

Mainstreaming management and reuse of lost water from tap stands and washing areas:

A guidance towards greener and healthier operations

Rationale

Lost water from tap stands and washing areas creates mud pools which could be used for beneficial non-potable uses thereby reducing the potential public health risks associated with mud pools resulting from the former. Lost water can be reused for gardens (community and household), brick making (livelihood and private use), among others.

This guidance aims at mainstreaming:

1. Context specific site planning toward the reuse of lost water and minimize environmental degradation and public health risks.
2. Advocacy for the reuse of lost water for livelihood and non-potable household initiatives.

This guidance is not a blueprint, it aims at triggering reflection on a known issue toward a sustainable planning and management of lost water. The guidance also documents some stories from the field.

What has experience taught us?

1. Lost water from tap stands and washing areas would be a reality at some point in the lifespan of the camp/settlement.
2. This will be a nuisance environmentally as well as posing public health risks.
3. Planning for the management and reuse is traditionally reactive rather than proactive.
4. Space and resources for reactive planning would be a challenge.

What can and/or should be done?

1. Ideally during the planning of the site, space should be allocated for the management and reuse of lost water.
2. In a proactive model, consult with the community, camp management, Protection, Community-Based Protection, Field, Livelihood and WASH to arrive at context specific solution aim at reducing lost water, channelling/collecting/storing lost water for reuse.
3. Design water reuse infrastructure and treatment options based on site conditions and the context specific solution agreed upon.
4. Through a consultative process, develop a community-led protocol for the reuse of lost water. Table 1 shows examples of non-potable water uses, the benefits, and associated risks.
5. Establish a monitoring and continuous review joint committee.

Water reuse infrastructure for tap stands and washing areas

- Channels
- Fenced basins/ponds with a maximum depth of 30 cm; size according to estimated lost volume. In a shaded area, and/or covered with a floating cover.
- Fenced community gardens on communal land,
- Productive trees on sidewalks, green walls

Water treatment and reuse infrastructure for washing areas.

The following non-exhaustive resources are recommended for the treatment:

- Pre-treatment: soap removal: <https://www.emersan-compendium.org/en/technologies/technology/pre-treatment-technologies>
- Sand filters: <https://www.emergency-wash.org/water/en/technologies>
- Vertical-flow constructed wetlands: <https://www.emersan-compendium.org/en/technologies/technology/constructed-wetland>

Infiltrating the excess

- Soak pits are an option for excess water infiltration. The UNHCR soak pit design guidelines in humanitarian contexts is available [here](#)

Construction of lost water channelling and storage infrastructure

This should be designed and supervised by skilled individual to minimize environmental degradation and excessive public health risks.

Achieving the collective objectives

- Achieving a sustainable solution is largely in part programmatic
- Context should determine the actions and the extent of success would reflect the inherent integrated and cross-functional collaborative mechanisms in the operation.

Identification of water reuse interests

Most informal water reuse initiatives around tap stands and washing areas have been undertaken by individuals or households. Mainstreaming it in settlement planning would mean to encourage shared or public use of the resource and dedicate public space for all or part of the infrastructure. In existing settlements, the first step is to consult the community surrounding the tap stand/washing area about current practices and reuse interests. Consider feasibility, cost, soil type, community preference and sustainable management model to guide water reuse decision choice. Facilitate community discussion on the management, monitoring and corrective action of the uses.

The table below shows a number of potential water uses, with the associated opportunities and risks.

Potential non-potable water uses	Opportunities	Risks
<ul style="list-style-type: none"> • Community or household gardens 	Positive mental health impact and more diversified food source for the users and their households	Poor management of the gardens due to lack of a sense of ownership of common goods.

<ul style="list-style-type: none"> Public park, productive trees on sidewalks 	Shade, relaxing area for refugees, fruits, reduced soil erosion, positive mental health impact	Poor management of the fruits and byproducts due to lack of a sense of ownership of common goods.
<ul style="list-style-type: none"> Brick making 	Livelihood opportunity; local, ecological construction material	Holes may be created throughout the settlement with significant protection and health (vector breeding ground) implications. problems in a settlement if not regulated properly. Lack of market for the bricks. Low interest in the activity, and low quality of production.
<ul style="list-style-type: none"> Livestock water 	Extra source of water, which does not require queuing at the tap stand.	Water from washing areas may be consumed by livestock. Conflict over distribution / access between groups or individuals.
<ul style="list-style-type: none"> Water for cleaning (i.e. latrines, tools, vehicles) 	Extra source of water for households, businesses or public facilities, which does not require queuing at the tap stand.	Squabbles over use; and community tension.

CASE STUDIES/Story from the field:

a) The tap stand and the pigs

A colleague reported that a woman used to let her pigs strive in the mud pool around a tap stand. If the benefits for this woman are clear, the consequent health risks for the refugees are high. How could such an initiative be formalised? Channelling the lost water to a fenced mud pool 10 meters away would create the following problem: allocating public land (if available) to a private activity, providing that this woman did not have the space to keep the pigs in her own courtyard. If space allowed, a solution could have been to consult the community and decide if the construction of a water channel and fenced mud pool for private or shared use is viable and could be supported as a livelihood activity.

b) From Eastern Sudan mission report - Shagarab

- The drainage of the water point excess water is almost systematically a problem, turning the surroundings of the water points into mud fields, which is a public health hazard (see Figure 1 and Figure 2). The problem is reinforced by the frequent leakages of taps and pipes. **It is recommended to add a small drainage channel, leading to a small pond where people can fetch water for non-drinking purposes (home gardens, animals, brick making).** It could also directly be channelled to community gardens, or areas for tree plantation.
- To be noted that some examples of people channelling this water to gardens has been observed (see Figure 4). **This is good practice and could be mainstreamed,** maybe in the form of shared gardens, as a livelihood activity. Overall, it is important to channel the water away from the water point, in order to avoid it standing in the middle of a mud pool.



Figure 1: Water leaking at the tap stands in Shagarab's reception centre, transforming the area in a mud field; basic drainage should be implemented, beyond the direct repair.



Figure 2: Lack of drainage at water tap stands lead to jerricans standing in a mud pool.



Figure 3: Left: people getting water from a pipe popping out of the ground; Right: leakage of an underground pipe.



Figure 4: Home gardens, which should be considered as best practice; on the right, people divert excess water from a tap stand.

Um Sangour (Sudan): Water points should be rehabilitated with proper drainage. It is recommended to channel the excess water to a basin for non-drinking water reuse purposes, or to community gardens.



Figure 5: Swamped water points; proper drainage, which could lead to formal reuse, would be very beneficial.



Figure 6: Result of water leakages in Um Sangour

South Sudan: Grey Water at the Tap stands Benefiting refugees for Livelihood.

One of the Household at Ajuongthok Block46 at the water point.

- Size: majority are 20X20 m² which is the size of plot, while few are larger.
- Majority of community gardens use fresh and grey water by channeling lost water from tap stands cleaning and containers cleaning activities. People use both grey and fresh water especially when no queuing at water points. However, few others livelihood groups installed small over headed/elevated uPVC tanks and fill from big tank by gravity in Ajuongthok camp supported by health/nutrition partners (IRC/AHA) for this purpose.
- Significant huge volume of water is being lost at water points, we estimated 10% loses through nozzles breaking, children playing around water points and leakages.
- Water their gardens with handheld canes, channels, and drainages/irrigation system as we removed soak way pits from all our water points to address risks of children falling in soak away pits recently.



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