SENSIBLE SUSTAINABLE SOLUTIONS

16 suggestions for designing better hotels to help fight climate change and make the world a better place.

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1. BUILD WITH A PURPOSE

99% of hotels are built with the intention to make profit; this is why I believe all new hotels can and should have a Purpose. Hotels that are just places to sleep are falling out of favor. The purpose does not have to be life changing, although, for some, it could be. Purpose could be as simple as displaying the artwork of the primary school next door in your guest rooms. As hotel designers, operators and owners, we should be thinking beyond our traditional roles to create purposeful, meaningful hotels.

Luxury is DEAD. I am done with designing lavish hotels just to put heads on beds - every hospitality project on the boards at BENSLEY has a purpose and a candle to light. We in hospitality - designers, owners or operators - have the superpower of reaching thousands of people. We should shoulder more responsibility concerning issues like education, clean accessible water, alternative energy, energy consumption, food waste, wildlife protection, and conservation. The big hotel companies are part of nature and society too, not just economy. Here are some ideas of how to do something real...

BUT HOW?

Hotels with Purpose could

Open the door to new experiences
Offer a sense of community,
Educate both guests and employees,
Champion environmental issues
Be more profitable

1. Build with a Purpose

Offer a sense of Community

The idea of "giving back" in travel is key to hospitalities' future. Doing the right thing is always the right thing. One way of doing this is by donating, for example, 5% of revenues and guest donations to an affiliated Foundation, or partner NGOs and charities.

The three Shinta Mani hotels in Siem Reap house a hospitality school, while through the Shinta Mani Foundation a number of initiatives have begun: a farm for the distribution of better crops for Cambodian farmers, building wells and distributing water filters, administering free dental and medical care, micro-loans for small businesses... and all of that from just 5% of revenues and guest donations. Proof that a little can go so very far - and can be applied to any hotel seeking purpose.

- **Education**

· Donations support students to reach their full potential, providing supplies for primary and secondary students.
· Provide interest free loans for students through the Shinta Mani Foundation to complete a degree or educational program.
· Funded a graduate program teaching hospitality to young people/adults, including stipends to support their family, food and board, and work experience in the Shinta Mani hotels in Cambodia, including hotels in Siem Reap and at a tented camp in the Cardamoms. This is an initiative many hotels could support: since 2004, more than 270 students have graduated from this program and are currently working locally, at the Shinta Mani Hotels, or in other parts of Cambodia.

- **Providing alternative work:**

· The tented camp in the Cardamoms - Shinta Mani Wild - employs 120 people, 70% of which are from the local village. Many were poachers and loggers, as this region had little infrastructure and fewer opportunities to work: it is a long-term employment opportunity, and a sustainable one.
· Should they desire, these employees can receive education and training in Siem Reap through the other hotels in the chain, as well as the hospitality school, allowing them to become well paid hospitality professionals.
· The tented camp has community outreach and environmental education programs to instill an understanding of the environment; a community that is educated about its environment will be sustainability prosperous in that environment.
· Through its partnership with Wildlife Alliance, the camp engages a 110 person armed militia to control the serious daily threats of extraction of our rainforest.


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- **Medical Support:**

· Medical costs are some of the most debilitating expenses for families in Cambodia: many do not receive adequate care. Promoting preventive health measures as well as supporting those who have immediate medical issues is necessary to ensure that the community's long-term well-being and development.
· The Shinta Mani Foundation supports visiting medical professionals to provide medical and dental check-ups in rural areas - over 9000 check ups so far.
· Education on proper health practices such as healthy eating, proper exercise, brushing of teeth, and hygiene is offered.
· It is a hand up, not a hand out which brings dignity and self-respect.

1. Build with a Purpose

- **Direct Assistance**

· Basic necessities are often needed in small villages where livelihoods are affected by resources and harsh weather: the Shinta Mani Foundation has helped build 110 homes and toilets, as well as providing over 600 bicycles.

- **Loans and Micro Loans:**

· Interest-free, small-business loans to local entrepreneurs to help them start a business. Recipients do not receive money from the foundation, but the materials needed to successfully start their business and basic business classes to manage and grow their business.

· Repayments of loans are used to fund future borrowers. This creates a cycle of development with the goal of establishing a network of micro-enterprises within the community, while these individuals came become self supporting in a sustainable manner.



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- **Clean Water**

The first time I saw real poverty was on the outskirts of Siem Reap in the 90's. A friend brought me to meet a family of 7 - dad was long gone, mom was struggling to keep her 6 children alive, living on top of gathered branches just above wet soil. The 2 year old had an extended stomach from malnutrition; in that instant that poverty kicked me in the gut and I promised myself to help. 25 years later the Shinta Mani Foundation helped us do just that. Just 5% of the Shinta Mani hotel revenues go to the Foundation - often guests do not even realise part of the bill is being donated.

Approximately 4 million people in Cambodia lack access to clean water. Close to 80% of the total population lives in rural areas, meaning that poor access to clean drinking water and proper sanitation is a daily problem. With the help of the good folks at Kohler, we found the Kohler clarity system filters out 99% of bacteria. We also found that Cambodia's intense weather shifts, which have only intensified with global warming, mean that often villages don't have water. So...

· In partnership with Kohler, 1453 water filters have been given out and 1500 wells dug. Most of these go to families in the villages, as well as to schools.

· One water filter provides 40 liters of water a day: enough water for a small family. Altogether one costs approximately USD $80 and just needs a yearly filter change - $80 to change the life of a family.

· For many, the lack of access to clean water results in children walking miles to the nearest clean water source, instead of going to school - losing an education which could allow them to break the cycle of poverty.

· Cambodia's intense weather shifts mean that water in the villages often dries out: the digging of 1500 wells and pumps has been life changing. Each one is marked with the name of the family who donated it.

Educate both guests and employees

When a guest learns something new in a hotel, they will remember it. Making an impression is essential: hotels built for everyone are actually built for no one. Why not tell a story. Factious, historical, or total fantasy, people love and will remember a good story, and employees will love telling it.

Some stories...

Fall into 1800s Bali and the wreck of a Dutch ship transformed into a camp, at ***Capellla Ubud***. Hidden in a sacred Balinese jungle, the hotel is filled with antique batiks, unique objects and hand carved doors.



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At ***Legacy Yen Tu, MGallery***, fall back in time, arriving at a 12th century monastery which recounts the tale of a hermit monk who travelled to Yen Tu Mountain in search of medicinal herbs. Built using ancient tecnhiques, the hotel features handmade objects and materials.



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Go back to school days at the ***Lamarck University, JW Marriott Phu Quoc,*** named after Darwin's predecessor Larmarck - where a full university is brought to life, complete with 27 different departments, including a Chemistry bar!



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The ***Hotel de La Coupole MGallery***, Sapa was inspired by the summer of 1914, when the French Civil Authority in Hanoi moved all of its offices to Sapa. The hotel tells the story of the French living amongst the hill tribes: a relationship between French Haute Couture and Hill Tribe Fashion.



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Shinta Mani Siem Reap - Bensley Collection is a haven in the heart of the city, inspired by Khmer King Jayavarman. Three dimensional murals have been carved to render the romantic folds of Jayavarman's robe, and perfectly compliment the villas private pools & verdant rooftop decks.



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The upcoming ***JW Marriott Bukit Bali*** speaks to the little known practice of Balinese animism - a 1000+ year old understanding and worship of mother nature. Instead of building yet another hotel with rows of villas, this JW is going underground and peeking out on the cliffside!



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Open the door to new experiences

Whether your hotel is downtown NYC or Outer Mongolia, travellers are looking for new experiences. In today's Instagram world, unique experiences are shared more than they ever have been before. The Zip Line into Shinta Mani Wild put it on the map - to date it has had some $30 million of free publicity. Look deeply into your wilderness, your city, your village, your neighborhood and offer to your guests something new to do - even if it seems common to you.



University inspired hotel in Vietnam 14



A secret bay in Vietnam 15



Ziplining into check in 16

The key to successful experiences is authenticity and memorability. It is hoped that these experiences will be a memory that guests cherish months and maybe even years after, and share with their friends and loved ones. Here are some ideas...

