

National WASH Multi-Stakeholder Forum 6

MINISTRY OF WATER, IRRIGATION AND ENERGY

MANUAL FOR ACCELERATING SELF SUPPLY PROGRAM



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Objective of the Presentation

- ❖ **To let all stakeholders know that the Ministry has developed Self Supply Acceleration Manual in order to meet the target set by the GTP/UAP.**
- ❖ **Familiarize all stakeholders with the main contents of the Manual.**



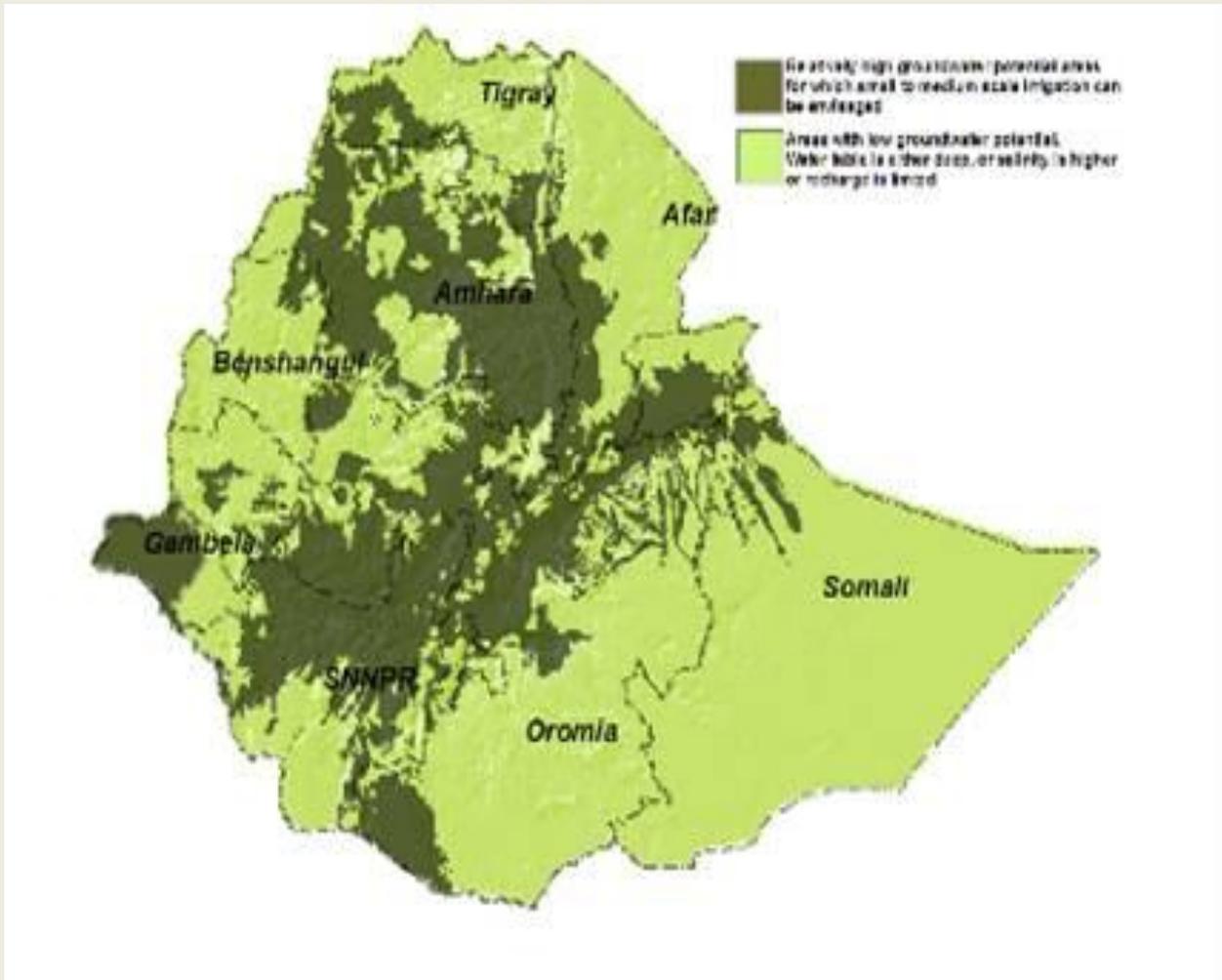
Background

Why Self Supply?

