

WASH IN HEALTH-CARE FACILITIES IN EMERGENCIES

COMPREHENSIVE WASH ASSESSMENT TOOL

- This comprehensive assessment tool (CAT) has 12 sections: water supply, excreta disposal, wastewater and site drainage, waste management, disease vector control, infection control, handwashing, water quality testing, key informant questions, a sketch map, an action plan template and a hazard summary template.
- The form has been designed to be used with any size of health facility from a small health post to a complete hospital, therefore only complete the sections that are relevant to the infrastructure being assessed.
- Ask a staff member to help you follow the WASH systems (water, excreta, medical waste, and infectious wastewater) from origin to disposal. Find the relevant section and tick boxes of hazards that are encountered (or are likely to be encountered during the emergency phase), along with any potential control measures.
- As you follow the systems, talk to users about problems, take photos, and ask for their ideas for solutions.
- This form attempts to capture most public health hazards, however the user should apply common sense and document any additional public health risks that are encountered in the spaces provided.**
- Take into account the current situation, including possible patient increase or loss of infrastructure & supplies.
- Discuss results with the facility staff before departing. Matters of extreme urgency should be communicated immediately to the facility management and WASH coordinating authorities so rapid action can be taken.

SECTION I: HEALTH FACILITY WATER SUPPLY HAZARD COMPREHENSIVE ASSESSMENT			
Water chain elements: <i>(Tick all that apply)</i>	Hazard assessment questions: <i>(Tick all that apply, add others if observed)</i>	Potential control measures: <i>(Tick all that apply, add others if needed)</i>	
Water Sources	<input type="checkbox"/> Piped water	<input type="checkbox"/> Intermittent supply / negative pressures / insufficient pressure? <input type="checkbox"/> Water insufficiently chlorinated (free chlorine residual <0.5mg or turbidity >5 NTU at the point of use)? <input type="checkbox"/> Visible water leaks? <input type="checkbox"/> Illegal water connections? <input type="checkbox"/> Bad smell, taste, colour or other problems with acceptability? <input type="checkbox"/> Lack of backflow prevention? <input type="checkbox"/> Cross contamination with hot water pipe work or fire network? <input type="checkbox"/> Water temperatures 20°C - 50°C / 70°F - 120°F (Legionella risk)? <input type="checkbox"/> Low flows / stagnation / dead legs? <input type="checkbox"/> Inadequate cold weather protection? <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Seek alternative water source. <input type="checkbox"/> Install emergency piped network. <input type="checkbox"/> Supplemental mains chlorination to 0.5mg/l residual at tap. <input type="checkbox"/> Installation of point of entry water treatment device (filter). <input type="checkbox"/> Shock chlorinating with 50mg/l solution for 30 minutes. <input type="checkbox"/> Leak detection and repair. <input type="checkbox"/> Remove illegal connections. <input type="checkbox"/> Remove contamination sources within 10m / 30ft of pipeline. <input type="checkbox"/> Install backflow prevention. <input type="checkbox"/> Installation of thermal lagging / electro-resistivity wire. <input type="checkbox"/> Routine temperature monitoring. <input type="checkbox"/> _____ <input type="checkbox"/> _____
	<input type="checkbox"/> Water tanker	<input type="checkbox"/> Inappropriate type (e.g. fuel tanker)? <input type="checkbox"/> Inadequately sealed / covered? <input type="checkbox"/> Presence of corrosion, scale, sediment, microbial growth, biofilms? <input type="checkbox"/> Water insufficiently chlorinated (free chlorine residual <0.5mg or turbidity >5 NTU at the point of use)? <input type="checkbox"/> Visible water leaks? <input type="checkbox"/> Bad smell, taste, colour or other problems with acceptability? <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Seek replacement tanker. <input type="checkbox"/> Supplemental filtration. <input type="checkbox"/> Supplemental chlorination to 0.5mg/l residual at tap. <input type="checkbox"/> Scrub with 200mg/l Cl solution. <input type="checkbox"/> Shock chlorinating with 50mg/l solution for 30 minutes. <input type="checkbox"/> Leak repair. <input type="checkbox"/> Seek alternative water source. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
	<input type="checkbox"/> Rainwater	<input type="checkbox"/> Visibly contamination (plants, dirt, excreta etc) on collection surface? <input type="checkbox"/> Overhanging trees and branches? <input type="checkbox"/> Guttering channels visibly contaminated (plants, dirt, excreta)? <input type="checkbox"/> Roof structure poorly maintained? <input type="checkbox"/> Absence of first flush diverter? <input type="checkbox"/> Point of entry to the tank not properly covered / screened? <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Seek alternative water source. <input type="checkbox"/> Install point of entry water treatment device (filter). <input type="checkbox"/> Cut back all overhanging trees. <input type="checkbox"/> Scrub roof and gutters with stiff brush and 200mg/l Cl solution. <input type="checkbox"/> Install a first flush diverter. <input type="checkbox"/> Cover / screen tank entry point. <input type="checkbox"/> Implement routine chlorination. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____



Water chain elements: <i>(Tick all that apply)</i>	Hazard assessment questions: <i>(Tick all that apply, add others if observed)</i>	Potential control measures: <i>(Tick all that apply, add others if needed)</i>
<input type="checkbox"/> Borehole <input type="checkbox"/> Protected Well <input type="checkbox"/> Unprotected Well	<input type="checkbox"/> Latrine, sewer, septic tank, waste, stagnant water within 10m / 30ft? <input type="checkbox"/> Water insufficiently chlorinated (free chlorine residual <0.5mg or turbidity >5 NTU at the point of use)? <input type="checkbox"/> Presence of corrosion, scale, sediment, microbial growth, biofilms? <input type="checkbox"/> Sanitary seal less than 3m / 9ft deep? <input type="checkbox"/> Concrete apron less < 3m / 9ft wide? <input type="checkbox"/> Cracks, leaks or visible openings around pump attachment? <input type="checkbox"/> Method of water abstraction poses a contamination risk (e.g. bucked)? <input type="checkbox"/> Lack of backflow prevention? <input type="checkbox"/> Lack of fence around installation? <input type="checkbox"/> Poor drainage around installation? <input type="checkbox"/> Groundwater seasonal? <input type="checkbox"/> Bad smell, taste, colour or other problems with acceptability? <input type="checkbox"/> Lack of routine water testing? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Remove contamination sources from within 10m / 30ft. <input type="checkbox"/> Scrub with 200mg/l Cl solution. <input type="checkbox"/> Shock chlorinating with 50mg/l solution for 30 minutes. <input type="checkbox"/> Installation of point of entry water treatment device (filter). <input type="checkbox"/> Recapping with cement. <input type="checkbox"/> Repair of sanitary seal. <input type="checkbox"/> Repair / enlargement of apron. <input type="checkbox"/> Repair / enlargement of wellhead. <input type="checkbox"/> Upgrade abstraction method. <input type="checkbox"/> Facilitating drainage at the site. <input type="checkbox"/> Leak repair. <input type="checkbox"/> Implement routine chlorination. <input type="checkbox"/> Routine water quality testing. <input type="checkbox"/> Install a fence around installation. <input type="checkbox"/> Install backflow prevention. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<input type="checkbox"/> Protected Spring <input type="checkbox"/> Unprotected Spring	<input type="checkbox"/> Human settlements or activity (agricultural / industrial) upstream? <input type="checkbox"/> Latrine, sewer, septic tank, waste, stagnant water within 10m / 30ft? <input type="checkbox"/> Lack of upstream surface water diversion canal? <input type="checkbox"/> Cracks, leaks or visible openings into spring capture? <input type="checkbox"/> Inadequate spring capping / sealing? <input type="checkbox"/> Spring walls inadequately sealed? <input type="checkbox"/> Water insufficiently chlorinated (free chlorine residual <0.5mg and turbidity >5 NTU at the point of use)? <input type="checkbox"/> Lack of fence around spring? <input type="checkbox"/> Poor drainage around spring? <input type="checkbox"/> Spring seasonal? <input type="checkbox"/> Bad smell, taste, or colour? <input type="checkbox"/> Lack of routine water testing? <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Control of upstream human activity. <input type="checkbox"/> Remove contamination sources from within 10m / 30ft. <input type="checkbox"/> Shock chlorinating with 50mg/l solution for 30 minutes. <input type="checkbox"/> Repair / upgrade spring capture. <input type="checkbox"/> Repair / enlargement of surface water diversion canal. <input type="checkbox"/> Facilitating drainage at the site. <input type="checkbox"/> Installation of point of entry water treatment device (filter). <input type="checkbox"/> Install a fence around installation. <input type="checkbox"/> Implement routine chlorination. <input type="checkbox"/> Routine water quality testing. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<input type="checkbox"/> Stream <input type="checkbox"/> River <input type="checkbox"/> Pond <input type="checkbox"/> Lake <input type="checkbox"/> Creek / Marsh <input type="checkbox"/> Irrigation Canal <input type="checkbox"/> Kareze / Qanat	<input type="checkbox"/> Human settlements or activity (agricultural / industrial) upstream? <input type="checkbox"/> Latrine, septic tank, waste, stagnant water within 100m / 300ft of intake? <input type="checkbox"/> Cracks, leaks or visible openings into intake structure? <input type="checkbox"/> Water insufficiently chlorinated (free chlorine residual <0.5mg and turbidity >5 NTU at the point of use)? <input type="checkbox"/> Lack of fence around intake? <input type="checkbox"/> Poor drainage around intake? <input type="checkbox"/> Surface water source seasonal? <input type="checkbox"/> Bad smell, taste or colour? <input type="checkbox"/> Lack of routine water testing? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Installation of emergency compact water treatment units (reverse osmosis). <input type="checkbox"/> Control of up-stream activities. <input type="checkbox"/> Install automatic chlorinator. <input type="checkbox"/> Seek alternative groundwater source / tankering. <input type="checkbox"/> Upgrade intake (infiltration gallery or stilling well). <input type="checkbox"/> Removal of contamination from within 100m / 300ft of intake. <input type="checkbox"/> Sealing / repairing / upgrading intake infrastructure. <input type="checkbox"/> Installation of filter unit. <input type="checkbox"/> Fencing the water intake. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____

