Catalogue of Site Improvements

Draft Version 2.1 – 13 March 2018




















More pictures of site improvements are available at: https://tinyurl.com/SiteImprovements

Catalogue of Site Improvements

Objectives and target audience

This catalogue aims at providing **a reference for humanitarian actors in the field** on possible interventions to improve the conditions of the sites hosting refugee populations in Cox's Bazar. It focuses on simple, localized, site improvements, at the shelter- or block-level, highlighting some good and bad practices, presented through pictures and annotations. **It is not a detailed guide** nor it is intended for affected populations.

Structure

For each intervention, some key information is presented, including: materials, basic do's and don'ts, suggested implementation modality and an indication of cost and durability of the solution, time and complexity of implementation. *The catalogue will be further updated and expanded based on feedback from partners.*

Note: this version is a revised draft. Should you have any comment, please contact smcxb.tech@gmail.com and share feedback and pictures of interventions. See the comments page at the end of this catalogue.

Contents

Materials


Bricks


Aggregates (bricks, gravel)


Borak bamboo


Mulli bamboo


Plants and grasses


Jute


Sandbags


Tie Wire


Rope / string


Tools


Concrete

Legend

Scale:   

Household *(Maji) Block* *Zone or beyond*

Problem: *The issue or risk that the intervention aims to address.*

Solution: *The intervention to mitigate the risk or address the issue.*

Materials: *Materials and tools needed for the intervention.*

DO'S: *Basic recommendations of actions to take for a successful intervention.*

DON'TS: *Activities or practices to avoid, as much as possible.*

Implementation: *Suggested modality of implementation: self-built / cash-for-work / direct / contracted*

GBV DO: *Basic recommendations of actions to take for a successful intervention.*

GBV DON'T: *Activities or practices to avoid, as much as possible.*

Implementation: *Suggested modality of implementation: self-built / cash-for-work / direct / contracted*

Notes: *Any other recommendation or observation on the activity.*

Cost = *Resources needed to conduct the intervention*

Complexity = *Complexity of construction/implementation*

Time = *Duration of implementation*

Durability = *Estimated lifespan of the intervention*

y = **very low** --- y y y = **medium** --- y y y y y = **very high**

Sandbags – alternative options

OPTION 1: Polypropylene bag, woven

Polyprop plastic woven bags (e.g. cement bags) can be used for a number of applications, filled with local soil. To increase durability, especially for applications such as footpaths, use two or three bags. Note that polyprop bags are part of the recommended kits from the Shelter-NFI Sector. [Cost Tk 20-25 each].

OPTION 2: Jute bag

Jute bags are available in the local market and have the benefit of lower environmental impact, being bio-degradable, and are comparatively stronger than polyprop bags [Cost Tk 60].

Jute can also be used in rolls for erosion control over slopes, in combination with hydro-seeding or other planting technique.

OPTION 3: Geosynthetic bag

Geosynthetic bags are more durable and environmentally friendly, though are more costly than polyprop bags. They allow water infiltration and provide friction reinforcing the stability of the soil [Cost over Tk 100 each, various sizes].

Some applications

For higher durability and strength, a sand-cement mix (e.g. 6:1) can be used instead of soil. Mix and wet before filling the bag.

Plot demarcation and protection






Problem: Soil erosion at the base of a shelter, stagnant water.

Solution: Demarcate the plot or shelter footprint with sandbags or with earth, incl. raising the plinth of the shelter and backfilling.

Materials: Polypropylene bags, string / wire, hoe / shovel.

DO'S: Use moist soil and compact. Dig drainage channel around to increase water run-off and prevent erosion.

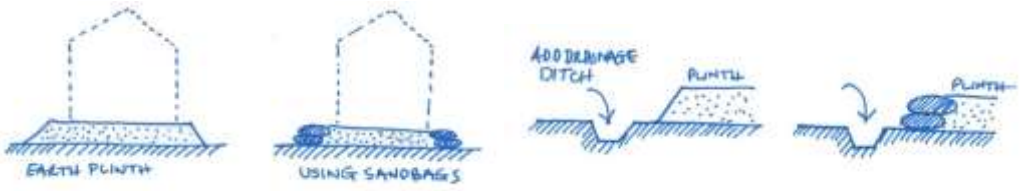
DON'TS: Do not fill the bags too much or too little. Do not tear or puncture the bags.

