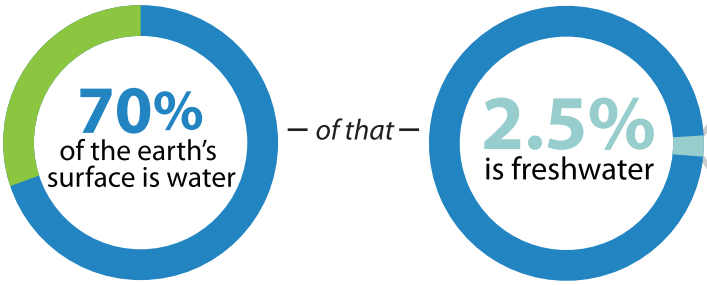
# PARJANA®

& PARJANA Distribution

# Water Supply Crisis

Water is the most valuable resource on the planet. It is needed for all aspects of an environment, including ecological and human sustainability. Water is part of a hydrologic cycle, where groundwater and surface water are a single resource in constant flux. However, **demand has far exceeded supply availability** creating water scarcity within regions of the world.




**70%** *is trapped in the form of glacial ice*

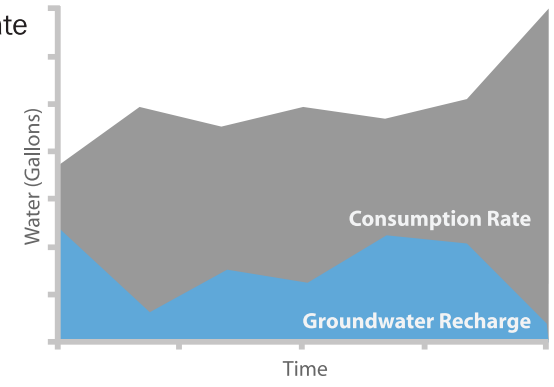
**30%** *is beneath the earth stored as groundwater*

**<1%** *is accessible for direct human use*

## Top 10 Freshwater Consumers
(million cubic meters per year)


Freshwater all around the world is being over consumed at a faster rate than the recharge rate resulting in:

- ▼ Lower water table
- ▼ Diminishing bodies of freshwater
- ▼ Loss of support under ground
- ▲ Saltwater contamination
- ▲ Increased costs
- ▲ More energy to retrieve water




**Over 7 billion** people are consuming **50% more than** than the Earth is producing

this is

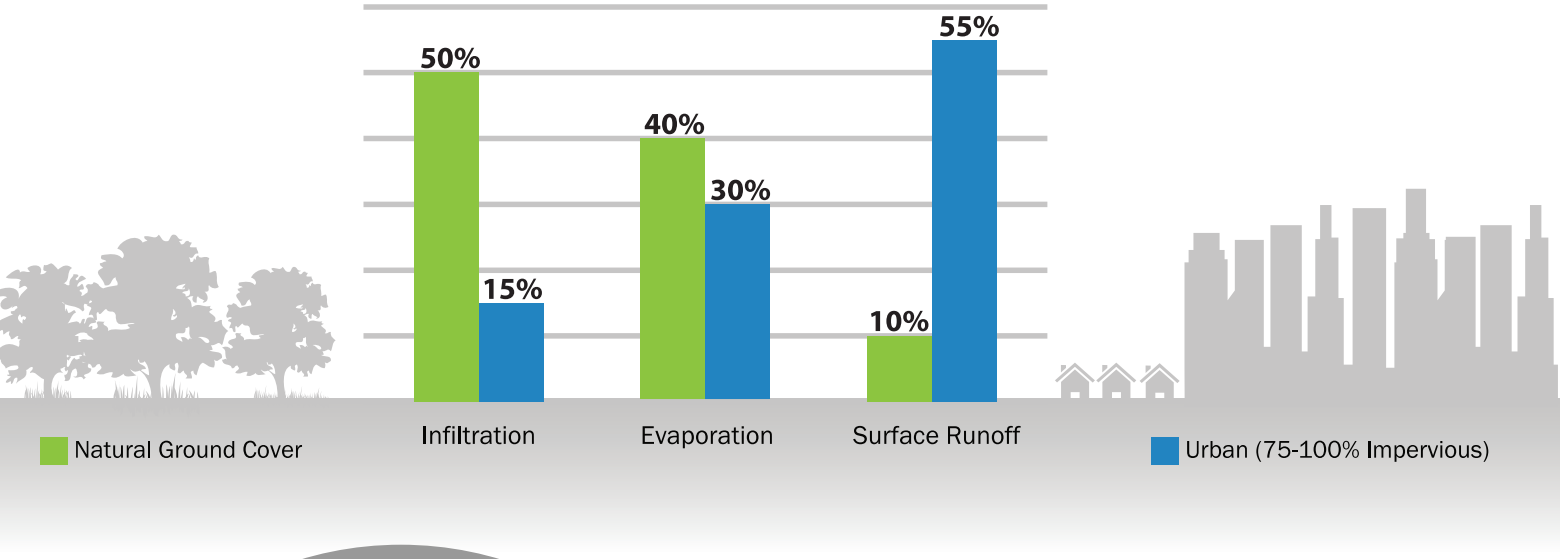
**3x** *higher than the sustaintable level*