Water Sources



	Water chain elements: <i>(Tick all that apply)</i>	Hazard assessment questions: <i>(Tick all that apply, add others if observed)</i>	Potential control measures: <i>(Tick all that apply, add others if needed)</i>
Bulk Water Storage	<input type="checkbox"/> Concrete / brick / stone water tank <input type="checkbox"/> Metallic water tank <input type="checkbox"/> Elevated water tank <input type="checkbox"/> Subsurface water tank <input type="checkbox"/> Polyethylene tank <input type="checkbox"/> Oxfam tank <input type="checkbox"/> Bladder tank <input type="checkbox"/> Onion tank <input type="checkbox"/> Oil drums <input type="checkbox"/> Jerry cans <input type="checkbox"/> Buckets <input type="checkbox"/> Other _____	<input type="checkbox"/> Insufficient water storage (one day)? <input type="checkbox"/> Reservoir inadequately sealed / covered / unsanitary / leaking? <input type="checkbox"/> Visible cracks, openings, unsanitary water entry / exit / overflow? <input type="checkbox"/> Latrine, sewer, septic tank, waste, stagnant water within 10m / 30ft? <input type="checkbox"/> Presence of corrosion, scale, sediment, microbial growth, biofilms? <input type="checkbox"/> Poor maintenance schedule / lack of routine cleaning? <input type="checkbox"/> Lack of cleaning equipment (buckets / brushes, chlorine etc.)? <input type="checkbox"/> Presence of birds / bats / vermin? <input type="checkbox"/> Lack of personal protection equipment (gloves, aprons, overalls, boots)? <input type="checkbox"/> Lack of routine water testing? <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Install additional emergency storage (Oxfam tanks, bladders). <input type="checkbox"/> Covering / sealing / upgrading / replacing existing water storage. <input type="checkbox"/> Scrub tank insides with stiff brush and 200mg/l chlorine solution. <input type="checkbox"/> Shock chlorinating with 50mg/l solution for 30 minutes. <input type="checkbox"/> Remove contamination sources within 10m / 30ft. <input type="checkbox"/> Removal of disease vectors (birds / bats / vermin etc). <input type="checkbox"/> Sealing of vector entry points (holes in roof eaves / walls etc). <input type="checkbox"/> Provision of cleaning equipment, consumables and overalls. <input type="checkbox"/> Routine water quality testing. <input type="checkbox"/> _____ <input type="checkbox"/> _____
Water Distribution and Facilities	<input type="checkbox"/> Piped network <input type="checkbox"/> Water collection points <input type="checkbox"/> Handwashing sinks <input type="checkbox"/> Dishwashing sinks <input type="checkbox"/> Laundry sinks <input type="checkbox"/> Showers <input type="checkbox"/> Other _____	<input type="checkbox"/> Intermittent supply / negative pressures / insufficient pressure? <input type="checkbox"/> Visible water leaks? <input type="checkbox"/> Sewer, septic tank, waste, stagnant water < 10m / 30ft of pipeline? <input type="checkbox"/> Water insufficiently chlorinated (free chlorine residual <0.5mg and turbidity >5 NTU at the point of use)? <input type="checkbox"/> Illegal connections? <input type="checkbox"/> Absence of water points anywhere healthcare is delivered, food prepared or eaten, or within 5m / 15ft of toilets? <input type="checkbox"/> Insufficient flows (20l bucket <1 min)? <input type="checkbox"/> Insufficient number of water points, sinks, showers, laundry stations? <input type="checkbox"/> Inappropriate design of water points for use by vulnerables (elderly / infirm / disabled / children)? <input type="checkbox"/> Standing water at water points? <input type="checkbox"/> Inappropriate material (e.g. lead)? <input type="checkbox"/> Poor maintenance scheduling? <input type="checkbox"/> Cross contamination with hot water pipe work or fire network? <input type="checkbox"/> Water temperatures 20°C - 50°C / 70°F - 120°F (Legionella risk)? <input type="checkbox"/> Low flows / stagnation / dead legs? <input type="checkbox"/> Inadequate cold weather protection? <input type="checkbox"/> Lack of routine water testing? <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Install emergency piped network and distribution points. <input type="checkbox"/> Supplemental mains chlorination to 0.5mg/l free residual at tap. <input type="checkbox"/> Shock chlorinating with 50mg/l solution for 30 minutes. <input type="checkbox"/> Remove contamination sources within 10m / 30ft of pipe route. <input type="checkbox"/> Construction of additional water points (anywhere that healthcare is delivered, food is prepared or eaten, 5m / 15ft from toilets). <input type="checkbox"/> Construction of additional showers (one per 40 inpatients). <input type="checkbox"/> Leak detection and repair. <input type="checkbox"/> Install backflow prevention. <input type="checkbox"/> Remove illegal connections. <input type="checkbox"/> Adding loops to stagnant legs. <input type="checkbox"/> Separate hot and cold water pipes (Legionella prevention). <input type="checkbox"/> Temporary pasteurizing of hot water systems >70°C / 160°F. <input type="checkbox"/> Labelling water unfit for drinking. <input type="checkbox"/> Installation of thermal lagging / electro-resistivity wire. <input type="checkbox"/> Routine water quality testing. <input type="checkbox"/> Routine temperature monitoring. <input type="checkbox"/> _____ <input type="checkbox"/> _____
Point of Use Treatment	<input type="checkbox"/> Ceramic Filter <input type="checkbox"/> BioSand Filtration <input type="checkbox"/> Multistage Filtration <input type="checkbox"/> POU Chlorination <input type="checkbox"/> POU Coag/Flocc <input type="checkbox"/> SODIS <input type="checkbox"/> Boiling <input type="checkbox"/> Other _____	<input type="checkbox"/> POU treatment system inadequately sealed / covered? <input type="checkbox"/> Presence of corrosion, scale, sediment, microbial growth, biofilms? <input type="checkbox"/> Insufficient treatment retention times? <input type="checkbox"/> Incorrect flow rates (too high)? <input type="checkbox"/> Poor maintenance schedule / lack of cleaning / filter replacement? <input type="checkbox"/> Risk of recontamination through poor handling / hygiene? <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Repairing / replacement of POU water treatment parts / unit. <input type="checkbox"/> Provision of additional POU treatment units. <input type="checkbox"/> Scrub with tooth brush and 200mg/l chlorine solution. <input type="checkbox"/> Shock chlorinating with 50mg/l solution for 30 minutes. <input type="checkbox"/> Hygiene promotion. <input type="checkbox"/> Routine water quality testing. <input type="checkbox"/> _____ <input type="checkbox"/> _____



