

Blue Schools Kit

Official launching!

Stockholm World Water Week 2018

Wednesday 29th of August – 16:00 – 16:45

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CARITAS Schweiz
Suisse
Svizzera
Svizra



HELVETAS
Swiss Intercooperation



Terre des hommes
Helping children worldwide.

eawag
aquatic research **ooo**

With support from



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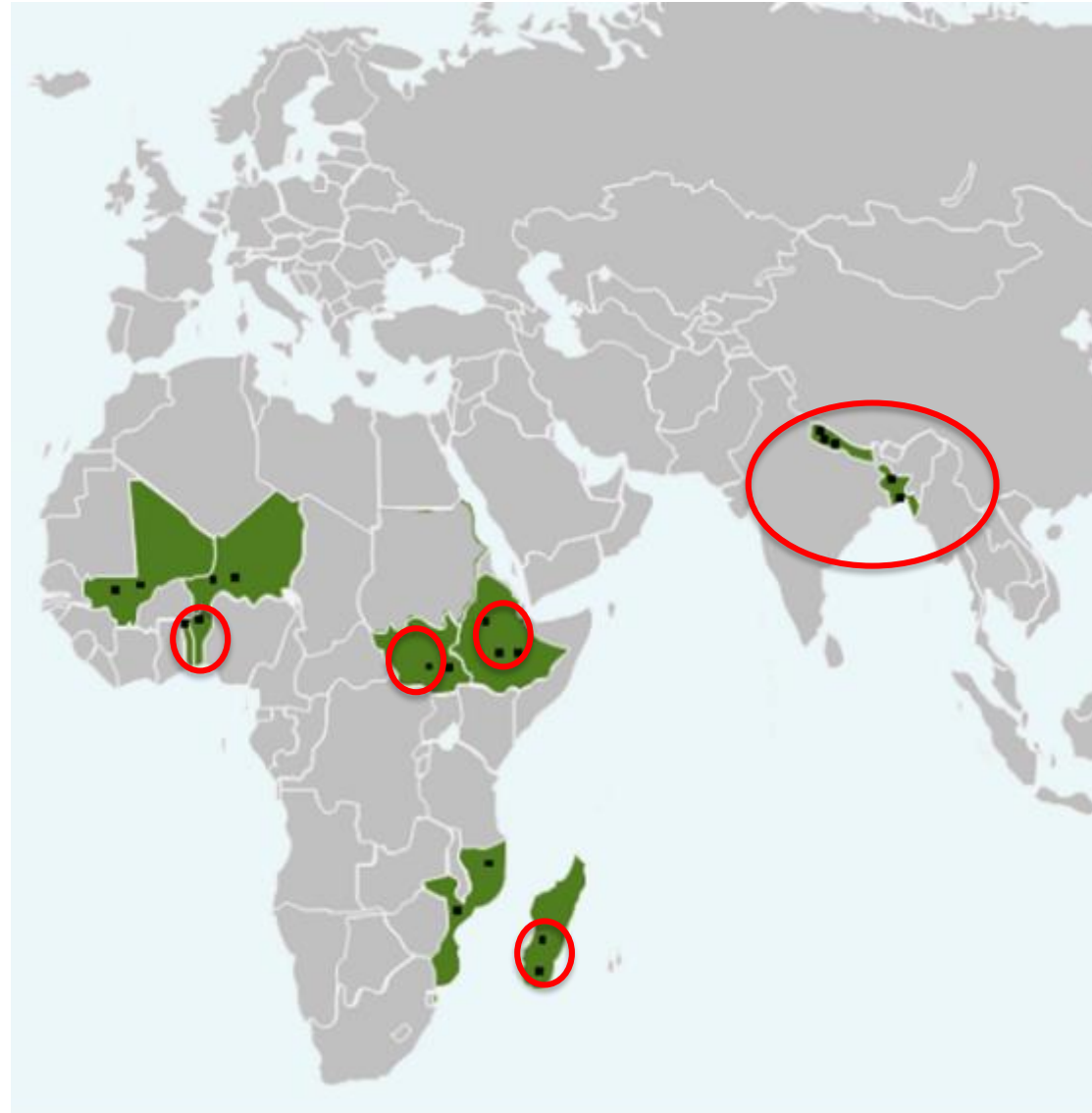
Introduction

What is the Swiss Water and Sanitation Consortium and what do we aim to achieve?

