THE BACKYARD SOLUTION

"We didn't have jobs that any bank would recognize and certainly didn't have income that a bank would recognize," Lancaster says, "so we had to get in on this together, and even then the only thing could afford was something that was about to be condemned."

A year before he met Maseko, Lancaster and his brother, Rodd, brought a house in the neighborhood of Dunbar/Spring. They didn't have a lot of choices.

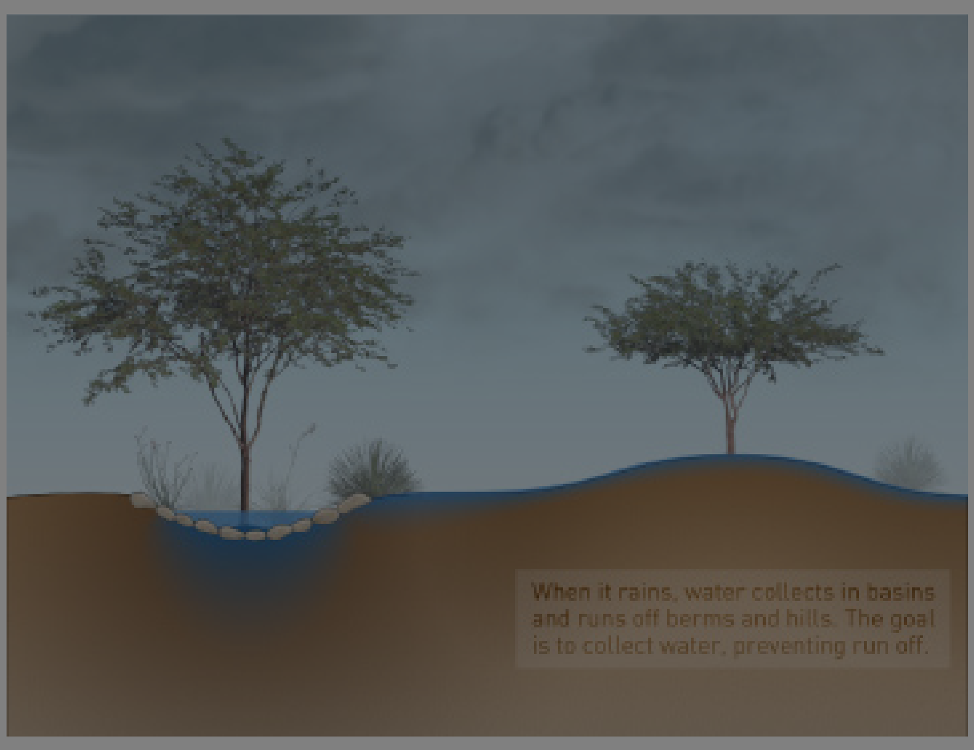
Dunbar/Spring when Brad and his brother first moved.

Dunbar/Spring was a historic, ethnically diverse neighborhood, but one that had fallen on hard times. The first time it rained, water poured through the Lancaster's roof. When Brad opened the door to take a look outside, it came off its hinges. Depressed, he sat down on the only perch available in the still empty house, the toilet. It fell through the floor.

Slowly, the Lancasters begin to fix up their property, working on a shoestring, but keeping one goal firmly in mind: as much as possible, they would live on water that fell freely from the sky.

At first they didn't succeed. "We kept undersizing everything initially," Lancaster remembers. "We were just sort of winging it." The street they had moved to was like much of Tucson, a largely barren streetscape where asphalt and a lack of shade pushed the already scorching summer temperatures up another ten degrees or more.

It was an urban environment that seemed to mock any idea of sustainable living.



Yet they persisted through years of trial and error. Working out the best way to irrigate their garden, deciding how to take advantage of grey water from the laundry and sinks, properly channeling and capturing rainfall – all of it took time and thought. In the process, Lancaster drew on his own experiences, those of Maseko and others to develop eight basic rules of water harvesting. These. he believes, can be applied to any home. +

+ 8 Rules

1. Begin with long and thoughtful observation.
Use all of your senses to see where the water flows and how. What is working, what is not? Build on what works.

2. Start at the top – or highpoint – of your watershed and work your way down.
Water travels downhill. Start at the top where there is less volume and velocity so it is easier to follow the next principle…

3. Start small and simple.
Work at the human scale so you can build and repair everything. One thousand small strategies are far more effective than one big one when you are trying to infiltrate water into the soil.

4. Spread and infiltrate the flow of water.
Rather than having water run erosively off the land's surface, encourage it to stick around, walk around, and infiltrate INTO the soil.

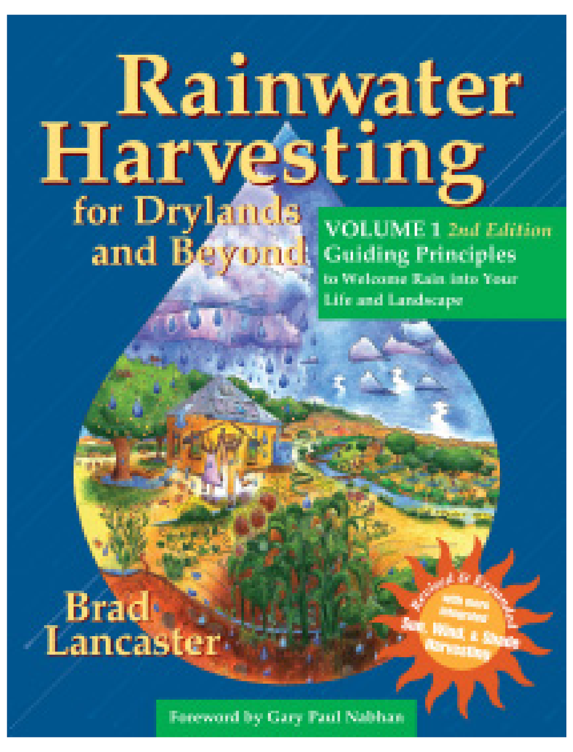
5. Always plan for an overflow route, and manage that overflow water as a resource.
Always have an overflow for the water in times of extra-heavy rains, and use that overflow as a resource.

