



Appropriate Technology  
for Water and Sanitation

A Business Development  
**TOOLKIT**



Initiated by

**AT@Work**

Developed by

**aidenvironment**

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Bundeling van krachten 



# Executive summary

## A Business Development Toolkit

### Appropriate Technology for Water and Sanitation



Water and sanitation problems are primarily concentrated in areas where people live in extreme poverty, on an income of less than \$1 a day. Are viable solutions available for such difficult circumstances and if so, how can they best be implemented? In addition to the more traditional development aid programs, private companies are now finding ways to combine poverty alleviation with sound entrepreneurship. By adapting their products and their strategies to markets in developing countries, they are able to serve the poorest of the poor at “the bottom of the pyramid” (BOP).

Can this approach be applied to water and sanitation products? If so, how can they best be developed and launched onto BOP markets? Aidenvironment and BiD Consult, two Dutch consultancies, have gathered answers to these questions while supporting four Dutch entrepreneurial startups in India.

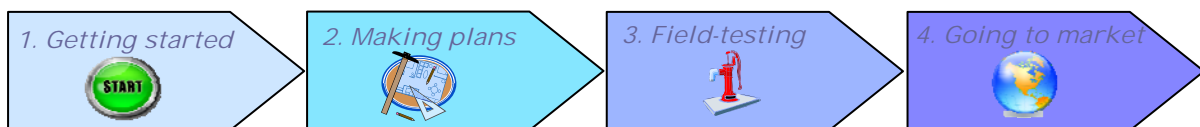
The lessons and insights gained from these projects have been collected in a Business Development Toolkit. Besides assisting entrepreneurs, the Toolkit will help development organizations and financial institutions to comprehend what it takes to launch a business on these markets. The Toolkit explains the principles of doing business at the bottom of the pyramid, offers a step-by-step business development approach, and provides practical tools, tips and background information, all based on and illustrated by the experiences of four Dutch entrepreneurs.

### Principles of Appropriate Technology

To be successful on BOP markets, products must be purpose-built or adapted to local needs and conditions. In other words, they must be “appropriate technologies”. Appropriate Technology (“AT”) is defined as “technology that is designed with special consideration to the environmental, ethical, cultural, social, and economical aspects of the community it is intended for. AT typically requires fewer resources, is easier to maintain, has a lower overall cost, and has less impact on the environment.” The four Dutch entrepreneurs have found their way to the BOP markets for water and sanitation products in India. Their experience has shown that certain key conditions must be met for the product to be successful: physical and financial accessibility of the product, easy and low cost operation, and availability of spare parts.

### Business development step by step

The experience of the four entrepreneurs provided the input for the business development process presented in the toolkit and offers an insight into the essentials of doing business at BOP markets. It is a four-step approach that will guide an aspiring entrepreneur through the preparation, trial and launch of his product onto the market. Every step provides information about four major elements: product, market, business and finance.



### **Step 1: Getting started**

The first step is to translate an idea into a prototype, roughly define its potential market, and start thinking about a possible business set-up and how to finance the project.



### **Step 2: Making plans**

In this second step the ideas set out in step 1 become a reality. The prototype is developed into an “appropriate” product. Based on targeted (field) research, a marketing strategy is identified, the business is further developed and financial requirements are addressed.

### **Step 3: Field-testing**

Before actually launching a product on the market, the product and plans have to be tested in a real-life market environment. Based on the results of this trial and relevant feedback, the business plan is adjusted and finalized.

### **Step 4: Going to market**

Thorough preparation and the trial results enable a favorable launch. Once the business is up and running the focus will shift to ongoing further refinement of the product and the marketing strategy, structuring of the organization and long-term financial management and control.

### **Lessons learned in India**

The toolkit is based on experience in the water and sanitation sector in India, but will also hold for other markets in other developing countries. The enterprises showcased in the toolkit are at different phases of development. Their products also differ, varying from small household appliances to technologies for small communities and villages. This broad perspective has revealed key factors for success: the need to focus on product affordability, close cooperation with local entrepreneurs and NGOs, and creative distribution solutions in order to reach the consumer.

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The toolkit is by no means an end product. It will evolve and expand over time, providing new business initiatives and projects focused on BOP markets with practical tools and information. It will also offer entrepreneurs, development organizations and financial institutions an opportunity to share expertise and experience.

# Appropriate Technology for Water and Sanitation

## A Business Development Toolkit

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The project has also benefited from the continuous participation of Aqua4all, Zonnewater, Ecological Management Foundation (EMF), and IRC International Water and Sanitation Center (IRC). Aqua4all and EMF have also been important initiators in bringing this toolkit to life. Furthermore, we have borrowed from and referred to many different sources. The Novem *Innovatie Toolkit* and McKinsey & Company's handbook *Starting Up* have been especially valuable.



### ***Partners for Water Program***

*“Strengthening the international position of the Dutch water sector by uniting forces”*

Partners for Water is a program that aims to strengthen the international position of the Dutch water sector by uniting forces (private sector, public sector, not-for-profit sector and knowledge institutes). Public-private cooperation can give a powerful impulse to the water sector by developing innovative solutions to the world's water problems. The program runs from 2005 to 2009 and focuses on policy alignment and on cooperation between government, companies, knowledge institutes, and NGOs through network meetings and information exchange.