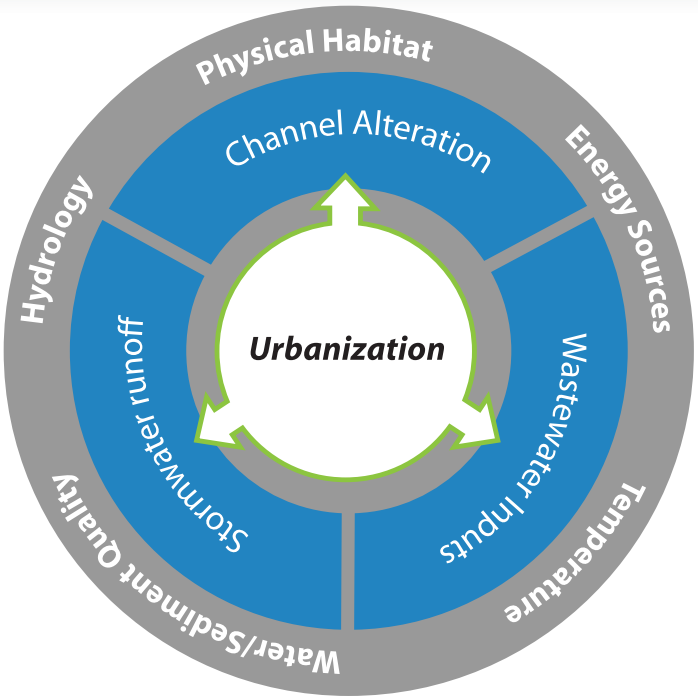
**47%** of the world population will be living in areas of **"high water stress" by 2030**

Sources: "The Water Footprint of Humanity", by Arjen Y. Hoekstra and Mesfin M. Mekonnen, in Proceedings of the National Academy of Sciences USA. Published online February 13, 2012. ; Human Appropriation of the World's Fresh Water Supply. Published January 4, 2006. Univeristy of Michigan; World Water Development Report, Published 2012; Current Population is Three Times the Sustainable Level. Wolrd Population Balance.

# Water Management Issues

As mankind spread out over the globe, the hydrologic cycle has been disrupted. Urbanization has resulted in an increase of impervious surfaces contributing to water quality problems and environmental damage.



