



Water Container Concept(s)



Water Container Concept(s)

Combined Solutions for Drinking Water Production in Rural and Suburban Areas in India

Combined Solutions for Drinking Water Production



PRE - WATER CONTAINER

Inwasol provides clean drinking water, locally, with pre-financed, pre-engineered and pre-installed water purification containers

■ designed,
■ engineered &
■ made in Germany

■ made in Germany

WATER TECHNOLOGIES

Inwasol water containers consist of a tailor made combination of innovative water technologies – designed for the specific water quality of each project



WATER VENDING

Inwasol sells water locally over flexible concepts and on sustainable price models including e.g. water shops for „local water entrepreneurs“

Overview Presentation

I. Introduction

- The Clean Water Challenge: Safe Drinking Water
- Our Vision
- Who we are

II. Concept

- Our contribution: Pre-finance, Pre-engineering, Pre-fabrication and Operation
- Our potential partners

III. Technical Side

- Water purification containers for sweet water sources
- Desalination containers for sea water and brackish water sources

IV. Flexible Business Models

- Model 1: Vending structures for rural areas over “local water entrepreneurs”
- Model 2: Special concepts for municipalities
- Model 3: Drinking and sewage water solutions for corporate clients

The Clean Water Challenge

Introduction

Water is one of the most valuable commodities on planet earth. Death, serious illness and despair are inevitable consequences without a supply of clean drinking water. In July 2010, the UN general assembly declared clean water a “fundamental human right”.



Sustainable Access to Safe Drinking Water is

- The number one factor for the macro economic development of a country and has the same or an even higher importance than energy supply. Water- and energy infrastructure, are both strategic issues for the development of a country
- A humanitarian need and a main step to reduce poverty

Polluted Water - Health Hazards

Introduction

884 million people in the world lack access to safe water supplies.



- 3.5 million people die each year from water-related disease.
- Every 20 seconds, a child dies from a water-related disease.
- Diarrhea is the second leading cause of child death in the world today. This diarrhea is caused by poor sanitation or dirty drinking water.

Our Vision

Introduction

Our vision is: Supply of clean drinking water in rural and suburban areas over sustainable business models and based on market mechanisms



Producing clean water costs

- What we cannot do:
Producing drinking water for free
- What we can do:
Producing safe drinking water based on sustainable business models and involvement of all interests

Who we are: INWASOL and Grasshopper Investments

Introduction

Grasshopper Investments is a German company that raises funds for sustainable water projects. Intelligent Water Solutions GmbH (INWASOL) is an affiliate company for project development.



Together we offer:

- Innovative Water Concepts
- Finance Models
- Technology Solutions
- Operation
- Involvement of Local Partners



II. The Concept

Inwasol and Partners

Overview Concept: Inwasol

flexible concepts for different kinds of projects

Inwasol can contribute

- Prefinance for drinking water production projects
- Preengineered and preinstalled water containers with innovative water purification technologies
- Operation of water production
- Water vending concepts



Overview Concept: Partners

different partners for different kinds of projects

We need partners for:

- Finding the right projects and locations
- Getting access to a water source and being allowed to use the water source



Facultative and depending on the project structure we need additionally:

- Political support
- Cooperation with NGOs
- Support for schoolings of local water entrepreneurs



III. The Technical Side

Producing clean drinking water with preengineered and preinstalled water containers



Water Containers in General:

Water purification in preengineered and preinstalled containers

Plug and Play..

A Water Container

- is tailor made for the water quality of each project and preinstalled
- shipped and transported to the final destination – ready for „plug and play“





1. Technologies: for Sweet Water

Designed for the individual local water quality

We design individual water containers

We need to know: where does the water come from?



Potable Water Plant

Each Water Container is designed for the local water quality and combines water technologies for the individual water treatment. The technology design depends on the water quality and water source:

- Riverwater
- Lakes
- Groundwater
- Public water supply with low water quality
- Water from other sources (rain harvesting, etc.)

We design individual water containers

We need to know: the quality of the water

To design the technology mix for a single project we need:

- a chemical water analyses
- a microbiological water analyses

from the local water source to be used.





2. Technologies: Desalination for Saltwater

Water production from saltwater with solar power supply

Desalination Technology for Salt Water



Desalination technology has to be used for water production

- out of sea water in coastal areas
- out of brakish water in intercontinental areas

Desalination is energy intensive



- The energy solution is of main importance for water desalination projects
- Solar Power is sustainable and available in rural areas in India
- Our solar – desalination containers enable a technically harmonized combination of desalination and solar power supply
- Our solar solutions are available for small sized projects and desalination plants with high capacities as well



IV. Business Models

Flexible business models for individual projects

In General and in Detail... flexible

Our business models are flexible. Different

- Finance structures
- Technical solutions
- Ways of operation
- Kinds of involvement and contribution of local partners

can be mixed... , optimized for each individual project and adjusted to the local situation



Three Examples for Business Models

1. Concepts for rural areas with water vending model over local water entrepreneurs
2. Concepts for municipalities
3. Concepts for corporate partners



Every project is different!



