

Tree-planting requirement could help ensure water supply



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By Jeff Dunster

In a recent talk at the Asia Society in New York, the great Indian scholar Brahma Chellaney spoke at length about the coming global water-supply crisis.

It was hardly a sunny forecast. Chellaney's dismal vision was one of drought, pollution and wars over water.

On the mainland, the chances of range wars are probably not imminent, but recent news is sobering. In a National Public Radio story, John Jacobs, the mayor of Robert Lee, a small town in Texas, compared the Southwest's ongoing drought to the incremental growth of a cancer.

"It's just a slow, declining death," he said. Could that scenario occur here? Climate change, which most scientists accept as fact, will affect Hawaii, but we just don't know how it will manifest itself. We do know that hotter and drier conditions, combined with the loss of forests, could jeopardize water supplies.

We also know that the Hawaiian Islands have been prone to drought and water shortages throughout history. Unfortunately, this problem will only get worse as populations continue to expand and put everincreasing demands on water.

Oahu is expected to add 200,000 more residents over the next 20 years alone. The aquifers that have sustained our people on Oahu for centuries are finite.

In a landmark scientific paper that appeared in Science magazine, leading water and climate scientists declared the death of "stationarity," which has been the foundation of land and water planning for over a century. The loss of stationarity means you cannot assume that rainfall and the natural recharging of our aquifers will continue in the same way. In short, the precipitation that farmers have depended on may not be there in the future.

Perhaps I'm biased because I plant trees for a living and am thus directly involved in preserving watershed, but I believe it's folly to ignore science. An article published in Journal of Climate suggests

a 5-10 percent reduction in wet season rainfall and a 5 percent increase in dry season rainfall in Hawaii by the end of this century.

University of Hawaii climatologist Tom Giambelluca summed it up this way in testimony last year to the state Land Use Commission: "A growing body of evidence supports a scenario of continued decline in rainfall over the 21st century."

How should this affect Oahu planners?

When planning a large housing development or construction project, one has to consider its effect on the land not just 50 years from now, but 100 or even 200 years in the future. Planning for the future means not only scrutinizing development projects carefully but protecting our mauka forests, which are the most cost-effective and efficient way to replenish groundwater.

Much as we now have laws that require alternative energy-saving technology in new homes, why not mandate that for every newly constructed house, a commensurate number of native trees be planted to maintain watershed capacity? By planting native forests, we can reduce water runoff, add to the watershed and encourage the growth of endangered bird populations.

Whether we're building a new road, a new golf course or a new subdivision, we need to be absolutely certain that there's enough water to sustain us.

When we construct anything of this nature, we should consider an American Indian proverb: "We do not inherit the land from our ancestors; we borrow it from our children."