



Standard Operating Procedures (SOP) for Water, Sanitation & Hygiene (WASH) in Emergencies-Bhutan



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Second Edition

Developed By:
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&
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In
Partnership With UNICEF

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Standard Operating Procedures (SOP) for Water, Sanitation and Hygiene (WASH) in Emergencies

1. Purpose

To simplify, streamline and define clear roles, responsibilities and procedures related to drinking water supply, sanitation and hygiene in emergencies to prevent outbreak of WASH related diseases.

2. Scope

This SOP will apply to all levels¹ of disasters² in which WASH interventions are required to provide minimum WASH services to the affected population giving special consideration to the vulnerable groups.

3. Responsibility

In the event of an emergency, the Dzongkhag, Thromde and Gewog engineers will take lead in communicating with the respective Disaster Management Committees to assess the need of WASH intervention, develop action plan, and mobilize a technical team to set up WASH facilities.

- **At Central level:**
Public Health Engineering Division, Royal Centre for Disease Control and Water and Sanitation Division shall coordinate response with Medical Service Desk, Logistics Desk and Immediate Restoration of Essential Public Service Desk that is within the Department of Disaster Management.
- **At Dzongkhag level:**
Dzongkhag Chief Engineer shall coordinate preparedness and response in collaboration with Dzongkhag Health Officer and Dzongkhag Disaster Management Committee.
- **At Thromde level:**
Thromde Chief Engineer shall coordinate preparedness and response in collaboration with Thromde Health Officer³ and Thromde Disaster Management Sub-Committee.
- **At Gewog level:**
Gewog Engineer shall coordinate preparedness and response in collaboration with Health Assistant and Gewog Disaster Management Sub-Committee.

¹Levels: i) Based on intensity: minimal, mild, moderate severe, ii) Based on spread/distribution: local, Dzongkhag wide, region wide and nation wide

²Natural calamities: Floods, earthquake, landslides, Glacial Lakes Outburst Floods [GLOF], etc.); Disease outbreak: epidemic; Manmade: forest fires, etc.

³Dzongkhag Health Officer or any official responsible for overseeing public health related matters in the Thromde shall be the focal in Thromdes that does not have Thromde Health Officer.

4. Definitions

Basic family water kit:

Each family kit contains a collapsible water container ⁴(10 litres), 2 buckets (15 litres), 2 jugs, 6 soaps (bathing and laundry-250gm), water purification tablet, 1 torch, child potty, multi-purpose cloth (1x1.5 m), 5 underwear and 45 sanitary pads.

Family hygiene kit:

Each hygiene kit consists of 5 tooth brush, 1 tooth paste (250 mg), 1 comb, 1 nail cutter, 2 towels, 1 soap for handwashing (250 gm), 1 Vaseline (petroleum jelly 250mg), 1 soap to wash utensils and 6 toilet papers.

Disinfection:

Treatment to destroy harmful micro-organisms. Bleaching powder is commonly used to disinfect water.

Dosage:

Safe quantity of chemical used to disinfect water.

E-coli:

Species of bacterium found in abundance in the human and animal faeces.

Gravity: flow:

Flow of water enabled by the difference in altitude or height.

NTU:

Nephelometric Turbidity Units. It is the unit to measure the cloudiness or haziness (turbidity) of water.

Tanker:

A motorized water carrier vehicle.

Vulnerable group:

Children, elderly, pregnant women, sick, injured and persons with disabilities

Water treatment:

Making water safe to drink through filtration and disinfection.