- ☞ **Current Coverage of water supply-68.45 % (in June 2013, report);**
- ☞ **People without access to potable water supply-30 % of the population;**
- ☞ **Therefore, the major challenges in the stride to achieving the GTP targets are:-**
 - **financing gap**
 - **which amounts to be 30% (1 billion USD) of the total investment required;**
 - **scattered settlement patterns of rural Ethiopia;**
 - **where some villages are totally inaccessible to motor vehicles and implementation of conventional water supply schemes are nearly impossible;**
- ☞ **Thus, Self Supply becomes an option as an alternative to the conventional approaches. Moreover.....**



Why Self Supply?.....



☞ There is ample potential for accelerating self supply in area of the country where over 70% of the population is living.

☞ This makes Self Supply a very good option to adhere to.



What is self supply?

- ☞ **Self Supply in the context of Ethiopia is: *"Improvement to water supplies developed largely or wholly through user investment by households or small groups of households"*.**
- ☞ **Self-supply involves households taking the lead in their own development and investing in:**
 - the construction
 - upgrading and maintenance of their own water sources
 - lifting and treatment devices and
 - storage facilities



Objective of the Self Supply Manual

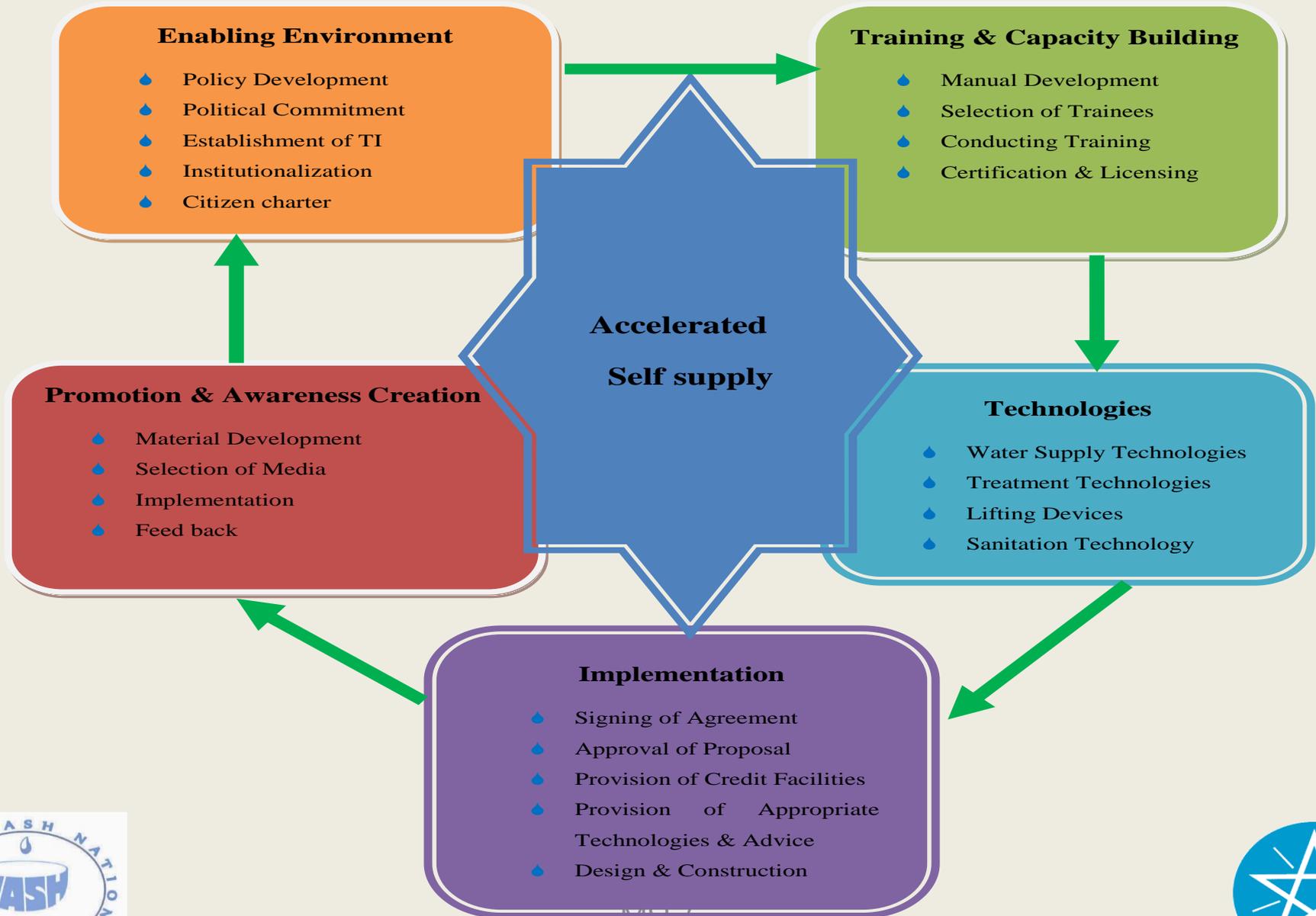
- ☞ **To fill the financial gaps in achieving the GTP target through self supply acceleration program;**
 - **Nationally 1 billion USD budget gaps required to meet targets in the GTP covered by mobilizing community to invest in its WaSH services.**