For the Adventurer...
- Ziplining over a waterfall into Shinta Mani Wild, and greeted with a strong gin & tonic
- Joining Wildlife Alliance on patrol in the Cardamom Forest - on the front lines of conservation
- Coursing up the Mekong river via longboat en route to check in at the Four Seasons Tented Camp. On the right is Laos, on the left is Thailand, and the mountains of Myanmar are in the distance

Learning something new...
- Learning the history of the first french diplomat to Laos, Auguste Pavie, at the Rosewood Luang Prabang, where each of the 23 rooms tells the story of influential figures in Laos at the turn of the century
- Try your hand at Thai boxing at the Siam Hotel in Bangkok - the only five star hotel to have a Thai boxing ring!
- Plant rice by hand with the gardeners of the Four Seasons Chiang Mai - accompanied by none other than the hotel's resident albino buffalo, Sand. The traditional gardener robes you wear are yours to keep for gardening back home.
- Learn to make Chiang Mai's famous Khao Soi Gai - including picking freshly grown, organic ingredients from the garden at the Four Seasons' very own Thai Cooking School
- Discover the hidden temples of Angkor with a private guide who knows them like the back of his hand - and away from the crowds of Angkor Wat.

Do some good...
- Living side by side with rescued elephants at the Four Seasons Tented Camp, Chiang Rai, and support their rehabilitation.
- While staying at one of the three Shinta Mani Hotels in Siem Reap, help bring clean water to those who need it most, with wells and water filters - or join in our other initiatives, which range from education to medicine to agriculture.

Get away from it all...
- Wake up to the sound of birds singing and a rushing waterfall at Shinta Mani Wild
- Disappear into a jungle oasis at the Four Seasons Koh Samui, where coconut trees may soar through your private terrace, pool or even living room - this system allowed the site to retain all 856 coconut trees
- At the Intercontinental Danang discover a secret bay below a vast monkey forest, divided into four levels – the 'kingdoms of Heaven, Sky, Earth and Sea'. Use the hotel's very own custom made funicular railway to get from hillside to rooftop
- At the Hotel de la Coupole in northern Vietnam, take a cable car - which has set two Guiness World Records - straight from the hotel up to Fansipan mountain, the rooftop of Indochina

1. Build with a Purpose

Champion Environmental Issues

Shinta Mani Wild has been awarded an unprecedented amount of awards largely due to combination of hospitality and conservation - I think this example has legs for many other places.[1]

Wildlife Protection

I very often wish that the ill treatment of any wild animal would result in the ill treatment to the perpetrator - it would surely slow down the onslaught of poaching that we see every day at Shinta Mani Wild. I have always been a lover of animals, and so wish humans would grant the many species on our planet the respect they deserve - we ourselves are the biggest danger to them. The Four Seasons Elephant Camp, Chiang Rai was one of the first tented camps of its type, which also encompassed animal conservation and protection. This low impact high yield camp tells the story of the Northern Thai tribes; it is also a safe and happy home to 37 elephants saved from the streets of Bangkok. Elephants eat such huge quantities of food every day, they must somehow pay their rent. At the camp they wander freely and are cared for by visitors who interact with them for a respectful distance.

When I began Shinta Mani Wild in Cambodia's Cardamom rainforest and saw the devastation of logging and animal poaching in this once intact, marvellous forest, I knew we had to do something. I decided to get into bed with Wildlife Alliance. Shinta Mani Wild funds the endeavours of the Wildlife Alliance in protecting one of the last unfragmented rainforests in Southeast Asia, which is home to more than 50 species of endangered animals and serves as the region's most important watershed and climate regulator. On top of on-ground protection (catching poachers, smugglers, and loggers, saving wildlife or clearing the forest of snares), WA also works in rainforest protection, ending wildlife trafficking, wildlife rescue and care, and environmental education. Each of these programs is vital: in the last decade they have saved more than 72,000 animals, seized 54 tons of body parts used for 'traditional medicine', and arrested more than 3,000 traffickers. The WA protected zone has become a sanctuary for clouded leopards, wild elephants, civets, dhole, gibbons, hornbills and many more species which are slowly returning to an area that they once fled to escape poachers. The tented camp funded the building of a ranger station and committed to a lifetime of assistance via a percentage of income to keep the rangers busy 24/7. This equates in real numbers to 2000 hectares of forest and 500 wild animals saved every year - and the best part of it is, it is a sustainable model that will keep going long after I am gone.



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Conservation

Why? For starters, just look at the number of awards we have received for these efforts. It is important - there is no denying. This is one of the core issues that must be focused on to try and save our planet. Forests play a vital role in preventing global warming, helping reduce air pollution and provide the oxygen key to our survival. In Cambodia, the majority of tourist revenue is Siem Reap based, which leads to the idea that the rest of the country is not tourist worthy. This opens the rest of the country to rampant deforestation which has a direct effect on rainfall. Habitat loss and poaching will result in forests empty of wildlife as in Laos and Vietnam. The Cambodian wildlife meat trade to China and Vietnam is lucrative: Pangolin meat is $200/lb. In a country where that is almost a months wages, it is not surprising that many people in poor and remote areas turn to poaching.

The plague of deforestation all over the world has negative impacts I could list for days - soil erosion, scarred landscapes, and loss of immense natural and animal heritage - the home to millions of species of animals, birds, and insects. One need only look at the heartbreaking bushfires in Australia at the moment, with over a billion precious animal species dead, as well as the fires which raged in the Amazon a few months ago, to realise that it is imperative to take action. Extinction - or the very real danger of extinction - is sadly all too real for the animals which call the forest home.

1. Build with a Purpose

Through our projects I am trying to preserve some of the green left on our Earth. Shinta Mani Wild started in this vein: I purchased the land as part of a government sale of logging land. In order to protect this corridor of rainforest - the biggest and last in Southeast Asia - from becoming a titanium mine, we opened a high yield low impact camp, with the main mission being a sustainable way to support the policing of the forest via Wildlife Alliance, and preserving the forest. It included some 875,000 trees, 4.5 kilometers of wild river and 3 waterfalls. Funding through our 14 luxury tents and the valiant efforts of the Wildlife Alliance so far have have prevailed, leading to the confiscation of 2700 chainsaws! It has taken 7 years to build Shinta Mani Wild, and in those years of development Wild has met and continues to meet the local village leaders and



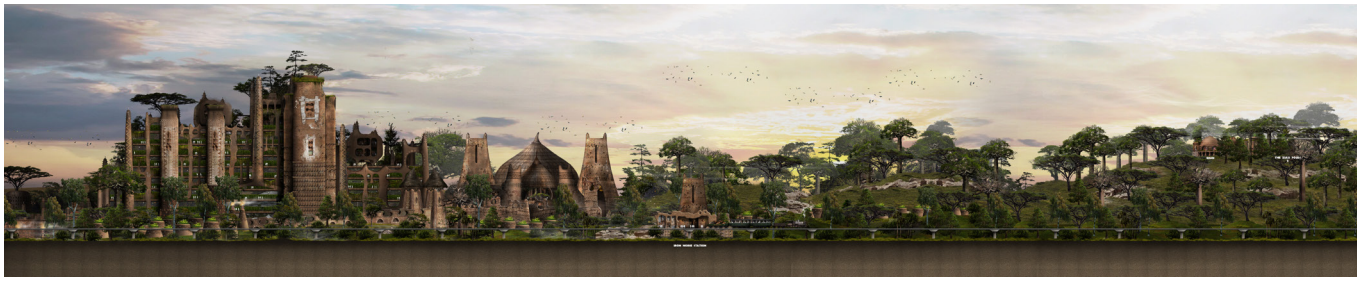
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members to educate and help them understand that conservation is smarter and more long term than extraction. This awareness has proven to be difficult but something Wild continues to encourage. The next step is to create a paid community service of policing the forests, similar to what Nick Marx has done in Chi Pat with Wildlife Alliance. This has been fairly successful in this community and something we hope to continue to curb the devastation of the Cardamom Forest - a forest which provides essential rain to the rice growing regions of Cambodia. Over 80% of Cambodias' forests have been lost in the last 30 years.