2011-2017

7 Countries

200 Blue Schools





What is a Blue School?

A Blue School is not a new concept...

Water

Hygiene &
Sanitation

School
Gardening

Watershed/
Land management
practices

Per the SDC factsheet, a Blue School has 4 components:

- Sustainable access to safe drinking water
- Sustainable access to sanitation and hygiene
- A school garden as practical place to show relationships between food production and efficient water use
- A demonstrative place for watershed and land management practices, wherever it is suitable **(optional)**

Experience from the field – Nepal

‘WASH in Schools’ in 51 schools

Blue Schools introduced in-depth at 7 schools

Swiss Red Cross



Components:

- Water supply
- Sanitation & hygiene
- School garden
- Water management

Additional:

- + Solid waste
- + Menstrual hygiene mgmt.

What worked well?



1. Capacity Building of SMC, teachers and student clubs



What worked well?



2. Registered child clubs lead activities with teacher support



What worked well?

3. Hygiene & Sanitation promotion and gardening performed as part of school curriculum



What worked well?

4. Waste converted into resources



What worked well?

5. Successful implementation of MHM in schools



Main challenges

- Moving from awareness raising to behavior change
- Ensuring adequate O&M of WASH infrastructures
- Topography, land and water availability can be limiting
- Lack of inspiration on how to deal with waste
- Lack of ideas and skills to introduce 'good land and water practices' and 'environment' technologies and activities
- Difficult to keep Blue Schools activities running after the end of the project

Main lessons learned / needs

... From Swiss Red Cross and other teams

- Need to clarify:
 - The **purpose of a Blue School**
 - The **components** of a Blue School and its implementation
 - Standards/Indicators to define a Blue School
- Need for:
 - More inspiration on **activities linked to environment**
 - Common support materials
 - A **road map** advising on how to ensure stakeholders' ownership and enact mechanisms to sustain Blue Schools.

Principles of the Blue Schools Kit

- Focus on the learning experience
'Learning by doing'
- Aims to inspire!
not to impose
- Not prescriptive
- Generic enough for
different contexts



Blue School Topics



1. My Surrounding Environment



2. The Water Cycle



3. The Watershed around my School



4. My Drinking Water



5. Hygiene & Sanitation



6. Growth & Change



7. From Soil to Food



8. From Waste to Resources

A revised definition of a Blue School...

- **Offers** a healthy learning environment
- **Exposes** students to environmentally-friendly technologies and learning → Good land, water & **waste** management
- Fosters practical exercises to complement theoretical classes
→ **Learning by doing**
- **Inspires** students to be change agents in their communities
→ To build the next generation of **water & environment champions**



Finally, we are launching it today!



Thanks a lot to all the agencies that supported us!



With support from



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What's in a Blue Schools Kit?

For whom?

**Education, local authorities
and school stakeholders, teachers**

What?

The Blue Schools Kit contains:

- **A Concept Brief**
- **A Catalogue of Technologies**
- **A Catalogue of Practical Exercises**
- **A Facilitator's Guide**

Swiss Water & Sanitation Consortium

BLUE SCHOOLS

Linking WASH in schools with
environmental education and practice

CONCEPT BRIEF



Why catalogues?