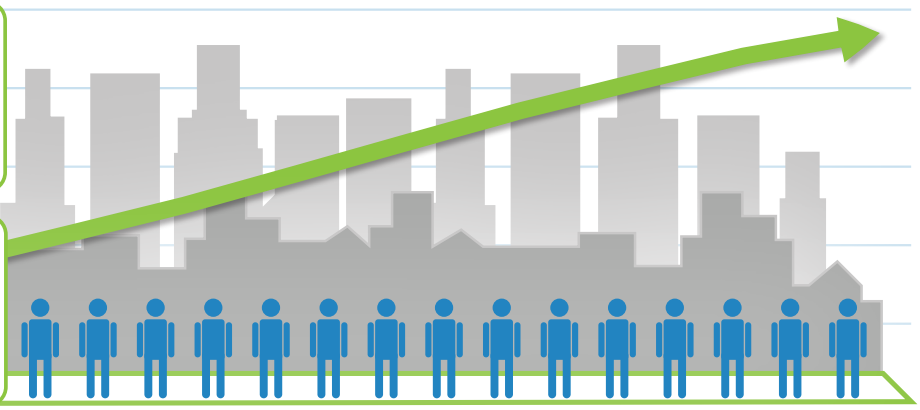

***By 2050, the world population will be greater than 9 billion people and urbanization will increase by 66 percent.***

Urbanization will increase impervious surfaces causing more surface runoff, and inherently less infiltration and evaporation.

Common problems associated with impervious surfaces include: **increasing the size and frequency of floods, reducing groundwater recharge, increasing water contamination and increasing waterborne illnesses from greater insect breeding.**

**$390 billion** must be invested by 2019 to upgrade and maintain the nation's existing wastewater infrastructure systems to meet ***increasing demands!***

***Failure*** to meet investment for wastewater infrastructure systems ***risks reversing*** ***the public health, environmental and economic gains*** of the past three decades.



Sources: United States Environmental Protection Agency; United Nations Department of Economic and Social Affairs. Published 2013;

# Solution: EGRP® Technology

***Effective management and conservation of water is one of the world's most challenging issues of the 21st century.***

Parjana® has developed a solution with the EGRP®, the Energy-Passive Groundwater Recharge Product. The Parjana® EGRP® system is a patented breakthrough innovation that manages surface and underground water in an eco-friendly and sustainable way.

The product was designed to reduce surface runoff by increasing infiltration in much of the same way as a natural environment, rebalancing the hydrologic cycle that was disrupted by impervious surfaces. The EGRP® is a five chamber tubular extrusion that works with natural forces to facilitate the movement of water from the surface to the adjacent soil matrix.

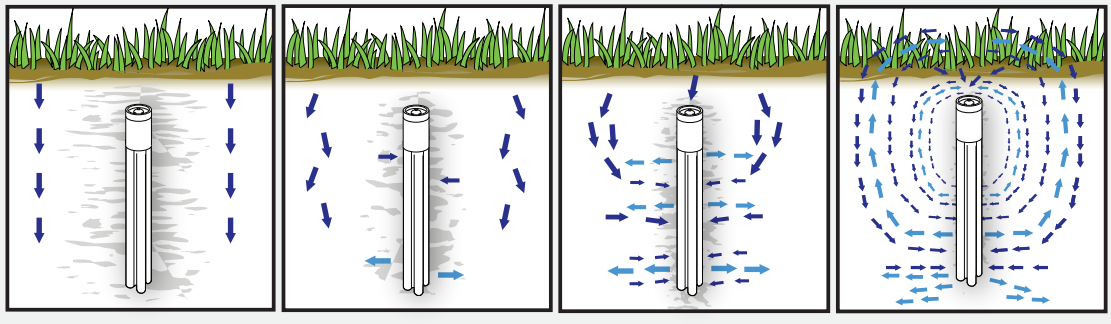
It distributes water evenly and horizontally by reactivating all the micro layers along the entire length of each EGRP®. As a result water can move more freely into the soil matrix, influencing soil surface conditions. The effect of the installation of the EGRP®system is a long-term change to surface soil saturation.