SECTION II: HEALTH FACILITY EXCRETA DISPOSAL HAZARD ASSESSMENT

Sanitation chain elements: <i>(Tick all that apply)</i>	Hazard assessment questions: <i>(Tick all that apply, add others if observed)</i>	Potential control measures: <i>(Tick all that apply, add others if needed)</i>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Toilet Superstructure</p> <ul style="list-style-type: none"> <input type="checkbox"/> Plastic emergency squatting slab <input type="checkbox"/> Wooden emergency squatting slab <input type="checkbox"/> Reinforced concrete squatting slab <input type="checkbox"/> Non reinforced dome concrete slab <input type="checkbox"/> Concrete sanplat <input type="checkbox"/> Ceramic pour flush squatting slab <input type="checkbox"/> Ceramic cistern flush sitting toilet <input type="checkbox"/> Non flush pedestal type toilet <input type="checkbox"/> Urine diverting toilet <input type="checkbox"/> Other _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Toilet block unsanitary (excreta on toilet or inside cubicle / bathroom)? <input type="checkbox"/> Evidence of open defecation? <input type="checkbox"/> Insufficient number of toilets (one for every 20 health facility users)? <input type="checkbox"/> Lack of dedicated toilets within isolation wards / areas? <input type="checkbox"/> Insufficient toilet distribution across facility (absence of toilets within 50m / 150ft of any location where healthcare delivered, or food prepared or eaten)? <input type="checkbox"/> Toilet containment structure cracked / broken / missing / full / unsanitary? <input type="checkbox"/> Excreta leaking from vault or pipes? <input type="checkbox"/> Inadequate cleaning of toilet block (less than twice a day or strong smell of excreta or urine)? <input type="checkbox"/> Lack of cleaning equipment (buckets / mops, brushes, detergent etc.)? <input type="checkbox"/> Lack of personal protection equipment (gloves, aprons, overalls, boots)? <input type="checkbox"/> Lack of functional handwashing station within 5m / 15ft of toilet block equipped with soap, running water and adequate drainage? <input type="checkbox"/> Disposal of chemicals / pharmaceuticals into toilets? <input type="checkbox"/> Presence of birds / bats / vermin? <input type="checkbox"/> Fly inundation (flies observed leaving toilet vault during assessment)? <input type="checkbox"/> Cultural inappropriate design of toilet? <input type="checkbox"/> Lack of privacy (lack of adequate cubicle walls or door)? <input type="checkbox"/> Lack of security (lack of functional lock on toilet door or lighting)? <input type="checkbox"/> Insufficient number of toilets usable by vulnerable groups (elderly / infirm / disabled / children)? <input type="checkbox"/> _____ <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Provision of additional emergency toilets (portable toilets, bucket toilets, simple pit latrines, trench latrines). <input type="checkbox"/> Cleanup of open defecation. <input type="checkbox"/> Construction of dedicated toilets for isolation wards / areas. <input type="checkbox"/> Construction of additional toilets within 50m / 150ft of everywhere where health care is delivered, or food is eaten or prepared. <input type="checkbox"/> Provision of toilet cleaning materials, consumables and personal protection equipment. <input type="checkbox"/> Health and safety training for cleaning staff. <input type="checkbox"/> Construction of additional functional handwashing stations within 5m / 15ft of every toilet. <input type="checkbox"/> Sealing / repairing / upgrading toilet infrastructure. <input type="checkbox"/> Installation of door locks / lighting. <input type="checkbox"/> Removal of disease vectors (birds / bats / vermin etc). <input type="checkbox"/> Sealing of vector entry points (holes in roof eaves / walls etc). <input type="checkbox"/> Fly control (sealing entry points, spraying with deltamethrine). <input type="checkbox"/> Installation of aids for vulnerable groups (hand rails, adapted toilet seats), additional lighting for children's toilets. <input type="checkbox"/> Hygiene promotion. <input type="checkbox"/> _____
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Collection / Storage</p> <ul style="list-style-type: none"> <input type="checkbox"/> Bucket latrine <input type="checkbox"/> Drum latrine <input type="checkbox"/> Tank latrine <input type="checkbox"/> Plastic bag latrine <input type="checkbox"/> Portable toilet <input type="checkbox"/> Trench <input type="checkbox"/> Defecation field / area <input type="checkbox"/> Offset pit <input type="checkbox"/> Direct pit <input type="checkbox"/> Double pit <input type="checkbox"/> Raised pit <input type="checkbox"/> Dehydrating vault <input type="checkbox"/> Composting vault <input type="checkbox"/> Biogas vault <input type="checkbox"/> Septic tank <input type="checkbox"/> Sewage holding tank <input type="checkbox"/> Transfer station <input type="checkbox"/> Other _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Excreta containment structure full or overflowing? <input type="checkbox"/> Excreta containment structure inadequately covered or sealed? <input type="checkbox"/> Excreta containment structure visibly cracked / broken / leaking? <input type="checkbox"/> Excreta containment structure < 1.5m / 5ft above groundwater level? <input type="checkbox"/> Inadequate strong disinfection of excreta from infectious wards. <input type="checkbox"/> Fly inundation (one or more flies observed leaving the toilet vault during the assessment period)? <input type="checkbox"/> Presence of vermin or other vectors? <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Emergency cleanup operations. <input type="checkbox"/> Emergency desludging. <input type="checkbox"/> Provision of additional emergency toilets (portable toilets, bucket toilets, simple pit latrines, trench latrines). <input type="checkbox"/> Sealing / repairing / upgrading toilet infrastructure. <input type="checkbox"/> Disinfection of excreta from infectious wards with 0.2% Cl. <input type="checkbox"/> Fly control (sealing entry points, spraying with deltamethrine). <input type="checkbox"/> Provision of toilet cleaning materials, consumables and personal protection equipment. <input type="checkbox"/> Staff health and safety training. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____

EXCRETA DISPOSAL



EXCRETA DISPOSAL

Sanitation chain elements: <i>(Tick all that apply)</i>	Hazard assessment questions: <i>(Tick all that apply, add others if observed)</i>	Potential control measures: <i>(Tick all that apply, add others if needed)</i>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Excreta Removal / Handling</p> <input type="checkbox"/> Human emptying <input type="checkbox"/> Motorized emptying <input type="checkbox"/> Buckets <input type="checkbox"/> Vacuum pumps <input type="checkbox"/> Diaphragm pumps <input type="checkbox"/> Centrifugal pumps <input type="checkbox"/> Other _____	<input type="checkbox"/> Excreta leakage into public environment during emptying? <input type="checkbox"/> Direct contact between excreta and personnel during emptying? <input type="checkbox"/> Lack of personal protection equipment (gloves, aprons, overalls, boots, hats, eye protection)? <input type="checkbox"/> Lack of on-site showers for workers? <input type="checkbox"/> Desludging equipment or vehicles inadequately cleaned or disinfected (0.2% chlorine), between desludging? <input type="checkbox"/> Inadequate disposal of desludging equipment cleaning water? <input type="checkbox"/> Visible traces of excreta on equipment during transportation or storage? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Prevention of all human emptying activities where alternative emptying solutions exist. <input type="checkbox"/> Provision of proven toilet desludging / emptying equipment (diaphragm or vacuum reservoir type desludging machines). <input type="checkbox"/> Provision of personal protection equipment. <input type="checkbox"/> Provision of disinfecting equipment and supplies (chlorine, sprayers, measuring cups and cylinders, reservoirs, scales, jugs, stirring spoons). <input type="checkbox"/> Health and safety training for cleaning staff. <input type="checkbox"/> Routine monitoring of desludging activities and staff health. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Excreta Transportation</p> <input type="checkbox"/> Sludge tankers <input type="checkbox"/> Sludge carts <input type="checkbox"/> Sealed drums <input type="checkbox"/> Other _____	<input type="checkbox"/> Excreta transportation tank overflowing, leaking, inadequately sealed or covered? <input type="checkbox"/> Visible traces of excreta on transportation or storage system? <input type="checkbox"/> Visible traces of excreta along transportation route? <input type="checkbox"/> Unauthorized dumping of excreta along transportation route? <input type="checkbox"/> Fly inundation (one or more flies observed on excreta exit or entry during assessment period)? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Replacement tanker / cart. <input type="checkbox"/> Emergency cleanup operations of public environment, tanker / cart, or transportation route. <input type="checkbox"/> Coverage / sealing / repairing of excreta transportation tank. <input type="checkbox"/> Fly control (sealing entry points, spraying with deltamethrine). <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Sewers</p> <input type="checkbox"/> Conventional sewer <input type="checkbox"/> Simplified sewerage <input type="checkbox"/> Interceptor sewer <input type="checkbox"/> Vacuum sewer <input type="checkbox"/> Other _____	<input type="checkbox"/> Sewer pipes or inspection chambers overflowing, blocked or leaking? <input type="checkbox"/> Inspection chambers or rodding eyes inadequately covered or sealed? <input type="checkbox"/> Sewer pipes exposed (erosion) or insufficiently buried (<0.5m / 2ft)? <input type="checkbox"/> Poorly designed interceptor systems (insufficient septic tank retention)? <input type="checkbox"/> Fly inundation (one or more flies observed on inspection chamber exit or entry during assessment period)? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Emergency cleanup operations. <input type="checkbox"/> Sewer replacement / sealing / relocation / upgrade. <input type="checkbox"/> Sewer inspection chamber sealing / replacement / relocation / upgrade. <input type="checkbox"/> Sewer covering / erosion prevention measures. <input type="checkbox"/> Fly control (sealing entry points, spraying with deltamethrine). <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____