To enrich existing lesson plans, and help introduce new topics

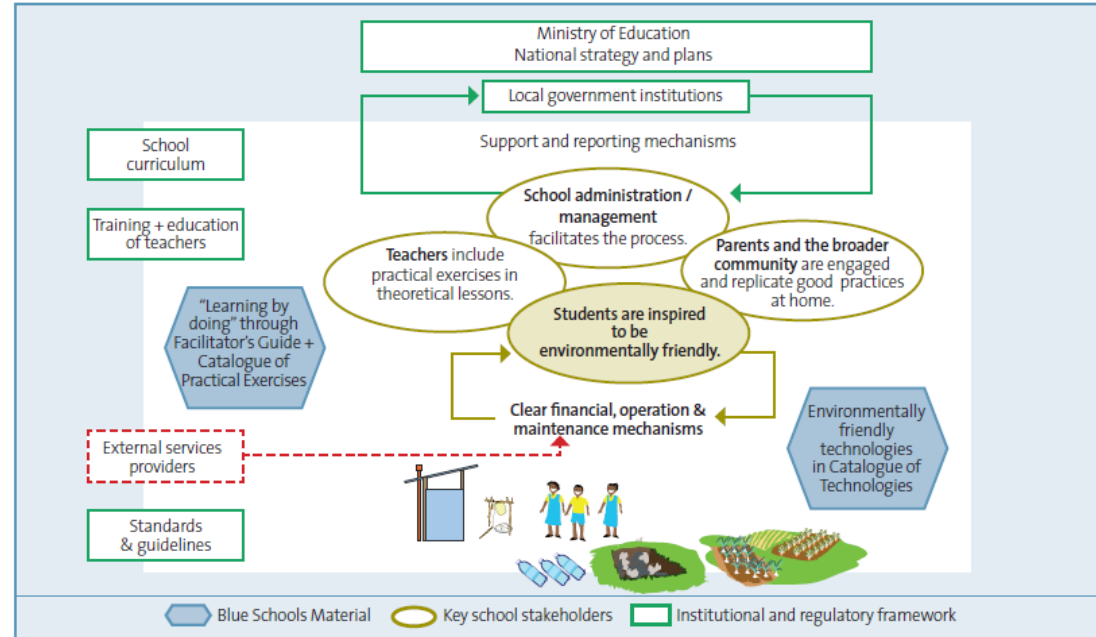
1. Concept Brief

Swiss Water & Sanitation Consortium

BLUE SCHOOLS

Linking WASH in schools with environmental education and practice

CONCEPT BRIEF



- Road map for implementation
- Recommended standards, indicators & factors for success

2. Catalogue of Technologies (67 total)



3 The Watershed around my School

- 3.1 Planted Hedgerows
 - 3.2 Stone Bunds
 - 3.4 Gully Control
 - 3.6 Subsurface Dam
 - 3.8 Contour Trenches & Swales
- (10 Total)**



4 My Drinking Water

- 4.1 Rooftop Harvesting
 - 4.5 Rainwater Tank
 - 4.10 Water Source Protection
 - 4.14 Hand Pump
 - 4.19 Ceramic Water Filter
- (22 Total)**



5 Hygiene & Sanitation

- 5.1 Tippy Tap Hand Washing Station
 - 5.5 Soap Making
 - 5.7 Twin Pits Pour Flush
- (9 Total)**



6 Growth & Change

- 6.1 Cloth Menstrual Pads
- 6.2 Menstrual Cups
- 6.3 Dedicated Latrines & Clothes Washing



7 From Soil to Food

- 7.2 Drip Irrigation
 - 7.12 Permaculture
 - 7.16 Agroforestry
- (17 Total)**



8 From Waste to Resources

- 8.1 Composting
 - 8.4 Anaerobic digestion
 - 8.5 Burying waste
- (6 Total)**



2. Example: Keyhole Garden

7.11_Keyhole Garden

KITCHEN GARDEN
SOIL ENHANCEMENT | WATER CONSERVATION



ADVANTAGES

- facilitate year round vegetable production
- increases quality and diversity of vegetables
- can provide protection against flood water intrusion

DISADVANTAGES

- raised garden requires additional soil to build up height of plinth

Image source: [Terres des Hommes](#)

Outline Description of Technology

The Keyhole Garden model of homestead vegetable cultivation enhances the resilience of families living in areas with climate-related hazards, such as flooding and drought. Keyhole gardens have been shown to increase vegetable production in all seasons, thereby improving household food autonomy and dietary diversity.