6. Maximize living, organic groundcover.
Create a living sponge so the harvested water is used to create more resources, while the soil's ability to infiltrate and hold water steadily improves.

7. Maximize beneficial relationships and efficiency by "stacking functions."
Get your water-harvesting strategies to do more than hold water. Berms or swales can double as high and dry raised paths. Plantings can be placed to cool buildings. Trees can be selected to provide food.

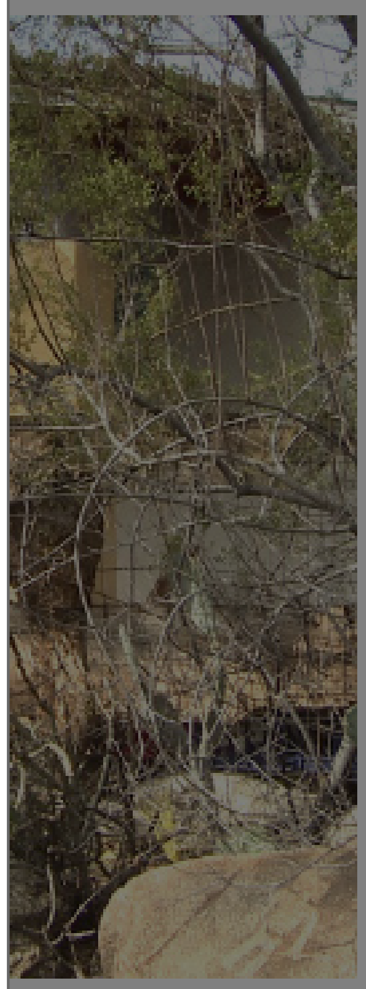
8. Continually reassess your system: the "feedback loop."
Learn from your work – we begin again with the first principle.

For a more detailed description of the Eight Rainwater-Harvesting Principles, see pp. 29-38 of Rainwater Harvesting for Drylands and Beyond, Volume 1, or pp. 4-7 of Rainwater Harvesting for Drylands and Beyond, Volume 2. Principles 2, 4, 5, and 6 are based on those developed and promoted by PELUM – the Participatory Ecological LandUse Management association of east and southern Africa. Principles 1, 3, 7, and 8 are based on Brad Lancaster's own experiences and the insights gained from Mr. Zephaniah Phiri Maseko and other water harvesters.



"You know the

Today, the Lancaster's
laboratory of sustaina
Tucson and beyond.
proudly shows off the
alongside the garage
(Rodd, married and
house.)

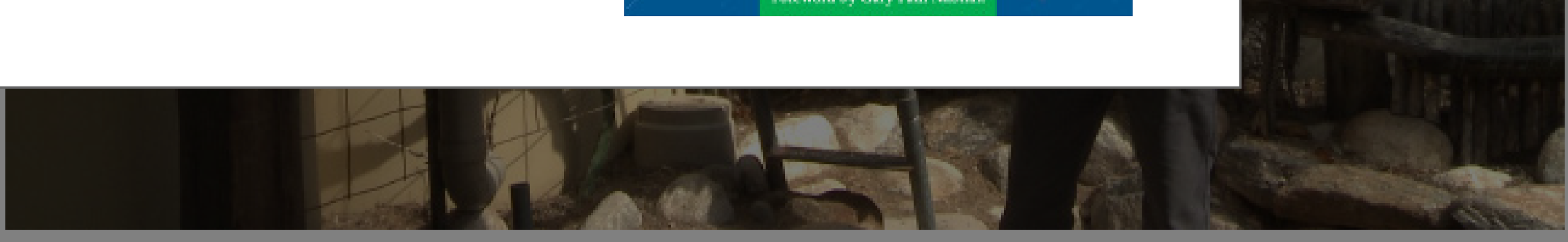


The Lancasters now
falls on their eighth o
public right-of-way. I
rooftops, which serve
been contoured so rai
but gathers in areas w
or to irrigate trees an
about 100,000 gallon

ATION

The Lancaster' still us
have reduced their m
now a small oasis rich

In recent years, Lanca
sky. The rooftop syste
water stays potable. T
for Peace," ceramic w
rainwater. "Visitors lo
says. "It doesn't have
you get in city water."
to supplement its wat
from the Central Ariz
336 miles via an oper
2,400 feet along the



CAP water high IS in
unhealthy to the soil,

Water harvesting is only part of his approach to sustainable living. The trees and other plants in the yard have been located to maximize shade in the hottest parts of the year. Solar panels on the roof provide the Lancaster's free electricity + to go along with their free water.

As they wrestled their home into shape, Brad began casting a longer look at their barren street. There, too, he saw a different possibility.

All it was going to take was breaking the law – just a little.