs. These unclean hands can transmit germs onto food or to other people when shaking hands.
- **Flies:** Flies and other insects may feed on excreta and carry small amounts of it and its germs away on their bodies. When these flies or insects come in contact with water or food, the germs may be passed on, potentially infecting the person drinking or eating.
- **Floors/fields:** If excreta are not disposed of properly germs from faeces can get onto floors, and the ground and seep into fields and crops and other sources of food. Young children are particularly at risk of exposure to germs on the ground/floors, given the amount of time they spend on the ground/floor and to their practice of putting things into their mouths.

Figure 2.1.1. F-DIAGRAM.



This diagram is known as the F-diagram because all germ paths of faecal and oral contamination start with the letter F. Adapted from Wagner, E. G., and Lanoix, L. N. (1958). Excreta disposal for rural and small communities. WHO, Geneva, p. 12

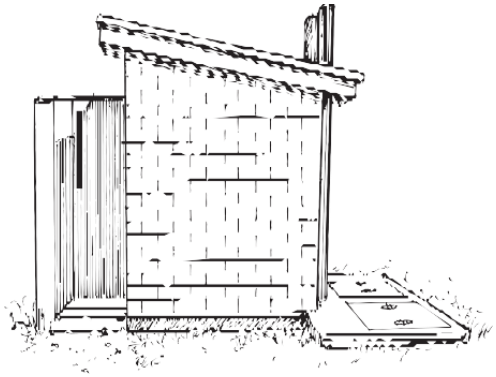
What types of toilets are there?

In basic terms, there are two types of toilets: "improved" or "unimproved" toilets. An improved toilet is one that hygienically separates human excreta from human contact. An unimproved toilet is simply one that does not. To protect human health, improved toilets are needed (Table 1.1).

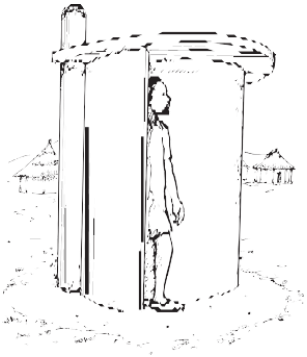
The WHO Joint Monitoring Program (JMP) defines improved and unimproved sanitation (2015), using a scale called "sanitation ladder" (Table 2.1.1). These categories apply to workplaces as well as to homes, beacuse it relates to where excreta from toilets is disposed of. In safely managed facilities, excreta are disposed of in situ or transported and treated away from the location. For some workplace settings, such as plantations where workers are required to move from field to field, workers may need access to movable facilities. In such cases, the way the excreta from those latrines is managed would determine if they are classified as improved or unimproved.

Figure 2.1.2. Excreta disposal Improved Pit Latrine Examples.

Improved pit latrine with slab



Twin pit/septic tank/latrine



VIP latrine

Table 2.1.1. Types of sanitary facilities.

	Type of facility	Definition
IMPROVED SANITATION	Flush toilet	Uses a cistern or holding tank for flushing water, and a water seal (a pipe below the seat or squatting pan) that prevents the passage of flies and odours. Sewage is disposed of by a piped sewage system or septic tank.
	Pour-flush	Uses a water seal, but unlike a flush toilet, a pour flush toilet uses water poured by hand for flushing (no cistern is used). Sewage is disposed of by piped sewage system, a septic tank (tank) or in a pit (latrine). May include two tanks/pits, enabling one to be used when the other becomes full.
	Ventilated Improved pit latrine (VIP)	A dry pit latrine ventilated by a pipe that extends above the latrine roof. The open end of the pipe is covered with mesh or fly-proof netting and the inside of the superstructure is kept dark. It is designed to be a dry system, and is most appropriate where people do not use water for cleaning themselves after defecating, but use solid materials such as paper or leaves. Excreta infiltrates the soil, leaving solid waste to decompose.
	Pit with slab	A dry pit latrine where the pit is fully covered by a slab or platform that is fitted either with a squatting hole or seat. The platform should be solid and can be made of a material (concrete, cement, etc.) that covers the pit without exposing the pit contents, other than through the squatting hole or seat. Urine infiltrates the soil, leaving solid waste to decompose in the pit. May include two pits, enabling one to be used when the other becomes full.
	Composting toilet	A dry toilet into which carbon-rich material (grass, sawdust, ash, etc.) are added to the excreta and special conditions are maintained to produce it safe to use compost.
UNIMPROVED SANITATION	Pit latrine without a slab	Uses a hole in the ground for excreta collection and does not have a squatting slab, platform or seat. An open pit is a rudimentary hole.
	Bucket or another open container	The use of a bucket or other container for the retention of human excreta which are periodically removed for treatment, disposal, or used as fertilizer.
	Hanging toilet or hanging latrine	A toilet built over the sea, a river, or other body of water, into which excreta drops into directly.
	No facilities (open defecation)	Includes defecation into the bush/field/surface water/ocean/beach; or excreta wrapped and thrown into garbage with other solid waste or in the open.

Source: WHO/UNICEF Joint Monitoring Program (JMP) for Water Supply and Sanitation. Improved and unimproved water sources and sanitation facilities. 2015

Reminder: Proper hand hygiene is essential for sanitation!

Improved toilets are just one part of how to stay healthy and free from disease-causing germs. Proper hand-washing techniques after using a toilet are also necessary. You can read more about this in Module 3 (Hygiene).

What about toilets at work?

The need for toilets at work seems obvious, and represents a basic human right, yet it still often neglected. No matter in what country, or in what sector people work, employers are responsible for providing an improved sanitary facility that allows workers to safely and discretely take care of their business-- including for women to manage their menstrual hygiene needs-- without harming their health, or the health of others.

While governments and competent authorities are responsible for setting laws about toilets and their management at work, employers are responsible for providing and maintaining the toilets. Important things to consider related to sanitation at work:

- There should be enough toilets on site for the workers
- Toilet design should fit the cultural practices of the workers, for example squatting or sitting toilets, and provide appropriate anal cleansing material.
- Toilets should be separated by gender, at a minimum. The doors should lock from inside to ensure security and privacy.
- Workers should be able to access toilets in a reasonable amount of time when needed by the worker, regardless of where the worker is working.
- Toilets should be kept in sanitary condition and cleaned on a regular basis to prevent the spread of disease.
- Toilets should also have handwashing facilities with soap and water at or very near the toilet facilities to support handwashing practice after toilet use by all workers (see Module 3 Hygiene).

In some situations, employers also provide living accommodations/housing for workers. Employer provided housing must also include improved toilets. In turn, workers are responsible for the proper use of toilets to protect their own health, the health of their fellow workers and nearby communities.

Clean and safe toilets, along with handwashing facilities and habits, are prerequisites for health, dignity and privacy at work.

What about different types of workers?

While all workers need access to improved sanitary facilities, there are some groups of workers that require special considerations.

- Female workers in menstruating age. Menstruation is a taboo subject in many communities and cultures, and this clearly extends to the workplace. Not having a safe and private space to change soiled products can cause health risks such as infections, as well as the mental health concerns of anxiety, stress and reduction of morale. Not being able to manage menstruation at the workplace often leads to missed hours or days at work and decrease productivity.
- **Pregnant women.** Pregnant women may need to use the toilet more frequently and may therefore need more time for toilet breaks during the workday. Without frequent toilet breaks, workers, and especially pregnant women, can develop health problems.
- **People with disabilities.** Workers with disabilities may have different needs for accessing toilets. Sanitary facilities should be designed, built and located in a way that makes them easily accessible and easy to use by people with disabilities. Barriers that may exist include steps at the entrance to sanitary facilities, absence of handrails, lack of adequate light, narrow doors and minimal space to turn wheelchairs or use crutches, and sanitary facilities that are located far away from the workplace.
- Ill or immunocompromised persons. Workers who are immunocompromised, such as those with HIV/AIDS may be more likely to get sick from germs at the workplace. As human excreta can spread germs, it is important that sanitation facilities are properly managed and kept clean. Special attention should be paid to sanitary facilities for ill people as well, for example at worksite clinics or when there is a disease outbreak among workers.
- **Migrant workers.** Migrant workers are often vulnerable due to their distance from their homeland, potential difficulties with language, and lack of access to health and social services. The workplace should be sensitive to migrant worker sanitation needs particularly in regards to cultural considerations that may be different than the country they are working in. Migrant workers may also be dependent on workplace accommodation, which also includes the right to sanitary facilities.
- **Young or new workers.** Young workers may know less about the health risks prevented by using toilets. They may also have less experience in proper toilet use and may be at greater risk of contracting an illness or disease. New workers may not have proper understanding of workplace

layout, or toilet use regulations. All new employees should be oriented to where toilet facilities are and the expectations about their use.

- **Aging workers.** Older workers may have special needs when it comes to using sanitary facilities.A worker suffering incontinence should be considered for measures like more frequent toilet breaks and employer-provided guidance for incontinence management. Aging workers may also suffer from decline in vision and audition, as well as limited mobility, range of motion, and joint movement, and should have easy access to toilets.

Take away point

- Providing, maintaining and properly using toilets at work can significantly improve workers' health and welfare.
- Morale of workers will be increased if they are aware that their workplace has safe toilets and their potential for illness and disease is decreased.
- Finally, providing proper toilets reduces the risk of worker illness, disease and mortality, thereby enhancing worker productivity across all economic sectors.

Figure 2.1.3. Toilet for persons with disabilities.

What about different economic sectors?

Workers in all sectors deserve access to improved toilets. However, as each economic sector differs, the design and type of facility may also differ depending upon the workplace conditions and where the work is being completed, for example in a factory or a farm.

Reminder

Many ILO instruments give guidance for toilets according to sector. For information about your specific sector refer to Annex 1.

GUIDE 2.2. WASTEWATER AND FAECAL SLUDGE MANAGEMENT

Why is wastewater and faecal sludge management important?

The aim of the improved sanitary facilities described in Guide 2.1 is to separate human excreta from human contact. This human excreta must go somewhere, and properly managing it eliminates contamination of the environment, essential for human health.

Safe management of excreta is essential for both workers and local communities. Excreta management can be accomplished in many ways, some requiring water, others requiring little or no water. Regardless of method, safe management of excreta is one of the principal ways of breaking the faecal–oral disease transmission cycle. Sanitation is therefore a critical barrier to disease transmission.

Terminology: **Faecal sludge**

1. **Faecal sludge** is the term used to describe human excreta collected in on-site sanitation systems, such as latrines, non-sewered public toilets, and septic tanks.
   Septage, the faecal sludge collected from septic tanks, is included in this term.

Terminology: **Wastewater**

2. **Wastewater** is an encompassing term, and includes:
   - Blackwater, or sewage: Human urine and faeces
   - Greywater, or sullage: Used water sources from cooking, washing and bathing.

   Wastewater is often mixed with water for flushing and moves from toilets through piped, sewerage systems or into septic tanks.

Improved vs. Unimproved sanitation

Just like for toilets, there are “improved” and “unimproved” methods for sanitation management. Improved methods are defined as those that hygienically separate human excreta from human contact, and are crucial for reducing disease in the workplace and in surrounding communities.

Table 2.2.1. Improved methods for sanitation management

Type of method	Description
Off-site: 'Conventional' sewerage	System of sewer pipes (i.e., sewerage) that is designed to collect wastewater and remove it from the household or workplace. Sewerage systems require water for flushing waste away. Sewage networks are expensive and demand extensive planning and construction, and good operational management.
Off-site: Simplified sewerage	Characterized by smaller diameter pipes buried at a shallower depth than those used in conventional sewerage networks.
Mixed: Settled sewerage	Designed for moving the greywater component of wastewater after the solids have settled in a septic tank (see below).
On site: Septic tank	On-site sanitation system that provides the convenience of a sewerage system, and collects the sewage and waste water from toilets in a holding area, usually below ground. Requires periodic emptying and must be accessible to enable removal, for example from a vacuum tanker.
On-site, non-piped: ▸ Flush/pour flush to pit latrine ▸ Dry pit latrines (VIP, or with slabs) ▸ Composting toilets	In on-site systems that are non-piped, excreta is stored in a hole in the ground or in a protected and covered leaching pit; or chamber. Some are managed to enable the material to decompose and be used as compost (composting toilets). Full latrines are often covered and safely abandoned, with a new pit being constructed elsewhere. To be considered improved, the on-site system must hygienically separate human excreta from human contact, and must not allow for contamination of the local environment. In urban or densely populated areas, or areas with high water tables, on-site systems may not be adequate.

Source: WHO/UNICEF Joint Monitoring Program (JMP) for Water Supply and Sanitation. Improved and unimproved water sources and sanitation facilities. 2015.

Unimproved sanitation, in regards to excreta management, is when:

- there is a flush/pour flush or release of excreta to places that are not presented in Table 2.2.
- excreta is deposited in or nearby the household or workplace environment (not into a pit, septic tank, or sewer), or when excreta is flushed to the street, yard/plot, open sewer, a ditch, a drainage way or other location.

These are not safe excreta management methods and should be avoided, to protect human and environmental health.

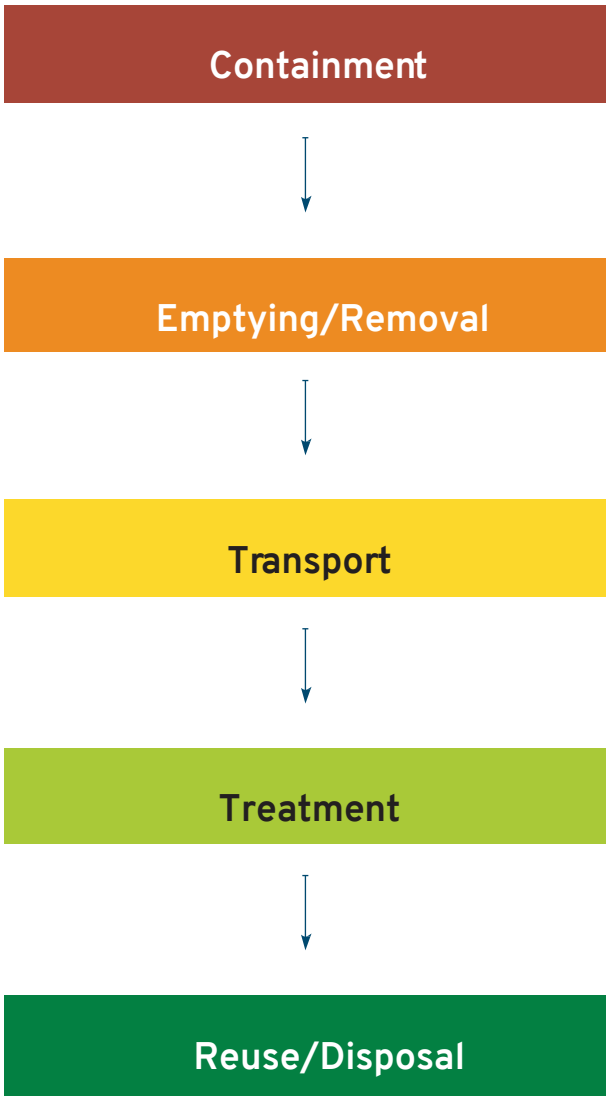
What are the steps in wastewater/ faecal sludge management?

The term "management" comprises a series of steps that are necessary in ensuring that excreta is safely managed and does not enter and contaminate the area outside of the sanitary facility. These methods are described in the sanitation service chain (Figure 2.4).

Wastewater and faecal sludge management may involve the assistance of local sewage and public works authorities, as well as private services.

These methods will be different if the system is on-site (not sewered); or off-site (sewered).

Figure 2.2.1. Sanitation service chain.



Source: Wastewater Management, A UN-Water Analytical Brief, 2015.

Key resources: Faecal sludge management

Where on-site systems are poorly managed, faecal sludge can accumulate or overflow and be discharged into local water sources. Existing emptying services are often unregulated, which may result in illegal faecal sludge dumping. Those in charge of on-site systems need to know how to properly manage faecal sludge due to the risk of contamination. To promote risk assessment and risk management of faecal sludge, the WHO has published key resources for stakeholders:

- Guidelines for the safe use of wastewater, excreta and greywater
- Information kits on using human waste safely.
- The World Bank also has a variety or resources specific to urban areas on its Faecal Management Tools website

On-site (non-sewered) systems

In these systems, faecal sludge accumulates on site in a pit or septic tank, which requires periodic emptying or re-siting. If it requires emptying, sanitation workers take away the faecal sludge for treatment and/or disposal.

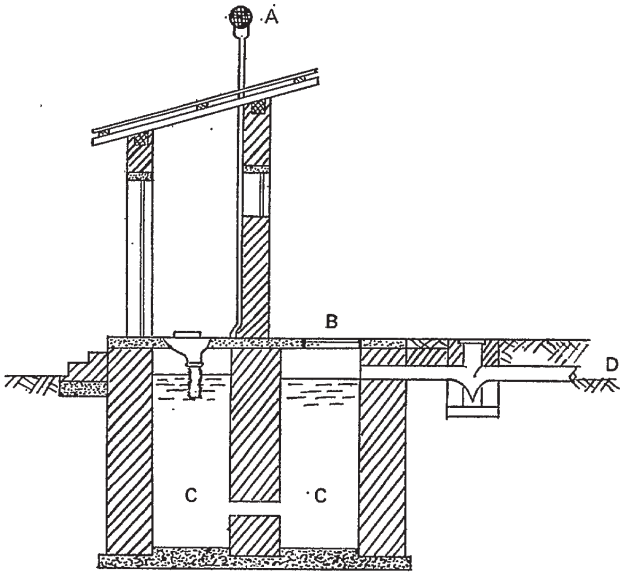
- **Latrines:** Latrines store and/or treat faecal sludge where it is generated. Faecal sludge must be treated before it is disposed, so that local water sources are not contaminated and communities do not face health risks posed by untreated excreta. Densely populated areas may need off-site treatment, which involves emptying/removal and transport by local public works departments, service providers or informal workers.
- **Septic tanks:** These systems require periodic emptying such as removal by a vacuum tanker, followed by off-site treatment towards reuse or disposal.

Off-site (sewered) systems

In off-site systems, sewer networks remove and transport wastewater from toilets through a pipe system. Pumping stations are sometimes needed to ensure that the waste reaches the treatment or disposal point.

- **Flush toilets**: Sewerage systems connected to flush toilets are designed to capture wastewater and transport it away **from** homes to a treatment and/ or disposal point. All sewerage systems must be connected to a treatment plant, as human excreta represents a public health risk before it is treated. Therefore, sewerage is a high-cost sanitation option, which requires funds for operation and maintenance by trained services (often public utilities) who can ensure that wastewater is taken away from the workplace, treated and reused/ disposed of in the correct way.

Figure 2.2.2. Type design for aqua privy.



A Mosquito-proof wire-netting cover
B Manhole
C Cement-plastered digestion chambers
D Effluent pipe

Source: Guide to health and hygiene in agricultural work, 1979

Figure 2.2.3. Woman cleaning toilets.

Note: Sanitation workers play a crucial role in the removal of fecal sludge and are an essential part of the workplace ecosystem. On World Toilet Day 2019 the ILO, the WHO, the World Bank and WaterAid launched an initial asessment of their working conditions titled "Health, safety and dignity of sanitation workers."

The foreword of the assessment states:"sanitation workers are often invisible and too often subject to conditions that expose them to the worst consequences of poor sanitation: debilitating infections, injuries, social stigma, and even death in their daily work. Workers' rights need to be recognized; workers need freedom and support to organize as a labor force; and their working conditions need to be improved and progressively formalized to safeguard health and labor rights to ensure decent working conditions, as called for by SDG 8."

Employers, workers and workers' organization should recognize these workers and support them in their struggle for decent work.

What are the considerations for the workplace?

Wastewater management systems at the workplace must be locally appropriate. Decisions on the approach within that system should be context-specific, and should be based on the local environment (temperature, rainfall), culture, and resources (human, financial, material and spatial).

Employers should ensure they have improved systems for wastewater and faecal sludge management, and coordinate with local public works departments and private services to ensure that appropriate technical support is provided. Workers should be aware of and advocate for the provision of improved sanitation at their place of work and actively monitor their workplace for potential contamination risks.