Where Can It Work

Applicable anywhere

How does It Work

A keyhole garden is typically a 2m wide circular raised garden with a keyhole-shaped indentation on one side. The indentation allows gardeners to add uncooked vegetable scraps, greywater, and manure into a composting basket that sits in the center of the bed. In this way, composting materials can be added to the basket throughout the growing season to provide nutrients for the plants. The upper layer of soil is hilled up against the center basket so the soil slopes gently down from the center to the sides. Most keyhole gardens rise about one meter above the ground and have walls made of stone. The stone wall not only gives the garden its form, but helps trap moisture within the bed. Keyhole gardens originated in Lesotho and are well adapted to dry arid lands and deserts. In Africa they are positioned close to the kitchen and used to raise leafy greens such as lettuce, kale, and spinach; herbs; and root crops such as onions, garlic, carrots, and beets. Keyhole gardens are ideal for intensive planting, a technique in which plants are placed close together to maximize production. Plants with wide reaching root systems such as tomatoes and zucchini may not perform well in a keyhole garden. (WOCAT)

Cost Considerations

The Cost is variable based on availability of plants, a supply of compost, and materials necessary to define the perimeter form of the garden.

Additional Resources

[Nifty Homestead](#) [WOCAT](#)

3. Catalogue of Practical Exercises (73)



1 My Surrounding Environment

- 1.1 Transect Walk - *Outdoor Activity*
- 1.2 Mapping - *Participatory Activity*
- 1.3 Modeling - *Participatory Activity*



2 The Water Cycle

- 2.1 What is the Water Cycle? - *Discussion*
 - 2.5 Comic Strip - *Creative Activity*
 - 2.8 Evaporation in a Jar - *Experiment*
- (14 Total!)**



3 The Watershed around my School

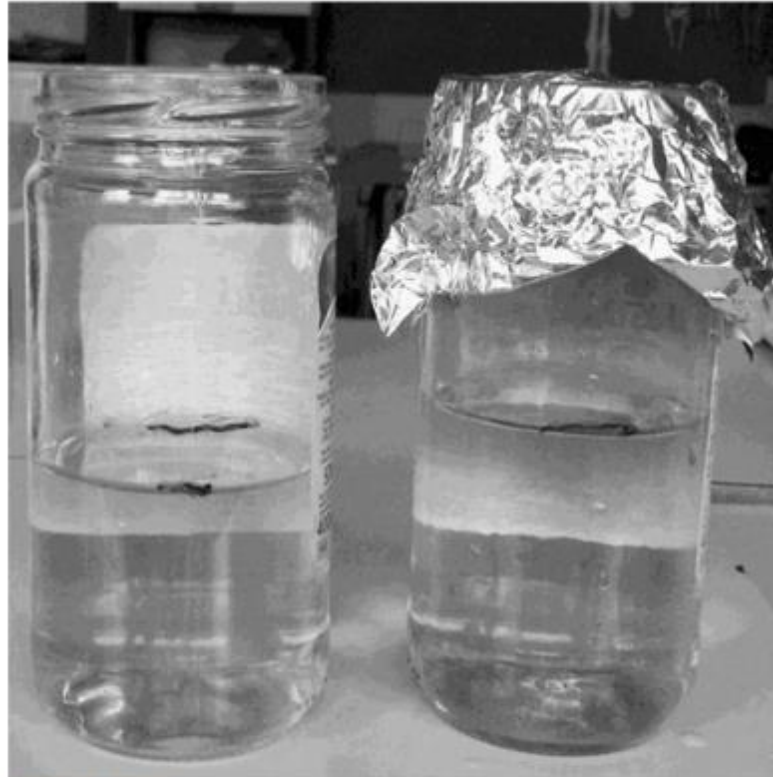
- 3.1 What is a watershed? - *Discussion*
 - 3.2 Crumpled paper watershed - *Experiment*
 - 3.3 Picturing my watershed - *Creative activity*
- (4 Total!)**



4 My Drinking Water

- 4.1 Clear water ≠ clean water - *Experiment*
 - 4.2 Safe storage/transportation - *Discussion*
 - 4.6 Water quality testing - *Experiment*
- (8 Total!)**

3. Example: Evaporation in a jar



[Elements of Science](#)

2.8_Evaporation In A Jar

DEMONSTRATION
LEVEL: SIMPLE

Teaching Objective

The objective of this exercise is to see the principle of evaporative loss at work. This experiment demonstrates that when water is left uncovered and exposed to the sun, it evaporates far more quickly than water that is covered. This is a way of illustrating the value of covered water tanks in hot climates.