- ☞ **To create access to basic WaSH services for individuals and communities across the country;**
 - **All communities and households got access to WaSH services in GTP time especially in rural areas and universal access to Wash services realized.**

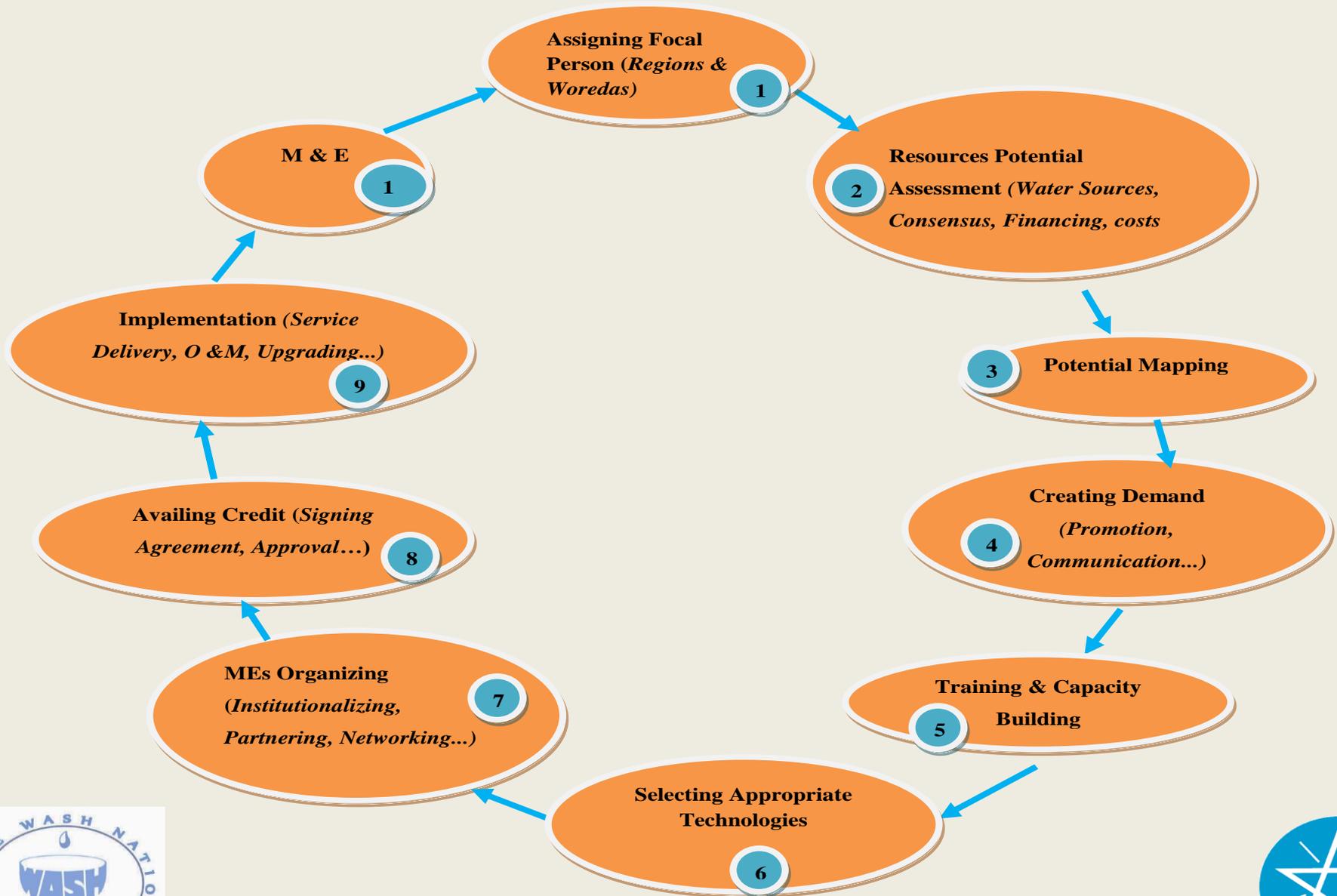
- ☞ **To enable all Regions, Zones, Woredas and Kebeles for identifying and promoting appropriate low cost self supply technologies required for each community;**



CONCEPTUAL FRAMEWORK OF SELF SUPPLY



Steps in Accelerating Self Supply



TECHNOLOGIES AVAILABLE FOR ACCELERATING SELF SUPPLY IN ETHIOPIA

☞ **Self supply technologies associated to development of water sources are:**

1. **Groundwater sources**

- **Spring development**
- **Construction of hand dug wells**
- **Construction of manually drilled wells**
- **Construction of drilled wells using rigs/drilling machines**

2. **Surface water sources**

- **Construction of ponds/ Birkas/ hafir dams**
- **Collecting water from rivers**

3. **Rain water sources**

- **Roof catchments**
- **Rock catchments**



Technologies.....

☞ **Self supply technologies associated to upgrading existing sources/ newly constructed**

1. **Associated to wells**

- **Casing open wells**
- **Construction of well head/apron/ sanitary protection**
- **Installing lifting mechanisms- hand pumps (rope and washer pumps, Afridev pumps, Indian mark II pumps, solar pumps, wind pump and engine pump)**

Technologies.....

☞ **Treatment technologies at household and community levels currently available in Ethiopia**

1. **Physical treatment technologies**

- **Tulip**
- **Life-straw**
- **Biosand filters**
- **Langano**
- **Mena compacted treatment technologies**
- **Em kit**

2. **Chemical treatment and disinfection technologies**

- **Bishangari**
- **Pure**
- **Wuhagar**
- **Aqua-tab**

3. **Water defluoridation technologies**

- **Bone char**
- **Nalgonda**
- **Activated alumina**



Strategic Direction and Way forward

Strategic Direction

- **Upgrading Existing wells for MUS (Agricultural wells...)**
- **Provision of Wide range of Technology option for the community**
- **Implementing well organized Financing strategy on self supply**
- **Strengthen Capacity development(building)**
- **Continuous and sustainable M & E**



