



# Xylem's Saajhi Treadle Pump

STEPPING TO PROSPERITY



## 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

### 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.*

## Rural product expertise starts with customer intimacy. Customer intimacy starts with observing and listening.



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.

## The Value Proposition

FOR FARMERS			FOR COMMUNITIES AND GOVERNMENT AGENCIES	FOR ALL PARTIES
<p><b>REVENUE INCREASE</b></p>  <p><b>3x or greater yield</b> in revenue through output and cropcycle increases, compared to rain fed</p> <p><b>80% of farmers</b> surveyed (n = 750) favored a brand or product according to its convenience of use <sup>2</sup></p>	<p><b>LABOR TIME REDUCTION</b></p>  <p><b>25% or greater reduction in labor time</b> from pressurized water delivery (spray or drip), compared with traditional furrow irrigation</p> <p><b>67% of farmers</b> surveyed (n = 750) favored a brand or product based upon its output capability <sup>2</sup></p>	<p><b>INCREASED FLOW PER STEP <sup>1</sup></b></p>  <p>Greater than <b>15% increase in water output*</b> per step</p>  <p>Over <b>10 additional liters/minute*</b> for similar exertion</p>	<p><b>WATER EFFICIENCY</b></p>  <p>Nearly <b>40% less water usage</b> from pressurized water delivery (spray or drip), compared with traditional furrow irrigation</p>	<p>Completely field-serviceable, no tools required</p> <p>Manufactured by one of the world's <b>largest pure-play water companies</b></p> <p><b>89% of farmers</b> surveyed (n = 750) selected a brand or product based upon its quality <sup>2</sup></p>

<sup>1</sup> Baseline: similar comparative treadle products over ½ acre or less, relative to our Saajhi

<sup>2</sup> Survey allowed for the selection of multiple responses for a particular question

\*Results based on field trials conducted by Xylem. Individual results may vary.

# Xylem's Saajhi pump: Defining rural innovation

"Saajhi" originated from the word "Saajhedaari" or "Partnership" which is commonly used in India to address an ally, shareholder, or partner in business.

## SMALL OVERALL DIMENSIONS

With its light weight (43 lbs / 19.5 kgs) and compact size (19.5 x 18.5 x 42 inches, 49.5 x 47 x 106.7 centimeters, handle removed), the Saajhi enables both ease of movement in rugged terrain and easy storage back home



## TILT AND TRANSPORT DESIGN

Ergonomic angle-and-wheel combination is optimized for center of gravity, aiding even smaller users in transporting to and from the field

## SIMPLIFIED MAINTENANCE

Assembled with minimal parts, all of which are easily replaceable in the field with no special tools



## CURVED HANDLE

Facilitates adjustable hand positioning across an arc of 18 inches (45.7 centimeters)

## OPTIMIZED HANDLE HEIGHT

At 42 inches (106.7 centimeters) above the treadles, provides maximum comfort for a variety of users while eschewing complicated, failure-prone adjustment mechanisms

