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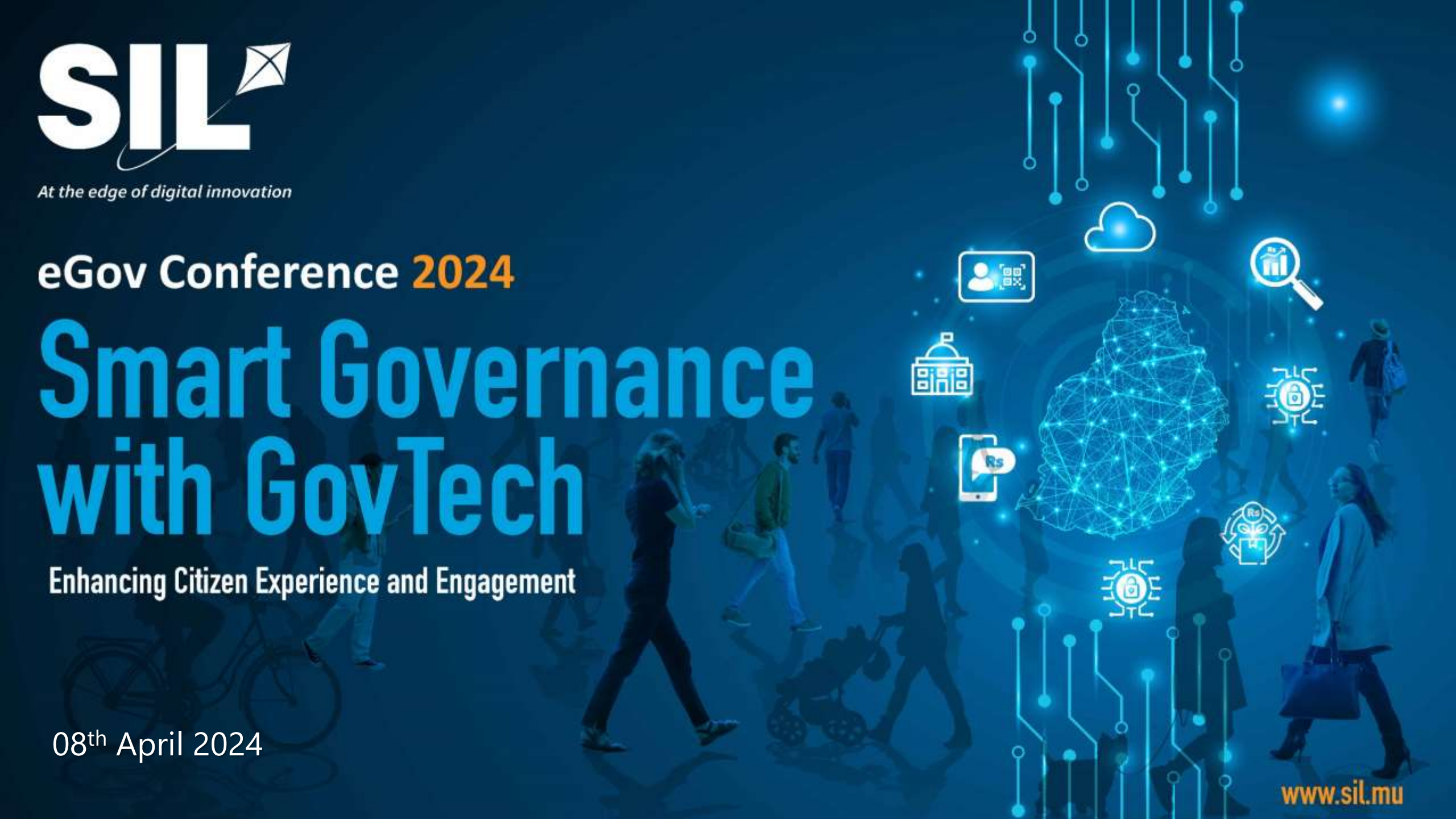

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Cultivating the Future of Digital Agriculture

From field to table: innovations in farming for food security and disaster resilience

Agenda

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Integration of technology in Farming

Platforms to achieve food security

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About Food Security

Food security refers to ensuring that agricultural systems can consistently produce or provide access to sufficient, safe, and nutritious food to meet the dietary needs and preferences of populations.