Implementation: Self-built or through cash-for-work.

Notes: Alternatives include jute bags with sand+cement mix, or geotextile, long bags that can also be used for wider slope stabilization and communal facilities.

Cost: y **Complexity**: y y

Time: y y **Durability**: y y



Small soil retention measures

Problem: Soil erosion and localized subsidence.

Solution: Small sandbag wall as soil retention measure.

Materials: Polypropylene woven bags, local soil, plastic string (or wire), shovel and hoe for digging.

DO'S: Build wall at an angle, to improve stability. Tamp bags to compact. Moist soil is easy to tamper. Provide drainage above and around the wall, to prevent erosion from water.

DON'TS: Do not build vertical wall, do not line up bag edges vertically, do not fill too much or too little, do not make walls higher than 4-5 feet.

Implementation: self-built or through cash-for-work.

Notes: Shelter Upgrade Kits include 20-30 sandbags per household. If available, sand can be used instead of soil (more challenging logistically). Bamboo poles stuck into the ground can be added for increased anchoring.

Cost: y **Complexity**: y y

Time: y y **Durability**: y y

Slope protection measures

Problem: Soil erosion and subsidence

Solution: Use slope protection measures to support hill surfaces

Materials: Sandbags, local soil, plastic string (or wire), shovel and hoe for digging.

DO'S: Build at an angle if possible, to improve stability. Moist soil is easy to tamper. Tamp bags to compact. Provide drainage to prevent soil erosion. Build solid foundation. Anchor the wall to the soil with bamboo or other materials.

DON'TS: Do not cut the hill vertically, line up bag edges vertically, fill bags too much or too little, make walls higher than 4-5ft.

Implementation: Cash-for-work.

Notes: Slope protection for common facilities could be made more durable with other solutions, such as geosynthetic bags, tires, timber+CGI sheets, etc. Barbed wire between layers may be used for small vertical walls (while it is discouraged on larger, sloped walls).

Cost: y y **Complexity**: y y y

Time: y y y **Durability**: y y

Slope protection measures

** Note these solutions has not been implemented on site yet.*

Source: A. Petrone

Problem: Soil erosion

Solution: Use slope protection measures to support hill surfaces

Materials: Bio cover (e.g. geo-jute), bamboo, plants, tools for digging.

DO'S: Select solutions according to slope conditions (particularly the steepness). Reduce the steepness if necessary. Drain rainwater effectively. If palisading, use bamboo in combination with plants ("live palisade") as it will increase durability. Use locally available plants.

DON'TS: Do not cut the hill vertically, Do not use bamboo in isolation, as it will rot.

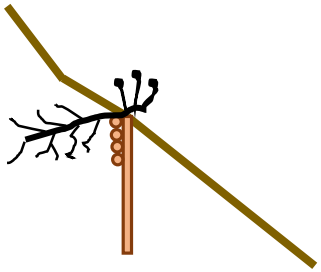
Implementation: Cash-for-work or contracted.

Notes: Consult a soil bio-engineering expert before choosing the appropriate technique and before implementation.

Cost: y y **Complexity**: y y y

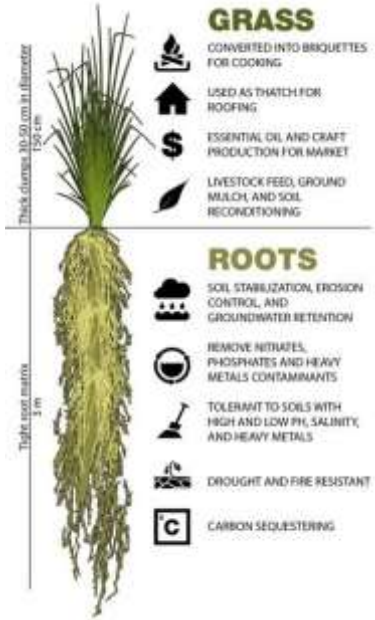
Time: y y y **Durability**: y y

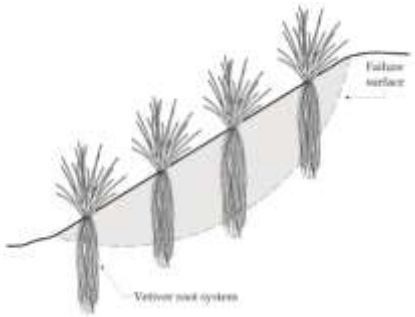
Source: Zeh



Source: A. Petrone

Plants and grasses for soil retention





Problem: Soil erosion for lack of vegetation.