## DISCRETE MATERIAL SELECTION

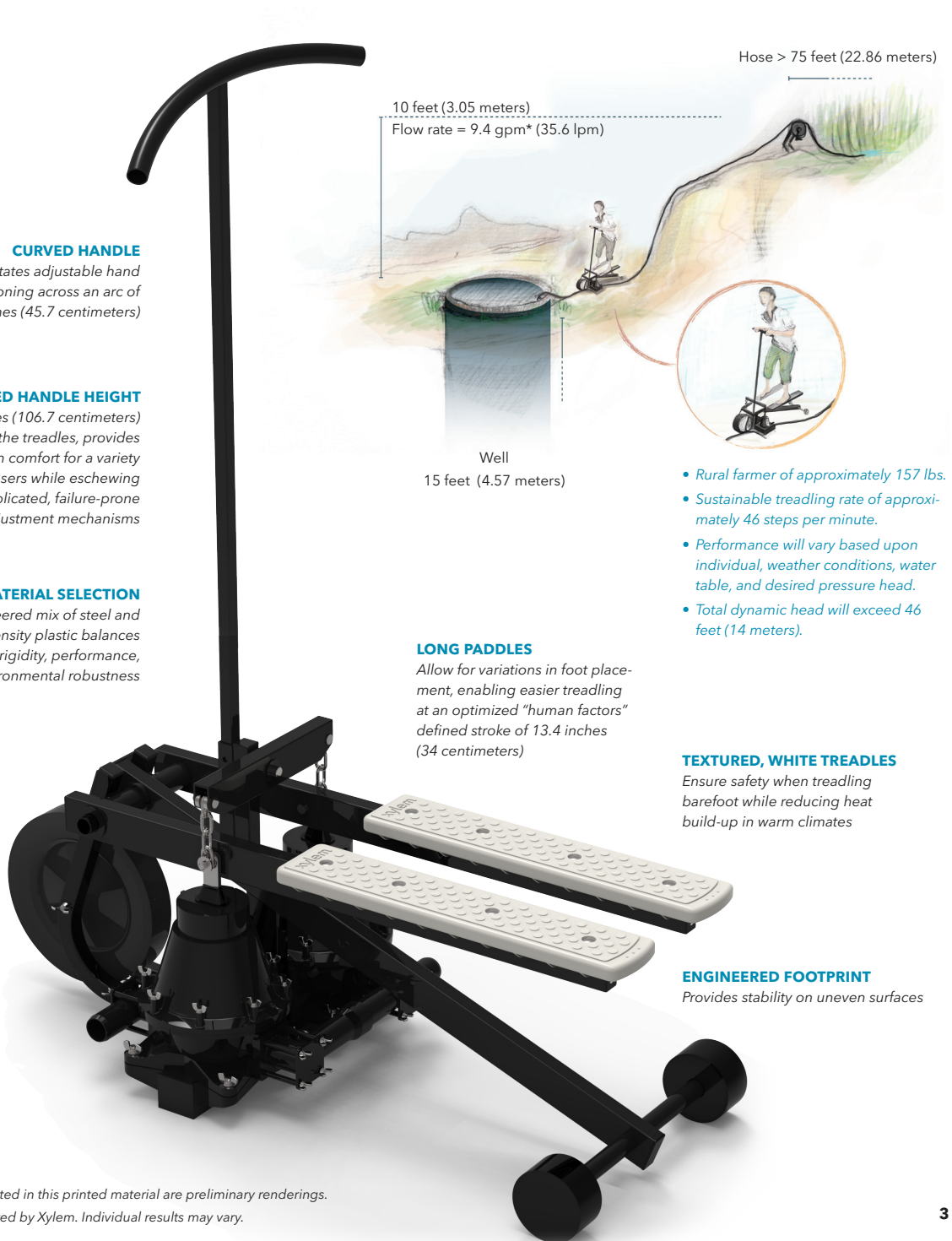
Engineered mix of steel and high-density plastic balances weight, rigidity, performance, and environmental robustness

## SELF-PRIMING DIAPHRAGM-BASED SYSTEM

Efficient and easily serviceable, this high-performance pumping technology has been proven by Xylem in hostile marine markets for more than 20 years

## INTEGRATED, REMOVABLE AND REPLACEABLE FILTER

Removes large debris that could damage the pump's diaphragms; muddy water or small debris will not harm the Saajhi pump



Hose > 75 feet (22.86 meters)

10 feet (3.05 meters)  
Flow rate = 9.4 gpm\* (35.6 lpm)

Well  
15 feet (4.57 meters)

- Rural farmer of approximately 157 lbs.
- Sustainable treading rate of approximately 46 steps per minute.
- Performance will vary based upon individual, weather conditions, water table, and desired pressure head.
- Total dynamic head will exceed 46 feet (14 meters).