The Government of Mauritius in the budget 2023-2024 has provided Rs 3 Billion to farmers, planters, breeders and fishers to pursue the objectives of food security.

In recent years, the agricultural sector has encountered significant challenges, including a shortage of labour, adverse weather conditions due to climate change, rising input expenses, and outbreaks of pests and diseases, among other issues.

Integration of technology in Farming

- Small-scale farmers play a pivotal role in the global food supply, especially in developing countries.
- Digital agriculture represents a transformative approach to modern farming practices.
- Integration of technology aims to enhance efficiency, productivity, and sustainability in agriculture.
- To support small-scale farmers effectively and enhance their resilience against natural disasters, various platforms have been designed, utilizing technology and innovative approaches.

How SIL using technology and innovations can help achieve food security

Weather Forecasting Systems

- Apps that provide accurate weather forecasts and early warning systems can help farmers anticipate and prepare for natural disasters such as droughts, floods, and storms.

- By receiving timely information, farmers can adjust their planting schedules, irrigation practices, and crop selection to minimize losses and maximize yields despite adverse weather conditions.

Mobile Applications for Agricultural Advisory Services

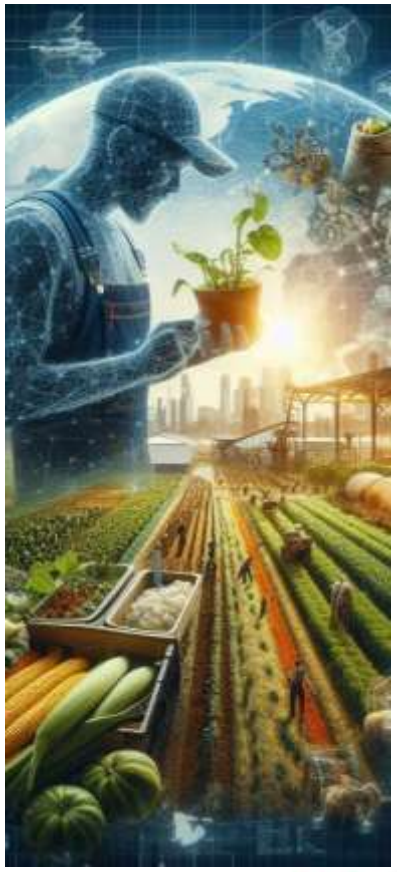
- Mobile applications that offer agricultural advisory services can provide valuable guidance on crop management practices, pest and disease control, and soil health management.

- These platforms can deliver information via text messages, voice calls, or smartphone applications, making it accessible to farmers even in remote areas with limited connectivity.

Market Information Systems (MIS)

- Apps that provide real-time market information, including prices, demand trends, and market opportunities, enable small-scale farmers to make informed decisions about what crops to grow and when to sell their produce.

- By connecting farmers directly with buyers, these platforms help reduce post-harvest losses, increase profitability, and improve food security by ensuring a steady income for farmers.