Solution: Establishment of fast growing grasses with roots that grow primarily downwards.

Materials: Vetiver (used in Bangladesh) or other long-rooted local plants, such as Lemongrass, Napiergrass, Gyama. Geo-Jute net can be use to protect the surface before planting.

DO'S: Use plants from local suppliers. Support local nurseries and livelihoods programs. Procure in advance of the rainy season. Use rhizomes not seeds for propagation.

DON'TS: Do not use as the only soil erosion control mechanism in highly dense environments and steep hills (it will not be enough).

Implementation: Cash-for-work.

Notes: Grass with these root types enhance the bearing capacity of both dense and loose grounds. Planting generally happens during rainy season. Some species (e.g. vetiver and lemongrass) offer livelihood options as the leaves can be used for different purposes. Note the full root system for vetiver (up to 6-10ft) will take 6 months to develop.

Cost: y y **Complexity**: y y

Time: y y y **Durability**: y y y y

** Note this solution has not been implemented on site yet.*

Foothpaths - sandbags

Problem: Poor accessibility and mobility across the site, waterlogged areas.

Solution: Build sandbag path (single/double/multiple).

Materials: Polypropylene woven bags, local soil, plastic string (or wire), shovel for digging.

DO'S: Moist soil & tamp bags to compact. Use two/three bags to make more durable. Build more lanes to allow two-way circulation.

DON'TS: Do not fill the bags too much.

GBV DO: Make the footpath at least 7ft wide, so that everyone can pass in both directions without being physically pushed into each other, or physically harassed by those walking in the opposite direction.

GBV DO: For too-narrow footpaths, do make additional wider passing zones (circular, and 9ft in diameter) every 150ft, for safe passing in opposite directions.

Implementation: Cash-for-work.

Notes: Very short durability and pollution are a concern. Alternative: use of jute bags filled with a 1:6 ratio of cement and sand. After the bags wears off, the content remains in place.

Other options include: bamboo mats, bricks, adding aggregates for better stability.

Cost: y **Complexity**: y

Time: y y **Durability**: y

Main & Internal Circulation

Problem: Poor accessibility and safety, lack of space for activities, fire hazards, mobility/circulation across the site.

Solution: Create or expand pedestrian paths.

Materials: Tools for earth moving and digging.

DO'S: Make main paths at least 10-12ft wide, and minor / internal ones at least 4ft. Build drainage channel for surface water run-off. Agree with owners to move shelters or stalls that encroach on the paths. Clear drainage if obstructed or eroded. Add clear signs for navigation where possible.

DON'TS: Do not create dead-end paths.

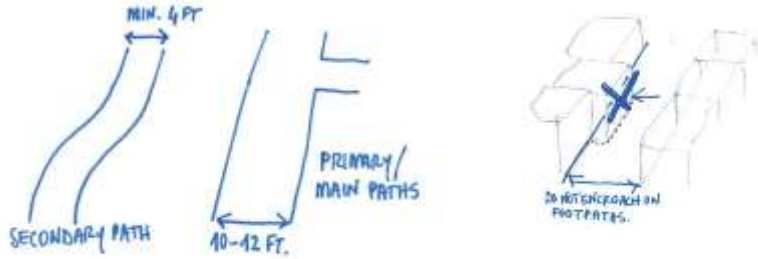
GBV DON'T: Do not make any sharp corners or blind bends for attackers to hind behind.

Implementation: Cash-for-work.

Notes: Well constructed footpaths are essential for circulation, safety (firebreaks and evacuation routes) and, if wide enough, to enable livelihoods activities (e.g. shops) to occur. For vehicular access, roads should be at least 15-20ft.

Cost: y y **Complexity**: y y

Time: y y y **Durability**: y y y y



Drainage channels




Lined ditches with bamboo mats and cement lining


Problem: Localized flooding, Stagnant water, Health hazard

Solution: Provide drainage to the nearest point of natural discharge or major drainage channel.

Materials: Hoe, shovel, digging bar, other materials (if lined).