Exercise

Fill two identical glass jars with water. Leaving one of the jars uncovered, cover the other one with an improvised aluminum foil lid. Make the lid as secure as possible. Then, take the jars outside and place them both in an equally sunny spot. Draw a picture of the jars, noting the current water levels. Return to the experiment every day for the next week to observe and draw the current state of the water jars. You will observe that the water in the uncovered jar "disappears" more every day, while the water in the covered jar evaporates at a much slower rate because the evaporation process is blocked by the aluminum foil.

Required Materials

2 glass jars of the same size | water | aluminum foil | a marker pen

3. Catalogue of Practical Exercises (Continued)



5 Hygiene & Sanitation

- 5.2 Germ Transfer-*Game*
 - 5.6 Eco Sanitation Puzzle -*Game*
 - 5.13 Handwashing Routine –*Discussion*
- (15 Total!)**



6 Growth & Change

- 6.5 Knock down the myth –*Game*
 - 6.6 As we grow up -*Discussion*
 - 6.8 Reusable Pad Making –*Participatory*
- (10 Total!)**



7 From Soil to Food

- 7.2 Soil Erosion -*Experiment*
 - 7.2 Soil Shaking -*Experiment*
 - 7.5 Decomposition Column- *Experiment*
- (10 Total!)**



8 From Waste to Resources

- 8.1 Waste collection day -*Outdoor activity*
 - 8.4 Waste degradation rate -*Discussion*
 - 8.6 Waste assessment -*Experiment*
- (9 Total!)**

Includes: Background technical information for each topic to support discussions and full list of references with hyperlinks

4. Facilitator's Guide



2 THE WATER CYCLE

IMPORTANT
 Covers all water cycle aspects:
 → States of water: liquid, vapour and ice
 → Evaporation, condensation, precipitation, percolation, infiltration

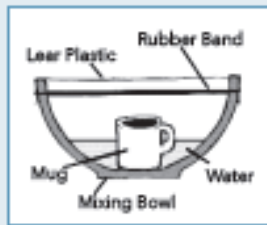
This topic serves as an introduction to understand the water cycle, both as an abstract set of principles and as a set of phenomena that can be demonstrated and experienced. In this topic it is important that students learn how water behaves, where it is located in their

environment, whether these supplies are renewable or non-renewable and how they are being affected by climate change and global warming.

LIST OF ACTIVITIES



2.1 What is the water cycle?
 To teach students the principles of the water cycle.



2.1 Make a water cycle
 To physically demonstrate the principles of the water cycle.



2.3 Water cycle model
 To understand the key principles or states of water in the water cycle.



2.4 Water cycle wheel
 To demonstrate how water moves through the cycle and is continuously changing its state.



2.5 Comic strip
 For students to demonstrate their knowledge about the water cycle.



2.6 Foam
 To convey more poetic and evocative qualities about the water cycle.

... more activities

2.7 Water cycle dominoes
 For students to demonstrate their understanding of the water cycle.

2.8 Evaporation in a jar
 To see the principle of evaporative loss at work.

2.9 Cloud in a jar
 To make vivid the process of condensation, that forms clouds.

2.10 Rain in a jar
 To demonstrate the principle of precipitation.

2.11 Transpiration in a jar
 To show students transpiration at work.

2.12 Global warming in a jar
 For students to observe global warming phenomenon.

2.13 Water and nutrient cycle puzzle
 To introduce the concept of nutrient cycles in the environment.

2.14 Plant in a bottle
 To exemplify the concept of nutrient and water cycles.

QUESTIONS FOR DISCUSSION

- What different state of water do you see daily?
- What kind of water do you have in your environment? Salty? Fresh? Where?
- How is climate change / global warming affecting the water cycle in our country/region?
- How are these changes affecting the environment and the community?

Thank you!



www.waterconsortium.ch/blueschool/

Download the entire Kit on the Swiss Water & Sanitation Consortium Website in **English, Français** and **Espagnol**

To your Mentimeters!!!



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HEKS



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