My brainchild to extend my message of Shinta Mani Wild is none other than WorldWild - a 700 hectare wildlife refuge north of Guangzhou to educate millions of Chinese on the value of Mother Nature. WorldWild will protect and adopt from local zoos some 250 species of animals from Asia, Africa and Australia. Here, 85% of the land is dedicated to naturalized wildlife environments and just 15% to the 7 hotels and 2500 rooms. It even includes overnight trains on a 17 kilometer safari track with 8 exhilarating but educational whistle stops aimed to change the current demand for Traditional Chinese Medicines extracted painfully from animals which are now highly endangered. Through education, we bring change: why protect Mother Nature if you don't understand it?


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Not every conservation effort needs be as immense an undertaking as these examples. It can start with planting trees on the hotel site, or contributing to the planting of trees in an area that has been deforested. There is always a way to take part in these initiatives, and all help is good help.

2. OPERATE LOCALLY

5 star hospitality has convinced itself that real luxury includes offerings like *Fiji* water served at a five star hotel in *Riyadh*. The idea that that means luxury has to change.

It is time for a turn towards operating locally, and bringing to the fore the best of every location - rather than getting it from the other side of the earth. Experiences such as farm to table, on property food production, and locally sourced produce all need to become an integral part of hospitality.

The new standards should include mandatory operating equipment for every new hotel - basic equipment to save further waste of natural resources. A water bottling plant, a compost shredder, a composting system, reusable ways to provide bathroom amenities, and a set of Igloo boxes to clean plastic out of the supply chain.

BUT HOW?

Operating Locally encompasses...

Smarter Farming and Landscaping
Sourcing Locally
Harvesting the Low Hanging Fruit
Mandatory Operating Equipment

Smarter Farming & Landscaping

Many of the design principles in this white paper originate in good old common sense. I grew up on a small farm, where we were what they now call "self-sustaining": we would grow veggies and small farm animals and we were for the most part "sustainable" when that was totally nerdy, and normal. At the time, it was just the way we did things - our big nights once a year was selecting the seeds for the next season from the Burpee Catalog! Beyond that, I am a landscape architect first of all - a steward of the earth. These things have always stayed with me and in many projects we try to find ways of integrating the principles I learnt so young, which are so conducive to sustainability. It is time to return to those roots, to a more natural way of doing things: offering guests a truly organic, home grown experience of farm-to-table, on property food production, paired with locally sourced produce. It is a simple principle that cuts costs, carbon footprint, and adds a layer of authenticity to any hospitality experience.

- **The Vegetable Patch**
  - The JW Marriott Phu Quoc, & Four Seasons Chiang Mai, Chiang Rai and Koh Samui all have vegetable patches for the hotels to grow food, which is served daily with the enticing label of home grown, organic, sustainable and local.
  - At the Four Seasons Chiang Mai rice paddies are at the heart of the hotel. There the gardeners teach guests to plant rice.
  - At the Four Seasons Koh Samui micro farming is practiced, and an extension with a full fledged farm to teach traditional farming methods will be included.
  - At the Belle Mont Farm in St Kitts the golf course is entirely edible - every single blade of grass and bush and tree can be eaten, as can the lawnmowers, for they are sheep.

This allows hotels and resorts to offer fresh, organic herbs, fruit and vegetables to their guests. It is both great for the environment, cutting down the carbon footprint and plastic use of bringing in food, while also creating a charming experience that many guests really love - there is nothing better than farm-to-table delicacies. If this is not an option, support the local community, working with farmers nearby, or purchasing ingredients from sustainable suppliers.

- **Sustainable Farming**

· In Cambodia the Shinta Mani Foundation uses farming to help the local community: in partnership with the World Vegetable Center and USAID an experimental farm tests more hardy varieties of traditional Khmer crops. These vegetables grow better in unfertile Cambodian soil, are more pest resistant, and do better in extreme weather conditions

· It is pesticide and 90% fertilizer free, using age old practices such as specific seed selection, crop rotation and natural pest repellants like Marigolds, Lemongrass or Citronella extracts to ward off pests.

· Modelling sustainable and ethical farming practices and teaching them to locals is changing the local growing culture and motivating people to eat healthier sustainable produce.



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- **Composting**

· A huge number of hotels do not compost, instead throwing out the cuttings and buying fertilizers. It is a infallible recipe for happy gardens - why not use what we have rather than buying more and poisoning the earth?

· Add to that a mulcher and compost shredder (see Mandatory Equipment) for branches and other garden garbage to be easily composted, and one has a perfectly sustainable, fertilizer free, organic, closed system of gardening.

Sourcing Local

When it comes to local produce and flavours, most guests love being introduced to local food rather than imported products with a heavy carbon footprint. This also goes for things like the Spa experience: imported French skin products will rarely win against traditional Laotian or Thai treatments. Put simply - keep it local, and keep it sustainable.



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Harvesting the Low Hanging Fruit

The supply chain should be void of single use plastics. The world is now producing roughly 300 million tons of plastic each year. A 130 room five star hotel uses up to 1 ton of plastic a year - just in amenities....

1. Eliminate boxes of branded garbage - savvy travellers will love it, while hotel groups save on expenditures. It is a win win!
2. ***Only on Request.*** Leave a card (printed on recycled paper) stating that your hotel is making a true effort to reduce waste and save resources, and that certain items are available upon request.
3. It is rare that people travel without their essentials - if the fruit hangs low, they will pick it!

Some ideas:

- Bamboo toothbrushes and combs (renewable wood source)
- Ceramic or glass dispensers for Shampoo/Conditioner etc - these can be beautiful, contrary to popular belief, and fixed in place to prevent breakage and subsequent glitches.
- Room keys - plastic key cards from PVC can be replaced with alternatives made of wood, paper, or bioplastic that are better for the environment but equally durable.
- Toiletries containing natural ingredients and organic extracts with biodegradable/ recyclable packaging.
- Paper bottles and packaging can provide a 92% reduction in waste compared to hard plastic bottles[2]
- If you MUST use plastic, at least use PET plastic which is recyclable
- Toilet paper/other paper products from unbleached processes using recycled, biodegradable materials
- ALWAYS provide real glasses and crockery as part of guest room mini bar

Some do-gooders!

- Refillable water bottles are offered to guests during check-in at many Hyatt resorts. These can then be bought for a small price or returned and cleaned, ready for the next guest.[3]
- By 2020, Marriott International will replace all small shampoo/conditioner/bath gel bottles with larger pump-style alternatives. This will replace about 500 million small bottles per year (1.7 million pounds of plastic) across 7,000 hotels in 131 countries. IHG is following suit with larger bathroom amenities in its 843,000 guest rooms [4]
- The Six Senses group has cut out plastic straws, disposable food and beverage containers, and uses refillable dispensers. It also recycles or reuses coffee pods, while some properties provide loose tea in paper pouches instead of tea bags. They are now working with food suppliers to find alternatives to plastic containers, and convincing local health authorities. Some of the hotels offer non-plastic sole slippers that are washed in-house and reused. [5]

Mandatory Operating Equipment

Put a Cork in it! - Water Bottling Plant

Following on from single use plastics, one of the most obvious plastic culprits is the ever present plastic water bottle! A simple solution to this is that of including a water bottling facility to eliminate them: in my experience, the pay back of such an investment is less than 14 months. In that time, the water bottling facility has saved your hotel from using and throwing away countless plastic bottles.

The introduction of these ideas must begin in the pre-opening phase of the hotel, when owners are in the spending mindset: operators will find it much harder to convince owners once the hotel is open and starting to make money. At one of my most successful Marriotts, the JW Marriott Phu Quoc in Vietnam, it took 4 years to get a water bottling plant built even though

it was only 32k with a 14 month payback. Added to a $200 million investment that is well on its way to a 7 year payback, it would have been peanuts and eliminated the need for so many plastic bottles! It is a no brainer: save money, better our environment and Free of Charge. Another option is providing reusable water bottles to guests upon arrival, as well as refilling stations - and not the type with a big plastic barrel! Water filters are another way to do it. One brand is the Elkay water dispensers. A litre bottle is filled in 10 seconds - the best part is a ticker which shows how many plastic water bottles have been saved.