DO'S: Keep the drainage clear from debris and waste. If unlined, slope sides at 45° or shallower. Maintain regularly.

DON'TS: Do not dig too close to shelters, with no lining (this would cause erosion). Do not build on a straight line without steps on very steep slopes (it will cause erosion and damage).

GBV DO: Install small bamboo bridges in front of every pathway, latrine, water point or shelter, so that long channels do not become barriers, or prevent people from evacuating or escaping.

Implementation: Cash-for-work or self-built (shelter level).

Notes: Lined ditches (masonry or concrete) or pipes are more effective and durable, but more costly. Monitor the water flow before constructing permanent drainage channels, and consult an engineer. Bamboo, sandbags or a thin cement layer can also be used for lined ditches, but will be less durable.

Cost: y y **Complexity**: y y y

Time: y y y **Durability**: y y


Underground perforated PVC pipes and aggregate filling (Credits: A. Petrone)

Steps and stairs

Problem: Poor accessibility on slopes.

Solution: Steps carved from the ground or improved with sandbags

Materials: Digging tools, sandbags.

DO'S: Provide drainage channel at the side(s). Guidance for steps: 2R + G = 62cm = 24.5' (where R is the Rise and G is the Going). Add landing every max 20 steps, where possible. Width greater than 3ft where space allows. Compact soil. Add handrails for steeper stairs. For long stairs, follow contour lines as much as possible.

DON'TS: Do not make too steep, e.g. by cutting straight through contours.

GBV DO: Make the stairs 7ft wide wherever possible, so that people can pass in both directions without touching or harassment.

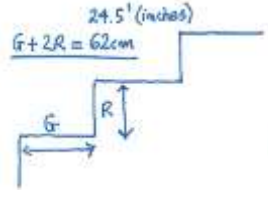
GBV DO: Put handrails on both sides of the stairs wherever possible, so that women and girls are not forced off the stairs by men coming in the opposite direction.

Implementation: Cash-for-work or self-built.

Notes: Steps carved from the ground are vulnerable to erosion, particularly in the wet season, and deteriorate quickly. Using sandbags ensures more resistance and durability in the rainy season. Sand-cement mix can be used to enhance durability.

Cost: y y **Complexity**: y y y

Time: y y **Durability**: y y



Steps – other solutions

Timber/bamboo*


Bricks and aggregates*


Bamboo and aggregates*


Concrete


Bamboo


Bamboo

Problem: Poor accessibility on slopes.

Solution: Steps made with bamboo, bricks or concrete.

Materials: Digging tools. Bamboo, timber or bricks.

DO'S: Provide drainage channel at the side(s). Guidance for steps: 2R + G = 62cm = 24.5' (where R is the Rise and G is the Going). Add landing every max 20 steps, where possible. Width greater than 3ft where space allows. Compact soil. Add handrails for steeper stairs.

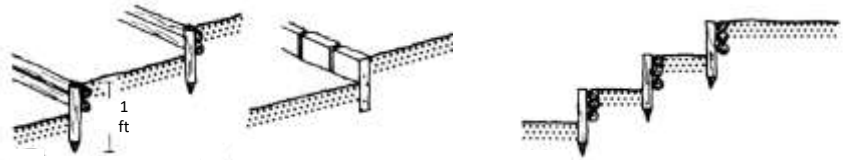
DON'TS: Do not build too steep without following contour lines.

Implementation: Cash-for-work, direct or contracted.

Notes: These solutions can be used to upgrade existing stairs carved from the ground. Recommended for mid-term. Addition of aggregates increases friction and drainage quality.

Cost: y y y y **Complexity**: y y y y

Time: y y y **Durability**: y y y



** Note these solutions have not been implemented on site yet.*

Terracing – plot preparation

Problem: Excessive slope does not allow for construction.

Solution: Prepare the ground by carving terraces into the hill.

Materials: Digging tools, ground moving equipment (e.g. bucket, bags, wheelbarrow, etc).

DO'S: Use slope protection and anchoring where possible. Cut at an angle (45°). Height lower than 4-5ft where possible. Consult an engineer when doing terraces.

DON'TS: Do not burn or clear entire patches of vegetation. Do not build structures too close to the edge. Do not cut vertically (90°) or without slope protection measures.