Where sanitation workers are employed, employers should take actions to prevent headaches, dizziness, fever, fatigue, asthma, gastroenteritis, cholera, typhoid, hepatitis, polio, cryptosporidiosis, bilharzia (schistosomiasis), eye and skin burn and other skin irritation; musculoskeletal disorders including back pain, puncture wounds and cuts, blunt force trauma and fatality. They should also ventilate the enclosed working spaces to eliminate the noxious gases in septic tanks and sewers, and take measures to prevent the collapse of pits or falling masonry, as well as wounds from sharp detritus. Standby staff should be available for rescue of workers In addition, they should eliminate the social stigma attached to this work. See Diagne, 2019, “Health, Safety And Dignity of Sanitation Workers: An initial assessment report”, forthcoming, and the Standard Operating Procedure (SOP) for Faecal Sludge Management for Municipalities in Gujarat issued in 2015 by the Urban Management Centre.

Take away point

Providing, maintaining, and properly using sanitary facilities is not enough to protect worker health. There must also be improved methods for wastewater and faecal sludge management at the workplace. This includes active coordination with local public works departments and/or private service providers.

GUIDE 2.3. SOLID WASTE MANAGEMENT AND DISPOSAL

Why is solid waste management important?

Waste is essentially garbage. It includes all the materials that are no longer viewed as needed and are therefore thrown away. When waste is not managed and disposed of properly, it can pose a risk to human and environmental health. For example:

- **Scavengers:** Flies, rats, dogs, snakes and other scavengers are attracted to garbage, particularly in hot climates. Some scavengers can cause injuries, like bites, or carry and spread disease.
- **Water contamination:** Waste that is not disposed of properly can be washed away by rain and go into local rivers, streams and the ocean. This may lead to groundwater and well contamination as well as contamination to water that fish and other animals rely on. If people and local communities use this contaminated water afterwards, it may cause illness or disease. Environmental contamination to waterways and the ocean can negatively impact fish and other food sources humans and animals rely on.
- **Fire and smoke:** Piles of garbage present a fire risk and smoke can also be a health hazard if the burning waste contains items such as plastics or chemicals.
- **Vector-borne disease:** Garbage disposed of in storm drains may cause blockages or collect water and encourage fly and mosquito breeding, which can cause the spread of malaria, dengue and yellow fever.

What about at work?

Workplaces generate many different types of wastes. Some workplace waste can be dangerous, and could pose a health risk to workers and employers. The build-up of waste can also lead to smells and can be unsightly. This can lower the morale of workers, reduce overall productivity and cause pest or health problems. One type of workplace waste is sewage from toilets, which was described in Guide 2.2. But there are other workplace wastes, which we will discuss below.

Animal-related wastes

- Animal and poultry production may involve exposure to animal waste such as carcasses, blood, animal hides, manure and waste slurry.
- Work with animals may also involve dangerous exposures to gases like ammonia and other disinfectants used in processing and

methane resulting from farm animal's manure.

- An important risk factor is exposure to the germs passed by animals to humans (zoonosis). Many diseases can be passed between animals and humans, and may result in severe health problems or death. COVID-19 is a zoonotic disease.

Zoonotic diseases (other examples)

- Anthrax
- Avian flu
- Brucellosis
- Cryptosporidiosis
- Rabies
- Trichinosis
- Tuberculosis

Source: Safety and health in agriculture: an ILO code of practice (2010).

Medical waste/Sharps

- Items such as needles and contaminated and broken glass are considered biomedical waste and must be carefully handled and can cause injury if not properly disposed.
- Injury from needles or broken glass may cause trauma to human tissues, as well as pose a risk of infection from blood-borne pathogens.
- Sharps always need to be kept in separate containers that safely keep the hazard away from human contact and is disposed of properly to prevent the spread of disease.

The European Union (EU) Framework Agreement on Prevention from Sharp Injuries in The Hospital and Healthcare Sector (2009): More than 1 million injuries occur every year from needle sticks and other sharp objects, forming one of the most common health and safety threats in the European workplace. In 2009, employers' organizations and trade unions in the healthcare sector signed an EU-wide agreement to prevent injuries from needle sticks and other sharp objects.

Menstrual material disposal

- Used menstrual materials must be disposed of in a sanitary way to reduce exposure to the environment and to protect human health in the event that a menstruating worker is infected with an infectious virus such as hepatitis or HIV. Separate bins should be provided within toilet cabins that are water proof and have a tight-fitting lid. Bins should be lined with plastic or other appropriate bags to protect others from coming in direct contact with soiled products.
- Disposal must be discrete, and separate from other disposal containers, so that female workers feel comfortable managing their menstruation needs at the workplace in privacy without fear and shame. Cultural perceptions around menstruation in the surrounding community need to be taken into account.
- Used menstrual materials should be treated as biomedical waste during collection and solid waste disposal. (Elledge 2018: 2562; Roxburgh et al. 2020). Burning of menstrual waste, including some sanitary pads, should be carefully undertaken to ensure that emissions do not release hazardous chemicals.

Hazardous solid waste disposal

- Some work materials can be toxic for human health, and must be disposed of so that they do not contaminate the workplace or the local environment.
- Examples of some workplace hazardous solid waste include: toxic paints and solvents, asbestos and asbestos-contaminated materials or items that include mercury or lead, sludge or other material resulting from industrial or mining operations.

Hazardous liquid wastes

- Hazardous liquid waste, sometimes known as effluent, is a concern for human health due the ease at which it can be released into the environment.
- Leftover pesticides and pesticide-contaminated water and other industrial toxic discharge liquids should be treated as hazardous materials, and disposed of according to the rules laid out by authorities.

The Globally Harmonized System of Classification and Labelling of Chemicals (GHS), provides guidance on chemical safety data sheets and to provide information to the workers and managers. These chemical data sheets should include toxicological information, management and disposal considerations, and regulatory information.

For more information, see: Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Rev.6 (2015)

While attention is often brought to exposures to dangerous materials at work, people sometimes forget what happens with these materials after they are used. The important thing to remember is to minimize or eliminate contact between people and the waste until it is taken away from the workplace and disposed of properly.

The disposal of workplace waste normally involves the local garbage collection services, public works departments or service providers. The aim is to safely remove the waste from the workplace or surrounding area, and deal with it in the appropriate ways.

Governments, employers, and workers share the responsibility of the safe disposal of waste at workplaces. Employers should consult the government or an identified competent authority for the requirements for disposing waste in their specific workplace, and follow the established regulations for waste disposal. In turn, workers should comply with rules laid out by the employer and monitor their workplace for waste-related risks.

What about waste management in different sectors?

Because different workplaces generate different types of waste, stakeholders should understand what types of wastes are hazardous in their sector, and how to dispose of them properly.

Reminder

Various ILO instruments give guidance for waste management and disposal according to sector. For information about your specific sector, see Annex 1.

Figure 2.3.1. Rubbish collection on a construction site in a suburb of Cairo.

Figure 2.3.2. Waste water treatment plant called SILOE and which was created by an association (SILA) gathering different councils around the Annecy Lake.

Figure 2.3.3. Drying beds at Niayes faecal sludge treatment plant, Dakar, Senegal.

Take away point

Sanitary methods of waste disposal that eliminate human contact with hazardous materials keeps workers safe and healthy, increases morale and may promote workplace productivity.

EMPLOYERS' ACTION MANUAL: SANITATION

While governments are responsible for the development and oversight of sanitation laws for the workplace, employers are responsible for applying them. Employers have a clear duty to provide and maintain toilets and arrange for the safe management of waste water/faecal sludge and solid waste. This Manual provides checkpoints on how to organize work so as to prevent sanitation-related incidents, and how to apply relevant guidelines as prescribed by the competent authority.

Checkpoint E.2.1. Provide improved sanitary facilities according to national laws

Why?

Improved toilets are essential for creating a safe and comfortable working environment for all workers. Morale will increase when workers know that their workplace provides safe toilets that reduce their risk to get sick. Providing safe toilets for workers to use reduces the risk of worker illness, disease and death: in consequence, it reduces absenteeism and enhances worker productivity.

How?

- ☐ Refer to the national laws for workplace sanitary facilities. These may differ by country. Practical guidelines are included in the section below.
- ☐ Develop a plan to ensure that you provide improved sanitary facilities for all workers at all worksites.
- ☐ Review plans with the local competent authority to ensure that the workplace complies with local laws and regulations related to sanitation with in your country.
- ☐ Refer to ILO recommendations on toilet provisions for your sector in the Annex 1.

Reminder: The importance of planning

The time you spend on designing and planning will make for a safer worksite and save money later on. It is better to be safe from the outset, than to be sorry later. This is fundamental for risk management across all sectors.

Practical guidelines for sanitary facilities

The regulations and laws in your country may prescribe the type, number and standard of sanitary facilities that should be provided (including accessible toilet to standard toilet ratio). Employers should consult with the competent authority to understand the rules, and with the representatives of workers to implement them.

Some practical guidance is given below.

- **Provide appropriate type.** Where possible, toilets with flushing systems and traps should be provided to keep waste away from human contact. Sufficient urinal accommodation should be provided for male workers. In the case of outdoor (mobile) toilets, they should have a solid, non-permeable floor and be properly roofed. Remember that cultural and social norms should be considered so that workers feel comfortable using them, and use them properly.

Reminder

A flushing system disposes of excreta by using water to flush it through a drainpipe to another location for disposal, such as piped sewer system or a septic tank thus maintaining a separation between humans and excreta. Such systems are very hygienic, if kept clean and well managed. However, they require the availability of water, which may not be the case in all worksite settings.

- **Provide adequate number of gender-separated toilets. A** sufficient number of toilet facilities should be in place, based on the workplace and the number of workers. They should be gender-separated and clearly marked. Making workers wait to use the toilet due to long lines may lead to frustration, health problems and reduced productivity. Remember that the number of toilets may also be specific to your work sector (See the corresponding Table on ILO instruments in Annex 1.).
- **Ensure privacy.** Sanitary facilities should give suitable privacy, should be built for single occupancy, and should be able to be locked from the inside. Privacy is an especially important consideration for women in the workforce and is necessary for proper MHM.
- **Ensure adequate location.** Sanitary facilities should be located in a place where they are accessible to all workers, at all times at every workplace.

- **Ensure accessibility.** Sanitary facilities must be made accessible to all types of workers, and must take into account the needs of disabled workers. Competent authorities should provide guidance for an accessible toilet to standard toilet ratio, and this should be adhered to.

  Making workers walk long distances to toilets is inefficient and this may lead to unsanitary practices, like open defecation. Toilets should also be located at a reasonable distance from canteens to reduce odours and in a location that enables privacy for workers going to and from the facilities to worksite stations. Remember that the location of toilets may be specific to the industry (See the corresponding Table on ILO instruments in Annex 1.).

- **Provide adequate time and continuous availability of sanitary facilities.** Providing sanitary facilities that are easily accessible is not enough to keep workers happy and healthy. They must also have the proper time to use them comfortably and to not feel pressured that they are missing work to use the toilet. Employers should be aware that the problem of incontinence (the loss of bladder control) affects many workers, and regular toilet breaks are necessary to promote health, well-being and morale at work. Unions have even called strikes to protect their time to use restrooms.

Table 2.3.1. Examples of guidance for number of toilets by national governments.

National government and source	Guideline
Singapore, National Environment Agency (NEA)	For stand-alone dormitories, for example, a construction site with living accommodations: • Men: 1 toilet, 1 urinal, and 1 bathroom with bench per 15 male workers • Women: 2 toilets and 1 bathroom with bench per 15 female workers.
United States of America, Occupational Safety and Health Administration (OSHA)	Minimum number of water closets (i.e., toilet facility) per employees for mixed use: • 1 toilet per 1-15 workers • 2 toilets per 16-35 workers • 3 toilets for 36-55 workers • 4 toilets for 56-80 workers • 5 toilets for 81-110 workers
United Kingdom, Health and Safety Executive (HSE)	Number of toilets for mixed use (or women only): • 1 toilet per 1-5 workers • 2 toilets per 6-25 workers • 3 toilets for 26-50 workers • 4 toilets for 51-75 workers • 5 toilets for 76-100 workers

- **Ensure ventilation.** Sanitary facilities should be ventilated, either naturally or mechanically, to reduce smells. If toilets are unpleasant because of smells, workers may not want to or will not use them.
- **Ensure lighting.** Natural and/or artificial lighting should be provided for comfort and safety. Lighting should always be available if facilities will be used by workers at night.
- **Provide sanitary means of personal cleaning.** Culturally appropriate material for cleansing should always be available, e.g. toilet paper or other hygienic means such as a hand-held bidet sprayer.

Reminder: Adapting to local culture

Employers should be aware of the cultural norms of workers when designing and providing sanitary facilities. Otherwise, workers may feel offended or discriminated against, and may not use toilets properly.

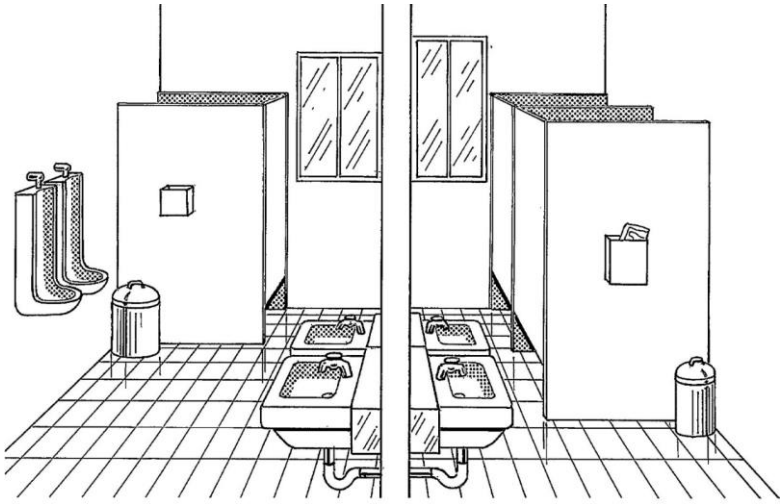
- Provide appropriate designs for menstrual hygiene management
  - Provide access to separate toilet facilities that are accessible for all women, and take into account disabled female workers.
  - Ensure toilets are safely located and private, including locks on the inside of doors.
  - Ensure toilets have appropriate lighting for changing menstrual materials.
  - Provide separate containers for the disposal of used menstrual materials such as a lined waste bin with a lid inside the toilet cabin. A system also needs to be in place for emptying the waste bins and ensuring materials are disposed of along with other solid waste.
  - Provide water or a washbasin within the toilet cabin or in a separate private stall for washing reusable menstrual materials, as relevant in privacy.

Reminder: Pregnant women

Pregnant worker may need to use the toilet more frequently than others. Employers should be aware of this and allow pregnant workers more frequent toilet breaks as needed. Not using toilets as needed may cause kidney problems and other health effects.

  - Use materials that don't stain (e.g. not raw concrete) for constructing toilets, as otherwise the fear of staining can keep menstruating female workers from using them.

Figure 2.3.4. Toilets with wash-basins for men and women workers. *Source: Improving working conditions and productivity in the garment industry, an action manual, ILO.*



- **Maintain cleanliness in sanitary facilities.** If sanitary facilities are not regularly cleaned, workers will not be encouraged to use them. Broken or dirty toilets that do not properly separate human excreta from human contact may cause illness and disease, and may contaminate the local environment. Practical ideas for maintenance include:
  - Develop and clearly post cleaning schedules in sanitary facilities to ensure maintenance and to keep workers informed of cleaning schedule.
  - Conduct regular checks of sanitary facilities to ensure cleanliness.
  - Take immediate action when there is a cleanliness problem or when repairs are needed in sanitary facilities. Ignoring the problem could result in worker illness or contamination of the environment.

Key resource

It is important to remember that not all countries have set regulations on workplace sanitary facilities. The points above can provide the first steps. In addition, please also refer to other resources referenced in Section 2:

- The World Business Council for Sustainable Development (WBCSD) WASH at the Workplace Pledge,
- WASH Pledge Guiding Principles for implementation, and
- WASH self-assessment tool for businesses.

Checkpoint E.2.2. Ensure improved sanitary methods for waste water/faecal sludge management

Why?

If not correctly disposed of, human excreta can contaminate workplaces and local environments and lead to illness and disease. It is not enough just to provide toilets for workers – improved sanitation methods are necessary to manage and dispose of human excreta correctly. This will help protect the health of people at the worksite, and also of local communities.

How?

- ☐ Design a plan for improved waste water/ faecal sludge management based on the needs of the workers and the workplace.
- ☐ Review plans with local competent authority to ensure the plan meets the laws in your country.
- ☐ Develop and maintain transparent communication with public utilities, such as relevant sewage authorities to ensure the waste management process is operating effectively.
- ☐ Conduct a risk assessment of the workplace to understand and identify waste water/faecal sludge-related sanitary risks.
- ☐ Manage waste water or faecal sludge with an improved method; one that does not endanger the health of workers or threaten contamination of the environment, including water sources.
- ☐ Conduct regular checks of the waste water or faecal sludge management system to ensure proper maintenance. Consult with local public utilities for technical assistance as needed.

Reminder: Ebola Virus Disease transmission

Ebola Virus Disease (EVD) is a severe illness in humans that is spread through contact with infected blood or bodily fluids, including human excreta. Contact with untreated sewage can spread the disease. Employers should consult health authorities if there is a risk for Ebola at the workplace.

For more information, see the Joint WHO/ILO briefing note for workers and employers on Ebola Virus Disease

Checkpoint E.2.3. Ensure sanitary methods for solid waste management

Why?

Workplaces can generate large amounts of waste. In some cases, the waste can be dangerous for the health of workers and the broader environment. It could attract rodents or provide a breeding ground for insects that spread disease. Waste can also quickly become smelly and unsightly, reducing the morale of workers.

How?

- ☐ Design a plan for waste disposal based on the needs of the workers and the workplace, as well as the surrounding environment.
- ☐ Develop and maintain transparent communication with waste collection authorities to plan for regular waste disposal.
- ☐ Conduct a risk assessment of the workplace to understand and identify waste-related sanitary risks.
- ☐ Dispose of waste in a way that does not endanger the health of workers or threaten contamination of the environment, including water sources. Provide sharps-containers, e.g. for workers who are diabetic and use insulin.
- ☐ Develop a system for safe, culturally and environmentally appropriate method of menstrual products disposal, such as a suitable disposal unit, or an incinerator.
- ☐ Conduct regular checks of the waste disposal system to ensure proper maintenance. Consult with local public utilities for technical assistance as needed.
- ☐ Refer to ILO recommendations for waste disposal in your sector in the corresponding Table in Annex 1.

Checkpoint E.2.4. Integrate information on improved sanitation in workplace training

Why?

Workers that are informed of how to properly use and take care of sanitary facilities, and how to safely dispose of workplace waste are more likely to reduce their risk of illness and disease and protect the environment around them.

How?

- ☐ Integrate information on improved sanitation into workplace trainings. For all sectors, cover topics on:
  - Health risks of contact with human excreta
  - Health risks from open defecation
  - Location of toilets and expectation for use employers maintenance system and how to report problems
  - Health risks associated with waste specific to your workplace and how to protect workers from coming in contact with waste, including PPE as appropriate
  - Proper methods of waste disposal according to your workplace
  - Training on proper cleaning methods for cleaning staff
- ☐ Provide specific instruction for waste disposal based on workplace sector. Consult the corresponding Table on ILO instruments in Annex 1 for specific guidance.

The importance of workplace training

Workers that are well informed on good workplace practices related to WASH are less likely to have health-related incidents, less likely to miss work due to WASH-related sickness, and to be overall more productive, with better morale. General guidelines related to worker training include:

- Provide high quality training to all personnel at no cost to the worker. Trainings should be repeated to reinforce messages over time.
- Ensure that trainings are relevant to the particular sector, job tasks, and individual workplace.
- Hold trainings in locations and during times that are appropriate for workers, to ensure they participate. Timing and other arrangements should be agreed upon with the workers' representatives, taking into account childcare and family responsibilities if outside normal work hours.

- Provide trainings in the languages spoken by workers. Ensure that they are easily understandable and take into account cultural sensitivities.
- Conduct regular "workplace walk-throughs" with workers to remind them of good WASH practices.
- Seek guidance from the competent authority for workplace training as needed and ensure that training materials and messages are relevant to your workplace setting and that messages and methods used will be effective to bring about desired behaviour change among your workers
- Introduce and maintain a culture of prevention at the workplace that rewards workers for safe WASH practices to avoid health-related incidents.

Checkpoint E.2.5. Record and report sanitation specific occurrences, incidents, diseases and accidents

Why?

As employers oversee the enterprise and are responsible for the health of the workers, they have the duty to develop methods to monitor and record sanitation-related incidents that affect the health of their workers. Records of incidents provide important data to local authorities for future prevention efforts.

How?

