



Sustainable?

# WATER WOES

Water, water, everywhere in Bali, right? Wrong . . .  
Stephanie Mee investigates.

AS the skies open up over Bali, tourists, expats and locals alike give a collective groan in anticipation of the months ahead. Wet days mean fewer excursions, fewer visitors, and long days spent inside waiting for the water to stop coursing down the windowpanes.

For many the rainy season in Bali is a mere annoyance – a time to pull out that umbrella and rain poncho and hope that you don't get stuck in a flash downpour. If asked, most people here will tell you that water is the least of Bali's problems. However, nothing could be further than the truth.

The weather in Bali during August 2012 was near perfect for most visitors and residents on the island. The days were sunny, the humidity was low, the gentle winds coming off the sea created a pleasant breeze during the day, and the nights were not too hot and not too cold. The swimming pools in Seminyak were glittering, the lush tropical gardens in Ubud burst with verdant foliage and vibrant flowers, and the golf courses in the Bukit beckoned with their emerald green expanses. All was right with the world.

While tourists relaxed by their pools and soaked up the August sunshine, the villagers of Sawan in Buleleng, North Bali were experiencing a different situation altogether. For weeks water levels had been running low across the district, and the state pipelines were drying up.

Clean water used to be available from the taps all day, every day, but now the taps were only running twice a week for just two hours a day. On those days,

villagers waited patiently to fill whatever containers they could find with clean water for washing, drinking and cooking. When that ran out they had no choice but to get their water from the small streams nearby, which were also being used by people upstream for bathing and washing dishes, clothing, and livestock.

The people of Sawan and the Buleleng region were not the only ones suffering from a lack of water in the dry season. Villagers in the districts of Karangasem, Klungkung, Nusa Penida and Badung also had to make do with little or no clean water for weeks at a time. Moreover, this situation is not new to Bali and certainly not unknown. In 2005, the Japan International Cooperation Agency (JICA) presented the results of its ongoing research, which predicted that without concerted conservation efforts, Bali would face a serious water crisis by 2025. Although minor efforts have been made since then, the current studies show that the water crisis has already begun, and could reach epic proportions unless action is taken soon.

It is more than a bit ironic that the areas in Bali having the greatest access to water are those that support the very industry that is responsible for the shortage in the first place – tourism.

Since the 1970s, Bali has seen an unprecedented growth in the number of hotels, villas, restaurants, and spas that cater to tourists. These businesses occupy space that was once used for agriculture, and require huge amounts of water to operate. Just this year environmental conservation group, WALHI Bali,

reported that in the Kerobokan/Umalas area alone there were more than 1,000 villas with private swimming pools.

According to Tourism Concern, a non-profit organisation that focuses on ethical tourism, watersheds are being severely damaged by development for new tourism ventures, and water that is vital for agriculture is being diverted to coastal resorts. As a result, 260 of Bali's 400 rivers shrink and dry up during the dry season, water tables are dropping at an alarming rate, and what little groundwater remains is becoming contaminated with solid waste and sewage.

Dr. Stroma Cole, a senior lecturer in International Tourism and Development at the University of the West of England, and a former chair of Tourism Concern, has done considerable research on the relationship between water scarcity and tourism on Bali. Her report, *A Political Ecology of Water Equity and Tourism — A Case Study from Bali*, outlines the causes and effects of the current water crisis on the island and offers recommendations about how to remedy this dire situation.

Besides the unsustainable demands for water that the tourism industry places on the scarce resource, Dr. Cole also cites additional contributing factors for the water shortage on Bali. At the top of the list is mismanagement of water resources. She explains that responsibility for water management on Bali is divided between national, provincial, and regional departments, as well as local *banjar* and *subak* associations.

With so many cooks in the kitchen, so to speak, it is no wonder that there is a great deal of miscommunication and misunderstanding about who is responsible for regulations, supervision, and law enforcement.

According to Dr. Cole, another major factor at play is a lack of awareness at all levels. While people may realise that a water problem exists, many are not aware of how bad it actually is.

