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Resilient Rural Infrastructure –Energy-Water Nexus>



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Definition

The relationship between the water used for energy production, including electricity, oil, and natural gas, and the energy consumed to manage water.

- **Key Components**

Involves energy needed for producing, moving, treating, heating water, and collecting and treating wastewater.

- **Energy Intensity**

Refers to the energy consumed in every stage of the water cycle, highlighting the process's energy dependence.

Energy production requires water: Almost every power source, whether it's producing petroleum, washing coal, growing biofuels, or driving steam turbines, demands water in some form. During droughts, some power plants have had to run below full capacity due to lack of water for cooling.

Water distribution and treatment requires energy: Energy is needed in every stage of the water cycle, from producing, moving (**transport**), treating, and heating water to collecting and treating wastewater

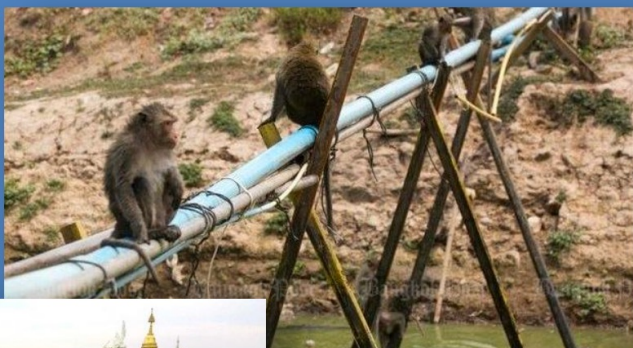
Competition for water between resorts and rural communities include: Water Scarcity and Allocation:

- Rural communities often face issues of water scarcity and limited access to reliable water sources.
- The presence of resorts in these areas can exacerbate water scarcity, as resorts tend to have higher water demands for activities like swimming pools, landscaping, and tourist amenities.
- This can lead to conflicts over water allocation and access between the resorts and the local rural communities.

The competition for water between resorts and rural communities



International
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Organization



The competition for water between resorts and rural communities



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- **Phuket (Thailand)** Prays for Rain: Water Crisis Looms
- **Bali's (Indonesia)** Looming Water Crisis Threatens Tourism and Livelihoods
- **Langkawi (Malaysia)** to face critical water shortage by 2020, says deputy minister – Bernama
- **Boracay (Philippines)** Island News: COMING SOON: WATER CRISIS
- **Galle (Sri Lanka)** villages hit by water shortage
- **Goa (India):** Water scarcity forces guest houses to shut shop temporarily – DNA
- Water crisis developing in drought-hit **Viet Nam: UN**
- Acute Water Shortage Leads to State of Emergency in the **Maldives...**

The competition for water between resorts and rural communities

- Current situation: On the ground, how resorts supply water to guests and maintain resort esthetics can be fragile



The competition for water between resorts and rural communities

- Maybe it is time to reduce reliance on such methods of supplying water.



The competition for water between resorts and rural communities



Unequal Power Dynamics:

- Resorts, as commercial entities, often have more political and economic influence than rural communities. This power imbalance can result in resorts having a greater ability to secure water rights and access, leaving the rural communities with limited bargaining power.

Impacts on Livelihoods and Food Security:

- The diversion of water resources towards resorts can negatively impact the agricultural activities and food production of rural communities, threatening their livelihoods and food security. This can be particularly challenging for rural communities that rely on subsistence farming and livestock rearing for their sustenance.

Socioeconomic Disparities:

- The economic benefits generated by resorts may not necessarily trickle down to the rural communities, leading to further socioeconomic disparities and resentment.

This can contribute to the tensions and conflicts over water resources between the two groups.

Response;

We collaborated with hotels like Marriott to implement innovative solutions that enhance decent work and occupational safety and health (OSH) conditions. One such innovation is the use of water from air technologies, which can significantly improve the working conditions in hotels.

- **Water from air technologies** involve the use of atmospheric water generators (AWGs) that extract water from the air, reducing the need for traditional water sources. This innovation can have several benefits for hotels, including:
- **Water Conservation:** AWWGs can significantly reduce the hotel's water consumption, which is essential for conserving this valuable resource. This is particularly important in areas where water scarcity is a concern.
- **Improved OSH Conditions:** By reducing the need for traditional water sources, AWWGs can minimize the risk of water-related accidents and injuries in the hotel. This can lead to a safer working environment for hotel employees. And, no longer using plastic bottles.
- **Enhanced Decent Work:** The implementation of AWWGs can also contribute to decent work by providing a more sustainable and environmentally friendly solution for hotels. This can enhance the overall working conditions and job satisfaction of hotel employees.
- **Increased Efficiency:** AWWGs can also improve the efficiency of hotel operations by reducing the need for water transportation and storage **linked to energy usage.** This can lead to cost savings and increased productivity

Also to keep in mind: Learning from Nature for Green and Climate resilient coastal areas and communities

Remembering the value of natural capital – Nature's disaster resilient infrastructure: Reefs and mangroves



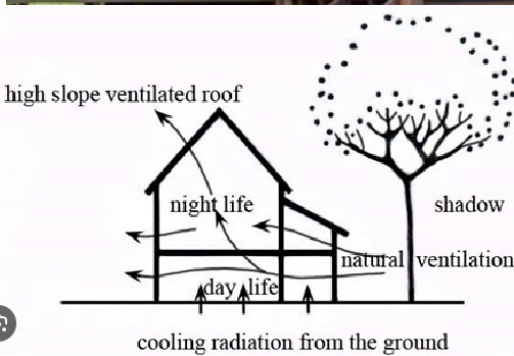
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Mangrove tourism in Budu,
village North Sulawesi



Learning from our past – Back to green & climate resilient Construction

The construction sector is resource-heavy and has a profound impact on natural environments. Heavy machinery and the transportation of imported materials are just two of the factors contributing to the industry's huge carbon footprint. Even when construction is complete, unsustainable designs continue to devour resources. According to the United Nations, buildings are responsible for 40% of the world's energy consumption and approximately one-third of greenhouse gas emissions.



Inclusive Lifelong Learning Conference (Bali, Republic of Indonesia)
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Learning from the past – Back to green & climate resilient Construction

Long before foam insulation and concrete tower blocks, humans were finding ingenious ways to address their needs through architecture. Using local materials and inherited construction techniques, societies have ensured that buildings provide protection and comfort.

In Tonga, traditional curved roofs offered aerodynamic protection against storms



The real challenge

Retaining what we have learned and scaling it up

OR

Ignoring, forgetting or becoming too arrogant



ধন্যবাদ

Terima kasih banyak!

cảm ơn bạn

ขอบคุณมากครับ,

谢谢

ありがとうございました

고맙습니다

Salamat

多謝

Mahalo nui loa

Thank you