- ☐ Develop a system for the recording of sanitation specific occurrences, incidents, diseases and accidents. If you have an existing system for recording workplace incidents, be sure that sanitation-related issues are integrated. Examples of sanitation-specific events may include:
  - Practices of open defecation
  - Overflowing toilets
  - Overflowing animal slurries or waste containers
  - Spills of hazardous substances onto the ground or into water sources (e.g. the release of pesticides into local waterways)
  - Outbreaks of sanitation-related diseases
  - Injuries due to poor construction or management of toilet facilities, such as trips and falls
  - Cuts due to contact with sharp objects or broken glass, particularly medical waste, such as needles.
- ☐ Develop a transparent system for reporting events to the local authorities.

Terminology: Definitions

- **Dangerous occurrence:** Readily identifiable event as defined under national laws and regulations, with potential to cause an injury or disease to persons at work or the public.
- **Incident:** An unsafe occurrence arising out of, or in the **course** of, work where no personal injury is caused, or where personal injury requires only first-aid treatment.
- **Occupational disease:** A disease contracted as a result of an exposure to risk factors arising from work activity.
- **Occupational accident:** An occurrence arising out of, or in the course of work which results in: (a) fatal occupational injury or (b) non-fatal occupational injury.

For more information, see: ILO code of practice for Recording and notification of occupational accidents and disease (1995).

Module 2: Sanitation
Employers' Checklist

E.2.0	Are you familiar with the national laws, regulations, and standards on sanitation that pertain to your workplace?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
E.2.1	Do you provide or have access to improved sanitary facilities that meet the requirements of national laws or regulations? (see the specific questions below)	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
E.2.2	Does your workplace have in place improved sanitary methods for wastewater and faecal sludge management?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
E.2.3	Does your workplace manage solid waste in a sanitary manner?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
E.2.4	Do trainings in your workplace include information on sanitation-related risks and improved sanitation methods?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
E.2.5	Does your workplace have a reliable and transparent system in place to record and report sanitation specific occurrences, incidents, diseases and accidents?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?

Guiding questions on assessing water access in your workplace (E.2.1b):		
1	What kind of toilet facilities do workers have access to?	
2	Do men and women share these facilities?	
3	Are there changing rooms available for women workers?	

WORKERS' ACTION MANUAL: SANITATION

Workers, workers' representatives, and workers' organizations play a crucial role in promoting improved sanitation at the workplace. When workers are engaged in workplace discussions and actions concerning sanitation, they are more likely to identify problems, help find practical solutions, and comply with the end result. This Manual is designed to promote the role of workers, worker's representative, and other workers organizations in preventing sanitation-related illness and disease and promoting morale, welfare, and productivity at the workplace.

Checkpoint W.2.1. Use sanitary facilities properly and comply with workplace rules on their maintenance

Why?

Properly using toilets, and keeping facilities clean, will not only help to protect your health, but also that of fellow workers. Complying with workplace regulations for toilets and their use is your duty as a worker.

How?

- ☐ Stay informed about the specific workplace sanitation rules set out by your employer, and follow them.
  - Attend trainings and seminars provided by your employer or by your workers organization.
  - Ask your supervisor for information if you are unclear about workplace rules.
  - Encourage and support young and new workers to develop safe sanitation and hygiene habits.
  - Inform and familiarize other workers that may be at greater sanitation related health risks, such as workers with disabilities.
- ☐ Stop open defecation. Encourage fellow workers to follow your lead.
- ☐ Use sanitary facilities when you need to. Do not retain urine when you need to go.
- ☐ Wash hands with soap after defecation, after managing waste and before eating.
- ☐ Never restrict fluid intake during work because a toilet is not available. Raise your concern with a supervisor if this is the case.
- ☐ Use urinals and toilets for the purpose for which they were designed. Do not use sanitary facilities for any other purposes.
- ☐ Keep sanitary facilities in the state that you found them in order to

maintain a state of cleanliness.

- Dispose of menstrual materials in appropriate receptacles.

Reminder: The dangers of not going

Holding in large amounts of urine for an extended period of time can increase your chances of getting a urinary tract or bladder infection. Workers in sectors that may not always have immediate access to toilets, such as in the road transport sector, should be particularly aware, or make their employers particularly aware, of the importance of using the toilet when needed.

Figure 2.3.5. Example of guidance for workers on how to correctly use toilets.

Checkpoint W.2.2. Comply with workplace rules on waste disposal

Why?

Workers are responsible for complying with the rules for waste disposal at the workplace. Waste from work-related tasks may be hazardous for human health and the environment. By taking the steps needed to control sanitation-related risks from dangerous waste, workers can protect themselves, their fellow workers and local communities.

How?

- ☐ Stay informed of, and follow, the specific workplace rules set out by your employer on waste disposal.
- ☐ Attend trainings and seminars provided by your employer or by your workers' organization.
- ☐ Ask your supervisor for information if you are unclear about workplace disposal rules.
- ☐ Do not pour dangerous liquids, like pesticides, down the sink or toilet, or down drains.
- ☐ Refer to Guide to waste disposal according to work sector in Annex 1.

Worker duties: Cooperation

Workers have the responsibility to keep themselves safe at the workplace. This includes cooperating with the health and safety rules at the workplace. Countries sometimes provide for sanctions in case of workers' non-compliance with safety rules.

- In Singapore, this can result in fines.
- The failure of the worker to comply with workplace safety rules is regarded in Spain as misconduct which may result in disciplinary measures by the employer.
- In Morocco, non-compliance may lead to immediate dismissal without compensation.

Sources: Occupational Safety and Health Convention, 1981 (No. 155), Article 19(a); General Survey concerning the Occupational Safety and Health Convention, 1981 (No. 155), the Occupational Safety and Health Recommendation, 1981 (No. 164), and the Protocol of 2002 to the Occupational Safety and Health Convention, 1981. ILO: Geneva, 2009.

Checkpoint W.2.3. Monitor and report sanitation-related risks

Why?

As a worker, you should be aware of the sanitary conditions and behaviours around you. Incorrect use of toilets, or of disposal sites, could harm you, fellow workers and the community. By voicing your concerns, you can make a real difference for workplace health and safety.

How?

- ☐ Be alert about unsanitary workplace conditions, for example:
  - Toilets that are broken.
  - Toilets that are not accessible for workers with a disability.
  - Lack of appropriate receptacles for menstrual materials.
  - Trash bins that are full or overflowing.
  - Animal waste slurries that are leaking or overflowing.
  - Pesticide containers that are leaking.
- ☐ Be alert about other workers not using the facilities properly or not complying with sanitary rules. For example, workers who:
  - Practice open defecation.
  - Squat on toilet seats rather than sit on them.
  - Dispose of dangerous wastes into the environment instead of in proper receptacles.
  - Use toilet facilities for other purposes, such as resting areas.
- ☐ Report situations or behaviours to a supervisor that may pose a sanitation-related risk. Remember that risks can be potential (may cause a health concern in the future if not remedied) or actual (risks that are actively causing a health concern).

Imminent danger

It is possible that some unsanitary conditions present a serious danger to your life or health. If the employer or competent authority has been made aware of it, and has not fixed it, remember that you have the right to stay away from the work situation where there is a continuing imminent and serious danger to your life or your health.

For example, imagine a situation where continued open defecation on the farm you are working is causing cholera among the workers. You do not want to be infected, so you report the situation to the competent authority. If action has not been taken to fix the problem and the spread of cholera continues, this presents a continuing imminent and serious danger to life or health.

Source: ILO Occupational Safety and Health Convention, 1981 (No. 155), Article 19(f).

Module 2: Sanitation

Worker, Workers' Representative, and Workers' Organization Checklist

W.2.1	Are workplace sanitary facilities being used properly?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority ?
W.2.2	Do you, your employer and co-workers comply with workplace rules on maintenance of sanitary facilities?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
W.2.3	Do you, your employer and co-workers comply with workplace rules on waste disposal?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority ?
W.2.4	Does your employer actively monitor and survey sanitary conditions and behaviours by workers?	☐ Yes No
	What action do you propose? Suggestions:	☐ Priority ?

Place cover for Module 3 here.

MODULE 3: HYGIENE

What is hygiene at the workplace?

- Hygiene at the workplace describes the practice of keeping oneself, and the surrounding environment, clean and free of contamination and infection risk. It includes personal and workplace practices that protect health and stop the spread of illness and disease, such as handwashing, bathing, laundering, food hygiene, and safe menstrual hygiene management.
- It also refers to the provision of facilities and services that can be used by everyone to help maintain health and prevent the spread of illness and disease, such as handwashing facilities with water and soap, showers, laundry facilities, food service facilities, and options for menstrual hygiene management.
- Hygiene encompasses interventions that promote hygienic behaviours and management at the workplace, taking into account both behaviours and facilities, which work together to form a clean and safe workplace.

Contents of this module

This module presents the importance of personal hygiene and the provisions that are necessary to maintain a clean and safe workplace. The aim of the Training Guide is to inform stakeholders on the following topics:

Guide 3.1. Hand hygiene

Guide 3.2. Showering and bathing

Guide 3.3. Laundering

Guide 3.4. Food hygiene

Guide 3.5. Menstrual hygiene management (MHM)

GUIDE 3.1. HAND HYGIENE

Why is workplace hand hygiene important?

Access to improved water and sanitation facilities does not, on its own, necessarily lead to improved health and hygiene. Evidence shows that hygienic behaviour is crucial to protecting against illness and disease. Of these behaviours, handwashing with soap and water at key moments (including after defecation, before food preparation and eating) is of central importance. Unlike the MDGs (JMP 2015) the SDGs include handwashing facilities among the indicators for WASH. Again, while these are focused on household access, they are also applicable to the workplace. The new indicators include a handwashing ladder (See Figure 3.1) with basic handwashing facilities requiring that both soap and water be in place.

Figure 3.1. Handwashing service ladder.

SERVICE LEVEL	DEFINITION
BASIC	Availability of a handwashing facility on premises with soap and water
LIMITED	Availability of a handwashing facility on premises without soap and water
NO FACILITY	No handwashing facility on premises

Source: Joint Monitoring Programme, 2015.

Contaminated hands spread germs from person to person in the absence of good hygiene. As presented in the Sanitation module, human excreta contain germs that can cause disease. Hands that have been in contact with excreta, nasal excretions and other bodily fluids, can pass germs and lead to illness.

Hands can also carry germs from other workplace sources such as animal or bird excreta, domestic or wild animals, and contaminated foods. In addition to germs, hands and clothing, can provide a transport route for dangerous materials, like pesticides or other toxic chemicals.

Chemicals that are not managed hygienically at the workplace can be carried to workers' homes on clothes and shoes and pose a risk to workers families, particularly to young children.

Handwashing is especially important at workplaces, where large numbers of people may congregate in close quarters. It is key in areas:

- where ill or vulnerable people are concentrated (healthcare settings, nursing homes);
- where food is prepared and eaten (workplace canteens); and
- where workplace accommodation is provided, especially if there are

young children.

Hygiene-related diseases (examples, not limited to):

- Pneumonia
- Trachoma
- Scabies
- Skin and eye infections
- Diarrhoea-related diseases
  - Cholera
  - Dysentery

Source: UNICEF (2015). Hygiene Fact Sheet.

Many governments, United Nations agencies and NGOs have taken measures to promote handwashing to prevent the spread of COVID-19, including:

- Water operators in Bangladesh, Eswatini, Guinea, Honduras, Madagascar, Nigeria, Pakistan and Peru, among others, have taken measures to facilitate and promote handwashing.
- Nigeria has also established a WASH sector COVID-19 response committee, which has leveraged support from the private sector to install hands-free hand-washing facilities in vulnerable places.
- In Malawi, in turn, the government and social partners issued guidelines requiring employers to provide handwashing facilities for their workers.

The ILO Employment-Intensive Investment Programme supports water and sanitation infrastructure in several countries, including Jordan and Philippines, and has launched a COVID-related initiative in South Africa, that has hired 20,000 young people to help with the distribution of sanitizers and soap, provide education on hygiene-prevention measures, disinfect high-risk areas and conduct clean-up campaigns. A pilot project in Tunisia has identified these improvements as a priority.

The ILO Better Work Nicaragua Programme has helped the national garment sector to develop an emergency COVID-19 response, which promotes frequent handwashing and provides guidance to employers. In Indonesia, the Programme has rolled out a step-by-step action plan for factories to inform workers about handwashing and other measures, using the latest ILO and WHO advice. In Bangladesh, Better Work partners have installed handwashing facilities and are urging workers to wash their hands regularly.

Source: ILO Policy Brief, Hand hygiene at the workplace: an essential occupational safety and health prevention and control measure against COVID-19 (2020).

What is necessary for proper handwashing?

Handwashing facilities are necessary at the workplace in sufficient quantities and accessible for all. This includes four necessary components: access to washbasins with soap, running potable water and single use towels (paper or otherwise) or other means of hand drying.

1. Washbasins (or other handwashing facilities)

Washbasins are the structures that allow workers to wash their hands with running water. They can come in all shapes and sizes, and can be single use, or allow for many workers to wash their hands at the same time (i.e., group handwashing facilities), depending on the workplace.

- They must be fully accessible for people with disabilities.
- They should be attached to a piped water system that provides potable running water through a tap or faucet.
- A system for draining or collecting wastewater is also necessary, as it may contain germs or hazardous materials washed off of the hands. Appropriate drainage is also necessary for vector control.

2. Safe running water

Water running from a piped water source is less likely to be contaminated. Standing water in a tub or in a bucket may contain germs from other workers that washed their hands in it. Other aspects to consider:

- Running water should have sufficient water pressure.
- Water should be safe and not contain any contaminants. Wherever possible it should be safe enough for drinking. In situations where potable water is not available for handwashing, non-potable water provided for handwashing should be clearly marked with recognizable signage.
- Water temperature is important to consider. Warm water will help break down the dirt and grime that often carries germs. During work in cold temperatures, it may also help promote handwashing by workers by increasing comfort.

Figure 3.1.1. Al Rashidy El Mizan production site.

Running water without a piped system:

The ideal situation is to have piped running water available for handwashing facilities. However, not having access to piped running water does not mean that workers cannot properly wash their hands. Other methods could include a container with a tap. For work sites with a small number of workers, a Tippy Tap may be appropriate method. For these types of systems it is important to ensure that water is always available in the container. See UNICEF's guide: "How to make a Tippy Tap."

3. Soap or soap alternatives

Proper handwashing requires soap, or soap alternatives. Washing hands with water alone is significantly less effective in terms of removing germs. Soap is important because:

- Soap breaks down the grease and dirt that carry germs by helping the rubbing and friction that dislodge them.
- Using soap adds to the time spent washing which increases the chance that germs will be removed or destroyed.
- Soap leaves hands smelling pleasant. The clean smell and feeling that soap creates is an incentive for its use.

Soap Alternatives

1. **Ash:** In situations where soap is not available, the WHO recommends the use of wood ash or coal ash as a soap alternative, rather than using water alone.
2. **Alcohol-based hand rub:** The WHO also recommends using alcohol-based hand rub in situations without access to soap and water. The ILO also notes that alcohol-based hand rub is a convenient and efficient alternative to handwashing, as long as hands are not soiled. Steps include:
   - Ensure that the hand rub comes into contact with all hand surfaces.
   - Rub hands together vigorously, paying attention to fingertips.
   - Stop rubbing when the solution has evaporated and the hands are dry.
   - Ensure that hands are washed with soap and water after several consecutive applications of alcohol-based hand rub.

Sources: WHO (2009). Water, sanitation and hygiene standards for schools in low-cost settings. WHO: Geneva, 2009; ILO/WHO HealthWISE Action Manual. Factsheet 3.10 "Hand hygiene" ILO: Geneva, 2014.

Some work tasks can make the hands extremely dirty, or can leave them covered in materials that are difficult to remove, like paint. These work situations may require the provision of special cleaners to aid in the removal of materials. Remember that dangerous materials, like paint solvent and other chemicals, should not be used to wash hands as they can be dangerous to human health.

4. Hand towels or dryers

After washing hands, hands should be dried. Wet hands are slippery and can cause unintentional accidents at the workplace. To promote hand drying, towels or other suitable means of drying hands should be located near washbasins. This may include single use towels made of paper or other material, or air-dryers. The critical point is that whatever means are used to dry hands, they should be sanitary. Sometimes, not all germs are removed during handwashing, potentially transferring them to the towel used for drying. This means that:

- Each towel should be used by only one worker and should be used only once.
- After use, it should be disposed of immediately, or left for laundering, in the appropriate place.

What is the proper way to wash hands?

Handwashing should take at least 40 seconds. Refer to the following proper step-by-step handwashing, guide. This guide can be posted as a reminder at the workplace.

When is it important to wash my hands?

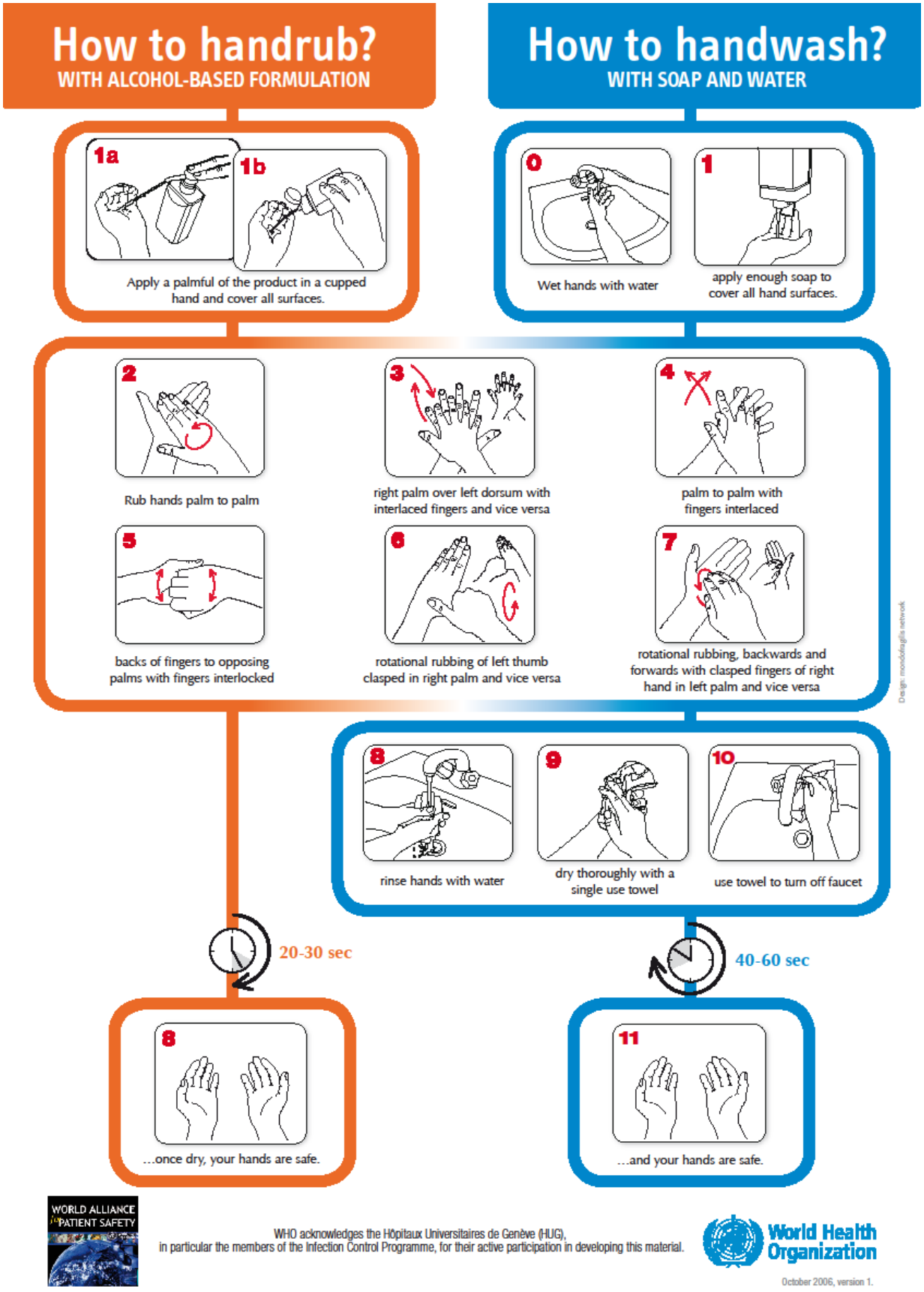
During work, there are critical times when handwashing is particularly important.