Sanitation chain elements: <i>(Tick all that apply)</i>	Hazard assessment questions: <i>(Tick all that apply, add others if observed)</i>	Potential control measures: <i>(Tick all that apply, add others if needed)</i>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Excreta Treatment</p> <ul style="list-style-type: none"> <input type="checkbox"/> Off site sewage treatment works <input type="checkbox"/> Waste stabilization ponds <input type="checkbox"/> Constructed wetlands / reed beds <input type="checkbox"/> Septic tank <input type="checkbox"/> Trickling filter <input type="checkbox"/> Anaerobic digester <input type="checkbox"/> Activated sludge <input type="checkbox"/> Thickening ponds <input type="checkbox"/> Drying beds <input type="checkbox"/> Composting <input type="checkbox"/> Other _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Excreta containment structures cracked, broken, overflowing, leaking, inadequately covered or sealed? <input type="checkbox"/> Inadequate protection from surface water inundation? <input type="checkbox"/> Insufficient treatment retention times? <input type="checkbox"/> Incorrect flow rates (too high)? <input type="checkbox"/> Poor maintenance schedule / lack of cleaning / replacement? <input type="checkbox"/> Presence of excreta in the facility public environment? <input type="checkbox"/> Lack of cleaning equipment (buckets / mops, brushes, detergent etc.)? <input type="checkbox"/> Lack of personal protection equipment (gloves, aprons, overalls, boots)? <input type="checkbox"/> Lack of onsite showers for personnel? <input type="checkbox"/> Inadequate fence around facility? <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Emergency cleanup operations. <input type="checkbox"/> Excreta treatment containment structure replacement / upgrade <input type="checkbox"/> Tertiary effluent disinfection with chlorine dioxide, sodium hypochlorite or chlorine gas before final disposal. <input type="checkbox"/> Construction of additional protection measures against surface water inundation. <input type="checkbox"/> Construction of additional protection measures against groundwater leaching. <input type="checkbox"/> Provision of equipment, cleaning supplies, personal protection equipment, shower facilities. <input type="checkbox"/> Improvements to site fencing. <input type="checkbox"/> Fly control (sealing entry points, spraying with deltamethrine). <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Excreta Disposal / Reuse</p> <ul style="list-style-type: none"> <input type="checkbox"/> Offsite sewage treatment works <input type="checkbox"/> Sea disposal <input type="checkbox"/> Watercourse disposal <input type="checkbox"/> Fill and cover <input type="checkbox"/> Land application <input type="checkbox"/> Soak pit <input type="checkbox"/> Leach field <input type="checkbox"/> Other _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Untreated disposal of health facility excreta into natural water bodies? <input type="checkbox"/> Excreta disposal system structure visibly cracked / broken / leaking? <input type="checkbox"/> Excreta disposal system less than 1.5m / 5ft above groundwater level? <input type="checkbox"/> Application of untreated excreta to directly to land. <input type="checkbox"/> Lack of personal protection equipment (gloves, aprons, overalls, boots)? <input type="checkbox"/> Fly inundation (one or more flies observed leaving the toilet vault during the assessment period)? <input type="checkbox"/> Inadequate soil covering of treated sludges applied to land. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Immediate termination of any activities disposing untreated health facility excreta into water bodies or public environment? <input type="checkbox"/> Emergency cleanup operations. <input type="checkbox"/> Tertiary effluent disinfection with chlorine dioxide, sodium hypochlorite or chlorine gas before final disposal. <input type="checkbox"/> Excreta disposal structure replacement / upgrade <input type="checkbox"/> Provision of equipment, cleaning supplies, personal protection equipment, shower facilities. <input type="checkbox"/> Fly control (sealing entry points, spraying with deltamethrine). <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Operation / Management</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Insufficient numbers of dedicated cleaning and maintenance staff? <input type="checkbox"/> Staff insufficiently trained? <input type="checkbox"/> Poor routine cleaning and maintenance schedule? <input type="checkbox"/> Lack of maintenance equipment (shovels, wheelbarrows, buckets)? <input type="checkbox"/> Lack of personal protection equipment for medical waste personnel (thick soled boots, thick gloves, aprons, overalls, eye protection, masks)? <input type="checkbox"/> Lack of clean-up equipment and consumables for spills (buckets, brushes, mops, chlorine, detergent)? <input type="checkbox"/> Lack of on-site showers for workers? <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Temporary financial support for cleaning and maintenance staff. <input type="checkbox"/> Provision of personal protection equipment (gloves, aprons, overalls, boots, eye protection). <input type="checkbox"/> Provision of disinfecting equipment and supplies (chlorine, sprayers, measuring cups and cylinders, reservoirs, scales, jugs, stirring spoons). <input type="checkbox"/> Provisional of maintenance and desludging equipment. <input type="checkbox"/> Health and safety training. <input type="checkbox"/> Routine monitoring of desludging activities and staff health. <input type="checkbox"/> Construction of staff showers. <input type="checkbox"/> _____

SECTION III: HEALTH FACILITY INFECTIOUS WASTEWATER DISPOSAL HAZARD ASSESSMENT

	Wastewater elements: <i>(Tick all that apply)</i>	Hazard assessment questions: <i>(Tick all that apply, add others if observed)</i>	Potential control measures: <i>(Tick all that apply, add others if needed)</i>
Collection / Storage	<input type="checkbox"/> Bucket <input type="checkbox"/> Drum <input type="checkbox"/> Basin <input type="checkbox"/> Wastewater holding tank <input type="checkbox"/> Other _____	<input type="checkbox"/> Infectious wastewater collection vessel overflowing, broken, leaking? <input type="checkbox"/> Wastewater from cleaning / bathing / handwashing or laundering activities visibly present in public environment? <input type="checkbox"/> Insufficient number of wastewater disposal points? <input type="checkbox"/> Lack of dedicated wastewater disposal for isolation wards? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Emergency cleanup operations. <input type="checkbox"/> Sealing / repairing / upgrading wastewater infrastructure. <input type="checkbox"/> Provision of additional temporary wastewater collection vessels. <input type="checkbox"/> Disinfection of wastewater from infectious wards with 0.2% Cl. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
Wastewater Handling	<input type="checkbox"/> Human emptying <input type="checkbox"/> Other _____	<input type="checkbox"/> Risk of direct contact between infectious wastewater and personnel during movement / emptying? <input type="checkbox"/> Risk of spillage of infectious wastewater into public environment during movement / emptying? <input type="checkbox"/> Lack of protection equipment? <input type="checkbox"/> Lack of on-site showers for workers? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Provision of personal protection equipment, disinfecting equipment and supplies. <input type="checkbox"/> Health and safety training for cleaning staff. <input type="checkbox"/> Routine monitoring of wastewater management and staff health. <input type="checkbox"/> Provision of additional showers. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
Conveyance	<input type="checkbox"/> Open drainage canal <input type="checkbox"/> Covered drainage canal <input type="checkbox"/> Wastewater pipe <input type="checkbox"/> Other _____	<input type="checkbox"/> Infectious wastewater blocked / leaking / overflowing into public environment during conveyance? <input type="checkbox"/> Infectious wastewater conveyance system uncovered? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Sealing / repairing / relining / upgrading / unblocking of existing wastewater conveyance systems. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
Wastewater Treatment / Disposal	<input type="checkbox"/> Offsite sewage treatment works <input type="checkbox"/> Soakage pit <input type="checkbox"/> Infiltration trenches <input type="checkbox"/> Combined sewer <input type="checkbox"/> Combined septic tank <input type="checkbox"/> Constructed wetlands <input type="checkbox"/> Other _____	<input type="checkbox"/> Untreated disposal of infectious wastewater from cleaning / bathing / laundry / handwashing into natural water bodies or public environment? <input type="checkbox"/> Wastewater treatment / disposal system structure visibly cracked / broken / leaking? <input type="checkbox"/> Insufficient treatment retention times? <input type="checkbox"/> Incorrect flow rates (too high)? <input type="checkbox"/> Final effluent disposal system < 1.5m / 5ft above groundwater level? <input type="checkbox"/> Inadequate fence around facility? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Emergency construction of safe wastewater disposal infrastructure (soakage pits / soakage trenches). <input type="checkbox"/> Repair / relining / upgrading / unblocking of existing wastewater treatment systems. <input type="checkbox"/> Disinfection of wastewater from infectious wards with 0.2% Cl. <input type="checkbox"/> Routine monitoring of wastewater management activities and staff health. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
Management		<input type="checkbox"/> Poor routine maintenance schedule? <input type="checkbox"/> Lack of drain clearing equipment (shovels, wheelbarrows, buckets)? <input type="checkbox"/> Lack of personal protection equipment (gloves, aprons, overalls, boots, hats, eye protection)? <input type="checkbox"/> Lack of on-site showers for workers? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Professional training including health and safety training. <input type="checkbox"/> Provision of disinfection equipment and consumables. <input type="checkbox"/> Provision of personal protection equipment <input type="checkbox"/> Routine monitoring of infectious wastewater disposal activities. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____



SECTION IV: HEALTH FACILITY WASTE MANAGEMENT HAZARD ASSESSMENT

Health waste chain: <i>(Tick all that apply)</i>	Hazard assessment questions: <i>(Tick all that apply, add others if observed)</i>	Potential control measures: <i>(Tick all that apply, add others if needed)</i>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Waste Collection</p> <ul style="list-style-type: none"> <input type="checkbox"/> Sealed puncture-proof sharps box. <input type="checkbox"/> Strong leak proof plastic bags. <input type="checkbox"/> Metal waste bins <input type="checkbox"/> Plastic waste bins <input type="checkbox"/> Wooden baskets <input type="checkbox"/> Cardboard boxes <input type="checkbox"/> Other _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Lack of waste segregation practice by staff at point of generation? <input type="checkbox"/> Lack of colour coding and labelling for waste bags and containers? <input type="checkbox"/> Insufficient quantities of medical waste containers (one medical waste container within 5m / 15ft of every location where waste generated, one general waste bin per 20 patients)? <input type="checkbox"/> Waste containers full / overflowing? <input type="checkbox"/> Medical waste containers or bags broken, inadequately covered, sealed, or leaking fluids? <input type="checkbox"/> Sharps container not puncture-proof or tamper proof? <input type="checkbox"/> Removal of disposable syringes from needles before inserting in sharps box (risk of injury)? <input type="checkbox"/> Lack of immediate disposal of used sharps into sharps box at point of generation? <input type="checkbox"/> Waste collection containers inadequately protects staff, patients, or facility environment from waste? <input type="checkbox"/> Inadequate regular cleaning / disinfection (minimum weekly) of waste containers? <input type="checkbox"/> Fly inundation (one or more flies observed leaving the waste container during the assessment period)? <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Implementation of medical waste segregation measures. <input type="checkbox"/> Colour coding and labelling of waste bags and containers. <input type="checkbox"/> Provision of additional new durable waste containers, strong leak-proof plastic bags and disposable sharps boxes. <input type="checkbox"/> Replacement / repair of existing waste containers and sharps boxes. <input type="checkbox"/> Emergency medical waste cleanup operations. <input type="checkbox"/> Provision of disinfecting equipment, supplies and personal protection equipment <input type="checkbox"/> Staff health and safety training. <input type="checkbox"/> Fly control (breeding site management, spraying with deltamethrine). <input type="checkbox"/> _____
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Waste Handling / Conveyance</p> <ul style="list-style-type: none"> <input type="checkbox"/> Trolley <input type="checkbox"/> Cart <input type="checkbox"/> Wheelbarrow <input type="checkbox"/> By hand <input type="checkbox"/> Other _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Mode of conveyance / handling from point of generation to point of storage / disposal inadequately protects staff / patients / environment from waste? <input type="checkbox"/> Lack of adequate sealing of sharps boxes or infectious wastes in robust designated waterproof sacks before removal from hospital ward? <input type="checkbox"/> Bags or containers of infectious waste or sharps visibly broken / leaking? <input type="checkbox"/> Lack of personal protection equipment for medical waste personnel (thick soled boots, thick gloves, aprons, overalls, eye protection, masks)? <input type="checkbox"/> Lack of clean-up equipment and consumables for spills (buckets, brushes, mops, chlorine, detergent)? <input type="checkbox"/> Lack of on-site showers for workers? <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Emergency cleanup operations. <input type="checkbox"/> Provision of additional new waste conveyance equipment (cart / trolley / wheelbarrow) and leak-proof plastic bags. <input type="checkbox"/> Replacement / repair of existing waste conveyance equipment. <input type="checkbox"/> Emergency medical waste cleanup operations. <input type="checkbox"/> Provision of disinfecting equipment, supplies and personal protection equipment <input type="checkbox"/> Staff health and safety training. <input type="checkbox"/> _____