Bottling Systems -

- Pure Eco Thailand (used at the JW Marriott Phu Quoc)
- Lenntech Water Treatment
- Harbor BD Engineering
- Advanced Equipment and Services
- Aqua Purification Systems Inc
- Cpure Water Treatment Equipment Co. Ltd.
- Biosystems Limited
- H2M Environmental Technologies
- Water Management Technologies
- Aquadron

The Essential Shredder

As I mentioned in the Farming and Landscaping section, a huge number of hotels do not compost, throwing out cuttings and wasting perfectly good compostable materials. To help the composting process all one needs is a compost shredder for branches and other garden garbage to be easily composted. It is invaluable, allowing a quick turn around of garden wastes into garden fertilizers. Every resort should have one and be part of the necessary equipment. At my insistence it is already part of the kit at the Four Seasons Langkawi, Chiang Mai & Koh Samui, Intercontinental Danang, Shinta Mani Siem Reap and Shinta Mani Wild. The compost shredder of choice is the BC1000XL Brush Chipper by Vermeer.

Plastic Free Supply Chain

It is time to prioritize ***reduction and reuse*** over recycling. We must start setting real goals of eliminating single use plastic from our operating systems. I suggest you really look at everything you put in front of your clients and gradually phase out the single use plastics, one by one, with durable, well made, long lasting products.

- Bamboo toothbrushes and combs (renewable wood source)
- Ceramic or glass dispensers for well designed Shampoo/Conditioner containers, well fixed to prevent breakage
- Plastic key cards from PVC can be replaced with wood, paper, or bioplastic alternatives that are equally durable.
- Offer refillable water bottles at check-in, which can be bought for a small price or returned and cleaned for the next guest
- Cut out plastic straws, disposable food and beverage containers, recycle or reuse coffee pods, provide loose tea in paper pouches instead of tea bags
- Offer non-plastic sole slippers that are washed in-house and reused.



At all of the Shinta Mani Hotels, systems have been set up to eradicate plastic in the entire rest of the supply chain. It was not easy at first, but it is doable! There is no excuse.

- There are different colour codes for meat, poultry, seafood and vegetables/fruits, as seen below: Green = vegetables/fruits, Yellow = Poultry, Red = Meat, Blue = Seafood
- There are three sets of each: one set with the kitchen, one set with purchasing and one set with the supplier.
- Produce is frozen and separated by ice.
- Any suppliers who do not abide to the plastic free supply chain requirements have their contracts cancelled.

3. CREATE RESPECTFULLY

Be respectful of the land you have been given to develop - consider the site, and ponder if it may actually be more profitable to spend less, build less and charge more for the product you offer.

This section is focused on the preservation of energy, be it by way of solar power harvesting, or building intelligently to reduce energy consumption. The principle of Minimal Intervention focuses on the conservation of the natural contours of the site, and ways one can adapt design to fit to those contours - trees included! It is a lesson in more considerate building which can save us using unnecessary natural resources, whilst also learning to reuse and adapt what we already have.

BUT HOW?

Creating Respectfully Means....

Low Impact High Yield
Minimal Intervention
Let there be Light!
Building Orientation
Harvest the Sun
Reuse, Recycle, Upcycle
Build Smart
Minimize Energy Consumption

Low Impact High Yield

A respect of the land one develops is essential: sometimes it is more profitable to spend less, build less and charge more for the rooms that are built.

Rather than letting owners and operators be hung up on larger room numbers as that is their traditional source of income, angle towards smaller hotels with a higher yield... For Example:

- *Capella Ubud* - Meant to be an enormous hotel that would have obliterated the natural beauty of the site and perhaps more importantly it would have been an eyesore for the surrounding neighborhood. As a gardener first and foremost, I talked my client out of building a 120 room hotel and changed tack to build a 24 tent camp that tip toes ever so softly on the land, and did not change drainage patterns. Instead of standing tall on an overbuilt island it hunkers down and is essentially invisible to the outside world.
- *Four Seasons Tented Camp* in Chiang Rai was the among the first fully low impact high yield hotel models
- It allowed for the preservation of the forest, and also gave 37 elephants a safe happy home away from the cities where they were rescued. To this day it remains one of the most successful Four Seasons Hotels.
- *Shinta Mani Wild* in the Cardamom Forest is a key example, with only one tent per 66 acres of forest - and not a single tree cut down in the process.
- It's existence is allowing the forest to be protected by the Wildlife Alliance, while visitors are taught to be more aware of issues affecting Asia's flora and fauna, spreading the word when they leave.



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Minimal Intervention

This is one of my strongest beliefs, and one which we follow ardently. Minimal intervention means respecting the land one works on. Rather than ripping out the natural features of the land to plonk down something new, one gets to know it, and tries to complement it, for nothing is made more perfectly than what Mother Nature presents to us. On a wooded site *a small architectural footprint* that fits between the trees often works best. What one loses in floor space is gained in atmosphere and

If you take the time to set out on to the site all of the architecture in *temporary stakes and strings*, it will lead you to learn something new about the site that saves money and makes the product better.

This method has been used in BENSLEY projects across Thailand, Bali and Cambodia - in Koh Samui it allowed for the placement of 70 Four Seasons villas which perch above and within the trees: this allowed for the 856 coconut trees which graced the site to stay intact. In Bali it helped preserve the Keliki valley which is sacred to the Balinese, practically hiding the tents in the jungle for Capella Ubud.



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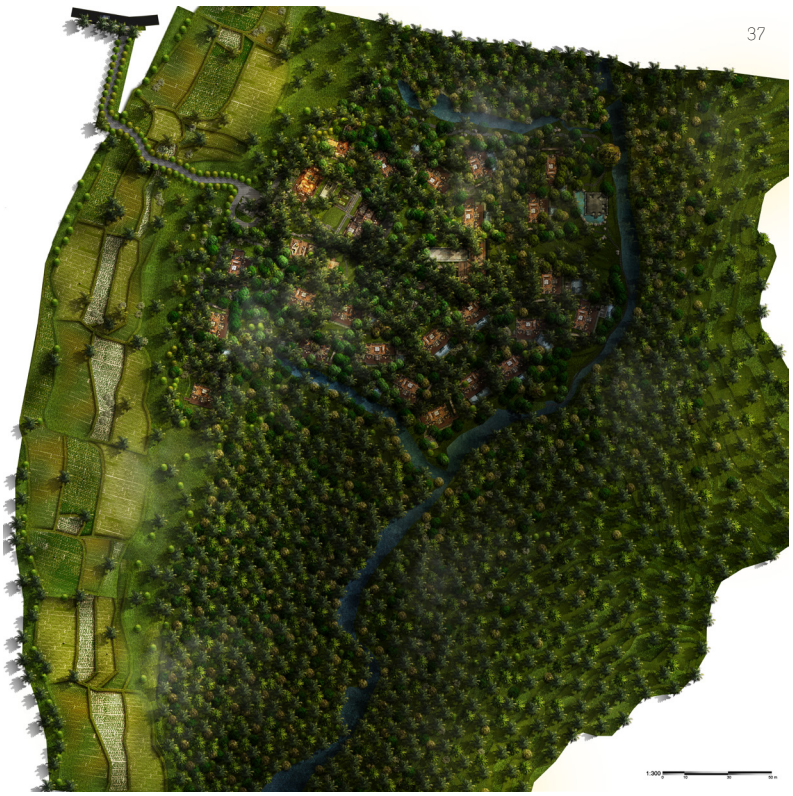
35

Avoid changing the contours of a natural site: Adapt the architectural footprint to move around trees.

36







37

privacy.

3. Create Respectfully

Allow trees to become part of the architecture.

In some cases it means twisting and chopping the floorplan to adapt it to the trees around - or simply allowing the trees to become part of the architecture! The result is tents appearing almost organically amidst the terraced landscape and densely forested terrain. A deep understanding of any natural environment leads to a better product, preserves nature and saves money. Consider the place - it may be more profitable. Hotels built for everyone are hotels built for no one.