BEFORE	AFTER
Before **eating or drinking** Before **handling or serving foods or drinks** Before **starting a new work activity or task where clean hands are important (i.e., handling patients in a healthcare setting)** Before **going home to your family**	**After** using the toilet or urinal **After** exposure to human excreta from cleaning or accidents, or from changing diapers **After** exposure to human biological liquids, such as nasal discharge while sneezing **After** exposure to dangerous materials, like animal waste, pesticides, or toxic solvents

Additional Handwashing Resources

- Global Handwashing Partnership
- WHO guidelines on hand hygiene in health care (2009)
- Hand Hygiene: Why, How and When (WHO, 2009)

Figure 3.1.2. The standard WHO guide to proper handwashing.



Where should washbasins be located?

Workplace sanitation and hygiene come hand-in-hand. As such, washbasins should always be located in close proximity to any exposure that presents a health risk; or in places where clean hands are necessary to promote workplace health. They must also be fully accessible for people with disabilities. This includes:

- **Toilets and urinals:** Any workplace toilet or urinal should have, in close proximity, a washbasin with soap and water. Some toilet rooms include a washbasin next to the toilet. Washbasins can also be located immediately outside of the toilet. The proximity of the washbasin to the toilet should remind and encourage workers to wash hands after using a toilet or urinal and before returning to work.

Privacy for menstruating female workers

Handwashing facilities inside gender separated areas or cubicles are important for menstrual hygiene management, as female workers may not want to wash blood from their hands in public spaces.

- **Hazardous materials:** Work areas that may expose workers to hazardous materials must also have a washbasin in proximity to protect workers' health. For example, in the health services sector, washbasins are essential not only next to toilets, but also in medical examination or operating rooms.
- **Workplace cooking facilities and canteens:** A washbasin with water and soap in a workplace cooking facility is important for routine handwashing before and during food and drink preparation and serving. A washbasin provided in a canteen is also useful to remind workers of the need to wash hands before eating and drinking.
- **Workplace accommodations:** Washbasins with soap and water should also be located in employer provided accommodations, including in close proximity to toilets and urinals as well in cooking facilities.

Take away point:

Hands can carry dangerous germs and materials. Handwashing is a simple, fast and cost-effective method to promote workplace health and prevent the spread of disease.

Providing washbasins and promoting handwashing can increase the health and welfare of workers, and prevent missed days at work due to illness, thereby increasing morale and productivity.

GUIDE 3.2. SHOWERING AND BATHING

Why are showering and bathing important at the workplace?

The phrase "showering or bathing" refers to any type of washing of the body, other than of the hands. As presented in the previous guide, hands can carry germs and dangerous substances. The same goes for other areas of the body. We should consider three types of washing and their importance for workplace safety and health:

1. Regular washing
2. Workplace washing
3. Emergency washing

Health concerns related to poor hygiene (examples, not limited to)

- Body lice
- Scabies
- Fungal infections
- Ringworm
- Trachoma
- Pinworms
- Diarrhoea
- Pneumonia/respiratory infections

Centers for Disease Control and Prevention, CDC (2014). Hygiene-related Diseases Factsheet.

1. Why is regular washing important?

Every day, no matter what we do, we are exposed to elements in the environment that cover our skin, such as dust, or pollution from the air. In addition, our bodies release sweat. These factors can make us dirty and can be a breeding place for germs.

Regular washing ensures that we clean our bodies from germs, and that we do not bring these germs with us when we go to work. It also helps us smell clean, increasing the comfort for ourselves and for workers around us.

2. Why is workplace washing important?

Just like hands, other body areas can come into contact with dangerous germs, materials or contaminants at work, depending on the work situation and work tasks. In some situations, workplaces should be equipped with washing facilities to allow workers to wash after work tasks to reduce risk of illness or disease for both workers and those they have contact with after work. It also helps reduce the spread of diseases like the coronavirus, which can be transmitted through contact between the hands and face.

Trans-dermal routes of exposure: Why is skin exposure to dangerous materials a concern? It may be hard to imagine why a chemical that touches the skin is dangerous for the entire body. This is where the concept of transdermal exposure is important. Some substances can penetrate the skin and enter the bloodstream, causing toxicity throughout the body. Health effects may be felt immediately, or may only show up after some time. Examples are listed below.

Substance/Exposure	Health effect/Disease
Nicotine in green tobacco leaves	Green Tobacco Sickness (GTS), characterized by vomiting, nausea, headache, dizziness
Pesticides used in crop agriculture	Pesticide poisoning, which can range from mild to severe.
Benzene or toluene used in petrochemical industry	Skin irritation and burns; once in the bloodstream can lead to immunological effects

What is necessary for workplace washing?

Similar to handwashing, certain work sectors require appropriate washing facilities that contain safe running water, soap, and single use towels. An additional consideration is the need for privacy.

Washing facilities

The facilities provided for washing at the workplace can take the form of a shower (where water runs from a tap above) or through a hand-held hose. Dedicated washbasins could also be an option for localized washing. The washing facility should:

- ☐ Be safe, secure and private. Separated facilities should be provided for men and women.
- ☐ Be conveniently accessible and related to the nature and degree of exposure at the workplace.

In addition:

- Water should not be re-used by additional workers after use by one worker.
- Remove wastewater via a piped system. As water that is used to wash off the body may contain hazardous materials, there needs to be a safe and approved method of removing waste water from the premises to prevent further contamination of the environment.
- Wastewater should not be used for any purpose. This is especially true for workplaces that use equipment that require cleaning. Separate washing areas should be provided for equipment to ensure that it does not contaminate showering facilities.

Figure 3.2.1. Shower

Running water

The aim of workplace washing is to remove dangerous elements from the skin and hair in a safe and comfortable way. As such, water used to shower or bath should be:

- Safe, so that it does not pose a health risk. During showering, water may enter the eyes or mouth, and may lead to infection if it contains germs. If water is not potable, signage should be provided that clearly indicates the water is not safe to drink.
- With enough pressure to break down dirt and grime. In addition, warmer water can assist to break down dirt more quickly. While the ILO recommends that running water is available for washing needs at the workplace, washing is still possible without running water, particularly for localized washing needs.

- Comfortable, so that workers are encouraged to wash regularly. Warmer water may make workplace bathing more pleasant and increase morale in workers.
- Safe, in regards to maintaining proper body temperature. For example, for a cold working environment, a lack of warm water can be dangerous and may increase the risk of cold-related conditions, like hypothermia.

Employers should ensure that water is provided efficiently to avoid waste. Taps should be kept in working order and leaks should be repaired immediately.

Soap

Soap and other approved body cleaning agents (like hair shampoos) should be used to break down the contaminating elements on the surface of the skin and in the hair. Soap should:

- Not irritate the skin. Since certain workplace situations require washing frequently, soap should not harm or damage the skin, even after extensive use.
- Not be replaced with agents that are not approved for washing. Remember that as for handwashing, only approved agents should be used for washing. Substances like solvents or paint thinners are toxic and can cause harm to the body!

Towels

The body should be dried off after washing for comfort and to minimize accidents due to slippery skin. Towels at workplace facilities should be:

- Free of contamination and clean for use.
- For single use only, and should not be shared between workers.
- Either laundered or disposed of, depending on the workplace conditions and requirements.

Figure 3.2.2. An emergency wash station.

3. Why is emergency washing important?

There may be situations where exposure to hazardous substances occurs unintentionally, in the form of a workplace accident, such as a chemical spill. In this case, immediate washing that is specific to the hazardous substances, should be undertaken to reduce the risks of adverse health effects.

The first seconds after exposure to a dangerous substance, especially to a corrosive one, are crucial. A delay in appropriately treating the exposed area may cause long-term injury. Emergency washing stations provide immediate and on-the-spot body and face decontamination, allowing workers to quickly flush away life-threatening chemicals. Two types of emergency washing facilities to consider are emergency showers, and emergency face/eye wash stations.

Emergency showers

When it is necessary, workplaces should have emergency showers that are specifically designed to flush the worker's head and body after an exposure to a dangerous substance. Emergency showers can also be used for washing contaminants from clothing, or putting out clothes that have caught on fire, depending on the type of fire.

Emergency face and eye wash stations

Accidental exposure of the face and eyes to various chemical substances can result in irritation, temporary or permanent vision impairment, or even blindness. When eye accidents occur, emergency eye wash stations can quickly flush the eyes with water to reduce exposure to the dangerous substances. These units may resemble water fountains, but instead have two openings that can deliver water to both eyes at the same time.

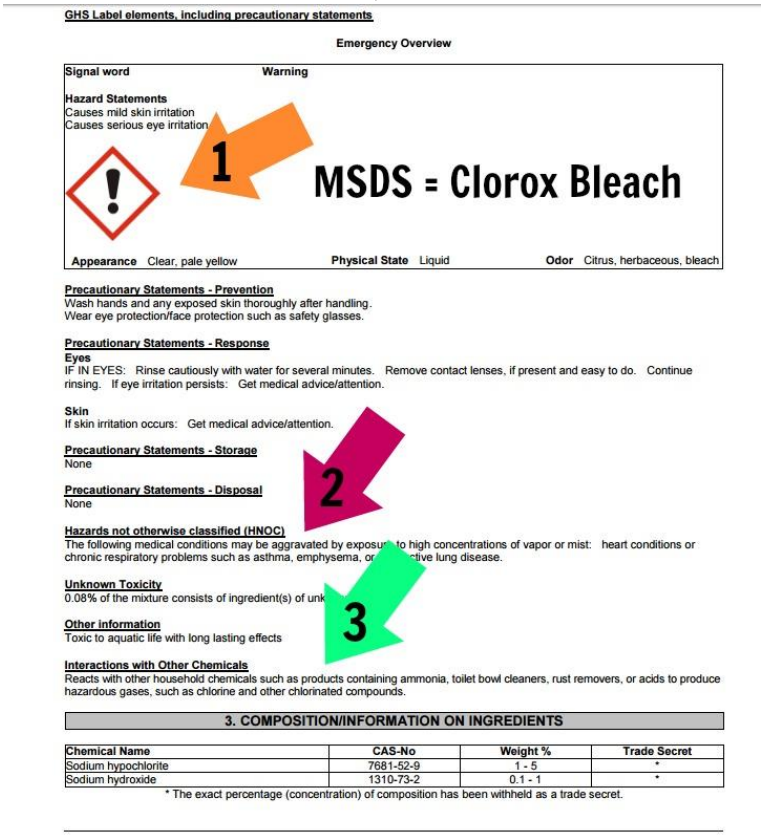
Corrosive substances

These are materials that can attack and destroy body tissues on contact, causing damage immediately, particularly to skin and eyes. On the skin, corrosives can irritate burn and blister the skin. In severe cases, burns over a large part of the body can cause death. When in contact with eyes, corrosives can cause burning, scarring or even permanent blindness. Examples of workplace corrosives include, but not limited to:

- hydrochloric acid
- nitric acid
- ammonium hydroxide
- potassium hydroxide (caustic potash)
- sodium hydroxide (caustic soda)

It is critical that employers, managers and employees are familiar with all of the substances they use on site and how to address potential spills or contact with each of the substances, as the response to contact or spills may be different depending upon the material. Figure 3.2.3 shows an example of a safety data sheet for bleach.

Figure 3.2.3. Instructions to use emergency washing stations in case of exposure to bleach.



GHS Label elements, including precautionary statements

Emergency Overview

Signal word Warning

Hazard Statements
Causes mild skin irritation
Causes serious eye irritation

1

MSDS = Clorox Bleach

Appearance Clear, pale yellow **Physical State** Liquid **Odor** Citrus, herbaceous, bleach

Precautionary Statements - Prevention
Wash hands and any exposed skin thoroughly after handling.
Wear eye protection/face protection such as safety glasses.

Precautionary Statements - Response
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin
If skin irritation occurs: Get medical advice/attention.

Precautionary Statements - Storage
None

Precautionary Statements - Disposal
None

2

Hazards not otherwise classified (HNOC)
The following medical conditions may be aggravated by exposure to high concentrations of vapor or mist: heart conditions or chronic respiratory problems such as asthma, emphysema, or restrictive lung disease.

Unknown Toxicity
0.08% of the mixture consists of ingredient(s) of unk

Other information
Toxic to aquatic life with long lasting effects

3

Interactions with Other Chemicals
Reacts with other household chemicals such as products containing ammonia, toilet bowl cleaners, rust removers, or acids to produce hazardous gases, such as chlorine and other chlorinated compounds.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade Secret
Sodium hypochlorite	7681-52-9	1 - 5	*
Sodium hydroxide	1310-73-2	0.1 - 1	*

* The exact percentage (concentration) of composition has been withheld as a trade secret.

The importance of workplace training for emergency washing

Emergencies due to chemical splashes can happen at any time, and the quicker a worker can rinse their body or eyes or use the approved method required for the specific chemical, the more effective the treatment can be. Remember that:

- Every worker needs clear training on the correct use and location of emergency showers or eyewash stations.
- Do not assume that workers are already aware of the location, or of the proper procedures.
- Design interactive and real-life trainings for emergencies, such as a “hands-on” drill on how to find equipment.
- Remind workers that for eye wash showers to properly flush the eyes, contacts must first be removed.

What is needed for emergency washing facilities?

Requirements for emergency washing facilities include:

- **Safe water.** It is essential that the water provided is free from contamination and does not pose a risk to workers. If water is not potable, information should be clearly posted to indicate that it is not safe for drinking.
- **Quick and easy access and use.** In an emergency, such as a chemical splash, every second counts. Emergency washing facilities should be in close proximity to work areas that contain hazardous materials. In addition, the facilities should be easy to use so that workers can activate them immediately. Remember that some eye splashes can impair vision immediately. As such, workers should be able to locate and turn on washing facilities without losing too much time.

Precision for details:

Other requirements for the types of emergency washing stations and details related to their use and maintenance is set by the competent authority. Guidelines may include:

- Use of material safety data sheets
- Location and number of emergency washing stations
- Exact measurements of emergency washing stations
- Pressure of water
- Temperature of water
- Use of other "flushing fluid", such as preserved buffered saline solution
- Emergency contact information for reporting accidents and for emergency health care

Take away point:

Providing, maintaining, and properly using washing facilities, both for workplace exposures and in emergency situations, helps protect the health and welfare of workers and maintains a hygienic workplace.

GUIDE 3.3. LAUNDERING

Why is laundering at the workplace important?

Just as hands and bodies are exposed to germs and hazardous substances at the workplace, so are the clothes that we wear and the other materials that are present in the work-area. Workplace clothing and personal protective equipment (PPE), which is specifically designed to protect from workplace exposures, can harbour different kinds of hazardous substances. Consideration should also be made for fabrics or materials that may be dirtied in the workplace, like towels and linens.

Why is laundering work clothing and PPE important?

Work clothes and PPE (such as helmets, goggles, and respirators) are designed to act as a barrier between you and the specific hazardous exposures at the workplace. As such, it is normal that these clothes and materials can become contaminated.

When work tasks are finished, and the contaminated clothing and other equipment are removed, there is a risk of contact with skin if the clothing is not properly handled, laundered, or disposed of properly.

Hazardous substances on work clothing and PPE of particular concern include:

- Pesticides
- Asbestos
- Human biological liquids
- Animals remains or other biological liquids
- Radioactive substances
- Corrosive or toxic chemicals

Clothes and PPE should be cleaned or laundered following the instructions provided, or should be disposed of in a safe manner according to local laws. This is the responsibility of the employer. Workers should never take home contaminated clothing or PPE to wash.

Along the same lines, it is important to consider that in some cases, workers may change from their personal clothing to workplace clothing when they arrive to work. Workplace changing facilities and storage areas, like lockers, are important to prevent the spread of contamination from protective clothing to personal clothing.

Figure 3.3.1. Laundry workers in a Washington hotel, United States.

Warning! Take-home exposures

If you do not leave your workplace clothing and PPE at the workplace, you run the risk of bringing the hazardous exposures from your work into your home. These hazardous substances can get onto your floors, your furniture and most importantly, onto your family members. These are known as take-home exposures. Many workplace chemicals might be dangerous, especially for children. Of particular concern are pesticides, which can be dangerous for young children who tend to put things in their mouth and spend time on the floor where dust and residue from clothes may settle.

What about other workplace materials?

Other materials may become contaminated due to different work tasks and require appropriate laundering to reduce workplace hygiene risks. The types of materials will clearly depend on the work sector. The most important thing to consider is whether or not the material in question may pose a hygiene risk to people at the workplace. If so, the appropriate authority should be consulted for information about proper workplace laundering, handling, or disposal of the items. Examples include:

- Workplace towels from washing facilities
- Towels and linens from workplace accommodations
- Materials contaminated with asbestos
- Towels and linens from the health care service sector

Health services and HIV/AIDS:

Laundering needs in the health services sector are particularly crucial, especially when it comes to dealing with diseases like HIV/AIDS. Towels, linens and clothing that are contaminated by blood may pose a risk for transmission.

- All linen should be washed with detergent.
- Where there is no access to specialized services, contaminated clothing or linen should be washed with detergent using the hot wash cycle of a domestic washing machine, heating the water to a temperature of at least 80 °C, or dry cleaned followed by ironing with a hot iron.
- If washing by hand is unavoidable, household rubber gloves should be worn.

Source: Joint ILO/WHO guidelines on health services and HIV/AIDS, Geneva, 2005

Take away point:

In addition to hands and skin, clothing can be contaminated with hazardous substances and pose a health risk. Hygienic methods of laundering that prevent human contact with toxic elements keeps workers safe and healthy, as well as their families.

GUIDE 3.4. FOOD HYGIENE

Why is food hygiene important?

Foodborne diseases represent a serious public health problem all over the world. Germs on consumed foods can cause severe diarrhoea and some may even cause death. Chemical contamination of foods can lead to acute poisoning or long-term diseases, such as cancer.

Unsafe foods may include raw meats, fruits and vegetables contaminated with human or animal excreta, or foods contaminated with chemicals (like mercury). Thankfully, many foodborne diseases can be prevented by using proper food handling behaviours.

What about food hygiene at work?

The right to be free from hunger is a basic human right, and yet it is sometimes ignored in the context of occupational safety and health. Safe food is important for a productive workforce. Workers that do not have access to safe food, or are not aware of the basics of food hygiene, can fall sick and miss workdays, leading to reduction in productivity. In work sectors where accommodation is provided to workers, the need for safe food extends to the living quarters and concerns families as well as communities.

Many work factors may contribute to contaminating food, including:

- hot climate;
- the time gap between preparing and eating, food;
- contaminated water;
- insufficient cooking/re-heating,;
- lack of sanitation in canteens,;
- hard to clean surfaces,;
- lack of personal hygiene (handwashing),,and;
- animals accessing the kitchen.

Since all people need safe food for proper health, food hygiene is the responsibility of everyone at the workplace. Food hygiene promotion is about changing behaviour, and understanding the basic concepts related to food safety. Food hygiene at work comprises of three inter-related components: safe food, safe food facilities, and safe food services.