WASTE MANAGEMENT



WASTE MANAGEMENT

	Health waste chain: <i>(Tick all that apply)</i>	Hazard assessment questions: <i>(Tick all that apply, add others if observed)</i>	Potential control measures: <i>(Tick all that apply, add others if needed)</i>
Intermediate Storage	<input type="checkbox"/> Locked waste storage room <input type="checkbox"/> Locked external waste storage enclosure <input type="checkbox"/> Other _____	<input type="checkbox"/> Intermediate storage location inadequately locked / fenced? <input type="checkbox"/> Waste storage bags / containers inadequately covered or sealed, visibly broken or leaking? <input type="checkbox"/> Intermediate storage facility adequately protects bags / containers from environment (wind, rain, or sun)? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Emergency cleanup operations. <input type="checkbox"/> Construction / upgrade of intermediate waste storage area (concrete floor slab, roofing, surface water diversion canal, fence, locks, or gate). <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
Waste Treatment / Disposal	<input type="checkbox"/> Off-site treatment <input type="checkbox"/> Off-site disposal <input type="checkbox"/> High temperature incinerator (>800°C) <input type="checkbox"/> Low temperature incinerator (<800°C) <input type="checkbox"/> Oil drum incinerator <input type="checkbox"/> Open fire pit <input type="checkbox"/> Sharps pit <input type="checkbox"/> Placenta pit <input type="checkbox"/> Small waste pit <input type="checkbox"/> Sanitary landfill <input type="checkbox"/> Organic composting <input type="checkbox"/> Autoclave <input type="checkbox"/> Chemical disinfection <input type="checkbox"/> Other _____	<input type="checkbox"/> Medical waste disposal area unfenced, unlocked or insecure? <input type="checkbox"/> Medical waste disposal area <50m / 150ft from facility or water sources? <input type="checkbox"/> Sharps, placenta, ash or other waste pits inadequately covered or sealed (concrete slab, locked access door)? <input type="checkbox"/> Sharps, placenta, ash or other waste pits visibly cracked / broken / leaking? <input type="checkbox"/> Sharps, placenta, ash or other pits <1.5m / 5ft above groundwater level? <input type="checkbox"/> Fly inundation (one or more leaving waste pits during assessment)? <input type="checkbox"/> Presence of vermin or other vectors? <input type="checkbox"/> Medical waste (sharps, infectious waste, expired drugs) observed in the treatment / disposal area or within the health facility public environment? <input type="checkbox"/> Headwalls of pits < 30cm / 1ft above ground (surface water infiltration)? <input type="checkbox"/> Incineration of sharps or infectious wastes below 800°C / 1,500°F? <input type="checkbox"/> Incinerator located <50m / 150ft from health facility (air quality risk)? <input type="checkbox"/> Soil covering of sanitary landfill or retired waste pits less than 0.5m / 2ft? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Emergency cleanup operations. <input type="checkbox"/> Construction / upgrade of waste treatment / disposal area (additional pits, additional incinerators, concrete floor slab, roofing, surface water diversion canal, elevation of pit headwalls, fence, locks, or gate). <input type="checkbox"/> Construction of high temperature incinerator >800°C / 1,500°F. <input type="checkbox"/> Incinerator refresher training. <input type="checkbox"/> Relocation or decommissioning of dangerous waste treatment / disposal area. <input type="checkbox"/> Covering of inadequately sealed landfill or pits with 0.5m / 2ft soil. <input type="checkbox"/> Fly control (breeding site management, spraying with deltamethrine). <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
Waste Operation and Management		<input type="checkbox"/> Insufficient numbers of dedicated staff responsible for waste management? <input type="checkbox"/> Lack of waste related accident / injury reporting, logging and action? <input type="checkbox"/> Lack of personal protection equipment for medical waste personnel (thick soled boots, thick gloves, aprons, overalls, eye protection, masks)? <input type="checkbox"/> Lack of clean-up equipment and consumables for spills (buckets, brushes, mops, chlorine, detergent)? <input type="checkbox"/> Lack of on-site showers for workers? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> Temporary financial support for existing / additional waste staff. <input type="checkbox"/> Provision of durable waste containers, leak-proof plastic bags & disposable sharps boxes. <input type="checkbox"/> Provision of waste handling conveyance equipment (cart / trolley / wheelbarrow). <input type="checkbox"/> Provision of personal protection equipment (thick soled boots, thick gloves, aprons, overalls, eye protection, masks). <input type="checkbox"/> Provision of clean-up equipment and consumables (buckets, mops, brushes, chlorine, detergent). <input type="checkbox"/> Construction of additional showering facilities for staff. <input type="checkbox"/> Staff health and safety training. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____



SECTION V: DISEASE VECTOR CONTROL HAZARD ASSESSMENT

<i>Disease vector activity:</i> (Tick all that apply)	<i>Hazard assessment questions:</i> (Tick all that apply, add others if observed)	<i>Potential control measures:</i> (Tick all that apply, add others if needed)
Breeding Sites Removal	<ul style="list-style-type: none"> <input type="checkbox"/> Solid waste, food waste or organic waste visible in public environment? <input type="checkbox"/> Standing water (ponds, puddles, ditches, streams, surface waters) visibly present in public environment? <input type="checkbox"/> Blocked stormwater ditches? <input type="checkbox"/> Springs, wells, boreholes, reservoirs, inadequately sealed? <input type="checkbox"/> Wastewater from cleaning / bathing / handwashing or laundering activities visibly present in public environment? <input type="checkbox"/> Latrine pits, septic tanks, medical waste pits inadequately protected against surface water or disease vector intrusion? <input type="checkbox"/> Bathrooms, kitchens, wards, medical waste disposal area unsanitary (presence of food, excreta, wastes)? <input type="checkbox"/> Health facility floors and surfaces unsanitary (lack of daily cleaning with detergent and hot water). <input type="checkbox"/> Long grasses <100m / 300ft of health facility? <input type="checkbox"/> _____ <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Emergency clean up of dumped wastes in public environment. <input type="checkbox"/> Unblocking / re-leveling of any surface water drainage ditches. <input type="checkbox"/> Draining / backfilling of all natural land depressions. <input type="checkbox"/> Surface water management including construction of new drainage / diversion ditches. <input type="checkbox"/> Sealing of water sources. <input type="checkbox"/> Protection of latrine and waste pits against water intrusion. <input type="checkbox"/> Upgrade of latrine superstructures to VIP type. <input type="checkbox"/> Daily collection and disposal of food and organic wastes. <input type="checkbox"/> Daily cleaning of health facility floors and surfaces. <input type="checkbox"/> Cutting of long grasses within 100m / 300ft of health facility. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
Physical Barriers	<ul style="list-style-type: none"> <input type="checkbox"/> Lack of mosquito / fly screens (<1.5mm / 1/16") around window, door, eaves and any other openings. <input type="checkbox"/> No mosquito screen (<1.5mm / 1/16") around latrine / septic tank vent pipes. <input type="checkbox"/> Cracks, gaps or other physical entrances into health facility structure (eaves, roof, floor boards, etc). <input type="checkbox"/> Lack of insecticide treated mosquito nets for inpatient beds. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Mosquito screens (<1.5mm / 1/16") around window, door, eaves and any other openings & self-closing door mechanisms. <input type="checkbox"/> Screening (<1.5mm / 1/16") to latrine / septic tank vent pipes. <input type="checkbox"/> Provision of insecticide treated mosquito nets for inpatient beds. <input type="checkbox"/> Closure of any physical cracks or gaps into the health facility (eaves, roof, floor boards, etc). <input type="checkbox"/> _____ <input type="checkbox"/> _____
Chemical Control	<ul style="list-style-type: none"> <input type="checkbox"/> Lack of routine indoor residual spraying or thermal fogging program. <input type="checkbox"/> Absence of fly traps and rodent traps. <input type="checkbox"/> Lack of annual bed net re-treatment activities with insecticide at the start of the mosquito season for inpatients. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Indoor residual spraying at start of mosquito season. <input type="checkbox"/> Installation of fly traps and electrocution devices. <input type="checkbox"/> Thermal fogging (twice during mosquito season). <input type="checkbox"/> Re treatment of mosquito nets. <input type="checkbox"/> Provision of rodent traps <input type="checkbox"/> _____ <input type="checkbox"/> _____
Food Waste	<ul style="list-style-type: none"> <input type="checkbox"/> Inadequate protection of dry food stores from rodents and insects? <input type="checkbox"/> Uncovered / leaking food waste bins? <input type="checkbox"/> Kitchen or eating area surfaces, floors or utensils inadequately cleaned? <input type="checkbox"/> Uncovered food wastes in facility grounds or waste disposal area? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Improvements to food storage facilities and equipment. <input type="checkbox"/> Replacement / repair of kitchen food waste bins. <input type="checkbox"/> Improved cleaning of kitchen and dining surfaces, floors & utensils. <input type="checkbox"/> Daily removal and burial of food wastes (30cm / 1ft soil cover). <input type="checkbox"/> _____ <input type="checkbox"/> _____