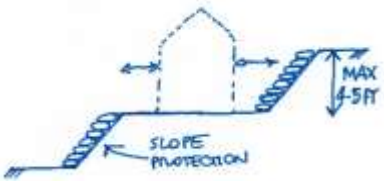
GBV DON'T: Don't have long terraces without stairways between them. Stairways every third or fourth shelter plot provides multiple options for escape or evacuation routes.

Implementation: Cash-for-work or contracted.

Notes: Where possible, continuous terraces will allow for construction of row houses and maximization of space, while scattered terraces may negatively affect access and drainage.

Cost: y y **Complexity**: y y y y

Time: y y y **Durability**: y y y



Small bamboo footbridge

Problem: Limited accessibility across the site.

Solution: Build small footbridge (bamboo or other material).

Materials: Bamboo, machete, nylon rope or galvanized wire.

DO'S: Width greater than 3ft. Allow enough landing on both sides to avoid erosion. Anchor well into the ground. Add handrails at two heights for adults and children.

DON'TS: Do not use cracked or split bamboo. Do not build spans longer than 5ft without vertical supports.

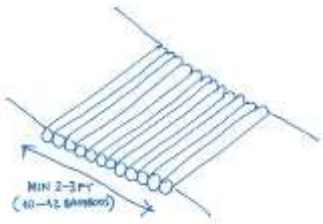
GBV DO: Make the bridges at least 7ft wide for pathways going to places with lots of people, like schools or health centres, so that women and girls have enough space to walk across without being pushed into men walking the other way.

Implementation: Cash-for-work or self-built.

Notes: Though wide footbridges may be safer, allowing more people or small vehicles to go over it may lead to collapse. Handrails only on one side allow for porters carrying bulky loads to access more easily. If sloped, keep the inclination lower or equal to 1:12.

Cost: y y **Complexity**: y y y

Time: y y **Durability**: y y y



Medium bamboo footbridge

Problem: Lack of access across small water bodies or gullies.

Solution: Build bamboo bridges with handrails.

Materials: Mulli and borak bamboo, machete, nylon rope or wire.

DO'S: Build wider than 4-5ft. Include appropriate landing and anchor well into the ground. Add handrails at two heights and kickplate. Build higher than estimated flood level.

DON'TS: Do not use split or cracked bamboo. Do not build with spans longer than 5ft. Use jute ropes. Build with a high slope (more than 1:12).

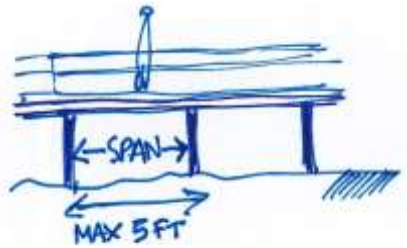
GBV DO: Make the entry parts of the bridges wider than the rest of the bridges. This stops the entries to the bridges becoming blocked by people and a location for increased risk of harassment or attack.

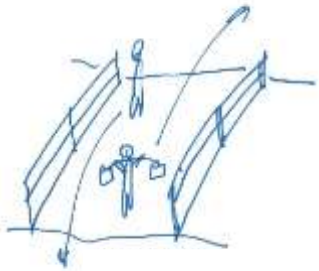
Implementation: Cash-for-work or direct / contracted.

Notes: Details and BoQs for bamboo bridges will be developed and shared in the future. Have an engineer review the design and monitor construction: if done poorly, bridges cause safety risks.

Cost: y y y **Complexity**: y y y y

Time: y y y y **Durability**:





Handrails for bridges and stairs

Problem: Poor accessibility on steep hills or across bridges

Solution: Addition of handrails.

Materials: Bamboo and nylon rope, timber, steel.

DO'S: Anchor the poles firmly to the ground or bridge structure. Add at least two levels at 1-2ft (for children and security) and 3ft height.

DON'TS: Do not leave very wide gaps between horizontal or vertical structure, if possible, as children may fall off.

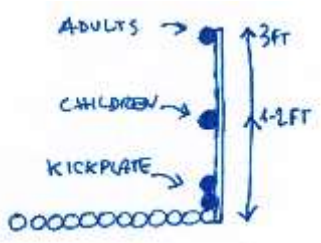
GBV DO: Put handrails on both sides of the stairs wherever possible, so that women and girls are not forced off the stairs by men coming in the opposite direction.