Causes of foodborne disease (examples, not limited to):

Bacteria

- Salmonella
- Campylobacter
- Listeria
- Vibrio cholera

Prions

- Bovine spongiform encephalopathy ("mad cow disease")

Parasites

- Giardia
- Cryptosporidium

Viruses

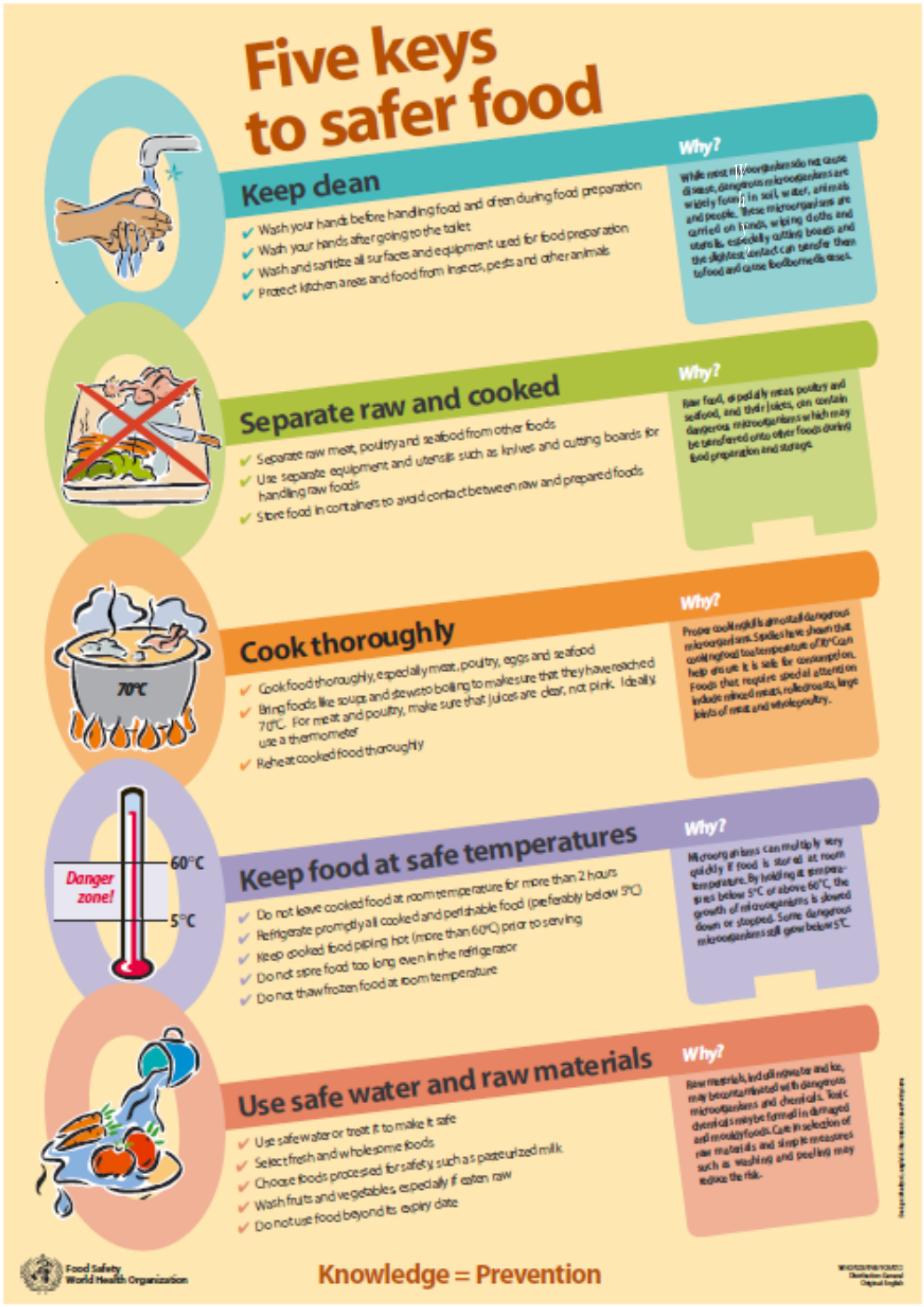
- Hepatitis A

Source: WHO (2015). Food safety. Fact sheet N°399.

Safe food

To help prevent food contamination at the workplace, and help ensure safer food, there are five key steps to remember, asa shown in Figure 3.4.1.

Figure 3.4.1. WHO Five Keys to Safe Food poster.



1. Keep yourself clean

Germs can move quickly and discretely from hands to food. When a worker goes to eat-- either a snack or a meal-- there is a risk of food contamination.

- Wash hands with soap and water before handling, preparing, serving, or eating food. Wash hands during handling or preparing processes in the case of contact with unhygienic materials (e.g. raw meats).
- Remove and store PPE before entering eating areas or before eating.
- Shower or bathe as necessary before entering eating areas or before eating if your work requires contact with hazardous substances.
- Wash and sanitize surfaces, utensils and equipment used in food preparation.
- Protect eating areas from insects, pests and other animals.

2. Separate raw and cooked foods

Raw foods of animal origin may contain dangerous germs that can spread to other foods or cooking and eating utensils.

- Separate raw meats, poultry and seafood from other foods when handling and storing.
- Use different equipment and utensils for preparing raw foods and other foods.

3. Cook thoroughly

Some foods, like raw meats, require proper cooking before consumption. Cooking raises the temperature of food, killing the germs that are present.

- Bring soups and stews to a boil, and cook meats, poultry and seafood thoroughly.
- Reheat cooked food thoroughly before eating.

4. Keep food at safe temperatures

Depending on the length of the workday, food may be stored before or after it is eaten. It is particularly true for workers that may not have access to a canteen and may need to bring their food from home.

- Avoid leaving cooked food at room temperature. Refrigerate cooked and perishable food.
- Keep food hot prior to serving.

5. Use safe water and raw materials

The water used for food and utensil washing, and for cooking, should be potable. Likewise, the raw food materials used for cooking should be of high quality, and should not be spoiled or contaminated.

- Use potable water for cooking, washing of food, and for the washing of cooking and eating utensils. The ILO recommends that potable water should be provided by the employer for worker food needs.
- Choose fresh, wholesome and safe foods.
- Do not use food beyond its expiration date.

Key resource:

For more information on how to ensure safer food at the workplace, refer to the WHO's Five Keys to Safer Food Manual. The manual provides detailed information and guidance on the five steps, and provides practical ways of training stakeholders on this important workplace topic.

Food service facilities (canteens)

Workers have the right to eat during the workday, and therefore must have a dedicated space for eating, which is hygienic and does not pose a health risk regardless of the type of work site. Food contamination can occur quickly, making it necessary to create separate areas where workers can safely eat a snack or a meal. Food service facilities/spaces should be:

- Maintained to a high standard of hygiene. This includes regularly cleaning of canteens, including the food handling and cooking areas, eating areas, as well as cooking and eating utensils.
- Within walking distance from the work area.
- Accessible to all workers. Workers with physical or other disabilities should not be forced to travel far for a meal.
- Located at a safe distance from areas where hazardous materials are stored or used.
- Sheltered from the weather.
- Offer affordable and safe food.

Workers must have the proper time to enjoy their meal. Workers that feel pressured by time constraints may skip meals, increasing fatigue and the chance for accidents and illness at the workplace.

Food services

In some situations, workers are dependent on the food that is provided in canteens. As such, the persons in charge of food services should be skilled in nutrition, sanitation and food handling, in order to ensure that workers do not get sick from the food that is served. Food services should:

- be licensed by a competent authority on food hygiene where available.
- follow all regulations related to food hygiene.
- be inspected regularly by the competent authority.

Take away point:

Contaminated and unsafe foods present a serious risk for workers, and may result in sickness or death, and a loss of productivity. Access to safe food, safe eating facilities, and safe food services are imperative for healthy workers, and for promoting decent and hygienic work conditions.

Figure 3.4.2. Woman on dishes in the kitchen of a canteen. Bangkok. Thailand.

GUIDE 3.5 MENSTRUAL HYGIENE MANAGEMENT (MHM)

Why is MHM important at work?

Women represent nearly half of the global labour market, and those of menstruating age are a significant and growing portion of the women employed around the world. Menstruation is a normal biological process and a key sign of reproductive health, yet in some cultures, it is still seen as shameful, and carries with it a significant stigma.

This can be particularly problematic at work, and women often face many challenges when it comes to managing their menstruation during working hours. For example:

- Inadequate and/or unhygienic toilet facilities.
- Lack of privacy in toilet and washing facilities.
- Lack of facilities for disposing of sanitary pads or menstrual cloths.
- Lack of opportunities for MHM when traveling for work, or working far away from toilet facilities.
- Lack of access to appropriate sanitary materials.
- Increased risk of infection from not managing menstruation appropriately.
- Difficulty raising MHM issues with male managers, such as the need for additional time to access toilet facilities.
- Cultural restrictions (such as menstruating women not being able to leave the house) may have an impact on the ability to engage in work-related activities.

Despite the many challenges that exist, there are steps that can be taken at the workplace to promote MHM. Adequate MHM refers to the materials, services, and information that female workers menstruating age need to safely and effectively handle their menstruation, without shame or embarrassment. It is important to note that MHM is truly a cross-cutting WASH issue that extends beyond access to hygiene, and encompasses access to safe water and access to sanitation. Key considerations for MHM at the workplace include:

Toilets

- Provide access to separate toilet facilities that are accessible for all women, and take into account disabled female workers.
- Ensure toilets are safely located and private, including locks inside the toilet doors.

- Ensure toilets have appropriate lighting for changing menstrual materials.
- Provide facilities for the disposal of used menstrual materials. Such as a waste bin with a lid inside the toilet cabin – or an attached incinerator. If waste bins are provided then a system needs to be in place for emptying the waste bins and ensuring materials are disposed of hygienically.

Figure 3.5.1. Menstrual pad disposal bin example.

Washing facilities

- Provide access to washing facilities that are accessible for all women.
- Ensure that these washing facilities are private so that women can comfortably wash their hands, their bodies, and menstrual materials as needed.

Workplace organisation

- Have a discrete supply of menstrual materials available at work.
- Provide awareness raising sessions on MHM for female workers by a health professional.
- Include men in awareness raising, particularly male managers and supervisors, in order to increase the understanding of MHM needs, such as enough time to use sanitary facilities.
- Promote a supportive environment where female workers can manage menstruation without embarrassment or stigma.

Take away point:

Female workers represent nearly half of the global workforce. Ensuring adequate MHM at the workplace not only promotes the health and well-being of female workers, but also contributes to their increased morale and productivity, as well as addressing the harmful stigma associated with menstruation.

EMPLOYERS' ACTION MANUAL: HYGIENE

Employers are in a unique position to implement the laws and regulations developed by the competent authority in order to keep their workplaces hygienic. A hygienic workplace means a safer environment not only for workers, but also for all people present at the worksite as well as to the family members and others the workers live with after leaving work for the day. As such, the following Checkpoints for hygiene should not be seen as duties, but rather as positive action areas that can help promote collective workplace health.

These measures should be implemented in consultation with workers' representatives and/or workplace OSH committee.

Checkpoint E.3.1. Provide the necessary provisions for hand hygiene according to national laws/regulations

Why?

Proper hand hygiene is an effective way to prevent the spread of disease at the workplace. The first step to ensuring that workers are participating in personal hygiene practices is to provide handwashing facilities according to the prescribed laws/regulations. This will work to reduce the risk of worker illness, thereby enhancing worker productivity.

How?

- ☐ Refer to national laws (if available) for washbasins. These may differ by country. Practical guidelines are included below.
- ☐ Ensure handwashing facilities are in place and in compliance with local laws and regulations in your country.
- ☐ Develop and maintain transparent communication with local water authorities for the provision of safe water for washing and the disposal of wastewater.
- ☐ Refer to ILO instruments for recommendations on washbasins based on the work sector (See the corresponding table in Annex 1).

Practical guidelines for washbasins

- ▷ **Provide adequate facilities.** Washbasins should be of sufficient number based on the workplace and the number of workers. Making workers wait to wash their hands may discourage handwashing. Remember that the number of washbasins needed may be related to the work sector (See corresponding table Annex 1).

- **Provide soap or alternatives.** Soap or other approved cleaning agents should be provided in sufficient quality, and should be non-irritating. Do not provide cleaning agents that are not approved by the competent authority as they may cause harm.
- **Provide instruction.** Post signs on proper handwashing behaviour at handwashing stations, such as the WHO materials identified in Guide 1.1.
- **Provide adequate drying facilities.** Wet hands are slippery and can cause unintentional accidents. Single-use towels (paper or other material), or air-blower dryers should be provided.
- **Ensure adequate location.** Washbasins should be accessible to all workers, at all times, and at every workplace. They should be in immediate proximity to toilet facilities, as well as to other locations where hazardous exposures can occur (See the corresponding table in the Annex 1).

Handwashing in animal handling operations:

Washbasins should be provided in locations other than near toilet facilities, if the exposures may cause a health risk to workers. One example is in areas where animals are handled or are present.

- The employer should institute and enforce regular handwashing as an effective measure against many of the pathogens involved in zoonotic disease transmission.
- Water, soap, disinfectants and single use towels should be provided at places where animals that are, or are suspected of being, infected are kept.

Source: Safety and health in agriculture: an ILO code of practice. Geneva: ILO, 2010.

- **Ensure lighting.** Natural and/or artificial lighting should be provided to help workers to verify that hands are visibly clean after washing, and for safety.
- **Provide adequate time for handwashing.** Even though handwashing does not take long, workers should feel free to wash their hands comfortably and not feel pressured that they are missing work.
- **Ensure that washing facilities are not used for any other purpose.** Washbasins should not be used for the cleaning of other items due to potential contamination. Washbasins should be kept clear and should be ready to use by workers.
- **Ensure adequate means of removing wastewater**. Water that runs off of dirty hands may carry germs or other hazardous materials with it. Employers should ensure that wastewater can be removed to suitable disposal or treatment sites.

Hand hygiene in health care:

Hand hygiene in the health care setting is critical due to the exposure with human biological liquids, like blood. Blood can carry many different types of germs that can infect others that are not infected by the disease in the health care setting and/or to workers. For more information, see the ILO/WHO *HealthWISE Action Manual*. ILO: Geneva, 2014.

Source: Safety and health in agriculture: an ILO code of practice. Geneva: ILO, 2010.

Checkpoint E.3.2. Provide washing facilities according to national laws/regulations

Why?

In addition to the hands, the face and other body parts can become exposed to workplace contaminants. To protect the health of workers, employers should provide washing facilities when the type of activity or work sector requires it. The provision of washing facilities helps protect the health of workers, as well as the health of others in and around the workplace, as well as the workers' families.

How?

- ☐ Refer to the national laws/regulations for washing facilities as these may differ by country. Practical guidelines are included in the section below.
- ☐ Ensure washing facilities are in place and in compliance with local laws and regulations in your country. Ensure these include accessible designs for workers with disabilities.
- ☐ Develop and maintain transparent communication with local water authorities or private actors for the provision of safe washing water and the disposal of wastewater. If water is not potable, post notices that indicate water is not safe to drink.
- ☐ Refer to ILO instruments for recommendations on washing facilities based on the work sector in Annex 1.

Practical guidelines for washing facilities

- Provide adequate number and type, including accessible facilities. There should be enough number of washing facilities, based on the workplace and the number of workers. It is not only uncomfortable for workers to wait, but it is also dangerous for workers to wait to wash off a hazardous substance. The type of facility should allow workers to meet a standard of personal hygiene consistent with the adequate control of exposure and the need to avoid the spread of chemicals hazardous to health. See Annex 1 for guidance based on sector.
- Ensure privacy. Washing facilities must give suitable privacy and should therefore be separate for men and for women. Separate washing areas are essential for promoting respect and ensuring dignity at work.
- Provide safe running water. Contaminated water can infect people when showering by entering the eyes and mouth. Water for washing should be safe and ideally have the same quality drinking water. If it is not safe for drinking proper signs should warn that it is not safe to drink. Warm and cold running water should be provided to ensure comfort and safety of workers, and to most efficiently clean the body.
- **Provide soap.** Soap or other approved cleaning agents should be provided in sufficient quantity, and should not irritate the skin. Agents that are not approved for use, such as toxic solvents, should be restricted from washing facilities.
- Provide adequate drying facilities. Each worker should have his or her own towel for personal use to dry after showering or bathing. Towels should not be shared between workers and should be regularly laundered.
- **Ensure adequate location.** Washing facilities should be conveniently accessible to everyone at the workplace, but also situated so that the facilities do not contaminate the workplace.
- **Ensure lighting.** Natural and/or artificial lighting should be provided for comfort and safety.
- **Provide adequate time washing.** Rushed workers may feel that they do not have the time to shower, or to shower properly, thus increasing their risk for hygiene-related problems.
- **Ensure that washing facilities are not used for any other purpose.** Restrict workplace washing areas for personal washing only, not to be used for washing workplace materials. This should be strictly enforced.
- **Ensure adequate means of removing wastewater.** Runoff water from washing facilities must be safely removed from the area so that it does not contaminate potable water sources or the environment.

Checkpoint E.3.3. Provide emergency washing stations according to national laws/regulations

Why?

Emergencies can occur unexpectedly at the workplace. When it comes to accidents like chemical splashes, timing is everything.

Emergency washing facilities provide on-the-spot decontamination, thus potentially reducing the risks of adverse health effects from spills.

How?

- ☐ Conduct a workplace risk assessment to identify where accidents, especially chemical splashes, can occur.
- ☐ Design plans for the emergency washing stations based on workplace risk assessment and in accordance with national laws/regulations. Keep information on the chemical risks on site and plan in advance what measures will be taken to protect human and environmental health for each chemical used on site should accidents occur. Some practical guidelines are included below.
- ☐ Conduct regular checks of the emergency washing stations to be sure they are functioning.
- ☐ Post clear instructions on how to use emergency washing stations and train staff on when and how to use them in event of a spill or contact specific to what they have been exposed to.

Practical guidelines for emergency washing stations

- ▷ **Ensure proper number and type.** The need for emergency washing stations depends on the chemicals and work tasks. The selection of protection, whether emergency shower, face or eyewash station, or both, should match the hazard. The number and type of washing stations should also be in accordance to national laws/regulations.
- ▷ **Ensure they are strategically placed.** Harm to the body, face and eyes can happen very quickly. Install emergency showers in a place that allows for immediate decontamination in an emergency.
- ▷ **Ensure potable running water.** Water used in emergency showers should be safe. If it is non-potable, make sure that signs are posted to indicate it is not safe to drink. In some cases, other types of liquids may be used, such as saline solutions. National laws should be consulted.

Hierarchy of Controls

Engineering controls and PPE that minimize body and eye exposure to harmful chemical substances are the best ways to protect against injuries. However, engineering controls and personal eye protection are not always enough. Accidents and emergencies are often unforeseen. Thus, emergency washing equipment must be available in workplaces where there is a risk of exposure to hazardous chemical substances.

Checkpoint E.3.4. Ensure appropriate hygiene measures for work clothes and PPE

Why?

When washing off PPE, employers should consider the potential for environmental contamination due to PPE washing.

- Appropriate protocols should be followed when laundering potentially contaminated clothing to ensure that other clothing used at the worksite is not contaminated.

How?

- ☐ Refer to the national laws/regulations or manufacturer's instructions for the cleaning or disposal of work clothes and PPE after use.
  - Effluent from water used to wash contaminated clothing should be managed to avoid contamination of water sources.
  - Contaminated clothing should not be washed in open water.

Washing contaminated PPE:

Hazardous materials, even in small amounts, on work clothes and PPE can be dangerous for human health. Employers are responsible for the management of work clothes and PPE, this includes its proper management after use, whether that is laundering or disposal.

Source: Safety and health in agriculture: an ILO code of practice. Geneva: ILO, 2010

- ☐ .Develop a plan and a design for the management and cleaning of work clothes and PPE ahead of time, and review the plans with the local competent authority.
- ☐ Provide separate facilities for changing and storage areas for personal clothing to eliminate contamination. Ensure the facilities for men and women are separated.

Checkpoint E.3.5. Ensure appropriate food hygiene measures

Why?

Contaminated food can sometimes sicken workers within minutes, and may lead to large-scale disease outbreaks that may extend into the community. Employers should approach safe food as they would other aspects of OSH, keeping in mind that it may affect worker productivity.

How?

- ☐ Promote and enforce workplace rules based on the five keys for safer food.
- ☐ Display the "Five Keys for Safer Foods" poster in all food preparation areas, and in all food service facilities.
- ☐ Ensure that washbasins and other washing facilities, as necessary, are provided and maintained to ensure hand and bodily hygiene to reduce food contamination
- ☐ Forbid workers from taking home contaminated work clothes or PPE. Under no circumstances should workers be allowed to take items home to wash.
- ☐ Provide for the laundering, cleaning, and disinfecting of contaminated PPE (as necessary) before reissuing the clothing or equipment. This should be provided at no cost to the worker.
- ☐ Inform laundry services of the precautions necessary for handling contaminated clothing.
- ☐ Refer to ILO instruments for recommendations on contaminated PPE and changing facilities in Annex 1.
- ☐ Provide access to hygienic food service facilities when necessary. Ensure they are accessible to all workers, but also a safe distance away from hazardous materials or activities.
- ☐ Ensure that food service providers are trained regarding food hygiene and safety.

Checkpoint E.3.6. Ensure appropriate materials, facilities, and services are available for MHM

Why?

Female workers of menstruating age make up a significant part of the labour force worldwide. Ensuring that their menstrual hygiene needs are met through adequate toilet, washing, disposal and awareness raising considerations promotes health and well-being, while increasing morale and productivity.

How?