The Hula Skirt Detail (right) allows for coconut trees to grow through a deck comfortably and unrestrained.

For Example:

- The site for the Four Seasons Samui was a seaside hill with abundant greenery and fauna.
- In Samui similar hillsides have been stripped of their trees to accommodate hotels and developments; what is forgotten in doing this is that the earth cannot stay strong without roots to hold it, causing immense landslides.
- Here not a tree was cut down: buildings were built around the trees, allowing them to pop up through the restaurant, villa decks and even the interiors - to the enchantment of guests.



The Hula Skirt Detail 38





Trees peeking through the pool at Four Seasons Koh Samui 39



Trees integrated into the Mads Lange restaurant at Capella Ubud 40

Let there be Light!

For too long we have relied on fossil fuels and electricity to light our hotel rooms, even during the day. It should be mandatory that all areas of a hotel room can be functional by way of natural light, which would in turn save energy.

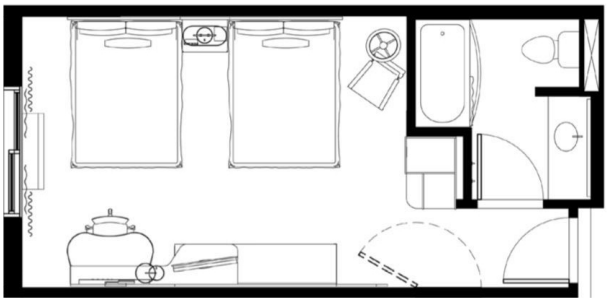
Using natural light from 2 sides of a guest room allows one to harness natural light, leading to increased energy efficiency. 99% of the Marriott projects worldwide are designed to have natural light from just one aspect/side of the room, creating rooms where one needs to turn on the light at noon. When designing using the natural light from both sides of the rooms, the light lasts long into the day, and creates an atmosphere so natural that you would think why do it any other way? An addition to this energy saving is adding in movement sensors to shut off the lights automatically, for whenever they are needed.

Lighting is everything

Having natural light not only in all corners of a bedroom, changes the atmosphere of a room completely, as well as the energy consumption. The same goes for natural light going all the way to the bathroom - no one likes getting ready in the dark, and anyone who wears makeup will tell you natural light is best when applying makeup.



41



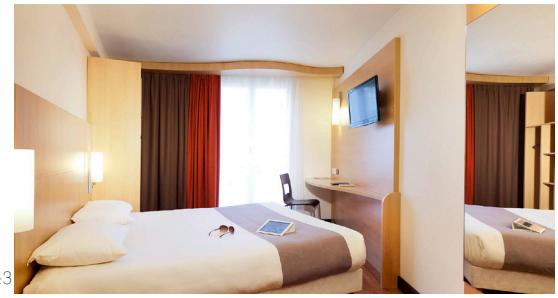
A traditional layout WITHOUT natural light from both sides

44

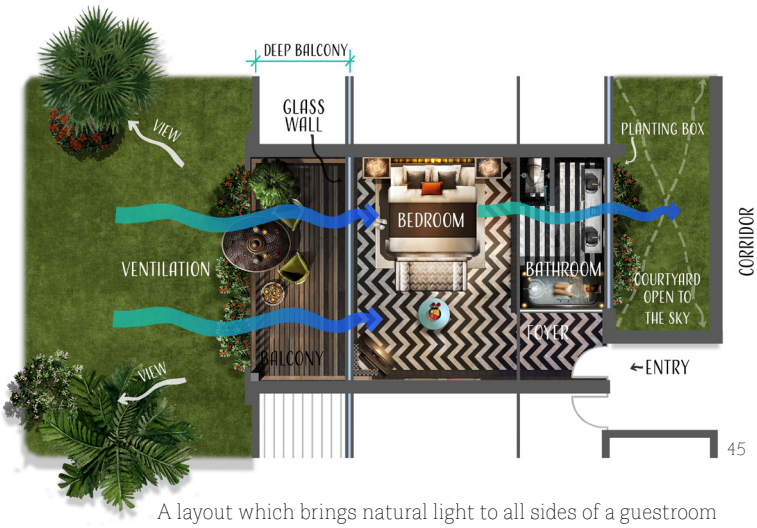


42

Natural Light from one side of a room to the other
Vs. Artificial light and one window

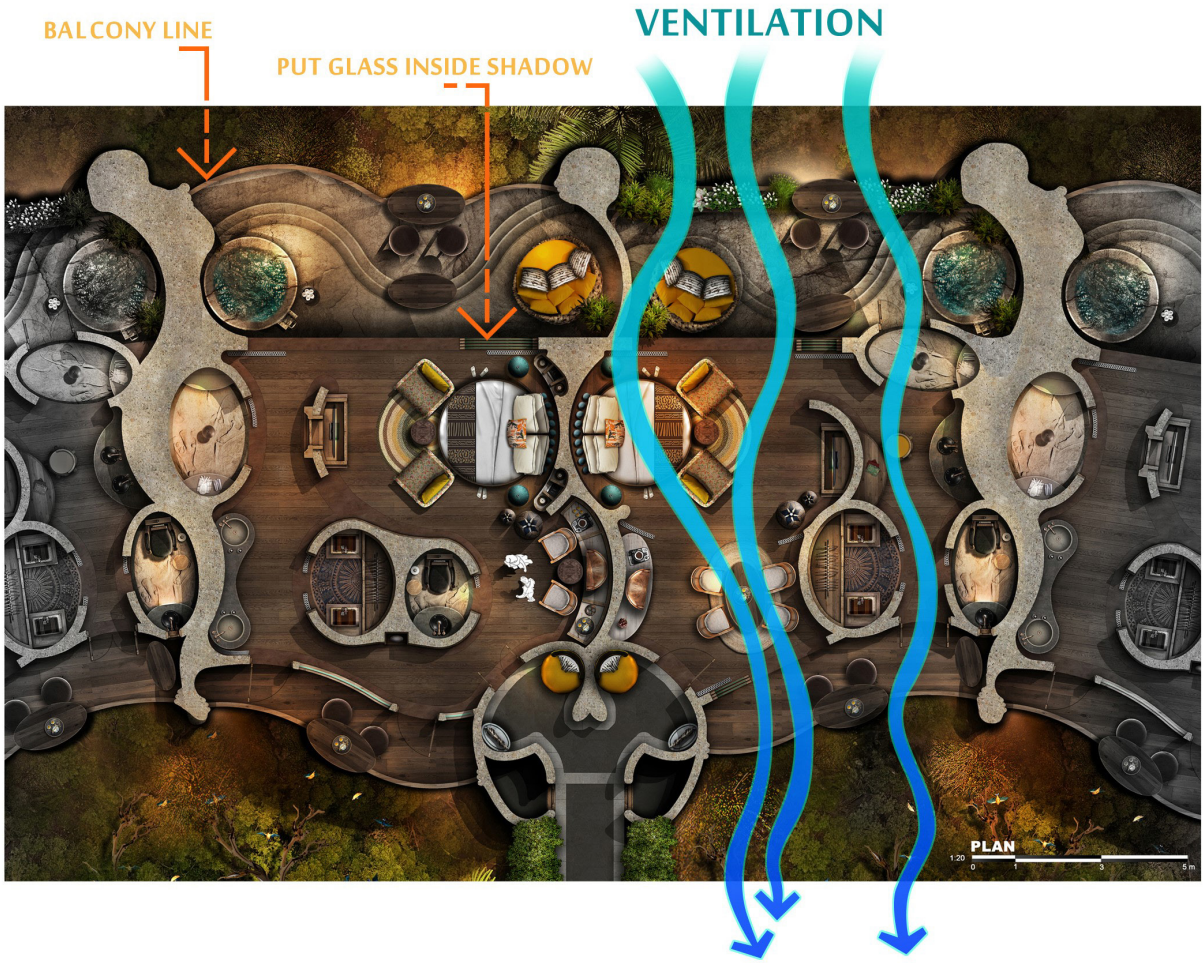


43



45

A layout which brings natural light to all sides of a guestroom


BALCONY LINE
PUT GLASS INSIDE SHADOW
VENTILATION
PLAN
1:20
0
3
5 m


LIGHTING
LIGHTING
VENTILATION

SECTION A

Harvest the Sun

In a single hour, the amount of power from the sun that strikes the Earth is more than the entire world consumes in a year. [6]