Implementation: Cash-for-work or contracted.

Notes: Bridges and stairs should be at least 3-4ft wide. If wider, handrails should be on both sides. Having handrails only on one side for narrow bridges allows porters to cross easily.

Cost: y y **Complexity**: y y

Time: y y **Durability**: y y y



Better access to water points

Problem: WASH facilities, particularly water points and bathing spaces, are poorly accessible and become water-logged.

Solution: Use sandbags (or bricks, concrete, aggregates, etc.) to create a firm ground base around the facilities. And ensure proper drainage to nearest primary channel or drain.

Materials: Options include polypropylene bags, bricks, chipped bricks, gravel, concrete slab.

DO'S: Create a wide base around the water point to accommodate multiple people.

DON'TS: Do not let water spill off around water points.

GBV DO: Create at least two pathways to each water point, so that there is always one extra escape route for anyone who is being threatened or attacked.

Implementation: Cash-for-work or contracted.

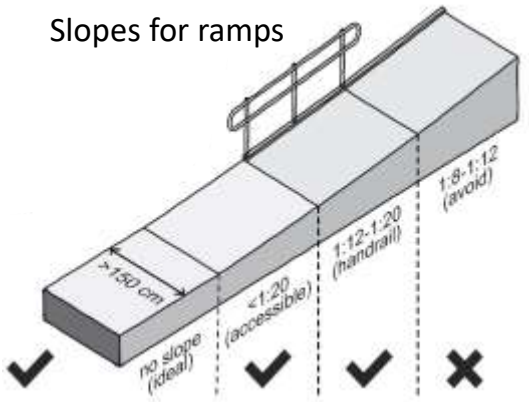
Notes: Geotextile fabric or bags can be used to improve ground stability. Lights should be installed at water points and on routes towards them.

Cost: y y **Complexity**: y y

Time: y y **Durability**: y

Accessibility of latrines and bathing spaces

Slopes for ramps



Problem: Poor accessibility to WASH facilities, particularly for persons with reduced mobility or disabilities.

Solution: Construction of footpaths, steps, ramps, handrails.

Materials: Varies. Includes concrete (sand, cement, aggregates), bamboo/steel, bricks, bamboo mats.

DO'S: Build ramps (slope up to 1:12) or steps (height lower than 7'). Apply cross-hatching on slippery surfaces (e.g. flat concrete slab/steps). Assess that existing steps/handrails are in good conditions.

DON'TS: Do not install WASH facilities in inaccessible locations or flood-prone areas. Do not build uneven and high steps. Do not build earth steps/ramps that will easily deteriorate.

GBV DO: Consult women and girls on the appropriate placement of latrines for their use.

GBV DO: Turn the doors to face away from any street or public area, so that women and girls can enter and leave the latrines with more privacy.

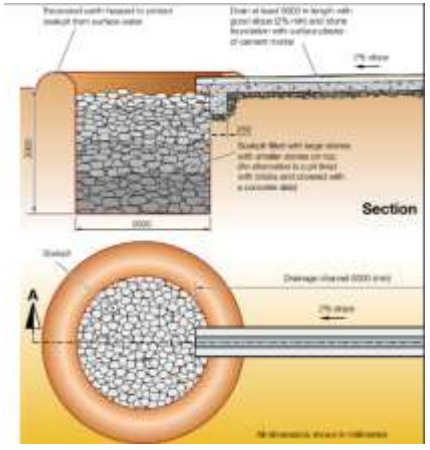
Implementation: Cash-for-work or direct / contracted.

Notes: Consult with WASH actors for recommendations. Install lighting at (and leading to) WASH facilities.

Cost: y y **Complexity**: y y

Time: y y **Durability**: y y y

Better drainage at water points



Source: WEDC

Problem: Water points (handpumps) become water-logged.

Solution: Build appropriate concrete slab and dig drainage that connects to main drainage, if possible.

Materials: Varies. Lined drainage with concrete or bricks recommended. Soak pits with aggregates.

DO'S: Ensure water points have sufficient protection of water spill-off. Dig secondary ditches connecting to a drain. Use aggregates around the apron slab or for soak pits. Use pipes to be installed underground that will drain the water away.

DON'TS: Do not build permanent slabs without consulting with site management and WASH actors.