- ☐ Provide access to separate toilet facilities that are accessible for all women. Make sure that toilets have a lock for privacy and lighting for comfort.
- ☐ Provide hygienic means to dispose of menstrual material.
- ☐ Provide access to separate washing facilities, including washbasins and showers/other washing areas. Guarantee privacy for washing and/or drying menstrual materials.
- ☐ Have a supply of menstrual materials available at work in a discrete location.
- ☐ Provide awareness raising sessions on MHM for female workers by a health or qualified trained professional.
- ☐ Include men in MHM awareness raising, particularly male managers and supervisors, in order to increase understanding of menstrual management needs at the workplace, such as increased time for using sanitary facilities.
- ☐ Promote a supportive environment where female workers can manage menstruation without embarrassment or stigma.

Checkpoint E.3.7. Integrate information on personal hygiene into workplace training

Why?

Workers that are informed of how to properly maintain personal hygiene are likely to reduce their own risk of illness and disease and protect other workers around them.

How?

- ☐ Integrate hygiene promotion into workplace trainings. For all sectors, cover topics on:

- Importance of regular handwashing, as well as the critical handwashing times.
- Need for good personal hygiene habits, both at home and at work.
- Location of washbasins, washing facilities and laundering facilities.
- Location and correct operation of emergency washing stations.
- Requirements for food safety and hygiene, especially for food handlers and servers.
- Importance of MHM.

☐ Provide specific instruction for personal hygiene management based on workplace sector and conditions. Consult the corresponding table in Annex 1 for specific requirements.

  ☐ Training should be repeated and updated as needed. Work to provide training that both increase knowledge as well as provide opportunities to practice desired behaviours where appropriate.

  ☐ Reinforce training with messages (e.g. posters and signs) at key places at your workplace to remind workers of expectations and desired practices.

Checkpoint E.3.8. Record and report hygiene specific occurrences, incidents, diseases and accidents

Why?

Keeping track of hygiene-related events at the workplace provides important information to you as employer on how to make workplace improvements. This also allows the competent authorities to understand local and regional trends and use it for their prevention and education efforts.

How?

- ☐ Develop a transparent and reliable system for recording hygiene specific occurrences, incidents, diseases and accidents; or, integrate hygiene issues into your existing system. Examples to capture may include:
  - Malfunctioning washing facilities
  - Outbreak of hygiene related diseases
  - Improper washing or handling of contaminated PPE
  - Workers taking contaminated work clothing home
  - Workers exposed to chemical during a work place incident/accident
- ☐ Develop a transparent system for reporting events to the local authorities.
- ☐ Use these records to learn from and improve your workplace hygiene practices.

Module 3: Hygiene
Employers' Checklist

E.3.1	Are handwashing facilities provided within a reasonable distance of the work site, and do they meet the requirements of national laws or regulations?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
E.3.2	Are showering facilities provided, and do they meet the requirements of national laws or regulations?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
E.3.3a	Are emergency washing stations provided, including for workers who handle chemicals, and do they meet the requirements of national laws or regulations?	☐ Yes ☐ No
E.3.3b	Are all workers knowledgeable about potential exposure risks, including chemical risks, at your worksite? Is there on-site information that informs employers and workers what should be done in the event of an exposure? Have workers been trained on these risks and how to handle them?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
E.3.4	Are appropriate hygiene measures in place for managing, laundering or disposing of contaminated work clothes and PPE?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?

E.3.5	Are appropriate food hygiene measures in place, including before food preparation and consumption?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
E.3.6a	Are appropriate materials, facilities, and services available for menstrual hygiene management?	☐ Yes ☐ No
E.3.6b	Are staff sensitized to menstrual hygiene management and able to provide support to menstruating workers?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
E.3.7a	Do workplace trainings integrate information on hygiene-related risks and proper hygiene practices?	☐ Yes ☐ No
E.3.7b	Is information (signs and posters) placed in key locations to reinforce desired and expected hygiene practices?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
E.3.8	Is there a reliable and transparent system in place to record and report hygiene specific occurrences, incidents, diseases and accidents?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?

WORKERS' ACTION MANUAL: HYGIENE

Workers have a right to a safe and healthy workplace. With this right comes the responsibility of taking the appropriate personal actions to maintain workplace hygiene, like handwashing and reporting hygiene risks. Together with workers, workers' representatives and workers' organizations can use the Checkpoints below to enhance workplace hygiene, reduce worker illness and promote morale, welfare, and productivity at the workplace. Workplace OSH committees with equal participation of workers representatives can provide strong support to this effort.

Checkpoint W.3.1. Comply with workplace rules for using and maintaining washing facilities

Why?

Handwashing and showering are effective methods for reducing exposure to workplace germs and hazardous substances. When workers practice good personal hygiene, they not only protect their own health, but also the health of their families, fellow workers and surrounding environment and community.

How?

- ☐ Stay informed of, and follow, the specific workplace rules set out by your employer for handwashing and showering.
  - Attend trainings provided by your employer or by your representative organization.
  - Ask your supervisor for information if you are unclear about workplace hygiene rules.
  - Encourage and support young workers to develop safe hygiene habits.
- ☐ Wash hands regularly as instructed, and especially at critical moments.
  - Refer to the "before" and "after" table in the Training Guide.
- ☐ Shower or bath as necessary to reduce hygiene related problems.
- ☐ Wash your hands and body with soap and other approved agents, but never with dangerous substances.
- ☐ Use your own towel for drying and do not share it with other workers.
- ☐ Use washing facilities for the purpose for which they were designed.
- ☐ Keep washing facilities in the state that you found them in order to maintain a state of cleanliness.
- ☐ Be aware of emergency washing stations and understand when and how to use them.

Checkpoint W.3.2. Comply with workplace rules for hygienic management of work clothing and PPE

Why?

Workers are responsible for complying with the rules related to the treatment of work clothes and PPE. These items can potentially carry hazardous substances and should be handled according to the appropriate instructions to promote personal hygiene, and to also reduce take-home exposures.

How?

- ☐ Stay informed of, and follow, workplace rules on the treatment of work clothes and PPE.
- ☐ Ask your supervisor for information if you are unclear about clothing and PPE management rules.

If you change clothes and shower at work:

- ☐ Store your personal clothing separately from workplace clothing to avoid contamination, for example, in different changing facilities or in different lockers.
- ☐ Wash contaminants off your hands and body before changing back into your personal clothes.
- ☐ Leave all your work clothes and PPE at the workplace to be managed by your employer. Do not take work clothes or PPE home with you to launder!

If you do not change clothes or shower at work:

- ☐ Wear PPE that is provided to reduce exposing your personal clothes to workplace contaminants.
- ☐ Take off your work shoes before entering your home, so you don't bring potential workplace contaminants into the house.
- ☐ Change your clothes as soon as you come home, ideally before interacting with your family, especially your children.
- ☐ Wash your hands or shower as soon as you get home.
- ☐ Wash your work clothes as soon as possible, and in a different wash load from your family's clothes. This prevents contamination.

Checkpoint W.3.3. Comply with workplace rules for food hygiene

Why?

Germs and chemicals can be easily transmitted to foods while preparing, handling, serving, or eating food. Foodborne illness can make you sick and cause unnecessary missed work days and disease.

How?

- ☐ Follow the five keys to safer food.
  - Wash your hands with soap and water (or alternatives) before preparing, handling, serving, or eating food.
  - Wash or shower if needed, and keep dirty work clothes away from eating areas.
  - Separate raw from cooked foods.
  - Cook your food thoroughly to kill germs.
  - Keep your food at a safe temperature (by refrigeration), as necessary.
  - Use potable water for washing foods and cooking utensils, and for cooking.
- ☐ Eat in designated areas only. Do not eat or drink in work areas that contain contaminants.
- ☐ Comply with rules for safe and hygienic food service regulations if you work in the food services sector.

Checkpoint W.3.4. Monitor and report hygiene-related risks

Why?

Workplace conditions can change quickly and unpredictably. Staying aware of hygiene risks and risky behaviours, and reporting them when necessary, helps to maintain a consistent hygienic workplace.

How?

- ☐ Be alert to workplace conditions that are unhygienic:
  - Washing facilities that are broken, or which are not maintained.
  - Lack of soap or towels in washing facilities.
  - Contaminated clothing or PPE stored in changing facilities with clean clothes.

- Lack of services and facilities for MHM.

☐ Be alert to non-compliance by other workers. For example, workers who:
  - Do not wash hands at critical times, like before serving food.
  - Use personal washing facilities for incorrect purposes, like to wash equipment.
  - Wash contaminated PPE into local water sources.

☐ Report to a supervisor situations or behaviours that may pose a hygiene-related risk. Remember that risks can be potential (may cause a health concern in the future if not remedied); or actual (risks that are actively causing a health concern).

Menstrual hygiene management (MHM)

Female workers have the right to services and facilities at the workplace for adequate and hygienic menstruation management. Female workers should feel empowered to report situations in which their MHM needs are not being met. The Zimbabwe Congress of Trade Unions' "Dignity! Period" campaign can provide inspiration to workers' representative who seek to raise awareness.

Monitoring and reporting: A trade union and safety committee priority

Actively monitoring the workplace and informing supervisors of potentially dangerous conditions or behaviours is an obligation for workers and their representatives. Reporting dangerous situations or behaviors should not be seen as a negative action. Instead, it should be rewarded as a way to promote sanitary working conditions, thereby making the workplace safe and healthy for everyone present.

Trade unions, workers' representatives, and workplace OSH committees play an important role in monitoring and reporting OSH indicators. A study from ILO's Bureau for Workers' Activities (ACTRAV) assessed the measures and structures available at the workplace to improve OSH and working conditions. The study revealed that the presence of trade unions had a positive impact on a number of workplace OSH issues. It was found that workplace improvements were more likely if the results of monitoring of workplace exposures were given to trade union representatives.

Source: Rice, Annie and Repo, Paula (2000). Health and safety at the workplace – Trade union experiences in Central and Eastern Europe, ILO-CEET, Budapest.

Module 3: Hygiene

Workers'; Workers' Representative; and Workers' Organization Checklist

W.3.0	Is there a workplace Occupational Safety and Health committee in place, with equal representation of workers' representatives?	☐ Yes ☐ No
W.3.1	Do workers and managers comply with workplace rules on the use and maintenance of washing facilities?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
W.3.2	Do workers and managers comply with workplace rules on the use and maintenance of washing facilities?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
W.3.3a	Do workers and managers comply with workplace rules for food hygiene?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
W.3.3b	Are there appropriate materials, facilities and services available for MHM?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?
W.3.4	Is there an active monitoring and surveillance system for hygiene-related risks and behaviours by workers?	☐ Yes ☐ No
	What action do you propose? Suggestions:	☐ Priority?

ANNEX 1: INTERNATIONAL LABOUR STANDARDS AND CODES OF PRACTICE ON ACCESS TO WASH

The ILO has addressed OSH issues since its foundation in 1919, and developed its first comprehensive guidance on WASH in 1989 with a compilation of examples from Asia (ILO 1989). This Annex provides an in-depth overview of many of the international labour standards and codes of practice specific to WASH as it relates to workplace settings. It also addresses WASH standards specific to employer-provided housing and WASH in rural and urban economies and the service economy. Specific guidelines for some industries, such as mining, construction and maritime workplaces are also addressed.

A recent ILO publication explains international labour standards as follows:

> International labour standards are legal instruments drawn up by the ILO's constituents (governments, employers and workers) setting out basic principles and rights at work. They are either Conventions, which are legally binding international treaties that may be ratified by member States, or Recommendations, which serve as non-binding guidelines. In many cases, a Convention lays down the basic principles to be implemented by ratifying countries, while a related Recommendation supplements the Convention by providing more detailed guidelines on how it could be applied. Recommendations can also be autonomous, i.e not linked to any Convention.
>
> Conventions and Recommendations are drawn up by representatives of governments, employers and workers and are adopted at the ILO's annual International Labour Conference. Once a standard is adopted, member States are required under the ILO Constitution to submit them to their competent authority (normally the parliament) for consideration. In the case of Conventions, this means consideration for ratification. If it is ratified, a Convention generally comes into force for that country one year after the date of ratification. Ratifying countries commit themselves to applying the Convention in national law and practice and to reporting on its application at regular intervals.
>
> Technical assistance is provided by the ILO if necessary. In addition, representation and complaint procedures can be initiated against countries for violations of a Convention they have ratified. (ILO 2014b: 15.)

International norms and standards constitute a core foundation of United Nations work at the country level, In line with the Goals and targets established in the 2030 Agenda for Sustainable Development related to decent work. Governments have a unique role and are the driving force to ensure that an integrated, people-centred approach incorporates human rights and gender equality as critical components to ensuring decent work.

The ILO's OSH Conventions contain provisions for access to safe drinking water, sanitation and hygiene. One of the first considerations for workers' access to

adequate supplies of safe drinking water is in the Welfare Facilities Recommendation, 1956 (No. 102), which specifies guidelines for the establishment of canteens, mess rooms and other food and rest-related facilities. The facilities so provided should include at least "an adequate supply of wholesome drinking water." Several sectoral Conventions adopted this phrase as a minimum requirement of adequate welfare and accommodation facilities, although they differ regarding the quality and location of water supply, underscoring the importance of easy access and reflecting the diversity of economic sectors.

In 1958, the Plantations Recommendation, 1958 (No. 110) addressed working conditions for agricultural workers in commercial settings. It includes the provision of "welfare facilities" and compel employers to take appropriate measures to prevent accidents and occupational diseases". Adopted in 1964, the Recommendation on Hygiene (Commerce and Offices), 1964 (no. 120) covers a broad range of work place institutions and administrative services including hotels, restaurants and recreational services. It addresses WASH specific to hygiene of facilities, drinking water, workplace washing facilities, sanitation, and other work place environmental conditions. It also covers instruction on hygiene to workers and encouragement that competent authorities take on studies to understand the measures needed to ensure hygiene of workers at work. All of these measures should adjust to national laws or regulations.

The ILO's Occupational Safety and Health Convention, 1981 (No. 155) defines the term health, in relation to work, as "not merely the absence of disease or infirmity; it also includes the physical and mental elements affecting health which are directly related to safety and hygiene at work." This definition is critical to provisions for the access to safe water, sanitation and hygiene, particularly due to the lack of clear distinction between working and living environment for workers in certain sectors, such as mining or agriculture.

The accompanying Recommendation (No. 164) provides more precise suggestions for sanitary facilities and the provision of drinking water. "As appropriate for different branches of economic activity and different types of work and taking into account the principle of giving priority to eliminating hazards at their source, measures should be taken", among them "sanitary installations, washing facilities, facilities for changing and storing clothes, supply of drinking water, and any other welfare facilities connected with occupational safety and health."

The Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187) provides a general duty of member States to "promote continuous improvement of occupational safety and health to prevent occupational injuries, diseases and deaths, by the development, in consultation with the most representative organizations of employers and workers, of a national policy, national system and national programme." Recommendation No. 197, which supplements it, advises member states to "take into account the instruments of the ILO relevant to the promotional framework for occupational safety and health, listed in the Annex to this Recommendation," when formulating and reviewing the national programme.

The Occupational Health Services Recommendation, 1985 (No. 171), which supplements the Occupational Health Services Convention, 1981 (No. 161), mandates occupational health services to "supervise sanitary installations and other facilities for the workers, such as drinking water, canteens and living accommodation, when provided by the employer" (Paragraph 8(b)). The Right to Organise and Collective Bargaining Convention, 1949 (No. 98), in turn, promotes the use of negotiation machinery to establish working conditions.

The drafting committee of the Occupational Safety and Health Convention, 1981 (No. 155) agreed that it would be necessary to include rights and duties of workers concerning the prevention and control of occupational hazards. For that reason, the Convention mandates arrangements for workers to cooperate in the fulfilment of the obligations placed on the employer. The corresponding Recommendation (No.

164) provides guidance aimed at ensuring that workers take care of their own safety and that of others, comply with instructions and procedures, use safety devices and protective equipment correctly, and report hazardous situations and accidents or injury to health.

A number of Conventions and Recommendations contain specific provisions to protect populations. For example, the Safety and Health in Mines Recommendation, 1995 (No. 183), states: "Due regard should be given to the possible impact of mining activity on the surrounding environment and on the safety of the public. In particular, this should include the control of subsidence, vibration, fly-rock, harmful contaminants in the water, air or soil, the safe and effective management of waste tips and the rehabilitation of mine sites."

Besides these instruments, the ILO has adopted many Codes of Practice, drafted by experts nominated by member States and by worker and employer organizations. The following are relevant to this handbook:

1. Safety and health in the construction of fixed offshore installations in the petroleum industry (1981)
2. Safety in the use of asbestos (1984)
3. Safety and health in coal mines (1986)
4. Radiation protection of workers (ionizing radiations) (1987)
5. Prevention of major industrial accidents (1991)
6. Safety and health in opencast mines (1991)
7. Safety and health in construction (1992)
8. Safety in the use of chemicals at work (1993)
9. ILO code of practice for Recording and notification of occupational accidents and diseases (1995)
10. Ambient factors in the workplace (2001)

11. Safety in the use of synthetic vitreous fibre insulation wools (2001)
12. ILO code of practice on HIV/AIDS and the world of work (2001)
13. Safety and health in the non-ferrous metals industries (2003)
14. Safety and Health in Ports (Revised 2016)
15. Safety and health in the iron and steel industry (2005)
16. Safety and health in underground coalmines (2006)
17. Safety and health in Agriculture (2011)
18. Guidelines on flag State inspection of working and living conditions on board fishing vessels
19. Guidelines on decent work in public emergency services (2018)
20. Safety and health in shipbuilding and ship repair (Revised Edition) (2018)
21. Safety and health in opencast mines (2018)
22. Safety and health in textiles, clothing, leather and footwear

These Codes provide guidance to apply the corresponding Conventions and Recommendations, particularly in regards to maintaining the health of workers, and preventing – as far as is reasonably possible –water and sanitation-related diseases for all those engaged in each sector or working with hazardous substances. For example, the Code of Practice on Safety and Health in Agriculture suggests that OSH policies should include arrangements to communicate with the authorities responsible for the provision of water. The code of practice on ambient factors in the workplace (2001) also holds employers responsible for the safety and health of workers, and urges that workers participate in decisions on occupational safety and health. They include practical recommendations for those responsible for occupational safety and health in each area of activity.

Numerous member States in all regions have followed these recommendations, including WASH provisions in their constitutions, laws and regulations, and many collective agreements contain text that addresses WASH-related issues. In addition, the South American Common Market (Mercosur) Council proclaimed in 2001 the workers' right to water supply, PPEs and bathrooms in the workplace. (ILO 2006-2012)

This module will discuss the relevant Conventions listed in the Annex of Recommendation No. 197, which seek to improve working conditions in specific economic sectors and contains provisions to handle hazardous materials. The titled sub- sections that follow describe specific sectors, and make the case as to why WASH is an issue of importance for workers working in them. The table at the end of this module summarizes the relevant provisions of the instruments cited.

WASH in the rural economy

Equitable, reliable and universal access to water and sanitation remains elusive in many rural areas. Limited access to safe water is the cause of a long list of water-related diseases that hamper the productivity of community members (ILO 2015d). Legislation in many countries requires employers to provide basic amenities, including drinking water and sanitation facilities, to agricultural workers. In some countries, they should be provided to members of workers' families (ILO 2000a). As a result, Article 19 of Convention No. 184 establishes that "National laws and regulations or the competent authority shall prescribe, after consultation with the representative organizations of employers and workers concerned:

a) the provision of adequate welfare facilities at no cost to the worker; and
b) the minimum accommodation standards for workers who are required by the nature of the work to live temporarily or permanently in the undertaking.

The ILO's Portfolio of policy guidance notes (2015) illustrates the ILO's holistic approach to promoting decent work in the rural economy and brings together the broad range of instruments and tools developed over the years. The goal of the policy guidance notes is to offer guidance to policymakers, the social partners and

other key stakeholders on the development of rural policies, strategies and programmes that effectively address and prioritize employment and labour related issues.

Heat stress and dehydration in agriculture

Agricultural workers are exposed to various weather and environmental factors, such as high heat and humidity, which may increase their risk for adverse health effects. That is why the ILO's Rural Economy Initiative in Mali and Niger seeks to improve access to water, targeting small-scale farmers and producers.

Heat stress, heat stroke, heat exhaustion, fainting, heat cramps and heat rash may occur if appropriate welfare activities, rest areas and drinking water are not provided. The combined heat stress, physical exertion, and recurrent dehydration seem the most plausible origins of the chronic kidney disease (CKD) etiology. A CKD epidemic in Central America (Mesoamerican nephropathy) has killed over 20,000 people since 1990. Outdoor workers, in particularly sugarcane cutters, are the most affected (Laws *et al*., 2016; Roncal-Jimenez *et al*., 2016a; Roncal-Jimenez *et al*., 2016b; Wesseling *et al*., 2016). Proper rehydration with water and other interventions may reduce heat stress and reduce ergonomic hazards (Clark *et al*., 2016). Soft drink beverages can worsen dehydration-associated kidney injuries (Garcia- Arroyo *et al*., 2016).