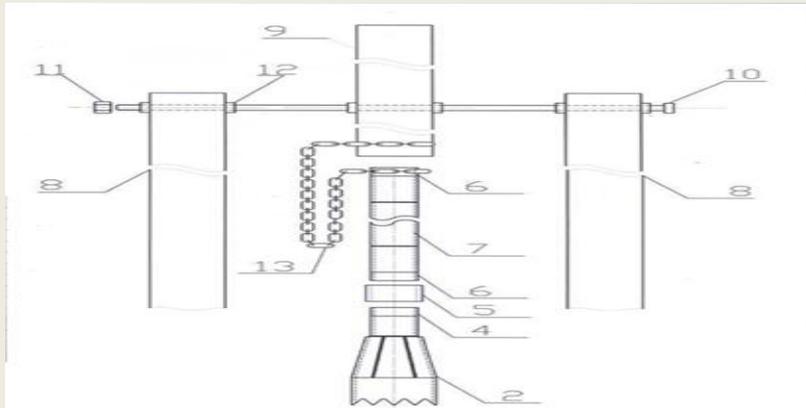
Way forward

- **Invest and encourage Community mobilization strongly on ASSP**
- **Focus on Local and low cost water supply technologies**
- **Strengthen community management and ownership scheme**



Some Pictures of SS Technologies

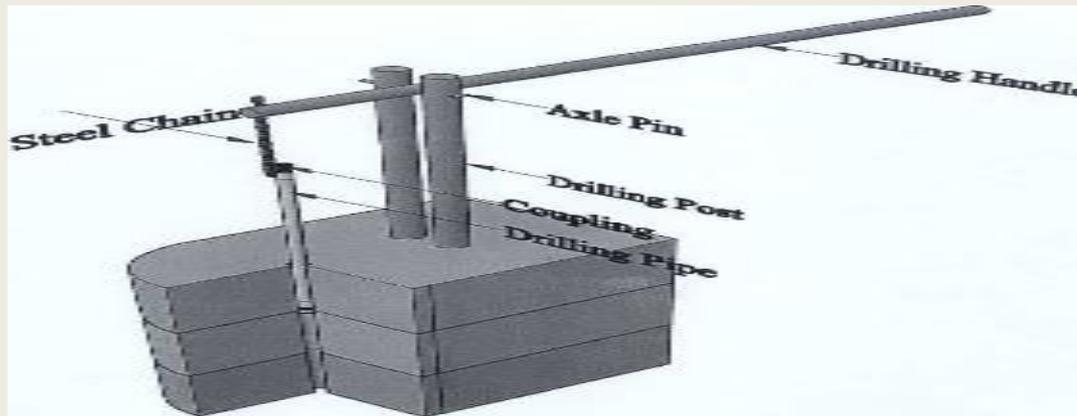
Typical drawings of self supply technologies



(a)

ITEM	Pcs.	COMPONENT PARTS
13	3	chain
12	3	bushing
11	1	stud nut
10	1	joining stud
9	1	handle
8	2	stand
7	1	extended pipe
6	1	screw bolt
5	1	connector
4	1	bushing
3	1	screw nut
2	1	punch

Scetch of Manual drilling tool (a)



(b)

Cross sectional view of manual drilling tool (b)

Pictures.....