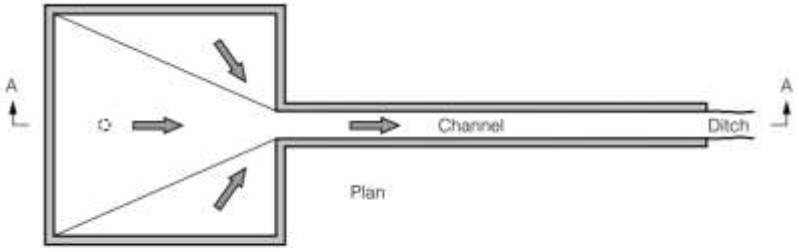
GBV DO: Use small culverts, to make sure that the drainage channels do not become physical barriers, blocking routes for women or girls trying to avoid or escape from attack or other threats.

Implementation: Cash-for-work or contracted.

Notes: Soak pits can be dug near the water points to enable proper drainage of water spill-off. Chipped bricks can be used.

Cost: y y y **Complexity**: y y y

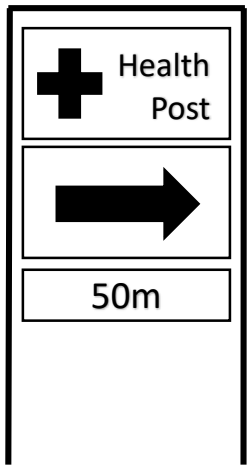
Time: y y y **Durability**: y y y y



Slope design with 'folded' apron slab

Figure 7. A layer of stones around the slab is a simple way of preventing erosion

Flags and signs for navigation



Problem: Poor visibility of key facilities and lack of information.

Solution: Install clear navigation signs and boards.

Materials: Laminated sign or flag, bamboo poles or timber/steel, nails, hammer.

DO'S: Use simple icons and consistent symbols across the site. Use mix & match signs, that can be combined in multiple ways. Translate text in Bengali and Burmese. Secure the signs by using an additional structure or by attaching it on existing facilities or structures. Harmonize across site.

DON'TS: Do not use logoed signs unless necessary. Do not use same colour for different purposes. Do not install signs without coordination with site management teams.

GBV DO: Use visuals to ensure comprehension by illiterate groups or persons with intellectual disabilities. Do post signs/visuals when services have been closed or moved.

Implementation: Cash-for-work or Site management staff.

Notes: Main facilities and key messages should be clearly identifiable and use simple, consistent language and visual representations. Consult with communities before and during installation. Consider marking street and block names.

Cost: y y **Complexity**: y

Time: y **Durability**: y y y

Perimeter fencing

Problem: Demarcate specific / sensitive areas, e.g. clinics, schools, gravesites or distribution/storage areas.

Solution: Build perimeter fences with lightweight materials.

Materials: Bamboo matting, timber frame, plastic sheeting or plastic net, etc.

DO'S: Consult with site management actors and with the community about where fencing is required.

DON'TS: Do not fence off areas of the sites without prior consultation with site management.

GBV DO: Make sure that fences around waiting lines in distribution centres are high enough to protect women from being grabbed or harassed across the top of the fence.

Implementation: Cash-for-work.

Notes: Fences can be assembled in a workshop-style setting and the transported to the location for installation, as they are relatively light-weight.

Cost: y y **Complexity**: y y

Time: y y **Durability**: y y y

Trees and rooftop plants

Problem: High temperatures, direct sunlight, poor thermal insulation of shelters, lack of wind-breaks.

Solution: Planting trees and/or using climbing plants and grasses over rooftops.

Materials: Tools for planting and seeds or plants/trees of local species and grasses.

DO'S: Use grasses or edible plants to cover the rooftops.

DON'TS: Do not eradicate plants entirely or clear/burn vegetation around the shelter plots, as these practices enhance the risk of soil erosion and overheating.

Implementation: Self-help, supported with seed or plant distribution and tools.

Notes: Consult with community and environment specialists when choosing which plant to grow. Consult with WASH and Shelter actors before planting trees as roots may affect underground works.

Cost: y **Complexity**: y

Time: y **Durability**: y y y y

Check dams to reduce soil erosion

** Note this solution has not been implemented on site yet.*

Problem: Soil erosion due to intense water flow in gullies

Solution: Check dams: small, temporary blockage built across a drainage ditch to lower the speed of rainwater flows.