In El Salvador, a mixed-method intervention study introduced continuous and hands-free hydration, mobile shaded rest areas, scheduled rest periods, ergonomically improved machetes, and efficiency strategies for sixty sugarcane cutters, aimed to reduce heat stress and dehydration without decreasing productivity (Bodin *et al.* 2016). While daily production increased by 43 per cent, more than other cutting groups, water consumption among workers increased only 25 per cent and symptoms decreased. The ILO recommends that immediate improvements should be agreed on through group work, including welfare facilities (WASH among them) and work organization (ILO 2014a).

An ILO survey among Thailand-based fishers led to a similar conclusion, since over 10 per cent of fishers surveyed did not have adequate access to food and water rations, making health maintenance difficult. The ILO recommended that the Thai Government and social partners collaborate to improve the design of fishing boats to address concerns related to OSH accommodation and sanitation. (ILO 2013)

Safety management in agriculture

WASH is an integral part of pesticide safety management. Failure to wash skin and clothing after working with pesticides increases the potential for pesticide penetration through the skin. The discussion towards the adoption of the Convention on safety and health in agriculture highlighted individual cases and epidemics caused by pesticide poisoning outside work. These were attributed to the contamination of foodstuffs, residues of pesticides in food, the presence of pesticides in water or food due to misuse of containers, and contamination of ground water with chemical wastes. The Drafting Committee noted that a lack of hygienic facilities during meals taken in the fields might result in the contamination of food by pesticide-contaminated hands and clothes.

Animal-borne diseases are often transmitted by contaminated water and other biological agents closely related to working conditions in agriculture. The European Union took this into consideration when including agriculture in its Directive on the protection of workers from risks related to exposure to biological agents at work (2000/54/ EC). For example, unsanitary water supplies and inadequate sewage disposal contribute to freshwater bilharzia contamination, which may affect workers in the course of irrigation or while working in rice paddies.

Worker Housing

Often, there are no sharp distinctions between living and working conditions in agriculture. There is a close link between housing for agricultural workers, worker well-being and productivity: good access to water is one of the key components of sustainable agriculture (ILO, FAO and the IUF 2007). Migrant farmworkers overwhelmingly reside in poor housing conditions, exposing them to crowding, lack of privacy, toilet facilities that are not gender specific, and shared kitchens and food storage facilities. (Arcury *et al.*, 2015).

Housing improvements for plantation workers like drinking water supply and sanitation can improve welfare, reduce water-borne diseases and in turn improve worker productivity. ILO field research revealed that plantations in Indonesia, Sri Lanka and Ghana provide most accommodation to permanent workers. Increasingly employers are relying on casual workers in non-standard forms of employment, such as temporary or seasonal workers. These workers also have fewer entitlements, protections and poorer working and living conditions. (ILO 2015a) For that reason, article 86 of the Plantations Convention, 1958 (No.110) requires the establishment of minimum standards for plantation housing that cover water supply and sanitary facilities.

The "Action-oriented research on gender equality and the working and living conditions of garment factory workers in Cambodia" (ILO 2012) recommended that governments consult worker and employer organizations, women's organizations, and national organizations, and that they develop programmes and partnerships to identify opportunities for improving the access to water and sanitation of rural migrant garment industry workers.

WASH in mining

Dehydration is a known health risk for miners in tropical regions of Australia and even in more temperate regions (Polkinghorne *et al.*, 2013). Also, certain occupational diseases for miners, such as ankylostomiases (hookworm) may be the result of contaminated water, insufficient monitoring of the workers' health, exposure to workplace contaminants, inadequate national standards or the inability of the competent authority to enforce regulations (ILO 1994a). Migrant or transient miners may be forced to live in camps or housing that are exposed to toxic mine effluents and may be without clean drinking water, basic sanitary facilities and sewage installations, or adequate food supplies and medical facilities.

When elaborating the Convention and Recommendation on safety and health in mining, the ILO identified sanitary working conditions as a means to maintain

appropriate OSH practice, noting that miners experienced continued heavy loss of life due to problems of OSH associated with the hazardous working environment. The report specifically made reference to the importance of sanitary working conditions to maintain appropriate OSH practice.

Table 1. Relevant provisions of the ILO instruments for agriculture and mining

A. Agriculture
1.Water
Plantations Convention, No. 110: "The recruiter or employer shall furnish recruited workers with everything necessary for their welfare during the journey to the place of employment, including particularly, as local circumstances may require, adequate and suitable supplies of food, drinking water, fuel and cooking utensils, clothing and blankets." "The appropriate authorities shall, in consultation with the representatives of the employers' and workers' organisations concerned, where such exist, encourage the provision of adequate housing accommodation for plantation workers. The minimum standards and specifications of the accommodation to be provided (…) shall be laid down by the appropriate public authority. Such minimum standards shall include specifications concerning veranda space, cooking, washing, storage, water supply and sanitary facilities." **Code of Practice, Agriculture:** ☐ *Employers* should provide water: ▸ Placed in locations readily accessible to workers. ▸ In sufficient amounts to meet the needs of all workers. ▸ Taking into account the air temperature, humidity and the nature of the work performed. ▸ For physical work in hot climates, one litre or more per hour per worker may be required. ▸ Mobile drinking water dispensers that are closed and equipped with a tap, and makes the point that open water containers should not be used due to the risk of contamination. ▸ The location of potable water should be announced. ▸ Non-potable water should be marked to indicate it is unsafe. ▸ No alcoholic beverages and other performance-enhancing products on the worksite. ☐ *Workers* should not eat or drink in places that may be hazardous.
2. Sanitation
Plantations Convention, No. 110: "When recruited workers have to make long journeys on foot to the place of employment the competent authority shall take all necessary measures to ensure that, where the extent of the movement of labour makes this necessary, rest camps or rest houses are provided at suitable points on main routes and are kept in proper sanitary condition and have the necessary facilities for medical attention." "Minimum standards and specifications of accommodation to be provided to plantation workers shall include specifications concerning sanitary facilities." **Code of Practice, Agriculture:** *Employers* should provide workers with reasonable time to use sanitary toilets, which should be: ▸ In sufficient quantity and easily accessible.

- Separate for men and women to ensure privacy and locked from the inside, or separate use thereof.
- Maintained in good hygienic conditions and supplied with sanitary paper.

3. Hygiene

Plantations Convention, No. 110: Each Member for which Part II of the Convention "Engagement and recruitment of migrant workers" is in force undertakes to maintain, within its jurisdiction, appropriate medical services responsible for ensuring that migrants for employment on a plantation and members of their families enjoy adequate medical attention and good hygienic conditions at the time of departure, during the journey and on arrival in the territory of destination.

Safety and Health in Agriculture Convention, No. 184: "National laws and regulations shall ensure that risks such as those of infection, allergy or poisoning are prevented or kept to a minimum when biological agents are handled, and activities involving animals, livestock and stabling areas, comply with national or other recognized health and safety standards."

Recommendation No. 192: Employers should take "preventive and protective measures for the use of chemicals and handling of chemical waste at the level of the undertaking."

These measures shall cover, among others:

- the preparation, handling, application, storage and transportation of chemicals;
- agricultural activities leading to the dispersion of chemicals;
- the maintenance, repair and cleaning of equipment and containers for chemicals; and
- the disposal of empty containers and the treatment and disposal of chemical waste and obsolete chemicals.

Measures for the handling of biological agents giving rise to risks of infection, allergy or poisoning, and for the handling of animals should comprise the following:

- Provision of disinfectants and washing facilities, and the maintenance and cleaning of personal protective equipment and clothing;
- Safety measures for the handling, collection, storage and disposal of manure and waste;
- Safety measures for the handling and disposal of carcasses of infected animals, including the cleaning and disinfection of contaminated premises.

To ensure proper decontamination, employers should:

- Provide suitable and sufficient PPE, having regard to the type of work and risks, and in consultation with workers and their representatives.
- Ensure that workers remove PPE and protective clothing before leaving the workplace.
- Provide facilities to store or wash PPE or work clothing at no cost to the worker
- Clean and maintain respirators to ensure they work properly

Code of Practice (2011):

Employers should inform workers of the importance of good hygiene practices to minimize communicable diseases, retention of urine and chemical residues. Workers should receive training on, among others

- Cleaning and protecting open wounds,

- Appropriate food handling and preparation techniques,
- The use of PPE

Washing facilities should be:

- accessible and related to the nature and degree of exposure including
- Hot and cold or warm running water,
- Soap or other national law and regulations.
- Hand-washing facilities with an adequate supply of potable water, ideally warm, soap, and single-use towels or air blowers should be conveniently located near the toilets

Food preparation and consumption:

- Hygienic eating facilities
- The persons in charge of food services should be skilled in sanitation and food handling, should be licensed by a competent authority, and should be inspected regularly
- Food should be prepared, handled and stored in hygienic conditions, and when dispensed, should be free from spoilage and contamination
- Food service facilities should be located at a safe distance from areas where hazardous materials are stored or used
- Potable water should also be provided for washing of food and cooking utensils.

Employers should establish control strategies against exposure to agrochemicals:

- Engineering and administrative controls which outline appropriate sanitation practices for PPE;
- Sanitary facilities and conveniences for workplace and worker hygiene; and
- Reducing the potential for contamination of water sources and the general environment.
- Laundering, cleaning, disinfection and examination of chemical protective clothing or equipment that has been used and may be contaminated by chemicals hazardous to health.
- Protocols to ensure that other clothing used at the worksite is not contaminated.
- Effluent from water used to wash contaminated clothing should be managed to avoid contamination of water sources.
- Sewage disposal system should not endanger the health of workers or threaten contamination of water sources.

Employers should seek to reduce risks of pesticide contamination and exposure:

- Adequate washing facilities related to the nature and degree of exposure and the toxicity of the chemicals, to enable workers to meet a standard of personal to avoid the spread of hazardous chemicals.
- Such facilities should be conveniently accessible but situated so that they do not themselves become contaminated.
- Showers, face and eye washing facilities and safety showers with clean potable water for workers contaminated by chemical splash.

Employers should seek to eliminate zoonotic diseases, by providing:

- Safe water supplies for people and for animals,
- Means to properly dispose of human and animal waste,
- Work environment and labour camp sanitation, and

- Enforcement of regular hand washing.

To eliminate hazardous vectors of disease, employers should:

- Improve drainage of building areas;
- Cover the top of rainwater catchment basins;
- Ensure that irrigation systems are designed and operated to discourage the propagation of snails, among others
- Provide toilets that "discourage workers from defecating or urinating in open water"

B. Mining

1.Water

Recommendation No. 183:

- All miners should ave access to water at no cost, above and below the surface of the mine as needed.
- Self-contained chambers to provide refuge for workers in the event of an emergency should include fresh water and food supplies.

Codes of practice on safety and health in the iron and steel industry (2005), in underground coalmines, and in non-ferrous metal industries (2003):

- Employers should provide water that is readily accessible to all workers, sufficient for hydration maintenance, with the proper electrolytes, where appropriate.
- The Code of Practice for OSH in non-ferrous metal industries does not propose adding electrolytes.

2. Sanitation

Convention No. 176: National laws and regulations shall specify, "where appropriate, an obligation to supply sufficient sanitary conveniences and facilities to wash, change and eat, and to maintain them in hygienic condition," and designate the competent authority to "monitor and regulate the various aspects of safety and health in mines".

Recommendation No. 183: Employers "should, where appropriate, provide and maintain at no cost to the worker…sufficient and suitable toilets, showers, wash-basins and changing facilities which are, where appropriate, gender-specific" (Paragraph 25(a)).

Codes of practice on safety and health (1) in coalmines (may also be applied to other types of mine), (2) **in underground coalmines,** and (3) **in opencast mines:**

- Mine operators should provide adequate toilet facilities above and below ground, for both men and women as is necessary, at each mine.
- Managers are responsible for maintaining these facilities in a clean and sanitary condition.

3. Hygiene

Convention No. 176: National laws and regulations shall specify, "where appropriate, an obligation to supply sufficient sanitary conveniences and facilities to wash, change and eat, and to maintain them in hygienic condition."

Recommendation No.183

Where appropriate, employers should provide and maintain at no cost to the worker:

- Suitable protective equipment, clothing as necessary and other facilities defined by national laws or regulations, if adequate protection against risk of accident or injury to health including exposure to

adverse conditions cannot be ensured by other means, for example self-contained rescue chambers and emergency showers and eye wash stations.

- Adequate facilities for the storage, laundering and drying of clothes and adequate and hygienic facilities for taking meals.

Codes of practice on safety and health (1) in underground coalmines and (2) in the iron and steel industries

Employers should provide adequate washing facilities that are:

- conveniently accessible but protected from workplace contamination.
- suitable to the nature and degree of exposure. These should include:
  - Hot and cold or warm running water
  - Soap or other cleaning materials
  - Towels or other appropriate drying arrangements.

WASH in the urban economy

Workers in the urban economy may face risks for hazardous exposures, particularly due to contamination of water and lack of adequate hygiene facilities. Urban workers may suffer from a lack of access to safe water and sanitation, and this factor is a major environmental contributor to ill health in urban areas, leading to cholera, diarrhoeal diseases and other waterborne diseases. Moreover, lack of WASH provisions for urban workers may result in diseases that have a significant toll on productivity at work, number of workdays lost, as well as premature death. Specific findings of urban worker populations found that street traders reported health problems related to lack of access to personal hygiene including lack of access to toilets (ILO 2003).

Environmental protection, public health, OSH and productivity are clearly important determinants of poverty reduction in urban areas (ILO 2004, Cities at work). For example, interventions to promote change in WASH access among informal workers in Tanzania have included organizing informal workplace clusters to have safe drinking water points and hygienic sanitary facilities, and to increase efficiency in waste collection (ILO 1996).

The non-stationary nature of construction involves constant changes in working and living conditions. Working outside, which means working in bad weather, in cold and heat, damp and wet, was also considered a specific aspect (ILO 1987).

After major complaints that industrial solvents made workers sick, Nike pressed for changes at Tae Kwang Vina, a Korean-owned garment company established in 1995 that provides around 900,000 pairs of sports shoes per month to Nike. The company decided to offer well-balanced meals to its 14,500 workers (85 per cent female) with consideration given to proper hygiene as well as to workers' opinions. (Wanjek 2005).

Table 2. Relevant provisions of the ILO instruments for the construction and the iron and steel industries

A. Construction

1.Water

Convention No. 167: Wholesome drinking water should be provided "at or within reasonable access" of every construction site.

Code of Practice:

Governments (competent authorities) should ensure that the necessary steps are taken to make any water to be used for drinking fit for human consumption, where approved water is not available. If it has to be transported to the worksite, the transport arrangements should be approved by the competent authority.

Employers should ensure that:

- Drinking water for common use is stored in closed containers from which the water should be dispensed through taps or cocks.
- The transport tanks, storage tanks and dispensing container are designed, used, cleaned and disinfected at suitable intervals in a manner approved by the competent authority.
- Water that is unfit to drink should be conspicuously indicated by notices prohibiting workers from drinking it.

A supply of drinking water should never be connected to a supply of water that is unfit to drink.

2. Sanitation

Convention No. 167: Employers should provide separate sanitary and washing facilities, for men and women workers.

Code of Practice:

- The scale of provision of toilet or sanitary facilities, and the construction and installation of water flush toilets, privies, chemical closets, plumbing or other toilet fixtures should comply with the requirements of the competent authority.
- No toilet other than a water flush toilet should be installed in any building containing sleeping, eating or other living accommodation and should be adequately ventilated and not open directly into occupied rooms.

3. Hygiene

Code of Practice:

- Adequate washing facilities should be provided as near as practicable to toilet facilities.
- Washing facilities should not be used for any other purpose, kept clean and maintained.
- If workers are exposed to skin contamination, there should be a sufficient number of appropriate washing facilities.

B. Iron and steel industry (Code of Practice)

1. Hygiene

The drafters adopted the following provisions contained in the Code of Practice for Safety in the use of chemicals at work:

- Employers should prohibit eating, chewing, drinking or smoking in work areas in which adequate control of exposure to chemicals hazardous to health can

only be achieved by wearing PPE, and in any other area where such chemicals are likely to be present.

- Workers should not eat, chew, drink or smoke in a work area which requires PPE.

Suitable facilities should be set aside for these activities in an uncontaminated area, conveniently accessible to the work area.

WASH in the service economy

The ILO adopted its first standards on WASH for commerce and office workers in 1963, drawing upon the experience acquired with respect to industrial problems. Although measures to provide a safe and hygienic working environment for shop and office employees had made considerable progress in the twentieth century, there was a tendency to take environmental conditions in shops and offices for granted and such measures had not been as widely embodied in legal regulations as in industrial workplaces. For example, building codes did not always take into account the needs of the workers who would occupy them. (ILO 1963, ILO 1951). Please also refer to the 1964 Recommendation on Hygiene (Commerce and Offices), 1964 (no. 120) discussed on page one of this Annex.

Sixty-three years later, the participants of the Tripartite Sectoral Meeting on Safety and Health in the Road Transport Sector (ILO 2015b) underscored the severe impact of long-haul travel and lack of adequate bathroom access for road transport workers, and issued an urgent call for improving sanitation for these workers:

> The lack of bathroom facilities can have negative consequences for all transport workers, particularly women. Ensuring sufficient facilities should be an integral part of the development and updating of road systems.
>
> Tripartite constituents [governments and workers' and employers' organizations] should . . . actively engage in workplace health promotion activities to support healthy behaviour in the workplace, to provide adequate access to sanitary facilities, to improve health outcomes and to prevent occupational health conditions (diseases).

Finally, the Labour Relations (Public Service) Convention, 1978 (No. 151) promotes the use of active consultations and negotiations in the establishment of working conditions, which the parties have used effectively to provide welfare facilities to public servants. In addition, the Guidelines on decent work in the Public Emergency Services (2018) added that, "[g]iven that PES often involve long working hours and exposure to different work environments, welfare facilities such as water, sanitation and hygiene should be made easily available to Public Emergency Services workers."

Table 3. Relevant provisions of the ILO Hygiene (Commerce and Offices) Convention and Recommendation

1.Water

Employers should provide a supply of wholesome drinking water, or "some other wholesome drink":

- Convention: Preferably running drinking water.
- Recommendation: If delivered through containers, these should be:
  - clean,
  - tightly closed,
  - fitted with a tap where appropriate,
  - clearly marked with the nature of the contents,

- in enough quantity, and
- provided by an officially approved source, or referred for approval by health authorities.

- A sufficient number of drinking vessels should be provided and there should be facilities for washing them with clean water.

2. Sanitation

Convention: Sufficient and suitable sanitary conveniences shall be provided and properly maintained.

Recommendation:

- Sanitary conveniences should be so partitioned as to ensure sufficient privacy.
- As far as possible, they should have flushing systems and traps and toilet paper or some other hygienic means of cleaning.
- Appropriately designed receptacles with lids or other suitable disposal units such as incinerators should be provided in sanitary conveniences for women.
- As far as possible, conveniently accessible washstands in sufficient number should be provided near conveniences.
- Separate sanitary conveniences should be provided for men and women, except, with the approval of the competent authority, in establishments where not more than five persons or only members of the employer's family are employed.
- The number of toilets and urinals for men, and of toilets for women, should be fixed by the competent authority having regard to the number of workers.
- Sanitary conveniences should be adequately ventilated and so located as to prevent nuisances. They should not communicate directly with workplaces, rest rooms or canteens, but should be separated therefrom by an antechamber or by an open space. Approaches to outdoor conveniences should be roofed.

3. Hygiene

Convention: Employers should ensure that:

- Cups should not be shared by a number of workers.
- Any distribution of water not fit for drinking should be so labelled at the points where it can be drawn off.
- There is no inter-connection, open or potential, between drinking water systems and systems of water not fit for drinking.
- Sufficient and suitable washing facilities are provided and properly maintained.

