



Greening up Field Activities

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EARTH DAY 

Introduction

- Human activities contribute to climate change by causing changes in earth's atmosphere in the amounts of greenhouse gases, aerosols, and cloudiness.
- Impact of human activities on the climate is much higher than that of natural processes.
- Industrialization, transportation, power plants, waste are some of the human activities



Travel

Challenge

Vehicles and air planes are the common modes of transport globally and the main causes of air pollution. Leads to global warming, a key driver on climate change.

Potential Solutions

- Zoom, Google meet, Microsoft teams for video conferencing tool.



Travel Weight Matters - Reduce Challenge

Researchers and technical staff carry research supplies, rations and personal effects to the field. The weight of a vehicle determines its impact on the environment. Heavy vehicles with high power engines consume more fuel and emit more CO₂ to the surrounding.

Potential solution

- Minimize weight with concentrated reagents, for example phosphate buffer saline (PBS)



Sample Collection in the Field

Challenge

Researchers go out to the field for sample collection. These field days are spread across the year and give more traveling opportunities either by air, road or even water which impacts negatively on global warming.

Potential solution



Energy

Challenge

Batteries are the reliable sources of energy used to supplement electricity. Batteries pose a health and environmental hazard from the time of production, recycling and disposal.

Potential solution

-Solar energy technologies offer a clean, renewable, and domestic energy source, and are essential components of a sustainable energy future.



Bottled Water

Challenge

Production of the bottles for water is energy intensive and it subsequently emits greenhouse gases to the environment. Less than a quarter of these bottles are recycled, the rest, ends up in landfills where they degrade anaerobically and aerobically emitting methane and CO₂ respectively to the environment.

Potential solution

- A shift from bottling filtered tap water in plastic.
- Recycling water bottles



Hub and Spoke

Challenge

Limited resource countries rely mostly on importing supplies, reagents and equipment from overseas countries through shipping. Shipping contributes to global carbon emissions and other greenhouse gases.

Potential solution

-Use of onsite/locally manufactured reagents/vaccines or/and reagents (from sources proximal to the labs).

-Address hinderances by IP/rigid regulations.



Discussion

- Share with us other challenges that are specific to your field work.
- Share with us potential solutions of the challenges you encounter.
- Any ideas on overcoming Intellectual Property/regulations that inadvertently hinder greening solutions?
- Could GIS technology be applicable for timing research/field activities?



THANK YOU
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