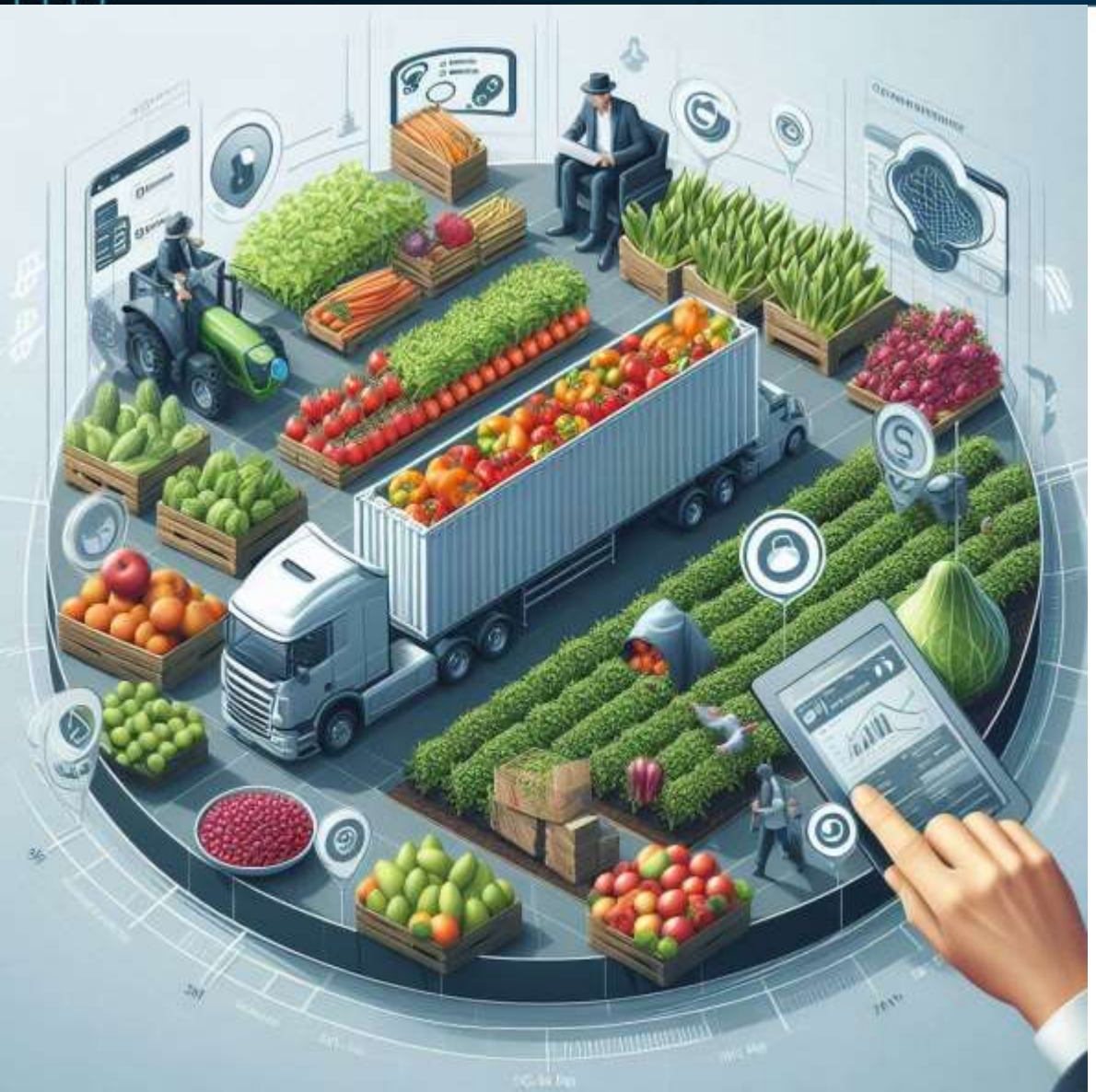
Financial Inclusion Platforms

- Platforms offering crop insurance and financial services tailored to the needs of small-scale farmers can provide a safety net against crop failures and natural disasters.

- Access to Credit/Schemes: Digital platforms enable farmers to access microloans or credit for inputs like seeds, fertilizers, and equipment. Timely financing improves productivity.

- Insurance Services: Mobile-based insurance products protect farmers against crop losses due to adverse weather or other risks. This enhances their resilience.

Supply Chain Platforms



- Platforms that facilitate the efficient and transparent movement of agricultural produce from farm to market can help small-scale farmers access larger markets and higher-value opportunities.

- By streamlining logistics, reducing transaction costs, and minimizing post-harvest losses, these platforms ensure that more of the food produced by small-scale farmers reaches consumers, thereby enhancing food security and farmers' incomes.