Recommendation:

- All places in which work is carried on, or through which workers may have to pass, or which contain sanitary or other facilities provided for the common use of workers, and the equipment of such places, should be properly maintained.
- Cleaning should be carried out by means raising the minimum amount of dust, and outside working hours, except in particular circumstances or where cleaning during working hours can be effected without disadvantage for the workers.
- Cloakrooms, lavatories, washstands and, if necessary, other facilities for the common use of workers should be regularly cleaned and periodically disinfected.
- All refuse and waste likely to give off obnoxious, toxic or harmful substances, or be a source of infection, should be made harmless, removed or isolated as quickly as possible, in accordance with standards approved by the competent authority.
- Sufficient receptacles for such refuse and waste should be provided in suitable

places.

- Sufficient and suitable washing facilities should be provided for the use of workers in suitable places and should be properly maintained.
  - These facilities should, as much as possible, include washstands, with soap, hot water if necessary, and, where the nature of the work so requires, showers with hot water.
  - Appropriate products (such as detergents, special cleansing creams or powders) should be made available to workers if the nature of the work requires it, and the use of harmful products for personal hygiene should be forbidden.
  - Suitable means for workers to dry themselves, preferably individual towels, should be made available to workers. Towels for common use which do not provide a fresh clean portion for each use should be forbidden.
  - Water provided for washstands and showers should not present any health risks; if it is not fit for drinking, this should be clearly indicated.
- Separate washing facilities should be provided for men and women, except in very small establishments where common facilities may be provided with the approval of the competent authority.
- The number of washstands and showers should be fixed by the competent authority having regard to the number of workers and the nature of their work.
- Suitable facilities, such as hangers and cupboards, for changing, leaving and drying clothing which is not worn at work should be provided and properly maintained.
- Where the number of workers and the nature of their work so require, changing rooms should be provided.
- Changing rooms should contain--
  - properly ventilated personal cupboards or other suitable receptacles of sufficient dimensions, which can be locked;
  - a sufficient number of seats.
- Separate compartments for street clothes and working attire should be provided whenever workers are engaged in operations necessitating the wearing of working attire which may be contaminated, heavily soiled, stained or impregnated.
- There should be separate changing rooms for men and women.

WASH in maritime and offshore activities

Access to potable water for workers on ships and other vessels is especially important to protect from infectious disease transmission. Due to their distance from shore and water supply services, workers on ships may be exposed to microbial risks associated with water contaminated with human and animal excreta. Chemical contamination is also a concern due to contaminated bulk water being brought aboard in port, cross-connections on board or improper on-board treatment. Employers should ensure that only potable water is used for drinking and that it is properly maintained to reduce on-board sickness. In addition, staff responsible for working with the potable water system should be properly trained.

Structural changes in the maritime industries have reduced opportunities for seafarers to go ashore, prompting the ILO's constituents to call for welfare facilities and services for seafarers (ILO 2001b). In 2006, many Conventions related to these industries were consolidated, and the resulting Convention included detailed Guidelines which address WASH. Additionally, shipbreaking, which concerns the dismantling of ships, and the sale or disposal of its components (95% of which is carried out in Turkey and four Asian countries), and the construction of fixed offshore installations in the petroleum industry have deserved attention because of their isolation.

Table 4. Relevant provisions for maritime and offshore activities

A. Maritime Labour Convention (Guidelines)

1.Water

- Laws and regulations or other measures should provide minimum standards for the quantity and quality of food and drinking water, and shall undertake educational activities to promote awareness and implementation of the standards.
- Flag states shall take into account the amount of seafarers on board and the duration of the trip.
- Employers should ensure that seafarers have access to enough good quality drinking water to cover the requirements of the ship adequately, provided under regulated hygienic conditions.

2. Sanitation

Sanitary facilities should guarantee cleanliness, safety, and privacy, including:

- Size and construction of toilets;
- Additional requirements for sanitary accommodation intended for the use of more than one person;
- Separate sanitary facilities for men and for women;
- A minimum of one toilet, conveniently located, for every six persons or less who do not have personal facilities;
- In infirmaries, or "hospital accommodation," sanitary facilities should be used exclusively by the occupants of the hospital accommodation, either as part of the accommodation or in close proximity.

Exceptions may be granted by the competent authority or through consultation with shipowners' and seafarers' organizations concerned.

3. Hygiene

- Minimum elements included in all laundry facilities;
- Minimum size and construction of washbasins and tub baths;
- A minimum of one wash basin and one tub or shower or both, conveniently located, for every six persons or less who do not have personal facilities;
- A washbasin with hot and cold running fresh water, except where there is such a washbasin in the private bathroom provided.

The competent authority may grant exceptions on its own or through consultation with shipowners' and seafarers' organizations concerned.

B. Shipbreaking (Guidelines on safety and health in shipbreaking for Asian countries and Turkey, 2004)

1.Water

- Wholesome drinking water should be provided "at or within reasonable access" of every shipbreaking facility.
- "Water that is unfit to drink should be conspicuously indicated by notices prohibiting workers from drinking it."

2. Sanitation

Employers should provide sanitary facilities at or within reasonable access of every shipbreaking location or premises, which:

- Comply with the requirements of the competent authority regarding their scale, installation and construction, and
- Are conveniently accessible but situated so as to prevent their exposure to contamination from the workplace.

3. Hygiene

- Workers should be able to meet a standard of personal hygiene consistent with the adequate control of exposure and the need to avoid the spread of materials hazardous to health.
- Employers should provide:
  - washing facilities or showers at or within reasonable access of every shipbreaking location or premises, which comply with the requirements of the competent authority regarding their scale, installation and construction.
  - shelters with facilities for washing, taking meals and for drying and storing clothing.
- Transport tanks, storage tanks and dispensing containers should be designed, used, cleaned and disinfected at suitable intervals in a manner approved by the competent authority.
- No eating, chewing, drinking or smoking should be allowed in work areas in which adequate control of exposure can only be achieved by workers wearing PPE to prevent exposure to materials hazardous to health, and in any other area where such materials are likely to be present. In these cases, suitable facilities should be set aside in an uncontaminated area to carry out these activities. These facilities should be conveniently accessible from the work area.

C. Dock work

1. Water

Code of Practice (Ports)

The Employer should provide an adequate supply of cool and wholesome drinking water, and enough water outlets readily accessible to all, supplied by a source approved by the competent health authority.

- Employers should protect drinking water outlets from damage and dirt, and clearly identified as such. The non-potable water should be identified as such.
- Where practical, employers should provide hygienic drinking fountains, and should prohibit the use of common drinking cups.
- If not possible to provide a piped supply of drinking water, employers should provide drinking water in sealed bottles or in suitable closed containers clearly marked “Drinking water”, properly maintained and replenished as necessary.
- Drinking water should not be contained in barrels, pails, tanks or other containers from which the water has to be dipped, whether they are fitted with covers or not.

2. Sanitation

Convention No. 152:

The Employer should provide sanitary and washing facilities at each dock that are:

- sufficient and adequate, suitable and properly maintained
- within a reasonable distance of the workplace, wherever practicable, and
- in accordance with national laws or regulations or national practice.

Code of Practice (Ports, 2016):

- Suitable and sufficient toilet facilities should be provided and made accessible for the use of all portworkers and appropriate arrangements should be made for transport drivers, Safety and health in ports visitors and other persons, and should be available at any time during working hours.
- All toilet facilities should comply with national health and hygiene requirements and be fitted out in accordance with local custom.
- Toilet facilities should be located at regular intervals, as far as is practicable,

throughout the port area, although they may be located near to sheds or other buildings so as not to cause obstructions on quay areas.

- At least one toilet should be available for portworkers near the ship, where practicable. Ships' facilities may be used by prior arrangement with the ship's master and if they are in compliance with paragraph 1 above; if not, a portable facility should be provided.
- Toilets and urinals should be of the water-flush type, wherever possible. 8. Floating cranes, grain elevators, bunker machines and similar installations on which or by means of which port work is carried out should be provided with at least one toilet.
- The number of toilets provided should be based on the maximum number of persons expected to work in an area. As a general rule, a set of toilet facilities should be provided for each berth or at least every two berths. Each set should comprise a toilet for every 25 or 30 workers, supplemented by an adequate number of urinals.
- Separate toilet facilities for each sex should be provided unless the toilet facilities can only be occupied by one person at a time.
- All toilet facilities should be properly enclosed and easy to clean. A floor drain with a water seal should be provided in each toilet to facilitate flushing the floor.
- Each toilet on shore should be under cover and occupy a separate compartment installed in a special toilet facility. Each compartment should be provided with a separate door fitted with a latch on the inside.
- Urinals should be of suitable width and preferably consist of a row of stalls. If the urinals are of a smaller type (cuvettes) they should be adequately separated by side partitions.
- For personal cleansing, an adequate supply of toilet paper or, where local custom requires, water should be provided.
- Adequate washing facilities, including soap and means of drying hands, should be provided in or adjacent to each toilet area. Consideration should be given to the need to provide toilets equipped for use by disabled persons.

3. Hygiene

Code of Practice (Ports, 2016):

- There should be at least one suitable washing facility for every ten portworkers who are likely to use them at the same time. Where portworkers are exposed to skin contamination by toxic, infectious or irritating substances, oil, grease or dust, at least one shower should be provided for every six regularly employed workers who are exposed to such contamination and cease work at the same time.
- If portworkers of both sexes are employed, separate washing facilities should be provided for each sex. Showers should be enclosed in individual compartments, with the entrance suitably screened.
- Each wash place should have a sufficient flow of clean, adjustable hot and cold water; an adequate means for removing waste water; a sufficient supply of suitable non-irritating soap or other cleanser; and suitable means for drying; the common use of towels should be prohibited.
- Shower equipment should be thoroughly cleaned at least once a day, including with disinfectant to destroy fungi. Regular monitoring for conditions such as legionnaires' disease should be undertaken whenever hot water is supplied.
- Washing facilities should not be used for any other purpose.

D. Construction of fixed offshore installations in the petroleum industry (Code of practice, 1981)

1.Water

- Employers should provide and maintain drinking water for all persons, which should be conveniently accessible and clearly identified.
- Stored drinking water for common use should be stored only in closed containers from which the water should be dispensed through taps or cocks.

If drinking water from an approved public supply has to be transported to the site of the offshore construction operations, the transport arrangements should be approved by the competent health authority.

2. Sanitation

- Employers should provide a water closet (not being a urinal) for every eight persons.

3. Hygiene

Employers should provide:

- At least one bath or shower together with a supply of running cold or hot and cold water, as appropriate, for every eight persons.
- At least one wash basin with hot and cold running water for every six persons.
- The washing facilities should not be used for any other purpose and include adequate means of removing waste water; suitable non-irritating soap in sufficient quantity; and adequate drying facilities.
- A separate room with adequate and suitable machines for the washing of clothing together with adequate drying facilities, and sufficient receptacles for the disposal of garbage and other waste.
- Waste should be incinerated, or otherwise harmlessly disposed of at suitable intervals.

WASH and exposure risks in the working environment

The working environment can contain various factors that pose a health and safety risk for workers, such as the ambient environment (e.g., temperature and humidity), or the use of hazardous materials (e.g., asbestos or chemicals). Exposure to hazardous materials was a concern for the ILO as early as 1921, when the White Lead (Painting) Convention (No. 13) was adopted. Since then, one Convention and several Codes of Practice have included hygiene measures, and one Code of Practice proposed steps to ensure hydration when working in hot or cold environments. In addition, the Recommendation on Hygiene in Commerce and Offices provides guidance on workplace temperature.

Table 5. Relevant provisions of the ILO Conventions regarding hazardous materials and temperatures

A. Ambient factors in the workplace (Code of practice)

1.Water

For hydration maintenance in hot environments, employers should make water at low salt concentration or dilute flavoured drinks readily available to workers, and should encourage them to drink at least hourly, by providing a close source or arranging for drinks to be brought to the workers.

- Drinks at 15 to 20 °C are preferable to iced drinks.
- No alcohol, caffeine, carbonated drinks or drinks with a high salt or sugar content

- No drinking fountains, because they are too difficult to drink from in sufficient volume.
- Personnel providing occupational health services should supervise sanitary installations, drinking- water supply, canteens and living accommodations.

In cold environments, employers should also:

- make water or dilute flavoured drinks readily available to workers, and
- encourage them to drink, by providing a close source or arranging for drinks to be brought to the workers, particularly when the environment is also dry.

B. Hygiene (commerce and offices) Recommendation, 1964 (No. 120)

1. Hygiene

- In all places in which work is carried on, or through which workers may have to pass, or which contain sanitary or other facilities provided for the common use of workers, the best possible conditions of temperature, humidity and movement of air should be maintained, having regard to the nature of work and the climate.
- No worker should be required to work regularly in an extreme temperature. Accordingly, the competent authority should determine either maximum or minimum standards of temperature, or both, having regard to the climate and to the nature of the establishment, institution or administrative service and of the work.
- No worker should be required to work regularly in conditions involving sudden variations in temperature which are considered by the competent authority to be harmful to health.
- No worker should be required to work regularly in the immediate neighbourhood of equipment radiating a large amount of heat or causing an intense cooling of the surrounding air, considered by the competent authority to be harmful to health, unless suitable control measures are taken, the time of the worker's exposure is reduced, or he is provided with suitable protective equipment or clothing.
- Fixed or movable screens, deflectors or other suitable devices should be provided and used to protect workers against any large-scale intake of cold or heat, including the heat of the sun.
- No worker should be required to work at an outdoor sales counter in low temperatures likely to be harmful unless suitable means of warming himself are available.
- No worker should be required to work at an outdoor sales counter in high temperatures likely to be harmful unless suitable means of protection against such high temperatures are available.
- The use of methods of heating or cooling likely to cause harmful or obnoxious fumes in the atmosphere of premises should be forbidden.
- When work is carried out in a very low or a very high temperature, workers should be given a shortened working day or breaks included in the working hours, or other relevant measures taken.
- In all places in which work is carried on, or which contain sanitary or other facilities for the common use of workers, there should be sufficient and suitable ventilation, natural or artificial or both, supplying fresh or purified air.
    - apparatus ensuring natural or artificial ventilation should be so designed as to introduce a sufficient quantity of fresh or purified air per person and

per hour into an area, taking into account the nature and conditions of the work;
- (b) arrangements should be made to remove or make harmless, as far as possible, fumes, dust and any other obnoxious or harmful impurities which may be generated in the course of work;
- (c) the normal speed of movement of air at fixed work-stations should not be harmful to the health or comfort of the persons working there;
- (d) as far as possible and in so far as conditions require, appropriate measures should be taken to ensure that in enclosed premises a suitable hygrometric level in the air is maintained.

- Where a workplace is wholly or substantially air conditioned, suitable means of emergency ventilation, natural or artificial, should be provided.

B. Use of Chemicals

1. Hygiene

Chemicals Convention, 1990 (No. 170): Employers should take Operational control measures and provide personal protective equipment.

Code of Practice:

Employers should provide:

- Washing facilities-
  - adjusted to the nature and degree of exposure,
  - with a standard of personal hygiene consistent with the adequate control of exposure and the need to avoid the spread of chemicals hazardous to health, and
  - conveniently accessible but situated so they do not become contaminated from the workplace.
- Clothing accommodation-
  - when protective clothing is used or
  - when there is a risk of the contamination of outdoor clothing by hazardous chemicals.
- Changing facilities situated and designed to prevent the spread of contamination from protective clothing to personal clothing and from one facility to another.

D. Asbestos (Code of Practice)

1. Hygiene

Employers should provide:

- Suitable protective clothing and respiratory equipment for workers occupied in the collection, transport or disposal of asbestos waste who may be at risk of exposure to airborne asbestos.
- Vacuum cleaning (or an alternative dustless method) of vehicles and reusable receptacles and covers that have been in contact with asbestos waste.
- protective clothing, shower facilities, and storage for clean and contaminated clothing;
- Collecting and cleaning or disposing of contaminated clothing.
- Specific configuration of a decontamination unit
  - adjacent or as close as is reasonably practicable to the work site,
  - where contaminated clothing and footwear can be stored and vacuum-dusted or hosed down, and
  - with exhaust ventilation that creates negative pressure.

- Careful instruction for all workers on maintaining workplace cleanliness and personal hygiene and on adhering to decontamination procedure.
- A designated competent supervisor who will ensure:
  - Compliance with all dust control procedures

The air sampling necessary to ensure that airborne asbestos fibre levels outside the work site are below the prescribed exposure limits.

E. Radiation (ionising radiations) (Code of Practice)

1. Hygiene

Employers should inform workers about:

- The nature and sources of potential health risks which could result from the handling or use of radiation sources;
- The criteria and principles of radiation protection and the control measures to be taken appropriate to their work;
- Safe working methods and techniques to which they should adhere;
- The proper use, operation and care of personal monitoring and protective devices;
- Personal hygiene measures to be followed to limit the intake of radioactive substances; and
- Local radiation protection rules and procedures, including appropriate first-aid measures.

Workers must observe healthy personal hygiene practices whenever work involves exposure to unsealed sources of radioactive materials, such as the regular use of clean work clothes and showering at the close of work, because these practices help to minimize the intake of radioactive materials.

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Annex 3. Participants in the validation workshop

Blantyre, Malawi, 16-17 September 2019

1. **Hon Martha Lunji Chanjo Mhone, Minister of Labour**
2. Mr. Hlalerwayo Nyangulu, Labour Commisioner
3. Ms. Thokozire Banda, Principal Secretary, Ministry of Labour
4. Ms Grace Utonga, Tea Association of Malawi (TAML)
5. Mr. Joseph Kankhwangwa, Malawi Congress of Trade Unions (MCTU)
6. Ms Ellen Ziwoya, Employers' Consultative Association of Malawi (ECAM)
7. Mr. Vince Chiutsa, Schistosomiasis Control Initiative Malawi
8. Ericson Mothisa, Eastern Produce Malawi Ltd. (EPM)-Thyolo
9. James Nahuwo, EPM-Thyolo
10. Henry Mtunga, EPM-Thyolo
11. Kesten Makwale, EPM-Thyolo
12. Hannock Naluwa, Lujeri-Mchima tea estate
13. Lester Ndege, Zoa tea estate
14. Noah Chasweka, Zoa tea estate
15. Thomasi Chakukuma, Namingomba tea estate
16. Firestone Mulomba, Namingomba tea estate
17. Mackford Nzengo, Ministry of Water Development
18. Josephy Sambo, Ministry of Labour-Thyolo
19. Edwin Nkhulungo, Blantyre Agricultural Development Division
20. Yafeti Yotamu, Makandi tea estate
21. Petro Kachalu, Mchima tea estate
22. Martin Kapichi, Ministry of Labour-Blantyre
23. Gidion Phiri, Makandi Estate
24. Alinafe Phiri, Satemwa Estate
25. Wilfred Phiri, Plantation and Agriculture Workers Union
26. Flemmings Mwenibabu, TAML
27. Goodwin Mwalima, Conforzi
28. George Khaki, ECAM
29. Beyani Munthali, Tea Association
30. Mervis Nyirenda, PRO-Intern-labour
31. L.T. Dyton, Regional Labour Officer
32. Goodluck Kayange, ROSHO
33. Mathews Jembelamala, Personal Assistant to the Minister
34. J . Nkolongo, Ministry of Labour
35. N.D. Msesa, Ministry of Labour
36. TKT Nsongole, Ministry of Labour
37. A Nangwale, Ministry of Labour
38. J Mashoni, Ministry of Labour
39. C Kapatuka, Ministry of Labour
40. E Lilembe, Ministry of Labour

PROGRAMME

16 September 2019	17 September 2019
Registration of participants	Introduction to group interview session
Introductory remarks	Prepare interview questions
Introduction to the workshop: Rationale, how to use the handbook	Participants interviewing each other (Worker, Employer and Government)
Clarification questions, organization of work groups	Team presentations of results of assessments
Validation of instructions to use the handbook (working groups)	Discussion on practical application of the handbook
Presentation of first module (water), clarification questions	Final validation of the handbook, and adjustments needed
Validation of first module (working groups)	Closing of workshop • MCTU-Mr Joseph Kankhwangwa • ECAM / TAML • Labour Commissioner Minister of Labour
Presentation of second module (sanitation), clarification questions	
Validation of second module (working groups)	Group Photo
Presentation of third module (hygiene), clarification questions	
Validation of third module (working groups)	

Carlos R. Carrión-Crespo, public services, utilities and telecommunications specialist in the ILO's Sectoral Policies Department, provided the Hon. Martha Lunji Chanjo Mhone, Minister of Labour of Malawi, a copy of the 2016 edition of the WASH@Work self-training handbook. This edition contains Action Manuals, Checkpoints and Checklists on access to WASH in workplaces for governments, employers and workers.