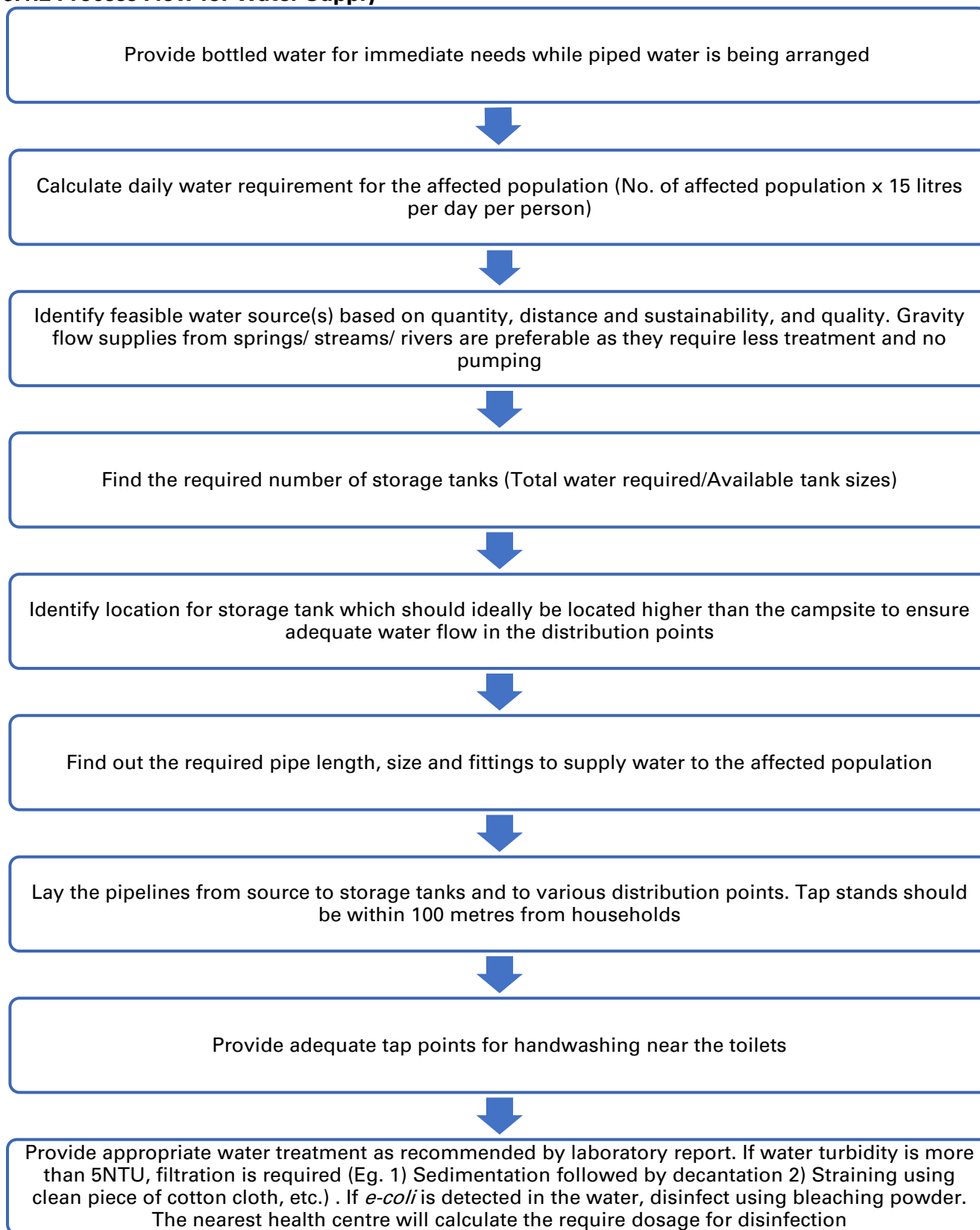
⁴Until Stocks Last.

