



# Essence of Life

SOLVING WATER WITH A SUSTAINABLE ENGAGEMENT STRATEGY

**xylem**  
Let's Solve Water



# ESSENCE OF LIFE: THE HYBRID VALUE CHAIN IN ACTION



# Solving poverty means solving water

Today, 2.5 billion people around the world live on less than \$2.50/day.

Source: World Bank Development Indicators 2008



Within India, agriculture, forestry, and fisheries accounted for 16.6% of the GDP in 2009 and approximately 50% of the total workforce. Agriculture is the major water-consuming sector in India. Source: CIA Factbook, India

# Some facts:

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## **Poverty alleviation is impossible without food security.**

Three-quarters of the world's poor live in rural areas and depend on agriculture, forestry, and fisheries for their livelihoods. Agriculture has an outsize role to play in poverty reduction.

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## **Food security (and development) are impossible without agriculture.**

In many developing countries, agriculture generates one-third of the national income, and employs over half of the total workforce, the majority of whom are women.

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## **Agriculture is impossible without water.**

Without a rational, sustainable water management system, farmers must rely on inefficient and unreliable methods, leaving their families and livelihoods at the mercy of weather patterns.

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*There is enormous need for—and enormous economic upside potential in—affordable, field-serviceable irrigation systems across the developing world.*

## **The smallholder farmer: Entrepreneurial, and a true engine of development.**

Farmers make up one-third of the world's population; 1.5 billion of them are smallholders who farm for their own food. Yet much of their arable land and entrepreneurial energy are underutilized.

*Smallholder farmers are a compelling market for solving water, and an undertapped catalyst for growth.*

## **Essence of Life: An innovative distribution model that connects the dots.**

Xylem's **Essence of Life** is a sustainable business model with potentially game-changing benefits for the populations at the base of the pyramid—as well as for the large array of NGO and other citizen-sector organizations whose mission it is to fight poverty and support rural development.

Using the Hybrid Value Chain concept—an innovative public-private collaboration strategy with its roots in academic thought leadership—**Essence of Life** breaks through the physical, economic, and other entrenched factors that underlie the persistence of agricultural underperformance, and connects farmers with the products they need to grow ... while building new markets for our and our partners' products.

*For Xylem and other global OEMs with agriculture-focused products, as well as our partners in the citizen organizations, the value proposition is one and the same. Empowering the farmer.*

RURAL PRODUCT EXPERTISE STARTS  
WITH **CUSTOMER INTIMACY.**  
CUSTOMER INTIMACY STARTS WITH  
**OBSERVING AND LISTENING.**











## Listening to the voice of the farmer

### How did we get here?

We listened, we observed, we anticipated, we tested. And we learned.

Xylem's **Essence of Life** program—a differentiated product portfolio with a unique distribution model focused on rural farming needs—was born at the intersection of multiple areas of expertise, including a sophisticated “voice of the customer” execution.

We conducted extensive field visits, interviewing more than 750 farmers across India, while also establishing hybrid value chain relationships with key citizen sector and non-governmental organizations across numerous other developing nations.

With these partners, we conducted focused technology and product testing, successfully field-testing 60 samples across India, Africa, Latin America, and Asia. These interactions enabled us to zero in on the critical consumer needs, realizing the spoken, unspoken, and anticipated needs of our rural customers.

### In synergy with our partners

Coupled with product roadmaps grounded in socio-economic mappings, this process yielded the first two **Essence of Life** products: an innovative “stepping pump” and a revolutionary portable solar pumping system, both to be offered in multiple configurations.

Our final product designs embrace a pointed focus on “human factors” engineering and minimizing potential points of product failure. They are field-serviceable, with a minimal number of removable parts and no required tools.

We've designed these products to meet the clearly understood needs of our rural customers, the citizen sector organizations who support them, and our agri-business partners.

# Solving water at the base of the economic pyramid

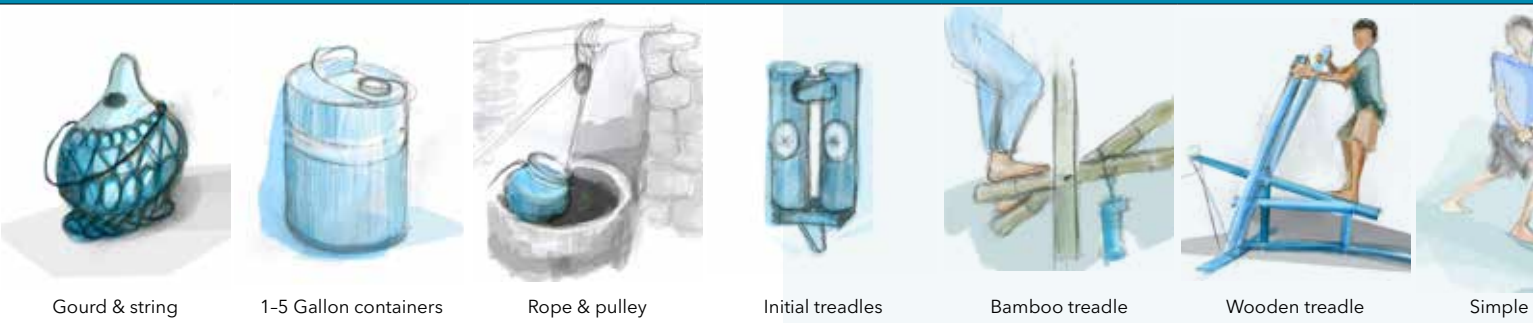
Rigorous and thorough macro-level socio-economic mapping of rural water interactions