Why not take advantage of that energy, and also help the planet. Cover your hotel, studio or home in solar panels and run off the grid: the payback period is close to 8 years for the panels pictured below - not a great deal considering it is free power from there onwards.[7]

- Running on solar can save hotels up to 35% on heating, power and lighting.[8]
- Depending on the system & prices charged by local energy providers, hotels can offset installment costs in 4-12 years.
- Many manufacturers have a 25 year guarantee, and will work for over 40 years.
- Start up costs may concern owners (something to introduce while in the spending mindset) but many governments offer grants, tax rebates or interest free loans to support going green.
- In some countries one can even claim back large percentages (up to 80%) of the start up costs.
- Solar water heating is very efficient in hotels and saves huge amounts of gas usage - over 30%.[9]
- If an in-house solar panel system is not an option, solar power can be purchased directly with a green energy company.
- Hotels which integrate solar panels in their architecture can generate over 1 megawatt of energy a day - which powers the whole resort, with excess stored for rainy days.



Solar Hot Water Systems:

- Apricus
- Rheem
- AET (Alternate Energy Technologies
- SunEarth
- Kingspan
- Stiebel Eltron
- Heliodyne
- SunMaxx Solar
- Resol

These manufacturers provide collectors, tanks, controllers & full systems.

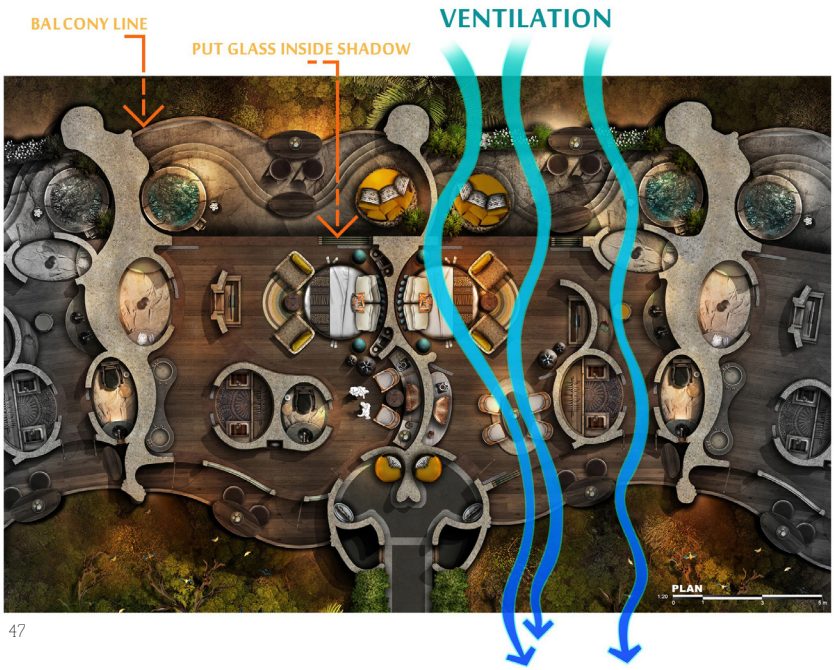
Solar Powered Electricty Providers:

- Zenros Solar Touch
- Love Energy Savings
- Solartron
- E.ON
- Swinerton Renewable Energy
- Black & Veatch
- DEPCOM Power
- Hanwha Q CELLS USA
- Primoris Renewable Energy
- CS Energy
- McCarthy Building Co
- AUI Partners
- RES (Renewable Energy Systems)
- Trinity Solar
- NARENCO
- Electricity Generating Authority of Thailand
- Gunkul Engineering
- Low Carbon Energy

Building Orientation

The proper positioning of a building, taking into consideration sunlight and wind, paired with smarter building, can preserve a great deal of energy.

- ***Deep Balconies:*** Glass should not be exposed to direct sunshine. Deep balconies that put the glass in the shadows, paired with thicker or better insulated walls help to cool down buildings. It also avoids more heat being reflected off the glass doors, which heats rooms up and wastes energy, while also creating a greenhouse effect.



47

- ***Building Orientation:***

Consider placement of buildings in terms of the direction of the sun, as well as their openings. Angle buildings so that natural light filters in - preferably through well placed deciduous trees, changing side depending on the hemisphere. In Asia, minimise west side openings to reduce heat absorption during the day - and pair these with overhanging eaves and deep balconies or terraces.



48



49





Building Materials: Reuse Recycle Upcycle

Employing old objects, especially when trying to tell the story of the past can be particularly successful

Sourcing Local

At BENSLEY we love being inspired by local culture. This can range from artisanal building materials to elements of the interior, all the way to the fresh produce sourced by the hotel. We find that taking inspiration from the area is essential to telling the story of that place in an authentic way. And even better - it often helps to keep costs and carbon footprint down! Sourcing locally is also a great way to create a relationship with the local community, keeping ancient savoir-faire alive.

Upcycling

Another way to inject heaps of personality into a hotel is through upcycling - in other words, reusing and recycling. Not everything need be brand new, in a new hotel.

At the **JW Marriott Lamarck University in Vietnam**, I reconstructed my dream university dedicated to the study of all things natural, from anthropology to zoology! It is named after Jean Baptiste Lamarck (predecessor of Darwin), and here everywhere one turns one can learn something new, namely from the interiors. The proudest moment is the use of some 5000+ upcylced antiques that give layers of history and believability to my many stories. Not everything in every new hotel needs to be brand new.
Named best resort in Southeast Asia and ranked second in Asia by the Travel + Leisure World's Best Awards 2019


50

The **Rosewood Luang Prabang, Laos** encapsulates the history of the earliest Naturalists in Laos and Cambodia. Every nook and cranny filling this intimate little hotel tell the story of Auguste Pavie, first French diplomat to Laos, and his many visitors. I collected furniture, artwork, books and odd objects from all over the world to bring this story to life, and it is ever so believable.
Awards including Conde Nast Traveler's - Hot List 2019, and Travel + Leisure - It List 2019


51

The Siam, Bangkok, Thailand is practically a museum, as it is filled with antiques collected by the hotel's owner Krissada and myself, which tell the story of Bangkok under King Rama V in astounding detail, paired with Art Deco accents.
It has been on Conde Nast's Gold List four years running, as well as Best of Bangkok, Best Small Hotel in Asia and TTG Asia awards, among others


52

At **Shinta Mani Wild, Cambodia** most of the interiors are upcycled antiques, selected to fit the story of that room and recount it down to the finest details, from artwork to books in the library. An old Range Rover was turned into a portable bar!
In January 2020 Wild has been recognised by Tatler, Harper's Bazaar the Hideaway Report, and an eco-friendly award from Luxury Travel Group Asia & Australia Awards.


53


54


55

Building Materials: Building Smart

Why not get more creative with building materials? The construction sector alone contributes to 23% of air pollution, 50% of the climatic change, 40% of drinking water pollution, and 50% of landfill waste[10] - and with Marriott alone aiming to open 1700 new hotels by 2021, those numbers are not going down.

Concrete is the second most widely used material in the world (after water), and if it was a country, it would be the third largest carbon dioxide emitter in the world: its 2.8bn tonnes are surpassed only by China and America... Here is an exhaustive list of building materials that are sustainable, renewable, eco-friendly - and sometimes all three. Their advantages are many: more long-lasting, improve indoor air quality, good thermal mass and optimize operation and maintenance - cutting down cost long term... Time to make the switch.