5. Procedures

5.1 Essential Materials for Water Supply

Essential Items (with specifications and/or descriptions)	Quantity
Jug, jerry can and bucket with lid (15 litres)	One set per family
Collapsible and portable water tanks (5,000 litres) with distribution tap points. Each tap point should serve at least 50 people to ensure queueing time is not more than 20 minutes.	Three tanks are available at the preposition sites (Trashigang, Gelephu and Phuentsholing). Additional tanks to be purchase as required
1 roll Flexible pipe ½ inch, 3 rolls canvas hose pipe 75mm diameter of 100 meters each.	Available at the prepositioned sites
Pipes, fittings, valves, taps	As per recommendation of the district engineer
Basic family water kit for 10 families	20 kits prepositioned. Each kit can cater to 10 families. More kits to be made available as required.
Submersible pumps with 2-inch inlet and 1 1/2-inch outlet (if gravity flow supplies are not feasible).	Available at the prepositioned sites Also based on recommended by district engineer on additional units.
Tankers (For affected areas which are connected with roads and where pipe water supply coverage is not possible)	Calculated based on number of affected people, size of tank and supply frequency
Bottled water (initial phase)	Depending on the need
Water Quality	
Bleaching powder/ Boiling of water for drinking	As recommended by Royal Centre for Diseases Control (RCDC), Ministry of Health
Chlorine/pH pool tester kit for 250 tests	One kit each prepositioned
Turbidity meter	Available with RCDC