DISEASE VECTORS



SECTION VI: INFECTION CONTROL HAZARD ASSESSMENT

Infection control element: <i>(Tick all that apply)</i>	Hazard assessment questions: <i>(Tick all that apply, add others if observed)</i>	Potential control measures: <i>(Tick all that apply, add others if needed)</i>
Infectious Wards	<ul style="list-style-type: none"> <input type="checkbox"/> Absence of guarded footbath and handwashing stations at entrances and exits of infectious wards? <input type="checkbox"/> Lack of dedicated toilets, showers, and laundry facilities that protects staff, patients and environment? <input type="checkbox"/> Lack of dedicated disposal facility for blood and body fluids that protects staff, patients and environment? <input type="checkbox"/> Lack of washable floor surfaces and mattresses (non-porous materials)? <input type="checkbox"/> Lack of routine cleaning program? <input type="checkbox"/> Lack of hygiene education for patients, carers and visitors? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Installation of footbaths (0.2% Cl) and functional handwashing stations (with guard) at entrances and exits of infectious wards. <input type="checkbox"/> Construction of dedicated safe additional toilet, shower and laundry facilities. <input type="checkbox"/> Upgrade floor coverings (plastic sheeting) and mattress covers (waterproof covers). <input type="checkbox"/> Ensure all patients, carers and visitors are informed about the essential practices for limiting disease transmission. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
Cleaning / Disinfection	<ul style="list-style-type: none"> <input type="checkbox"/> Absence of clear routine cleaning schedule and frequencies for different facility zones, surfaces and fittings. <input type="checkbox"/> Floors and surfaces visibly dirty? <input type="checkbox"/> Spills of blood and body fluids inadequately or tardily absorbed, cleaned and disinfected? <input type="checkbox"/> Inadequate disinfection of mattresses and pillows between patients or whenever soiled? <input type="checkbox"/> Bedding mats not destroyed and replaced between patients? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Define cleaning requirements and frequencies for different health facility zones, surfaces and fittings. <input type="checkbox"/> Define clean up protocols for blood and body fluids. <input type="checkbox"/> Upgrade washable surfaces to non-porous resistant materials. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
Laundry	<ul style="list-style-type: none"> <input type="checkbox"/> Inadequate handling, disinfecting, washing, drying, storage, or transportation of bed linen and medical garments? <input type="checkbox"/> Insufficient quantity of bed linen and medical garments? <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Upgrade health facility laundry facilities including storage for medical linens. <input type="checkbox"/> Provision of additional new medical linens. <input type="checkbox"/> Define clean up, disinfecting, washing, drying, storage and transportation protocols for medical linens. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
Management	<ul style="list-style-type: none"> <input type="checkbox"/> Insufficient numbers of dedicated staff responsible for waste management? <input type="checkbox"/> Staff inadequately trained in infection control measures. <input type="checkbox"/> Lack of personal protection equipment for medical waste personnel (thick soled boots, thick gloves, aprons, overalls, eye protection, masks)? <input type="checkbox"/> Lack of clean-up equipment and consumables for spills (buckets, brushes, mops, chlorine, detergent)? <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Temporary financial support for cleaning staff. <input type="checkbox"/> Infection control training. <input type="checkbox"/> Provision of personal protection equipment (thick soled boots, thick gloves, aprons, overalls, eye protection, masks). <input type="checkbox"/> Provision of clean-up equipment and consumables (buckets, mops, brushes, chlorine, detergent). <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____



SECTION VII: HANDWASHING HAZARD ASSESSMENT

Handwashing element: <i>(Tick all that apply)</i>	Hazard assessment questions: <i>(Tick all that apply, add others if observed)</i>	Potential control measures: <i>(Tick all that apply, add others if needed)</i>
Hardware	<ul style="list-style-type: none"> <input type="checkbox"/> Absence of operational handwashing stations (water, soap, safe drainage) <ul style="list-style-type: none"> <input type="checkbox"/> Within 5m / 15ft of every toilet? <input type="checkbox"/> Where healthcare is provided? <input type="checkbox"/> Where food is prepared or eaten? <input type="checkbox"/> Entry & exits of infectious wards? <input type="checkbox"/> Absence of soap or water at any handwashing station? <input type="checkbox"/> Unsafe wastewater disposal into a system that protects users and the environment from contamination. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Installation of additional permanent or temporary (drums of water with basin to catch wastewater) operational handwashing stations equipped with water, soap and safe drainage to soakage pit. <input type="checkbox"/> Provision of soap. <input type="checkbox"/> Upgrade / installation of safe wastewater disposal systems (e.g. soakage pit). <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
Handwashing Promotion	<ul style="list-style-type: none"> <input type="checkbox"/> Medical staff observed not following correct handwashing procedure. <ol style="list-style-type: none"> 1. Remove jewellery. 2. Wet hands and wrists. 3. Apply soap and lather well. 4. Palm to palm fingers interlaced. 5. Scrub back of each hand with palm of other hand & vice versa. 6. Scrub backs of fingers with opposing fingers interlocked. 7. Scrub each thumb clasped in opposite hand. 8. Scrub fingertips of each hand in opposite palm. 9. Scrub each wrist clasped in opposite hand. 10. Pat hands dry with paper towel. <input type="checkbox"/> Absence of posters reminding users of correct handwashing procedure? <input type="checkbox"/> Patients, carers and visitors are not informed about handwashing practices within 10 mins of arrival? <input type="checkbox"/> Staff are inadequately trained in infection control measures including correct handwashing? <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Installation of handwashing reminder posters illustrating the correct handwashing procedure at critical handwashing points around the health facility. <input type="checkbox"/> Refresher training on infection control measures and handwashing for facility staff. <input type="checkbox"/> Routine monitoring of handwashing behavior. <input type="checkbox"/> Dedicated handwashing / infection control presentation for new patients and carers. <input type="checkbox"/> _____
Management	<ul style="list-style-type: none"> <input type="checkbox"/> Insufficient numbers of dedicated staff responsible for hygiene promotion, monitoring and enforcement? <input type="checkbox"/> Staff inadequately trained in infection control measures including handwashing. <input type="checkbox"/> Lack of critical handwashing supplies in particular soap. <input type="checkbox"/> _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Temporary financial support for hygiene promoters. <input type="checkbox"/> Infection control / handwashing refresher training sessions. <input type="checkbox"/> Provision of soap. <input type="checkbox"/> _____



SECTION VIII: WATER QUALITY TESTING

- Relevant water quality parameters to be tested vary from context to context depending upon the nature of the source of water (groundwater or surface water), the nature of rocks making up groundwater aquifers, and the nature of land use (industrial and agricultural activity) around the health facility.
- During the emergency phase it will be valuable to monitor these indicators (in particular free chlorine residuals if water chlorination activities are being initiated) on a daily basis. In more stable situations, the frequency will be less. Some parameters are unlikely to change much over time (such as the levels of groundwater mineral contaminants such as arsenic and fluoride). At a minimum, these indicators need to be measured once as a baseline and then at least quarterly throughout the emergency response.
- If the health facility is supplied with mains water from a reliable public network, the most appropriate parameters are free chlorine residual and faecal coliforms.
- If groundwater aquifers are known to contain traces of arsenic, fluoride, iron, manganese, or other minerals then these parameters should be tested.
- Surface waters in areas where industrial or agricultural activities are commonplace should be sent to national laboratories for broad spectrum testing of multiple industrial and agricultural contaminants.
- If a sanitary survey shows there is a risk that water could be contaminated from latrines, septic tanks, sewers, or agricultural activity then the water should be tested for nitrates in addition to faecal coliforms.
- Water samples should be taken at a minimum from the water source and point of water collection. Complex water systems may require samples at intermediary stages e.g. storage or following treatment.

Location	Parameter	Frequency	Standard / Threshold	Means of Verification
Groundwater source	Faecal contamination	Monthly	0 fcu/100ml	Water sampling at point of abstraction
	pH	Monthly	6.5 – 8.5	
	Turbidity	Monthly	<5 NTU	
	Arsenic	Quarterly	0.05 mg/l	
	Fluoride	Quarterly	1.0 – 1.5 mg/l	
	Iron*	Quarterly	0.3 mg/l	
	Manganese*	Quarterly	0.1 mg/l	
	TDS	Quarterly	1000 mg/l	
Surface water source	Faecal contamination	Monthly	0 fcu/100ml	Water sampling at point of abstraction
	pH	Monthly	6.5 – 8.5	
	Turbidity	Monthly	<5 NTU	
	TDS	Quarterly	1000 mg/l	
	Broad spectrum contaminant analysis	Quarterly	---	
Piped mains water	Faecal contamination	Monthly	0 fcu/100ml	Water sampling at point of entry
	Free chlorine residual	Weekly	>0.5 mg/l	
	pH	Monthly	6.5 – 8.5	
	Turbidity	Weekly	<5 NTU	
Water collection point	Faecal contamination	Monthly	0 fcu/100ml	Random selection of 4 water collection points
	Free chlorine residual	Weekly	> 0.5mg/l	
	Turbidity	Weekly	< 5 NTU	
	Flow	Quarterly	0.125 l/s	

* Levels of Iron and Manganese of above 0.3 mg/l and 0.1 mg/l are not hazardous to health, however the adverse taste may causes users to abandon the source in favour of another unprotected source.