ABJECT POVERTY	SUBSISTENCE FARMER	SMALLHOLDER FARMER
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20-100 m<sup>2</sup> plot  
 Focus on feeding family  
 Estimated \$100 per harvest  
*Assume one or two harvests / year*

100-1,000 m<sup>2</sup> plot  
 focus on feeding family  
 Estimated \$800 per harvest  
*Assumes three harvests / year*

## WATER MANAGEMENT



## WATER APPLICATION & STORAGE



## PORTFOLIO CORRELATED AGAINST FIELD VOICE OF CUSTOMER & SOCIO-ECONOMIC PURCHASING CAPABILITY

*Traditional methods {installed}*  
**< \$70**

*Essence of Life treadle system\**  
**< \$200**



Leveraging dozens of field visits spread over a year of extensive international research, Xylem’s rural business credibly addresses a pointed understanding of local purchasing characteristics of smallholder farming activities. We’ve correlated these purchasing dynamics to local economic conditions to define specific application and product requirements.



*Aggregating cross-geographical models to define an achievable and addressable customer base, we’ve repositioned and repurposed proven technologies to define the proper mix of capability, affordability, and serviceability.*

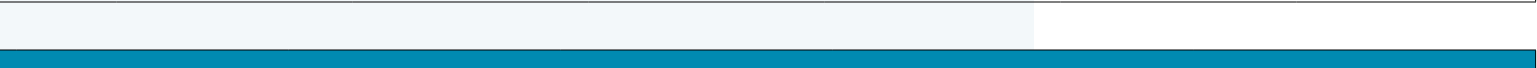
PEASANT FARMER	PROFESSIONAL SMALL FARMER	PROSPERITY
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Low income  
Low investment  
Low harvest / year

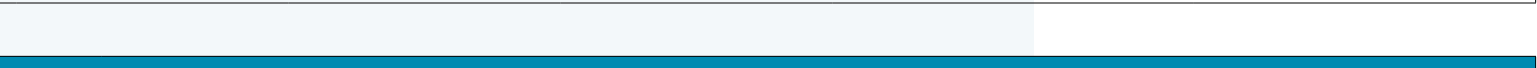
500-5,000 m<sup>2</sup> plot  
Focus on income  
Over \$1,000 per harvest  
Assumes three or more harvests / year



 Hand pumps	 Pressure treadle	 High-performance fixed systems	 Diesel systems	 Solar systems	 Wind systems	<i>Advanced methods</i>
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 Large header bag	 Micro sprinkler	 Earth mound bag	 Large drip kit	<i>Impact sprinklers and large scale systems</i>
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Essence of Life portable solar cart\*

**< \$1,000**



*\*Estimates based upon noted configurations*

# Essence of Life roadmap:

## Defining a rural journey of product innovation





## Rural innovation is a process. Think big. Start small. Move fast.

### **A robust product portfolio**

Xylem's Essence of Life portfolio is the result of our sustained commitment to creating products that demonstrate our design expertise, sophisticated customer engagement tools, and thought leadership in building successful hybrid value chains across the world's developing rural sectors.

### **Comprehensive market intelligence**

Intensive field research defining value propositions, customer "pain points," and anticipating trends.

### **Idea generation**

Repurposing appropriate capabilities and pairing new technologies, such as solar.

### **Rapid field samples**

Quick sampling for expedited and frequent "voice of customer" activities.

### **Design and development**

Using recognized "human factors" experts to supplement our capabilities at Xylem's U.S. and India Innovation Centers of Excellence.

### **Manufacturing**

Balancing in-house and contract resources to define appropriate cost positions.

### **Marketing and launch**

A sophisticated, diversified platform, using both effective rural communications methods and cutting-edge social and other digital technology media.

### **Timely execution**

Recognition of the fact that a robust and timely service position is as critical in rural markets as it is in developed markets.





## Aspiration is universal

*Our research has confirmed the obvious. The aspirational nature and vision of farmers is universal. All hope to provide greater opportunities for their children, and a better life outside of poverty. As noted by many NGOs, greater opportunity starts with self-reliance.*

### **Sustainability and innovation are the way there.**

**Sustainability**, in terms of business commitment, investment, and appropriate return, is an essential component of our **Essence of Life** strategy. Sustainability means affordability and long-term utility to our targeted rural customers, while also ensuring an appropriate return, necessary to maintain the growth and longevity of the business model.

**Innovation** is baked into every step of the design, processes and product portfolio we offer.

Harnessing both the aspirational and entrepreneurial spirit inherent in our targeted rural communities, **Essence of Life** provides the tools for self-sufficiency and individually directed advancement.

Collaborating with Xylem Watermark, our corporate citizenship and social investment program, **Essence of Life** expands Xylem's rural innovation expertise through our extended nonprofit Watermark community.

This collaboration provides a unique opportunity for us to share Watermark's financial commitments with **Essence of Life's** products, strategies and solutions—in our common vision of solving water challenges for our rural customers.



### **About Xylem Watermark**

Launched in August 2008, Xylem Watermark's mission is to provide and protect safe water resources in communities around the world. To accomplish this goal, the Watermark program pledged an initial \$4 million over three years (2008-2010) to three nonprofit partners: Water For People, China Women's Development Foundation and Mercy Corps. From 2008 to 2010, Watermark surpassed its goal to reach 500,000 people with clean water and sanitation solutions, and then in 2010 committed to reaching one million more people by 2013 through school and community water projects, disaster risk reduction and disaster relief efforts. For more information, visit [www.xylemwatermark.com](http://www.xylemwatermark.com).

# Global presence; applications expertise around the cycle of water.



## Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots
- 2) a leading global water technology company.

We're 12,700 people unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

**For more information on how Xylem can help you, go to [www.xylem.com](http://www.xylem.com)**



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