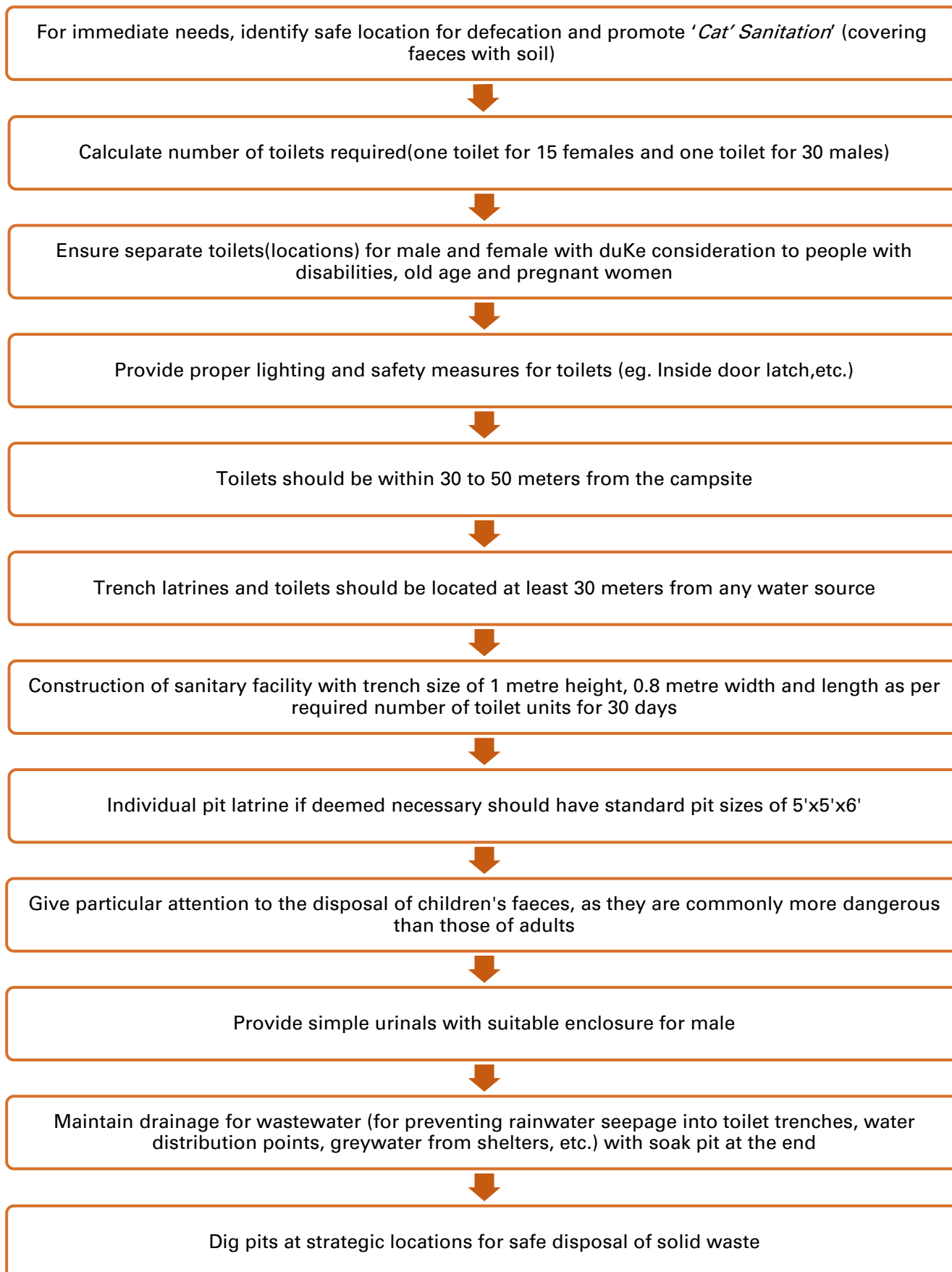
5.1.2 Process Flow for Water Supply



5.2.1 Essential Materials for Sanitation

Essential Items (with specifications and/or descriptions)	Quantity
One Pre-fabricated squatting pan (120 x 80 cm) with cover will serve 15 females or 30 males	20 each prepositioned. Additional to be procured as per requirement
Toilet tent	Available at the prepositioned sites
<p>1 conventional toilet. List of materials required for one toilet:</p> <ul style="list-style-type: none"> ▪ 1 bundle rope 1kg. binding wire ▪ 4 nos. 9' long Timber/Bamboo Batten (4"X3" size) ▪ 15 nos. 6' long Timber/Bamboo Batten 3"X2" size ▪ 2kg. nails (a mix of 2", 3" and 4") ▪ 10 meters plastic sheet/ coconut husk sack, ▪ For door - 1 no. ply board (6"); 2 nos. hinges (3") & 2 nos. handles (4") ▪ Basic electrical items (eg. Wire, switch, bulb, holders etc.) 	Based on the list, materials required for total number of toilets should be calculated.