SECTION IX: HEALTH FACILITY WASH ASSESSMENT - KEY INFORMANT QUALITATIVE QUESTIONS

- These key informant primer questions have been compiled as an aide memoire to help find out:
 - What health facility staff feel are the key public health hazards?*
 - What health facility staff feel are the underlying causes of various public health hazards?*
 - What health facility staff feel are the solutions to various public health hazards?*
- The aim of the tool is to help collect background information on WASH issues that may not be obvious from direct observation, in particular any underlying non-technical causes (e.g. social or managerial).
- Try to interview a number of key staff (Director, Head Sanitarian, Medical Staff) and triangulate responses.
- The list of questions is not exhaustive and is merely intended as a conversation primer. Additional questions should be formulated based on the replies from key informants and the emergency context.
- Try not to simply read the questions directly off the list. Instead use the themes as conversation starters.
- There is no need to ask all questions on the list. Choose only the themes that are relevant to the context.
- Try to keep questions as open-ended as possible. Ask staff for their opinions. Keep asking 'why?'.
- Try to avoid overburdening respondents - concentrate on factors that pose the greatest health risk first.
- You can use the interview to debrief staff - if it is carried out after the infrastructure assessment.

General

#1. General background information on number of staff and users.

- How many staff, inpatients, inpatient carers, and outpatients are present in the health facility every day?*
- Have you seen the number increase as a result of the emergency or do you expect it to increase?*
- What is the capacity (number of beds) and do you have temporary space for expansion if required?*

#2. General perceptions of key public health risks in the health facility.

- What do you feel are the biggest challenges in ensuring that the facility is free from public health risks?*
- Where are the biggest hazard out of water quality, water quantity, excreta disposal, infection control, medical waste management, laundering facilities, bathing facilities, handwashing and vector control?*
- Where geographically in the health facility are the biggest hazards?*
- What do you feel are the solutions?*

Water

#3. Perceptions concerning water quantity for the health facility.

- How much water is typically available / collected per day?*
- Do you feel there is enough for cleaning, laundering, handwashing, drinking, bathing, infection control?*
- Was there more water before the emergency or has the emergency caused interruptions in supply?*

#4. Perceptions concerning water quality in the health facility.

- Do you feel the water is of good quality?*
- Was the quality of the water better before the emergency?*
- Do some parts of the health facility have better water quality than others?*
- Where along the water chain do you feel are the biggest risks to water quality?*
- What do you feel could be done to improve the water quality?*

#5. Discussion concerning water sources supplying the health facility.

- What are the main sources of water for the health facility?*
- How far are these water sources? Who takes care of these sources?*
- Is there any change in the water collection pattern during the year?*
- Do you feel these water sources are sufficiently safe and sanitary?*
- Are there any safer alternative water sources that could be exploited?*

#6. Discussion concerning water management and what happens during system breakdown.

- Does the water system ever break down?*
- Whose responsibility is it to get the system working when the water source/system breaks down?*
- Do you feel there are enough staff to operate and maintain the water supply system?*
- Do you feel they have sufficient tools, materials, and training?*

#7. Discussion concerning safe water storage in the health facility.

- How is water stored in the health facility?*
- Do you feel there is enough water storage? Does water ever run out?*
- Is drinking water stored separately from water for washing, cooking, bathing or cleaning?*
- How often are the water storage vessels cleaned, how are they cleaned, and who cleans them?*

#8. Discussion concerning safe water treatment in the health facility.

- Is any form of water treatment practiced in the health facility (boiling, filtering, chlorination)?*
- Can you suggest any improvements that can be made to the treatment practices?*

#9. Discussion concerning access to water points in the health facility.

- Are there water points in every part of the health facility where healthcare is being provided?*
- Are there any parts of the health facility with access problems (e.g. low flowrates, poor quality)?*
- Do infection wards have their own dedicated water points?*
- Do you feel that generally there are enough water points?*



Excreta Disposal	<p>#10. Discussion concerning access to toilet facilities in the health facility.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Are there toilet facilities in every part of the health facility where healthcare is being provided? <input type="checkbox"/> Are there any parts of the health facility with problems (e.g. full, leaking, fly infestation, cleanliness)? <input type="checkbox"/> Do you feel that generally there are enough toilets? <p>#11. Discussion concerning public health risks from toilet facilities in the health facility.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Where along the sanitation chain do you feel are the biggest public health hazards? <input type="checkbox"/> Are there any high risk activities such as excreta conveyance, handling, tankering, lagooning? <input type="checkbox"/> Where is the excreta finally disposed? <input type="checkbox"/> Do you feel the sanitation chain can be improved or made safer in any way? <p>#12. Discussion concerning toilet design in the health facility.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Do you think the toilet design is generally acceptable to children, the elderly, the infirm, disabled users? <input type="checkbox"/> Do you have any suggestions for improving the design? <p>#13. Discussion concerning toilet cleaning, operation and maintenance.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Who is responsible for cleaning the toilets and how often are they cleaned? <input type="checkbox"/> Who is responsible for repairing, emptying or unblocking the toilets and sanitary systems? <input type="checkbox"/> Do you feel there are enough staff considering the size of the health facility and number of toilets? <input type="checkbox"/> Do you feel the staff are adequately trained and motivated? <input type="checkbox"/> Do you feel the staff have the correct tools, cleaning equipment, consumables and personal protection?
Wastewater Disposal	<p>#14. Discussion concerning infectious wastewater disposal in the health facility.</p> <ul style="list-style-type: none"> <input type="checkbox"/> How is infectious wastewater from laundering of soiled bedding, cleaning of infectious wards, patient bathing areas, or handwashing activities disposed? <input type="checkbox"/> Do you have any suggestions for reducing the public health risks form infectious wastewater? <p>#15. Discussion concerning surface water management.</p> <ul style="list-style-type: none"> <input type="checkbox"/> When it rains, are there any problems with surface water drainage of the site? <input type="checkbox"/> Are there any risks that contaminated rainwater could leave the site and contaminate the community? <input type="checkbox"/> Who is responsible for clearing ditches and maintaining the drainage network? <input type="checkbox"/> Do the staff have the correct tools and personal protection equipment to carry out this work? <input type="checkbox"/> Do you have any suggestions for improving surface water management?
Healthcare Waste Management	<p>#16. Perceptions concerning waste generation and collection in the health facility.</p> <ul style="list-style-type: none"> <input type="checkbox"/> How much sharps waste, infectious waste, and non-infectious waste is generated per day? <input type="checkbox"/> Do you feel there are enough appropriate waste collection containers? <input type="checkbox"/> Do you feel healthcare wastes are adequately separated and managed? <input type="checkbox"/> Do you have any suggestions for improving current practices? <p>#17. Perceptions concerning waste movement and storage at the health facility.</p> <ul style="list-style-type: none"> <input type="checkbox"/> How is medical waste moved around the facility? <input type="checkbox"/> Is medical waste stored anywhere while it waits for treatment, collection or final disposal? <input type="checkbox"/> What do you feel could be done to improve the movement or storage of wastes? <p>#18. Discussion concerning waste treatment and disposal at the health facility.</p> <ul style="list-style-type: none"> <input type="checkbox"/> How are the different wastes treated and finally disposed of at the health facility? <input type="checkbox"/> Do you feel that the waste disposal site is large enough for the health facility? <input type="checkbox"/> Do you have any suggestions for improving how medical waste is treated or disposed? <p>#19. Discussion concerning waste disposal operation and management.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Do you feel there are enough staff to collect and dispose of the waste at the health facility? <input type="checkbox"/> Do you feel they have sufficient tools, materials and personal protective equipment, and training to keep the waste disposal chain safe for staff, patients and the environment?
Disease Vector Control	<p>#20. Discussion concerning disease vectors in the health facility?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Do you have any problems with the presence of disease vectors in and around the health facility (such as vermin, bats, birds, mosquitoes, ants, cats, dogs)? <input type="checkbox"/> Do you have any problems with stagnant water, blocked ditches, long grasses, infestations in latrine pits or septic tanks, or food or infectious waste management? <input type="checkbox"/> Do you have any suggestions how any problems mentioned can be addressed? <p>#21. Discussion concerning disease vector control activities in the health facility?</p> <ul style="list-style-type: none"> <input type="checkbox"/> What sorts of vector control activities do you carry out (e.g. clearing breeding sites, barriers and screens, use of bed nets, waste management, cleaning and disinfecting, indoor residual spraying, and fogging)? <input type="checkbox"/> Do you have any suggestions for improvements to vector control activities in the health facility? <p>#22. Discussion concerning vector control operation and management.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Do you feel there are enough staff to carry out vector control activities at the health facility? <input type="checkbox"/> Do you feel they have sufficient tools, equipment, materials and personal protective equipment, and training to carry out disease vector control activities?



Laundry and Bathing

#23. Discussion concerning access to laundry facilities in the health facility.

- Are the health facility facilities for laundering, drying and storing bed linen and medical linen sufficient?
- Do you feel there are enough locations for public laundering and clothes / bedding drying?
- Do infection wards have their own dedicated public laundry facilities?
- Are you aware of any problems with the laundering facilities and can you suggest any ways that laundry at the health facility can be improved?

#24. Discussion concerning laundry operation and management.

- Do you feel that soiled linen and medical linen is safely handled, transported, and disinfected?
- Do you feel there are enough staff to carry out laundry activities at the health facility?
- Do you feel they have sufficient disinfecting equipment, materials and personal protective equipment to carry out laundering activities?
- Can you suggest any ways that laundry operations can be improved?

#25. Discussion concerning access to bathing facilities in the health facility.