- Insulation from recycled denim
- Straw Bales
- Bamboo
- Recycled plastic
- Ferrock - *stronger than concrete but less Co2 & made of recycled materials including steel dust*
- Timbercrete - *concrete + sawdust*
- Soil or mud - *including mud from sewage plants to make bricks*
- Ecobrick
- Ecoblock
- Sustainably sourced wood
- Rammed earth
- Wood and cork remains (pruning, sawmills, sanding dust) or vegetal fibres (bamboo, coconut, etc.) become insulators when mixed with cement. Also see Hempcrete, Grasscrete
- Adobe
- Cork
- Cross laminated timber
- Plant-Based Polyurethane Rigid Foam
- Sheep's Wool
- Recycled Steel
- Mycelium
- Renovated antique doors
- Recycled glass tiles
- Hemp rugs
- Ground-paper-pulp wallpaper
- Scrap metal-turned stools
- Newspaper as wallpaper and sketched over



56

Added Perks -

- up to 25% less energy use and 11% less water wastage than the average building - lower utility bills[11]
- up to 19% lower maintenance costs[11]
- produces 34% less greenhouse gas emissions[11]
- lower operating costs - approximately 9% less per year, up to 13% over 5 years[11]
- Green retrofitting can increase the value of the building by as much as 4%, costs which are paid back within about seven years[11]

Designers - Architects!
Material ConneXion is an incredible resource for ingenious recycled and upcycled materials. Check them out - https://www.materialconnexion.com/

Minimize energy consumption

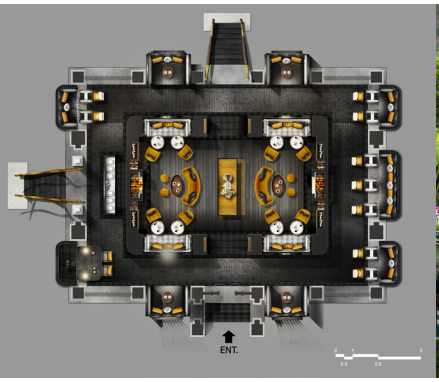
Air conditioning is the biggest consumer of energy in most hotels, at 32%.[12] The sexiest hotel rooms are only partially air-conditioned. Here are some ways to save energy respectfully...

57



Courtyard planning at The Siam: creating a unique check in experience - the only non-air conditioned, yet temperate, lobby in Bangkok

58



Verandah planning: a wrap around terrace for the Rosewood lobby in Luang Prabang, letting in both light and air which circulates around pillars

59



A sleeping porch - bedroom windows which open out onto the garden in drawings for World Wild China



60 Large balcony planning at Shinta Mani Wild Bensley Collection: the tent's large outdoor deck is the main living space, cooled by fans



61 Sleeping roof at Shinta Mani Siem Reap Bensley Collection: rooftop daybeds are the perfect spot for breezy stargazing and even sleep

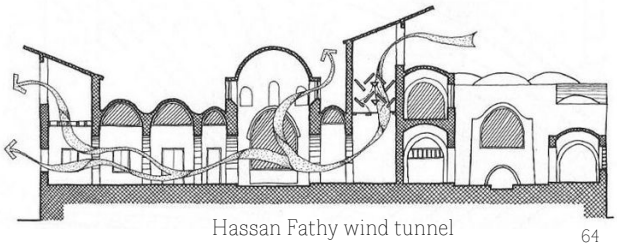


62 Bill Bensley's Bangkok Residence with a veranda surrounding the house - the AC is almost never used. A misting system in the garden lowers the temperature and keeps the plants happy.



63 Screened tents & mosquito nets draped over beds to keep the bugs out, while retaining natural ventilation & birdsong at Capella Ubud

- ***Cross Ventilation:*** an obvious solution to reduce AC use. Colonial houses were built with these principles and rarely need more than a fan. Harnessing natural cooling methods saves energy and adds in atmosphere. Hassan Fathy's wind tunnel method is key in helping air move naturally through a space.



Hassan Fathy wind tunnel 64

A Case Study

The Shinta Mani Hotels

As I mentioned earlier, the first time I saw poverty, real poverty, was in the 90's, in a small village on the outskirts of Siem Reap. At the time, one could still hear regular gunshots from the Khmer Rouge. Siem Reap was just a few dusty roads; to visit Angkor Wat one needed an armed soldier to come along, as the monuments were still littered with mines - we were the only visitors there and it was breathtaking.

On that trip, a friend brought me to meet a family of 7, living on gathered branches above wet soil, the children with tummies extended stomach from malnutrition. Living in luxury in Bangkok, not far away at all, I promised myself to help these folks. That is where, 25 years on, the Shinta Mani group comes in. Our three Shinta Mani hotels in Siem Reap house a hospitality school, while through the Shinta Mani Foundation we have started a farm for the distribution of better crops for Cambodian farmers, we build wells and distribute water filters to over a thousand people, administer free dental and medical care (over 9000 check ups so far), give micro-loans for small businesses... and all of that comes from just 5% of revenues and guest donations. A little can go so very far. And the family who started it all? All of them went to school on new bikes, in a new house with a veggie garden, pigs, and a sewing machine... It was a hand up, not a hand out, which is the philosophy of Shinta Mani Founder Sokoun Chandpreda, my dear friend.

Cambodia has an identity problem in that Cambodia is Angkor Wat and that is it. The fact that the lion's share of the tourist revenue is Siem Reap based, leads to the idea that the rest of the country is not tourist worthy and is up for grabs - and grab they do. The deforestation is rampant now and has been for some time, despite "Government Policy". Of course that reduction of forest has a direct effect on rainfall in Cambodia and climate change in general. Habitat loss and poaching is taking us down the road of our neighbors Laos and Vietnam where the forests are virtually empty of wildlife. The Cambodian wildlife meat trade to China and Vietnam is rampant and lucrative as they have already emptied their larder. Huge prices are paid by the Chinese and Vietnamese to eat rare species - Pangolin meat is $200/lb. In a country where that is almost a months wages, it is not surprising that many people in poor and remote areas turn to poaching.

Some 9 years ago, at a public auction, in a fit of buy first think later madness, myself and my friend Sokoun Chanpreda bought a concession of land about the size of Central Park, in what is now the Cardamom National Forest. The purchase included some 875,000 trees, 4.5 kilometers of wild river and 3 magnificent waterfalls. It is mind blowing to me that such a national treasure could be sold. Sokoun and I paid a deposit but after the grace period of five years government would want a yearly rental fee... And every time we would visit our concession we saw bullock carts full of timber being extracted. What to do?

Enter my hero Suwanna Gauntlet. At 5'4" she is the Amazonian of the Cardamoms, the Founder of Wildlife Alliance, and the reason that one of the largest rainforests in SE Asia still exists. She selflessly has poured millions of her own money into policing, protecting, and providing locals alternatives to extraction. She teaches us conservation methods and ways to enforce Cambodian law. We decided the only way to keep the poachers and loggers in check was to enforce the law: WA has that legal capacity to enforce and most importantly prosecute offenders.

And so began Shinta Mani Wild, the hotel closest to my heart, and all that I hope for in a hospitality experience. In order to protect this corridor of rainforest we opened a high yield low impact camp, with the main mission being a sustainable way to support the policing of the forest via Wildlife Alliance. Upon arrival, guests zipline into the "Landing Zone Bar", perched on the edge of the sanctuary's biggest waterfall. It's 14 tents tell the story of the Cardamom Forest and Jacky Kennedy's Cambodian adventures with King Sihanouk in 1967. Guests are taught about local flora and fauna by the on-site naturalists, and accompany rangers and researchers to check camera traps and on patrol.

A Case Study

The Shinta Mani Hotels

Thanks to Wild we have been able to empower the local community, employing 120 people, 70% of which are from the local village. Many were poachers and loggers, as this region had little infrastructure and few opportunities to work: Wild is a long-term employment opportunity. Through its properties and hospitality school in Siem Reap, Shinta Mani provides opportunities for education and training so the camp's neighbours can become well paid hospitality professionals, should they choose to. Shinta Mani also offers ongoing community outreach and environmental education programs. A community that is educated about their environment is one that will be sustainabily prosperous in that environment.

And best of all, in my opinion, is that this sustainable model will keep going long after I am gone. My dream is that Shinta Mani WILD provides a sustainable conservation and hospitality model that is copied many times all over the world. And that the Cardamom wilderness will be given a real chance to regenerate, while people come here and "rewild", finally understanding that we are not separate from nature: we are nature.