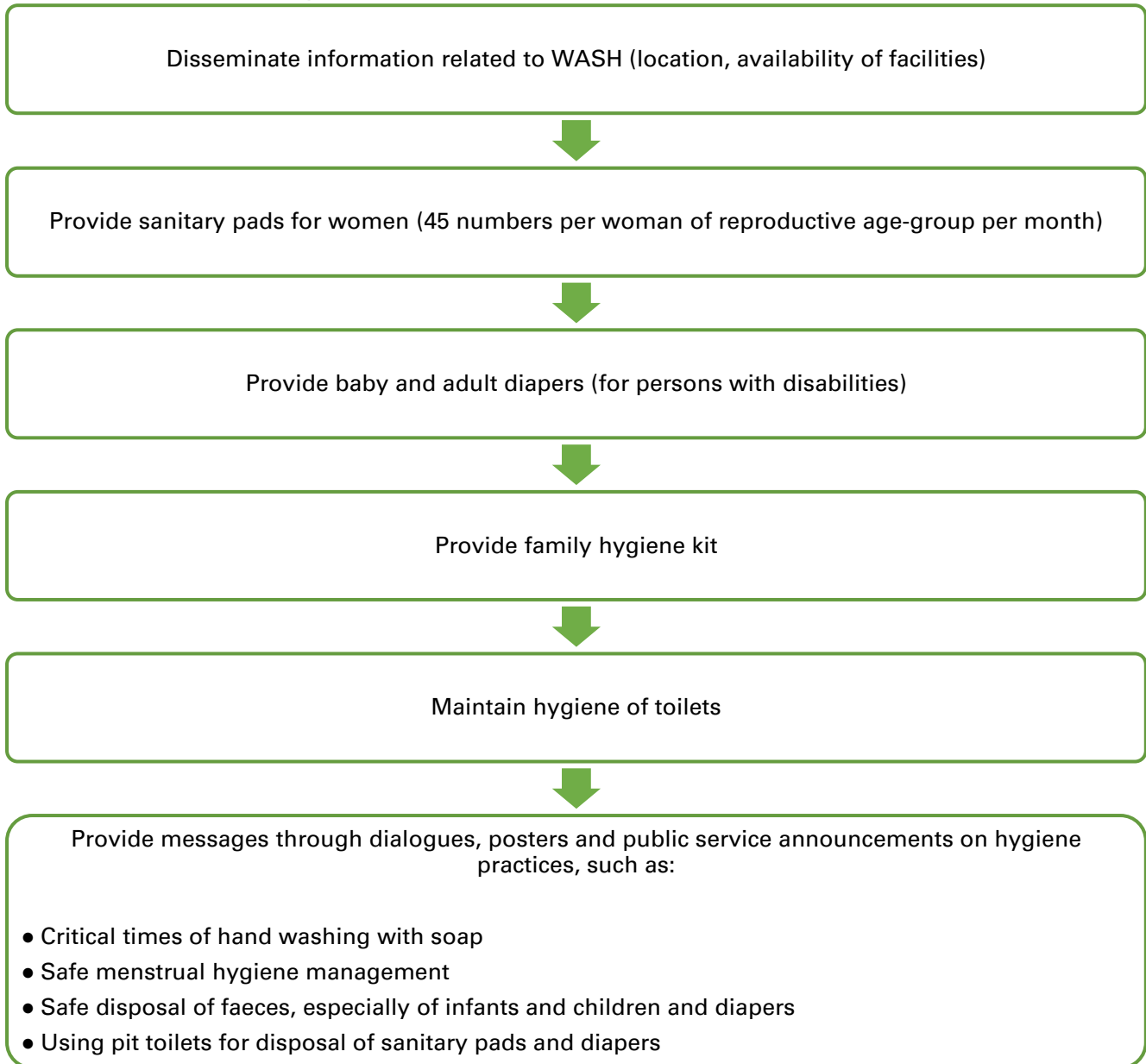
5.2.2 Process Flow for Sanitation



5.3.1 Essential Materials for Hygiene

Essential Items (with specifications and/or descriptions)	Quantity
Family hygiene kit	To be based on number of families affected
Sanitary pads for women of reproductive age. It is important to find out the total number of women from the initial situation report.	45 numbers per woman per month
Baby diapers. It is important to find out the total number of children under-2 from the initial situation report.	15 numbers per baby for 1 week
Adult diapers for persons with disabilities (PWDs). The total number of PWDs needs to be validated from the initial situation report.	15 numbers per person per 1 week

5.3.2 Process Flow for Hygiene



5.4 Recommended Basic Tools

- Patang/Knife
- Spade
- Shovel
- Crow bar
- Hammer
- Pick axe
- Hacksaw frame with blade
- Mortar pan
- Plier (8")
- Tester
- Carpentry saw
- Pipe wrench

6. Exit Strategy

The exit strategy will take into effect once the emergency status at the settlement is declared over and all people moved out of the temporary settlement. Following are some of the activities that needs to be considered as a part of exit strategy:

- Dismantling of WASH facilities
- Restoration of sites and safe disposal of waste
- Handing over tools and materials
- Preparing exit report which will include financial, stock update, lessons learnt and recommendations
- Restocking of WASH emergency supplies

7. References

- i. Standard Operating Procedure for WASH in Emergency, First Edition, 2017*
- ii. Health Emergency and Contingency Plan for Bhutan, 2016*
- iii. The Sphere Project, Humanitarian Charter and Minimum Standards in Humanitarian Response, 2011*
- iv. Sanitation and Hygiene Guidelines, Bhutan, 2014*
- v. Draft Framework for WASH in Emergencies, Bhutan, 2011*
- vi. Core Commitments for Children in Humanitarian Action, UNICEF, 2010*
- vii. Strategy for Water, Sanitation and Hygiene 2016-2030, UNICEF, 2016*