- Do you feel there are enough functional showers on-site for medical staff and other staff involved in the handling of infectious wastes (cleaners, sanitation workers)?
- Do you feel there are there enough functional public showers for patients and carers?
- Are there bathing facilities within easy access of every part of the facility where healthcare is provided?
- Do any of the showers have problems (e.g. low flowrates, blockages, water of poor quality)?
- Do infection wards have their own dedicated public showering facilities?
- Are you aware of any problems with the bathing facilities and can you suggest any ways that bathing at the health facility can be improved?

#26. Discussion concerning bathing facility operation and management.

- Do you feel there are enough staff to ensure bathing facilities are adequately cleaned and operational?
- Do you feel they have sufficient tools, spare parts, disinfecting equipment, materials and personal protective equipment to ensure bathing facilities are clean and operational?
- Can you suggest any ways that bathing operations can be improved?

Food Safety

#27. Discussion concerning food storage, preparation and food safety in the health facility.

- How is food stored, prepared, cooked, consumed, stored and disposed of in the health facility?
- Are food storage, preparation surfaces and cooking and eating utensils generally clean and sanitary?
- Are there issues with disease vectors around the food storage, preparation and consumption areas?
- Have there ever been any problems related to food safety in the health facility?
- Do you feel that staff preparing food are adequately trained in food hygiene practices?
- Do you feel there is any way that food safety can be improved at the health facility?

Handwashing Facilities & Promotion

#28. Discussion concerning access to handwashing facilities in the health facility.

- Do you feel there are enough functional handwashing points within easy access of every part of the facility where healthcare is provided, in every toilet block and where food is prepared or eaten?
- Do any of the handwashing points have problems (e.g. low flowrates, blockages, lack of soap)?
- Do infection wards have their own dedicated handwashing facilities?
- Are you aware of any problems with the handwashing facilities and can you suggest any ways that handwashing at the health facility can be improved?

#29. Discussion concerning handwashing promotion and practice in the health facility.

- Are there any ongoing activities related to the promotion of handwashing in the health facility?
- Do you feel medical staff are correctly training in correct handwashing procedure?
- Do you feel inpatients, carers and visitors are sufficiently informed of the importance of handwashing?
- Do you feel there are sufficient visual reminders concerning the importance of handwashing?

#30. Discussion concerning handwashing facility operation and management.

- Do you feel there are enough staff to ensure handwashing facilities are adequately operational?
- Do you feel they have sufficient tools, spare parts, disinfecting equipment, and soap to ensure handwashing facilities are clean and operational?
- Can you suggest any ways that handwashing operation and maintenance can be improved?

Infection Control

#31. Discussion concerning infection control practice.

- How are blood and body fluids absorbed, disinfected and disposed of?
- How is soiled linen handled, disinfected and cleaned?
- Do you feel there are enough staff for routine cleaning and disinfection of floors and surfaces?
- What procedures are in place for disinfecting beds between patients?
- Do you feel you have sufficient disinfecting equipment, footbaths, sprayers, handwashing basins, soap, chlorine, mops, brushes, buckets, plastic sheeting, to ensure adequate infection control?
- Are any special procedures in place for infectious wards?
- Can you suggest any ways that infection control can be improved?



SECTION X: PLAN VIEW SKETCH OF THE OVERALL FACILITY AND ITS GROUNDS



Note I: Use a larger sheet of paper if this page is too small.

Note II: Talk to the facility management – they may have copies of existing plans for the facility that you can photocopy.

Mark the following plus any additional features:

- buildings pathways access roads
- fences, gates & entrances parking areas
- streams wells borehole springs ponds
- water storage or treatment infrastructure
- water pipe networks stormwater channels
- water collection points and greywater channels
- toilets septic tanks sewers
- bathing areas and greywater channels
- laundering areas and greywater channels
- laundry drying areas infectious wards
- waste pits incinerators waste disposal area
- surface water drainage channels
- cooking areas storage facilities play areas

Mark any potential health risks & control measures:

- open defecation uncontrolled medical waste
- potential areas for installing additional water storage
- potential areas for new sanitation facilities
- potential water collection point upgrade / expansion
- potential bathing area upgrade / expansion
- potential laundering area upgrade / expansion
- potential waste disposal area upgrade / expansion
- wastewater channels lining / covering / infiltration
- potential improvement of stormwater management - stormwater ditches / filling of areas of ponding
- potential vector control activities
- potential paving of areas for emergency expansion



**SECTION XI: HEALTH FACILITY WASH ACTION PLAN**

WHAT? (List of priority control measures)	BY WHOM?	BY WHEN?	TOOLS / EQUIPMENT REQUIRED? (e.g. spades, wheelbarrows)	MATERIALS / CONSUMMABLES REQUIRED? (e.g. cement, pipes, soap, chlorine)	SKILLED LABOR REQUIRED? (man-days)	UNSKILLED LABOR REQUIRED? (man-days)	APPROX. COST? (USD\$)	WHO PAYS?
e.g. Chlorination of health facility water supply	Health facility Sanitarian / OXFAM	End of week	Chlorine doser, plumbing wrenches, hacksaw, pipe threading machine	Buckets, 200l drum, chlorine, mixing stick, measuring cylinder, chlorine residual tester	1 man-day	1 man-day	400 USD\$ + 20 USD\$ per month	OXFAM
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								

NOTE: You may need to photocopy this table if there are lots of urgent WASH control measures required.

SECTION XII: HEALTH FACILITY HAZARD ASSESSMENT SUMMARY – WATER SUPPLY CHAIN

- Use this template to document the detailed water chain from source to point of consumption / use.
- Ask a staff member to show you the water source and ask them to physically walk you through the water network (i.e. from source, to storage, to treatment, to distribution, to consumption).
- As you follow the system, talk to users about problems, take photos, and use the hazard assessment questions in Section I of the CAT to help identify sanitary risks, along with any control measures.
- Assign a risk level using table 5.1 in section 5.1 of the guide. Do not include hazards that are unlikely during the emergency phase or that have minor or insignificant consequences to health.

System Element	Potential Hazards	Risk Level	Control Measures
<div style="border: 1px solid black; height: 30px; width: 100%;"></div> 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div> 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div> 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div> 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div> 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div> 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div> 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Note I: Use a larger sheet of paper if this page is too small.

Note II: You may need to photocopy this page if there are multiple water sources.



SECTION XII: HEALTH FACILITY HAZARD ASSESSMENT SUMMARY – EXCRETA DISPOSAL CHAIN

- Use this template to document the detailed excreta disposal chain from origin to disposal.
- This may be incredibly simple (e.g. a simple pit latrine) – however in recent emergencies (e.g. Haiti) the sanitation chain has been complex resulting in significant public health risks.
- Ask a facility staff member to show you the toilets and ask them to physically show you the elements (i.e. from toilet, to storage, to transfer station, to treatment / reuse / septic overflow / leach field etc).
- As you follow the system, talk to users about problems, take photos, and use the hazard assessment questions in Section II of the CAT to help identify sanitary risks, along with any control measures.
- Assign a risk level using table 5.1 in section 5.1 of the guide. Do not include hazards that are unlikely during the emergency phase or that have minor or insignificant consequences to health.

System Element	Potential Hazards	Risk Level	Control Measures
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

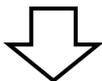
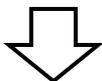
Note I: Use a larger sheet of paper if this page is too small.

Note II: You may need to photocopy this page if there are multiple excreta disposal systems.



SECTION XII: HEALTH FACILITY HAZARD ASSESSMENT SUMMARY – WASTEWATER DISPOSAL CHAINS

- Use this template to document the detailed wastewater disposal chain from origin to disposal.
- This may be incredibly simple (e.g. the use of simple soakaway pits) or it may be more complex if wastewater is being collected, stored or moved (e.g. from temporary handwashing facilities).
- Ask a facility staff member to show you the places where wastewater is created (i.e. showers, handwashing stations, laundering points) and ask them to physically show you the elements of the disposal system (i.e. canals, storage, septic systems, treatment systems, leach fields etc).
- As you follow the system, talk to users about problems, take photos, and use the hazard assessment questions in Section III of the CAT to help identify sanitary risks, along with any control measures.
- Assign a risk level using table 5.1 in section 5.1 of the guide. Do not include hazards that are unlikely during the emergency phase or that have minor or insignificant consequences to health.

System Element	Potential Hazards	Risk Level	Control Measures
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note I: Use a larger sheet of paper if this page is too small.

Note II: You may need to photocopy this page if there are multiple wastewater disposal systems being used.



SECTION XII: HEALTH FACILITY HAZARD ASSESSMENT SUMMARY – MEDICAL WASTE CHAINS

- Use this template to document the detailed medical waste disposal chains from origin to disposal.
- Ask a facility staff member to show you the places where medical waste is created (i.e. wards, consultation rooms, delivery rooms, surgery, lab) and ask them to physically show you how each of the different waste types (i.e. sharps, non-sharp infectious wastes, non-infectious wastes, and hazardous wastes) are handled, moved, stored and disposed.
- As you follow the systems, talk to staff about problems, take photos, and use the hazard assessment questions in Section IV of the CAT to help identify sanitary risks, along with any control measures.
- Assign a risk level using table 5.1 in section 5.1 of the guide. Do not include hazards that are unlikely during the emergency phase or that have minor or insignificant consequences to health.

System Element	Potential Hazards	Risk Level	Control Measures
<div style="border: 1px solid black; height: 30px; width: 100%;"></div> 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div> 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div> 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div> 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div> 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div> 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Note I: Use a larger sheet of paper if this page is too small.
 Note II: You will need to photocopy this page for each type of waste being disposed.

