

International News -19th June-2024

INNOVATION:**Kilimo helps farmers save water and get paid for it**

- Farmers often use excess water to ensure successful crops due to existing incentives.
 - Under-irrigation poses risks of reduced production, financial loss, and food scarcity.
 - Cheap irrigation has turned many regions into major food producers but can limit water availability for other purposes. Since Water shortages can critically threaten companies, such as bottling plants, risking their operations and investments.
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Kilimo, led by Jairo Trad in Argentina, developed a risk management tool to assess the value of water

The company has collected around 100,000 soil samples across various crop types in South America and connects soil moisture data with satellite imagery to monitor farm fields remotely.

Farmers pay Kilimo for water-saving advice and services. And he sell any saved water to companies needing it within the same watershed, sharing proceeds with the farmers.

Farmers typically earn 20% to 40% more than they paid Kilimo by reducing water usage.

All transactions are verified by third parties following the Volumetric Water Benefit Accounting .

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INFRASTRUCTURE:

Singapore completes first underground service reservoir, located under Bidadari park



- Singapore's first underground service reservoir was constructed earlier this year.
 - The facility, located beneath a public park in Bidadari, will eventually serve 8,800 households in the third quarter of this year.
 - It consists of two water tanks that can hold a total volume equivalent to three Olympic-size pools of potable water.
 - During off-peak hours, the Bidadari underground service reservoir is filled with water from upstream high-ground service reservoirs to ensure there is enough supply for peak-hour usage.
 - Operations at the Bidadari facility are fully automated and monitored from PUB's Joint Operations Centre.
 - Building Information Modelling (BIM) technology was utilized for the 3D modelling and construction of the Bidadari underground service reservoir.
 - BIM technology allowed PUB to visualize the structure of the facility more effectively compared to traditional 2D models, especially considering the complexity of the pipework involved.
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Bidadari Underground Service Reservoir water pipes pressure meters. (Photo: CNA/Raydza)

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O'ahu's new water desalination facility gets \$19M in federal funds

- A new desalination facility will be located at Campbell Industrial Park on O'ahu.
- The facility will use reverse osmosis technology to desalinate water.
- Its primary goal is to reduce the community's reliance on groundwater and help meet O'ahu's long-term water needs.
- U.S. Sen. Mazie Hirono emphasized that the facility will enhance the state's resilience to climate change by providing a reliable water source during droughts.
- The project aims to protect Hawaii's natural resources and strengthen water infrastructure in the face of climate change impacts.

IRRIGATION:

Irrigation Automation Market to Reach USD 17.35 Billion by 2031, Driven by rising water scarcity around the globe.

- The Irrigation Automation market is experiencing substantial growth due to increasing water crises and limitations of traditional irrigation methods dependent on unpredictable rainfall.
 - There is a shift towards mechanized agriculture with irrigation automation systems, which include controllers, sensors, valves, and sprinklers, requiring minimal human intervention.
 - Automated systems enable real-time monitoring and precise control over watering, minimizing water wastage, making them preferable for large irrigated areas.
 - Governments are incentivizing farmers to adopt automated irrigation systems to conserve water.
 - The market presents significant growth opportunities driven by a global focus on sustainability practices. Environmental concerns are pushing economies towards sustainable practices, with irrigation automation systems reducing water usage and decreasing reliance on chemical fertilizers for a healthier environment.
 - Developing economies expanding their agricultural sectors seek efficient solutions to minimize water waste through irrigation.
 - Technological advancements, including smart agriculture technologies like precision irrigation and the Internet of Things (IoT), contribute to increased efficiencies in the market's growth.
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Segmentation Analysis:

- **Automation Type:** Time-based systems dominate the market with over 30% share. They provide complete control over irrigation processes, allowing farmers to adjust settings and

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automate watering schedules. This reduces labor costs and fuel consumption compared to traditional methods. Constant monitoring maximizes yields and minimizes waste.

- **Irrigation Type:** Drip irrigation holds around 35% of the market share. It is favored for its durability, reliability, and efficiency in minimizing water wastage through evaporation and runoff. Drip systems are cost-effective and particularly suitable for crops with high water requirements like rice.

Regional Analysis:

- **Asia-Pacific:** Dominates the market due to vast agricultural lands requiring efficient water management solutions. Rapid weather changes necessitate adaptable irrigation systems. Government incentives promoting sustainable practices like irrigation automation further drive growth.
- **North America:** Fastest-growing region, spurred by stringent regulations on water usage and the presence of key players like The Toro Company. Labor shortages and population growth also contribute to the region's rapid adoption of irrigation automation technologies.

Future Growth:

- The future of the irrigation automation market looks promising due to unpredictable weather patterns and increasing water scarcity, which heighten the demand for efficient irrigation solutions.
- Integration of Industry 4.0 technologies will enhance efficiency through real-time data analysis of weather conditions, soil moisture levels, and nitrogen content.
- Growing emphasis on sustainability will drive reduced water consumption and decreased reliance on chemical fertilizers, aligning with global environmental goals.

This summary encapsulates the current market dynamics, key drivers, and anticipated growth trends within the irrigation automation industry.

Times of India-19th June 2024

Delhi has extracted almost all of groundwater available

- Delhi is currently facing a water crisis, with civic authorities trying to enhance groundwater levels to supplement the water supply.
- A recent report from the Central Ground Water Board (CGWB) indicates a decrease in Delhi's annual groundwater recharge in 2023 compared to previous years.
- In 2023, the net annual groundwater recharge was 0.38 billion cubic meters (bcm), with 0.34 bcm available for extraction. However, almost all available groundwater (99.1%) has been extracted.

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- This extraction rate increased from 98.16% in 2022 to 99.13% in 2023, despite a decline in recharge rates, indicating significant challenges in managing groundwater sustainably.
- The report shows some improvement, with 15% of Delhi's assessment units classified as "safe" in 2023, up from 12% in 2022. However, the areas classified as "critical" for groundwater increased from 21% to 35% during the same period.
- CGWB recommends several measures to address the groundwater crisis, including mandatory rainwater harvesting in depleted areas, increased use of treated water, awareness campaigns, training programs, and promoting sewage treatment plants for non-domestic use.

These points summarize the critical groundwater situation in Delhi and the proposed measures to conserve and manage water resources effectively.