**SUSTAINABLE**

**MAINTENANCE FREE**

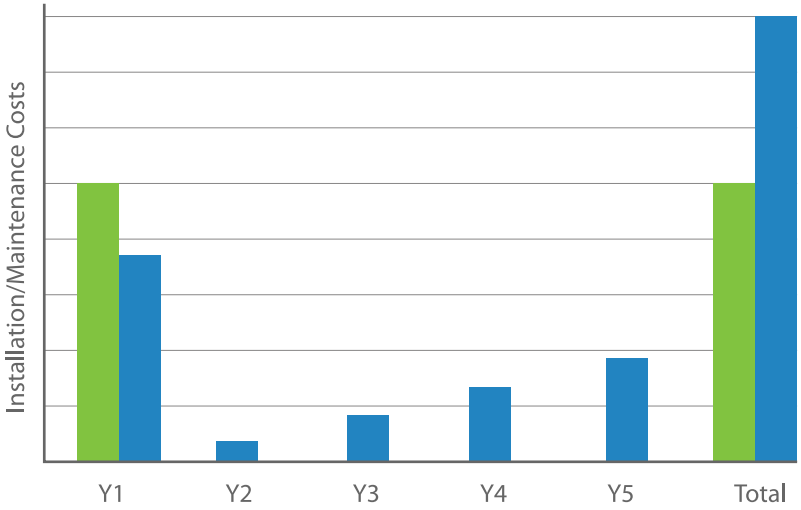
**MINIMALLY INVASIVE**

**WARRANTY INCLUDED**



## Acclimation Period

Once installed the EGRP® system adjusts to establish a connection within the vadose zone to enhance water movement. This period is called the *acclimation period* and typically takes a minimum of 12 weeks, but varies due to soil and rainfall conditions.




## *EGRP® System Costs & Benefits*

Traditional systems over time accumulate maintenance and energy fees. The EGRP® is an energy-passive system meaning it requires no maintenance and does not generate operating fees. It requires only a one time installation charge by a Certified Parjana® Installer, but will never incur additional costs, making it economically viable.

EGRP® System  Other Systems

# Applications

### Sloped Areas

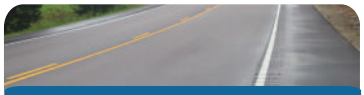
Mountains
Hillsides
Swales
Side of Highways

### Pervious Surfaces

Sport Fields
Airfields
Parks & Gardens
Retention/Detention Ponds

### Underground Areas

Foundations
Cable boxes
Manholes
Pipelines



### Impervious Surfaces

Roads & Highways
Parking Lots
Commercial Areas
Airport Runways

# Testimonials


*"I was looking to solve water issues and manage storm water runoff and I'm very pleased. I would recommend the Parjana® EGRP® system to anyone with standing water issues"*

*-Homeowner Michigan, USA*

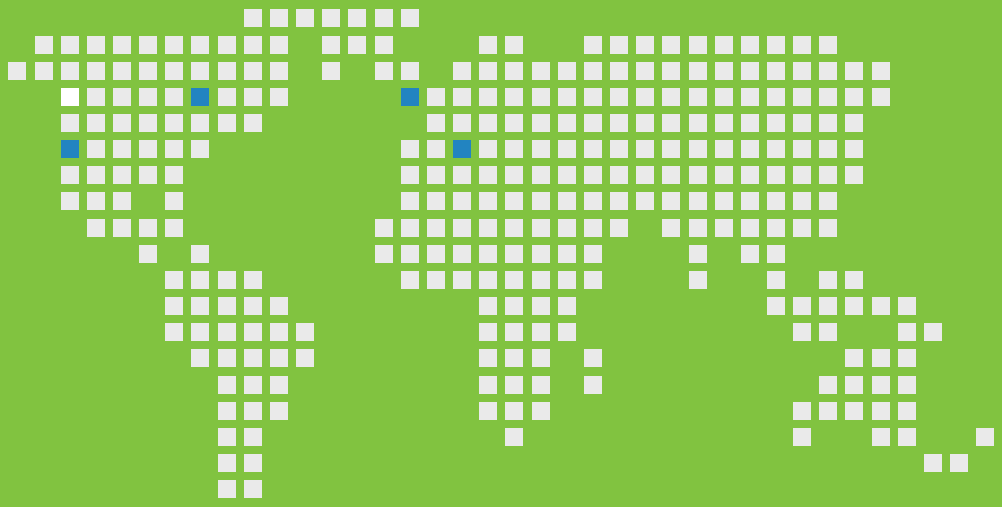

*The EGRP® system was installed near the warning track at Brandon Phillips Field and was able to solve soil erosion from oversaturation. This made the field playable all season, even after heavy rainfall events.*

*-Cincinnati Reds Ohio, USA*

*"Simplicity is the ultimate sophistication"*

- Leonardo da Vinci

**Contact a Certified Parjana® Installer**
to install your eco-friendly system today
visit **www.parjana.com** for our installer network



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