Shinta Mani Wild exists solely because of the urgent need of conservation.
Our goal is to teach Cambodians that conservation is a viable alternative to extraction.

- Protects hundreds of hectares of Cambodias' Cardamon rainforest from deforestation and wildlife poaching
- Saved hundreds of hectares of this critical rainforest from becoming a titanium mine.
- Provides rain to the rice growing regions of Cambodia: over 80% of Cambodias' forests have been lost in the last 30 years.
- Employs 70% of our camp staff and rangers from the local village. Many had past lives of poaching and logging.
- Engages a 110 person armed militia - Wildlife Alliance - to control the serious daily threats of extraction of our rainforest.
- Has become a sanctuary for Cambodia's endangered wildlife; clouded leopards, wild elephants, civets, dhole, gibbons, hornbills and many more are slowly returning to an area that they once fled to escape poachers.
- Was built with minimal intervention to the environment. Fifteen tents. One tent per 66 acres.
- Not one tree was harmed.
- Is the first 100% single use plastic free hotel in Asia. Included in this ethos is our supply chain and all back of house.

Is not just another fetching BENSLEY hotel.
It provides a sustainable model of how hospitality and conservation can work together.

Sources: [1] Shinta Mani Wild has received a suprising number of awards for these efforts: on “Best in the World” award lists by everyone from Tatler to Hideaway, Time, Conde Nast, HICAP, Surface Design and Destinasian - among others. [2] https://www.greenhotelier.org/our-themes/the-sustainable-bathroom/ [3] https://www.forbes.com/sites/wendyaltschuler/2019/11/25/changemakers-these-hotels-are-ditching-small-plastic-toiletries-and-single-use-plastics/#7dfdcebf71ce [4] https://www.nbcnews.com/business/business-news/marriott-banning-little-shampoo-bottles-2020-n1047116 [5] https://www.eco-business.com/news/going-plastic-free-how-hotels-are-joining-the-anti-plastic-fight/ [6] https://www.businessinsider.com/this-is-the-potential-of-solar-power-2015-9 [7] https://news.energysage.com/understanding-your-solar-panel-payback-period/ [8] https://www.rosegoldhospitality.com/blog/how-to-improve-hotel-operations-to-reduce-operating-costs.html [9] https://www.greenhotelier.org/our-themes/solar-power/ [10] https://gocontractor.com/blog/how-does-construction-impact-the-environment/ [11] https://bosscontrols.com/buildings-impact-environment/ [12] https://lodgingmagazine.com/where-hotels-spend-most-energy/ Image Credits: 1. Primary Education through the Shinta Mani Foundation. Image provided by the Shinta Mani Foundation. 2. Shinta Mani Hospitality School Graduates. Image provided by the Shinta Mani Foundation. 3. Dental Care by visiting doctors. Image provided by the Shinta Mani Foundation. 4. Water Filter donation, in partnership with Kohler. Image provided by the Shinta Mani Foundation. 5. Water Pump donation and the family who uses it daily. Image provided by the Shinta Mani Foundation. 6. Water Pump donation, featuring name of those who donated. Image provided by the Shinta Mani Foundation. 7. Water Pump at local Cambodian school. Image provided by the Shinta Mani Foundation. 8. Capella Ubud Bali. Image by BENSLEY. 9. Hotel de La Coupole MGallery, Sapa Vietnam. Image by BENSLEY. 10. Legacy Yen Tu MGallery, Vietnam. Image by BENSLEY. 11. Shinta Mani Siem Reap - Bensley Collection, Cambodia. Image by BENSLEY. 12. JW Marriott Phu Quoc, Vietnam. Image by BENSLEY. 13. JW Marriott Bukit Bali. Image by BENSLEY. 14. JW Marriott Phu Quoc, Vietnam. Image by BENSLEY. 15. Intercontinental Danang, Vietnam. Image by BENSLEY. 16. Shinta Mani Wild - Bensley Collection, Cambodia. Image by BENSLEY. 17. Endangered pangolins confiscated from poachers. https://www.malaymail.com/news/malaysia/2017/04/26/illegal-and-exotic-meats-on-sabahs-menus/1364473. 18.. Wildlife Alliance Rangers at Shinta Mani Wild. Image by BENSLEY. 19. A baby elephant fallen to a poacher’s trap in Cambodia. https://www.theguardian.com/environment/radical-conservation/2018/may/22/snares-southeast-asia-cambodia-vietnam-laos-tigers-elephants-saola. 20. Wildlife Alliance Stat Board at Wild. Image provided by Shinta Mani Wild. 21. Nearby deforestation. Image provided by Shinta Mani Wild. 22. Confiscated Chainsaws. Image provided by Shinta Mani Wild. 23. WorldWild China. Image by BENSLEY. 24. Agriculturally centered phase two at Four Seasons Koh Samui. Image by BENSLEY. 25. Golf course at Belle Mont Farm St Kitts. https://www.luxurytravelmagazine.com/property/belle-mont-farm-at-kittitian-hill-st-kitts-luxury-resort. 26. Planting rice at the Four Seasons Chiang Mai. https://www.fourseasons.com/magazine/discover/things-to-do-chiang-mai/. 27. Sustainable amenities. Image provided by Shinta Mani Wild. 28. Sustainable amenities. Image provided by Shinta Mani Wild. 29. Water Botting Plant. https://www.eco-business.com/news/going-plastic-free-how-hotels-are-joining-the-anti-plastic-fight/ 30. Igloo system at Shinta Mani Wild. Image provided by Shinta Mani Wild. 31. Capella Ubud. Image by BENSLEY. 32. Four Seasons Elephant Camp, Chiang Rai. Image by BENSLEY. 33. Capella Ubud - Tent Plan. Image by BENSLEY. 34. Capella Ubud - Tent Section. Image by BENSLEY. 35. Mapping out the tents at Capella Ubud. Image by BENSLEY. 36. Adapting the architectural footprint to move around trees at Shinta Mani Wild. Image by BENSLEY. 37. Adapting the architectural footprint to move around trees at Capella Ubud. Image by BENSLEY. 38. Hula Skirt Detail at Capella Ubud. Image by BENSLEY. 39. Four Seasons Koh Samui. Image by BENSLEY. 40. Capella Ubud, Mads Lange Restaurant. Image by BENSLEY. 41. Lamarck University - JW Marriot Phu Quoc. Image by BENSLEY. 42. Lamarck University - JW Marriot Phu Quoc. Image by BENSLEY. 43. Room with minimal natural light https://www.hrs.com/en/hotel/ibis-paris-gare-de-lyon-reuilly/a-580767 44. Floor plan. Image by BENSLEY. 45. Floor plan. Image by BENSLEY. 46. BENSLEY studio Bangkok, Solar Panels. Image by BENSLEY. 47. WorldWild China. Image by BENSLEY. 48. Intercontinental Danang - the eaves overhang the structure throughout the villa, shading the interior. Image by BENSLEY. 49. Rosewood Luang Prabang. Image by BENSLEY. 50. Capella Ubud. Image by BENSLEY. 51. The Siam Bangkok. Image by BENSLEY. 52. Rosewood Luang Prabang. Image by BENSLEY. 53. Shinta Mani Wild, Cambodia. Image by BENSLEY. 54. Lamarck University - JW Marriot Phu Quoc. Image by BENSLEY. 55. The Siam Bangkok. Image by BENSLEY. 56. Upcycling at Shinta Mani Wild, Cambodia. Image by BENSLEY. 57. The Siam Bangkok. Image by BENSLEY. 58. Rosewood Luang Prabang. Image by BENSLEY. 59. WorldWild China. Image by BENSLEY. 60. Shinta Mani Wild, Cambodia. Image by BENSLEY. 61. Shinta Mani Siem Reap, Cambodia. Image by BENSLEY. 62. Baan Botanica, Bangkok. Image by BENSLEY. 63. Capella Ubud. Image by BENSLEY. 64. Hassan Fathy wind tunnel diagram. https://docplayer.info/64368854-Arsitektur-populis-dalam-konteks-oleh-rudyanto-soesilo.html