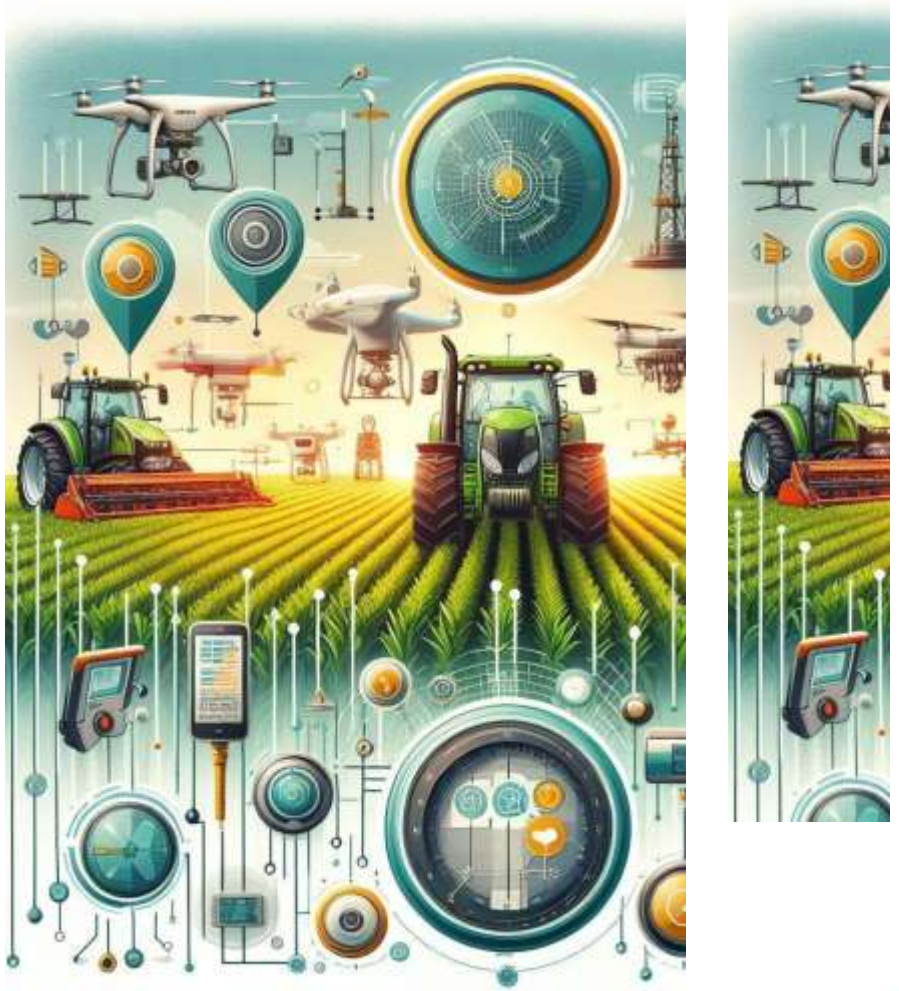
Community-Based Platforms

- Cooperatives and Farmer Groups: Digital platforms connect farmers within local communities. They can pool resources, share equipment, and collectively negotiate better terms with buyers.

- Peer Learning Networks: Online forums and discussion groups allow farmers to learn from each other. They can exchange best practices and troubleshoot challenges.

Precision Agriculture Tools

- Utilization of sensors, GPS, and data analytics for optimized resource management.
- Internet of Things (IoT): Integration of smart devices to monitor and control farm operations in real-time.
- Artificial Intelligence (AI) and Machine Learning: Analyzing data to provide insights for decision-making and predictive modeling.



Conclusion

- Platforms designed for small-scale farmers, leveraging technology and community-based approaches, can significantly contribute to achieving food security and building resilience against natural disasters.

- By providing access to timely information, market opportunities, financial services, and support networks, these platforms empower small-scale farmers to improve their livelihoods, increase productivity, and adapt to the challenges of a changing climate.

Thank You

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