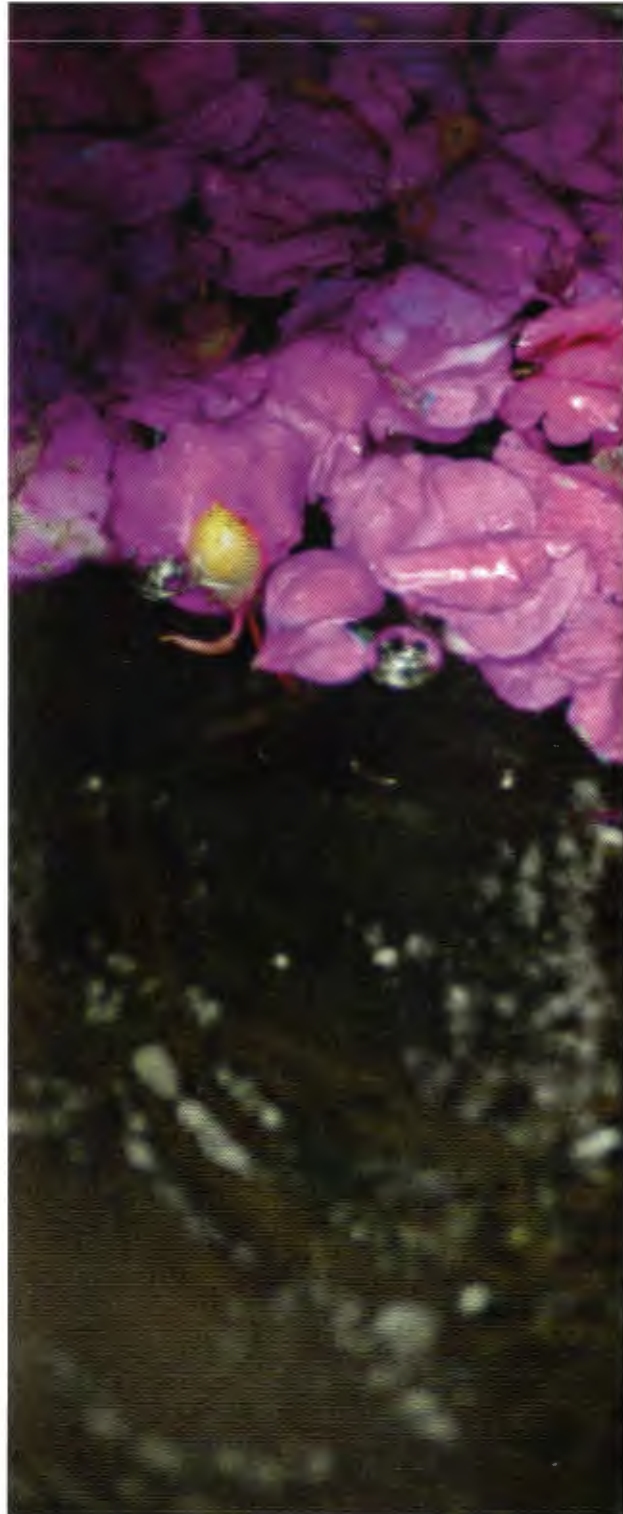
This is particularly true of business owners in the tourism industry.

Dr. Cole says:

"Most of the tourism stakeholders were unaware of the need to conserve water or of basic socio-hydrology.

"One of the villa owners admitted to choosing an 'umbrella' shower for aesthetic reasons - he said, 'I didn't even consider it', until an Australian guest said that such showers were illegal in Australia.

"Another villa manager could only name dual flush toilets as water saving devices he was aware of."



As for the effects of the water shortage on Bali, Dr. Cole says she believes that farmers and marginalised members of society feel the brunt of the scarcity the most.

She touches on the fact that many rice farmers in affected areas can only plant one rice crop a year, which leads to financial difficulties and conflict between villagers and the local subak leaders. In addition, the high cost of purchasing bottled water and household pipe connections is prohibitive for many people, which leaves them no choice but to use questionable water sources.

Disease is an inevitable result of water scarcity. At the Third East Asia Ministerial Conference in Nusa Dua, Ketut Suarjaya, head of the Bali Health Agency, acknowledged the fact that more than 100 children in the village of Songan in Bangli had advanced cases of scabies due to a lack of clean water and basic sanitation.

This is also one of the driest areas on Bali. Moreover, Dr. Cole points out, that although Bali is one of the most prosperous provinces in Indonesia, the prevalence of diarrhoea is higher here than the national average.

In light of these depressing statistics, it may seem like the water problem is beyond the point of no return.

Dr. Cole is, however, optimistic that the problem can be alleviated.

She says: "It would take a lot of consciousness-raising but Indonesia is good at this – think how successful family planning is. It will take all stakeholders in industry and government to get behind it and do more than talk."

Dr. Cole believes that the implementation of a rights-based approach and a public education campaign are possible solutions to the problem.

In her report, Dr. Cole states: "With knowledge there is a hope of collective awareness and then collective action. Agriculture needs to be supported, coupled with the recognition that water has functions outside market forces and provides a range of services to society beyond purely food production. The role of water in Balinese landscapes, aesthetics, ritual, culture, social networks, and of course tourism must be recognised and supported."

Others have suggested alternative solutions, although many are easier said than done. In 2011, government officials suggested diverting water from the Unda River in Karangasem to supply regions in east and

south Bali. However, a lack of investment and funds has prevented the project from getting off the ground.

Another suggestion was desalination, but Dr. Cole explains: "This might solve the water problem but is VERY expensive in terms of energy consumption, and where will Bali get her energy from?"

"The geothermal answer will compound the water problem, furthermore, what about the environmental problems it will bring – where will the salt go?"

Dr. Cole says she believes that the rainy season, which so many on Bali lament, may be another answer.

She says: "Rainwater catchment is THE ONLY technical solution, but needs to be combined with rights and education.

"This can solve Bali's problems but only if there is the education so everyone gets behind it and if everyone is included (i.e. a rights-based approach)."

Tourists and locals can also do their part to ensure the problem does not get worse. By supporting businesses that adhere to strict water conservation policies and calling on others to do the same, visitors and residents send a message to those involved in the tourism industry. In addition, there are a few organisations that accept donations to help fund projects that support communities in need of access to clean water.

Access Life Bali is a non-profit foundation that works with local village leaders around the island to provide sustainable water systems for entire villages. They mainly build rainwater storage tanks and provide basic education about clean water to rural communities, although, when possible, they also create complete water systems with pipelines and household water meters.

The East Bali Poverty Project also works with communities that lack access to clean water by funding projects that build safe and sanitary rainwater catchment systems and sourcing sustainable clean water supplies.

It seems that the future of tourism, the economy, and public health in Bali hinges on sustainable water usage, equitable water distribution, and serious conservation efforts. Once awareness is in place, even the least likely of people can make a difference in alleviating Bali's water woes.

And with this in mind, the rainy season may not seem that bad after all. ☒



*A dry argument.*