Source: A concrete slab of 80-120cm diameter for a rope and washer pump



(1)



(2)

Sludging (1) type of manual drilling & jetting (2)



(3)



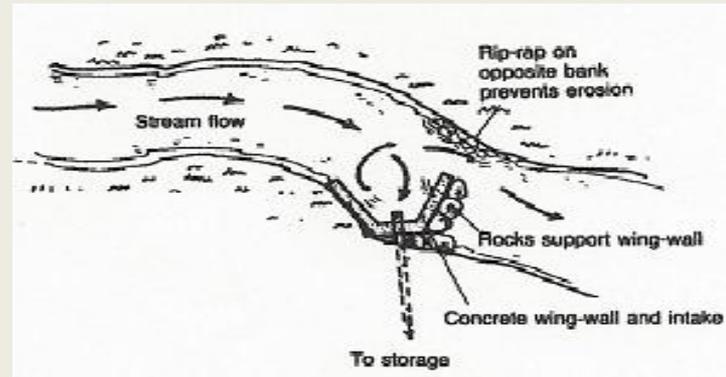
(4)

Hand Auger Manual drilling (3) & percussion (4)

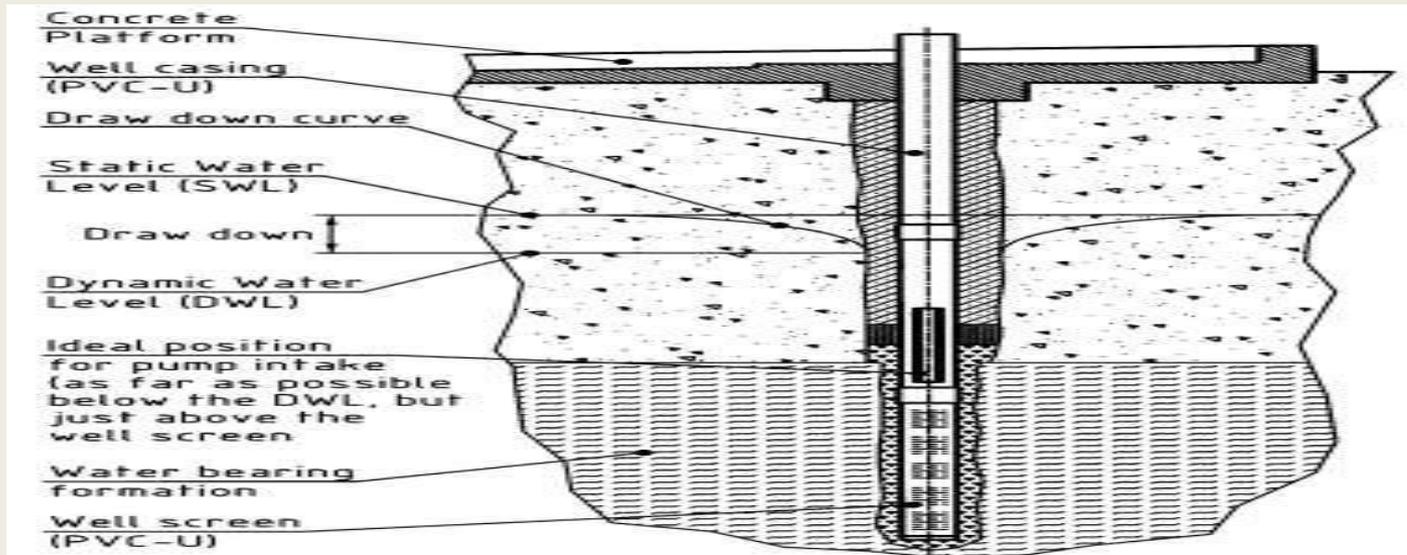
Pictures.....



(a) Rock catchment water harvesting



(b) River intake structure



(c) Well casing and head construction

Pictures.....



(a) Model-1 (Bearing Type)