## LONG PADDLES

Allow for variations in foot placement, enabling easier treading at an optimized "human factors" defined stroke of 13.4 inches (34 centimeters)

## TEXTURED, WHITE TREADLES

Ensure safety when treading barefoot while reducing heat build-up in warm climates

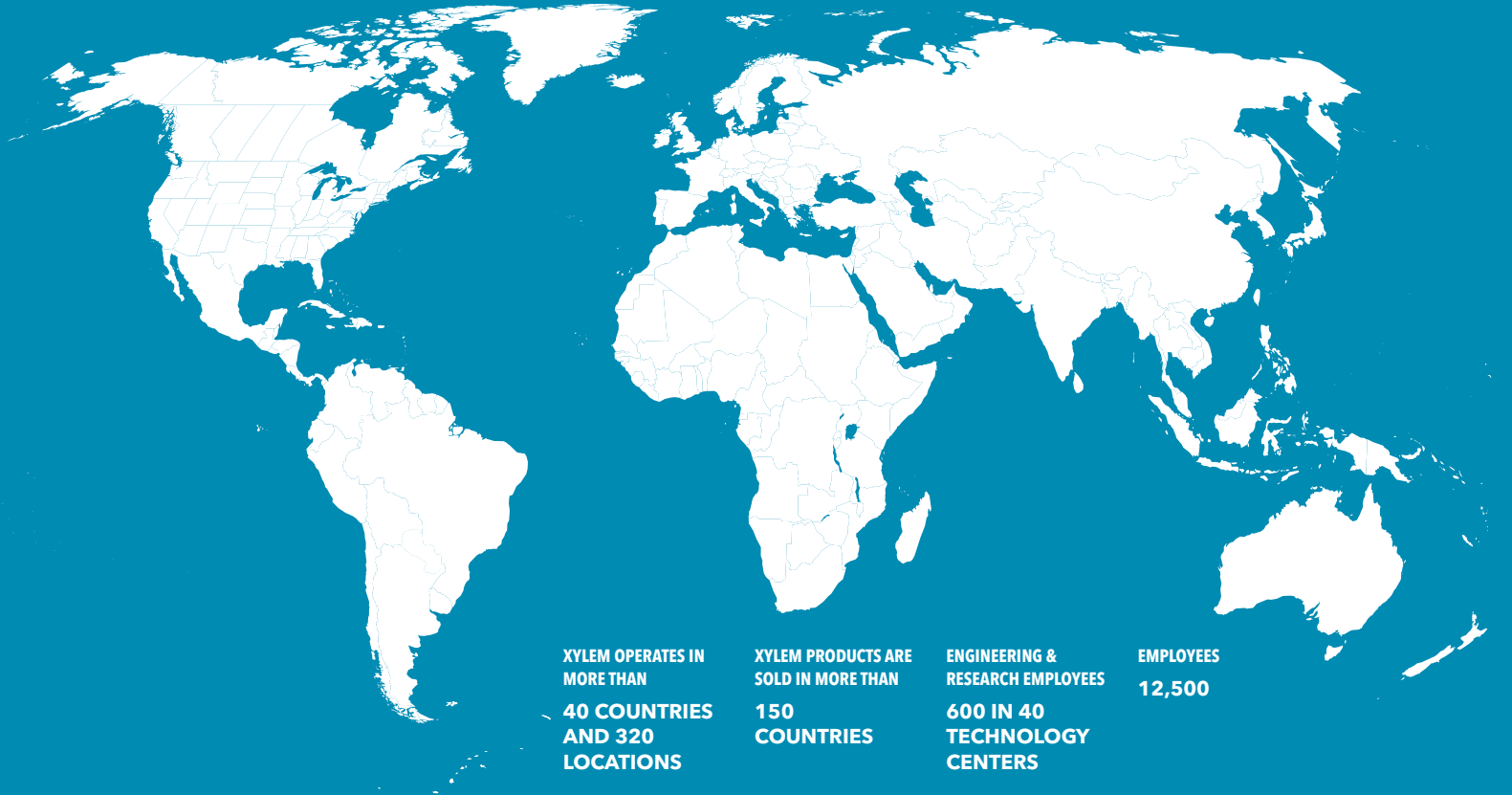
## ENGINEERED FOOTPRINT

Provides stability on uneven surfaces

Images of the Saajhi pump as presented in this printed material are preliminary renderings.

\*Results based on field trials conducted by Xylem. Individual results may vary.

# A capability servicing 76% of the world's countries: Addressing a resource spanning 70% of the world's surface



## 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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