Further reading: [www.partnersforwater.nl](http://www.partnersforwater.nl)

The toolkit was developed by:

### ***BiD Consult***

BiD Consult provides business consultancy on New Business Development to entrepreneurs that are active at the Base of the Pyramid. The initiative is started and owned by Mantijn van Leeuwen and operates as a not for loss private company, operating from an ideological basis.

### ***Aidenvironment***

Aidenvironment is a value-driven, independent not-for-profit consultancy based in Amsterdam, The Netherlands. Aidenvironment advises private and public organizations in solving sustainability issues. Sustainable business development is one of the core services of Aidenvironment.

## Introduction

Access to safe drinking water and basic sanitation<sup>1</sup> is still a problem in many parts of the world. More than 1 billion people – that is one in six – have no choice but to use potentially harmful sources of water. Procuring adequate water is a daily time- and energy-demanding task, especially for women and children. The magnitude of this challenge will only increase in the face of population growth, conflict situations, rural to urban migration and the predicted effects of climate change.

In 2000, procuring access to safe drinking water has become a major goal of countries around the world. By 2015, the number of people that lack access to safe drinking water and proper sanitation must be halved.

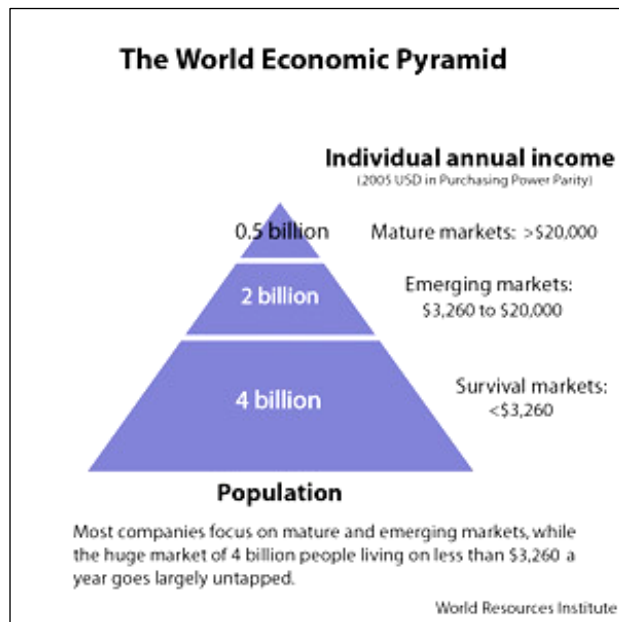


Exhibit 1: The World Economic Pyramid (World Resources Institute, [www.wri.org](http://www.wri.org))

Water and sanitation problems are primarily located in areas where people live in extreme poverty, on an income of less than \$1 per day. Can one find sustainable solutions in such difficult circumstances and what are the best ways to implement them? In addition to the more “traditional” development aid programs, multinational companies have found ways to combine poverty reduction with good business sense. They have adjusted their products and their strategies to markets in developing countries, the “bottom of the pyramid” (BOP) markets. These markets represent a vast potential with a total population of 4 billion people. And although individual incomes are low, the collective purchasing power is actually quite large. Many companies have been able to reach these new customers, also the poorest, with success. More and more, the idea of running a profitable business in developing countries has become acceptable.

### Millennium Development Goals (MDGs)

In 2000, 189 nations committed themselves to the Millennium Development Goals (MDGs). The MDGs stand for a renewed commitment to overcome persistent poverty and address many of the most enduring failures of human development. One of the targets defined within these MDGs is halving “by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.”

Further reading:  
[www.unicef.org](http://www.unicef.org)

Is this approach applicable to water and sanitation products? If so, how can they best be developed and introduced on the BOP markets? Aidenvironment and BiD Consult, two Dutch consulting firms, have collected and consolidated answers to these questions while supporting four Dutch entrepreneurial startups in India. Sponsored by the Partners for Water program, they advised the entrepreneurs on how to adapt their products and business plans to the peculiarities of these markets, assisted them in making contacts and developing partnerships, and facilitated the actual market launch.

The businesses of all four entrepreneurs are developing well and their products are now in different phases of development, ranging from a plan to raise an eco-sanitation company to the launch of a low cost ceramic

<sup>1</sup> The process of sourcing, collecting and processing of human excreta.

filter, ready to scale up. Based on their experiences, one can say that selling water and sanitation products in developing markets can be a profitable and worthwhile undertaking.

The lessons and insights gained during these projects have been collected and transformed into a “business development toolkit”, a powerful instrument that we expect will help many aspiring entrepreneurs. Although the toolkit is based on experiences in the water and sanitation sector in India, it might also hold for other sectors and markets in other developing countries. Besides helping entrepreneurs, the toolkit will be useful for NGOs and financial institutions, helping them to understand the intricacies of doing business in BOP markets.

The toolkit comprises four different sections. Section 1 explains the key success factors for doing business at the bottom of the pyramid and what it means to make products and business models appropriate to these specific markets and customers. Section 2 presents our four-step model for introducing a product and starting a business. Section 3 provides background information on doing business in the water and sanitation sector in India and describes the experiences of the four Dutch entrepreneurs. Finally, section 4 contains relevant background information and gives an overview of all the tools, instruments, and references.

The toolkit is by no means an end product. It will develop and grow over time, providing new business initiatives with practical tools and information, and offer an opportunity to share expertise and experiences.