(b) Economic Model



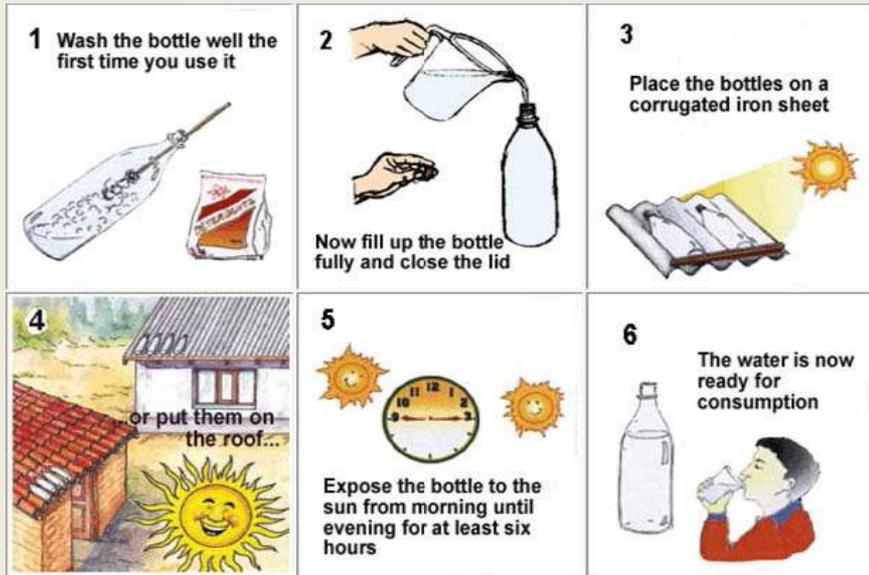
(c) Model-2 (Bushing Type)



(d) Windlass Model

N.B. *The above models are developed by JICA-WASRoPSS Project*

Pictures of Water Treatment Technologies



Source: SODIS, 2002 <http://www.sodis.ch/>

Ceramic Filters

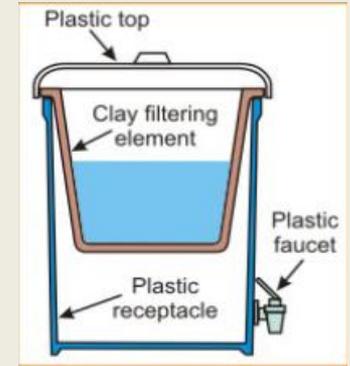


The filter unit

Indian Ceramic Candle Filter



Filter set up



Terafil Ceramic

Filter



Inside part of the filter

b. Filter element disk /

a. Filter unit

Source: Source: Mattelet, 2005; Low, 2002



Water Treatment.....

Tulip Water Filter



Filter media of the filter



Source: tulipwaterfilters.com, yva water filters.

Sawyer water Filter



Bio-Sand water treatment model

Davnor Plastic BSF



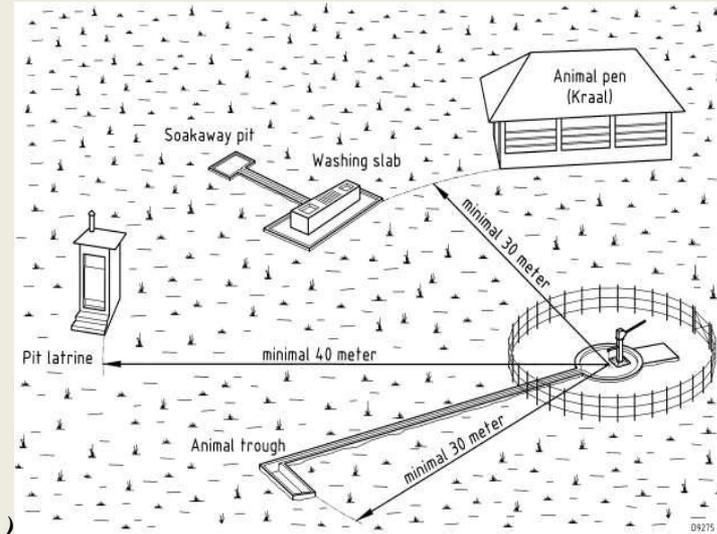
Source: Sagara, 2000;Lukacs, 2003

Concrete BSF



Sanitation & Hygiene

Sanitation and Hygiene Technologies



Different Hygiene practice level (a) and Ideal Environmental sanitation sketch (b)



Typical picture of sanplat (latrine slab)



Thank You!



MSF 6