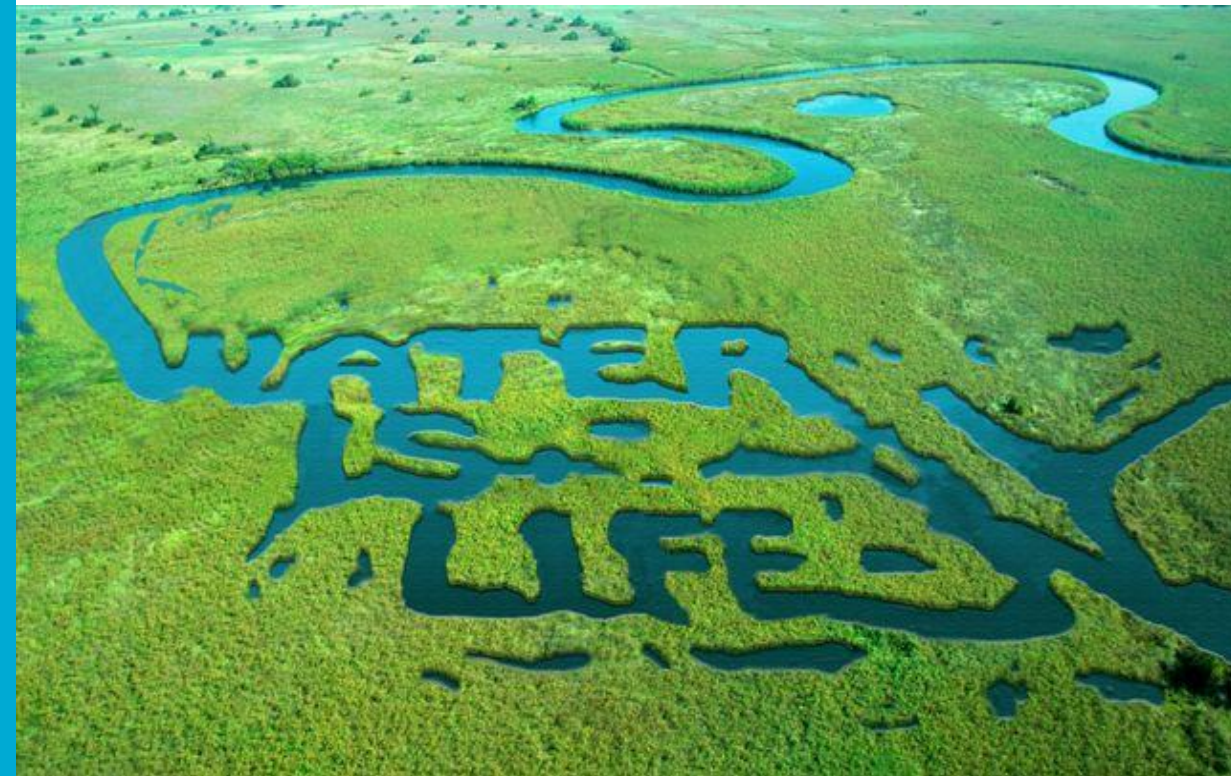
No. 1: Water Vending Model over Local Water Entrepreneurs

For rural or suburban areas in India

Water Vending over local water entrepreneurs

Background of this concept

In many countries, women walk on average over 3.5 miles each day to fetch water. Providing access to clean water close to home can dramatically reduce a women's workload and free up time for educating her children and increasing her economic opportunities.



A sustainable concept:

- local and decentralized water production: no far water transportation
- safe and healthy water for the local population
- creation of local jobs

Water Vending over Water Entrepreneurs

How does it work?

INWASOL produces drinking water locally with prefinanced and preinstalled water containers - in own operation or over third parties and rental models. The water can be sold directly and over a structure of local **Water Entrepreneurs**.

Those Water Entrepreneurs

- come from the local population
- need no own water technologies (no investment, no knowledge about water purification)
- Receive schoolings about how to become a water entrepreneur
- Build up local business and create further jobs



How to Become a **Water Entrepreneur**



A Water Entrepreneur can build up his own water shop and create his own business model with our support

Build your own business model

- sell water in a water shop
- deliver additionally to e.g. schools, neighboring villages, etc.
- open own subsidiary water shops
- sell and deliver water canisters or water for water tanks to other sub-suppliers
- sell water over water vending machines



Create your own distribution system



We support you with: **Schoolings**

E.g. - Basic Schooling Block:
How to become a Water Entrepreneur!

- Build up and expansion of local water sales structures
- Cleanliness and Hygiene
- Producing additional products? lemonades and other drinks
- Advertising and marketing
- Basics of book keeping, taxes and HR management



Schoolings also give the possibility to change

- ideas and
- experiences

with other Water Entrepreneurs

Facultative: Water Shop Containers

The infrastructure for water shops and for the water vending business – that contain **no** water technologies and are designed for water vending only - may be delivered from Inwasol as well through ready to use Water Shop Containers.





No 2: Concepts for Municipalities

Safe and healthy water for rural municipalities in India

Concept Variations for Municipalities

For municipalities in India special concepts and finance options are possible:

Beside buying or renting the necessary water infrastructure for a village / town or building up local vending structures over Water Entrepreneurs after water purification through Inwasol, the business model could be based on e.g.:

- Concepts with payments of e.g 1 EUR / month per inhabitant
- Concepts combined with other public finance programs
- Concepts with or without operation or maintenance through INWASOL
- BOT - and other models



Example: Water Supply for Villages in Punjab

Example:

- villages in Punjab
- with publicly prefinanced water supply scheme
- running by payments of 1 EUR per month per inhabitant





No 3: Concepts for Corporate Partners and Industries

Concepts for Corporate Partners

INWASOL also offers water container solutions and finance models for

- **drinking water**
- **sewage water - and sludge treatment**

to corporate partners and industries like, e.g.

- construction companies, housing areas and facility management companies
- livestock breeding companies (poultry, cattle farming, pig farming)
- hotels, hospitals, schools
- all kinds of industries using water and producing sewage water



Please contact us for further details and additional presentations

Contact

Intelligent Water Solutions GmbH (INWASOL)
Zeppelinallee 21, 60325 Frankfurt, Germany

Mareen Schneider: schneider@inwasol.com
phone: +49 162 7344786

