BENEFITS OF SOLARIZING AGRICULTURAL FEEDERS IN SOUTH ASIA

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Introduction

•AG Feeders Include

- Indian Ag Feeders dedicated to farms
- Solar Power Stations supporting Agricultural Activities in
 - Maldives
 - Federated States of Micronesia
- Solar power stations operated by BMDA and IDCOL in Bangladesh
- Differ from offline systems operated by farmers

Groundwater Deletion Vs. Fluctuations

Depletion can occur ONLY if there's storage from previous years/seasons. E.g. alluvial aquifers in Indo-Gangetic Plains.



In hard rock aquifers, there's hardly any storage to carry forward. Groundwater is filled annually and emptied annually.



Drilling deep in hard rock aquifers increase storage, but, the porosity decreases with depth, hence the increase in storage volume and depth are not linear. Solar Energy & Groundwater Irrigation • The general perception is Solar energy accelerate groundwater depletion.

- Depletion is due to demand > supplies
- There are evidences that
 - Area irrigated has increased
 - Deficit Irrigation minimized
- There's not enough evidence that farmers do not attend to solar pumps, which lead to groundwater depletion.



APP P



Key Benefits

- Day time access; Careful water use Farmers prevent leaks and over irrigation.
- Introduction of efficient water delivery methods Drip Irrigation., automation.
- Reduction in groundwater depletion.
- Reduce irrigation costs to about one-third.
- High reliability leads to more crop cycles e.g. vegetable cultivation.
- Natural day light provides health benefits.
- Minimize exposure to diesel particulate matter
- Diesel Engine Noise leads hearing impairment.
- Reduction in greenhouse gases
- Better work-life balance to women.
- More employment opportunities.

Thank You