Materials: Wood logs, stones or gravel-filled sandbags

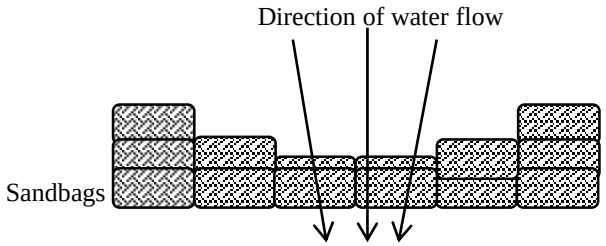
DO'S: Dam goes across the whole ditch. Build sides higher than centre. Plant vegetation to strengthen the dam. Build more than one dam. Maintain dam regularly.

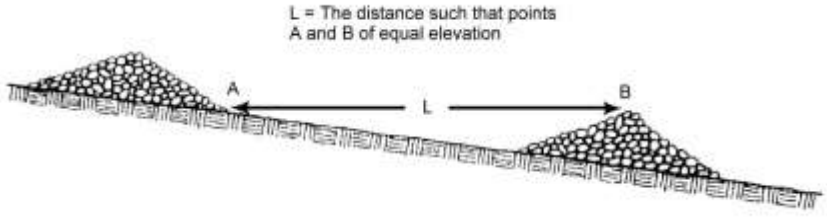
DON'TS: Do not let the ditches get full or leave the dam damaged. Do not obstruct the entire ditch causing water overflow.

Implementation: Cash-for-work or direct implementation.

Cost: y y **Complexity**: y y y

Time: y y **Durability**: y y y





Cooking areas

Problem: Families cook inside their shelters, with unsafe stoves and fuel, causing health and fire hazards.

Solution: Install or allow space for cooking areas to increase safety.

Materials: Varies.

DO'S: Allow sufficient space for safe cooking and stable, level surfaces on which to place stove. Provide shade and a paved floor, where possible. Allow proper ventilation. Promote the use of non-flammable materials such as iron sheets or mud walls next to stoves.

DON'TS: Do not promote cooking systems which work against the preferences of households and which will not be adopted, such as shared/communal kitchens and biogas systems. Do not let flammable items to be kept close to cooking equipment.

Implementation: Self-built.

Notes: Consult with the residents about their preference and needs. Cooking areas provide opportunities to introduce safe cooking systems.

Cost: y y y

Complexity: y / y y y

Time: y y

Durability: y y

Street lighting







Problem: Lack of lighting poses safety and security concerns, along roads, at communal spaces, and WASH facilities.

Solution: Install street lights along main routes and at key community areas / facilities (coupled with increased access to personal solar torches, as well).

Materials: Stand-alone solar street lights vs. Mini-grid.

DO'S: Create site plan indicating locations of existing and planned street lights. Build structures that can withstand strong winds. Space evenly (20-30m). If possible, install on existing structures. Solar panels and batteries should be high enough to avoid theft and vandalism. Distribute evenly across a block or zone. Train maintenance teams.

DON'TS: Do not install randomly without coordination with site planners / site management / protection teams. Do not use floodlights.

Implementation: Direct implementation or contracted.

Notes: Consider: battery lifetime, maintenance costs, wattage (20-30W). Consider adding phone charging stations. Vouchers for personal lights promote choice and market activity. Poles and bases should be built according to the building code, as they are permanent structures.

Cost: y y y y y **Complexity**: y y y

Time: y y y **Durability**: y y y y

Practices to avoid or to flag

Lack of soil retention / slope protection

Notes: Do not build shelters next to a cut in the slope, with no retaining wall, and loads above. This is a serious threat of collapse.

Notes: Retaining walls / slope protection measures are needed to avoid collapse of road sides, especially in advance of the monsoon season.

Lack of fencing of pits

Construction in unsafe areas

Notes: Do not build at the bottom of a slope which has been carved at the base, and with constructions at the top.
Do not build on the edge of a cliff, as the structures may collapse and/or people be exposed at risks of falling, especially in the dark.

If you find other examples of unsafe practices, send them to smcxb.tech@gmail.com

NOTES

COMMENTS PAGE

Write your comments and send them via email to smcxb.tech@gmail.com – you can take a picture of this table.

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