Digital Revitalization of the Agri-food Sector in Mashreq

DigitalAg4Mashreq – Transforming the agri-food sector in Mashreq, June 23, 2021

Impact on-farm but also beyond for the whole agrifood value chain

Collect, use, and analyze massive amounts of machine-readable data about practically every aspect of the value chain

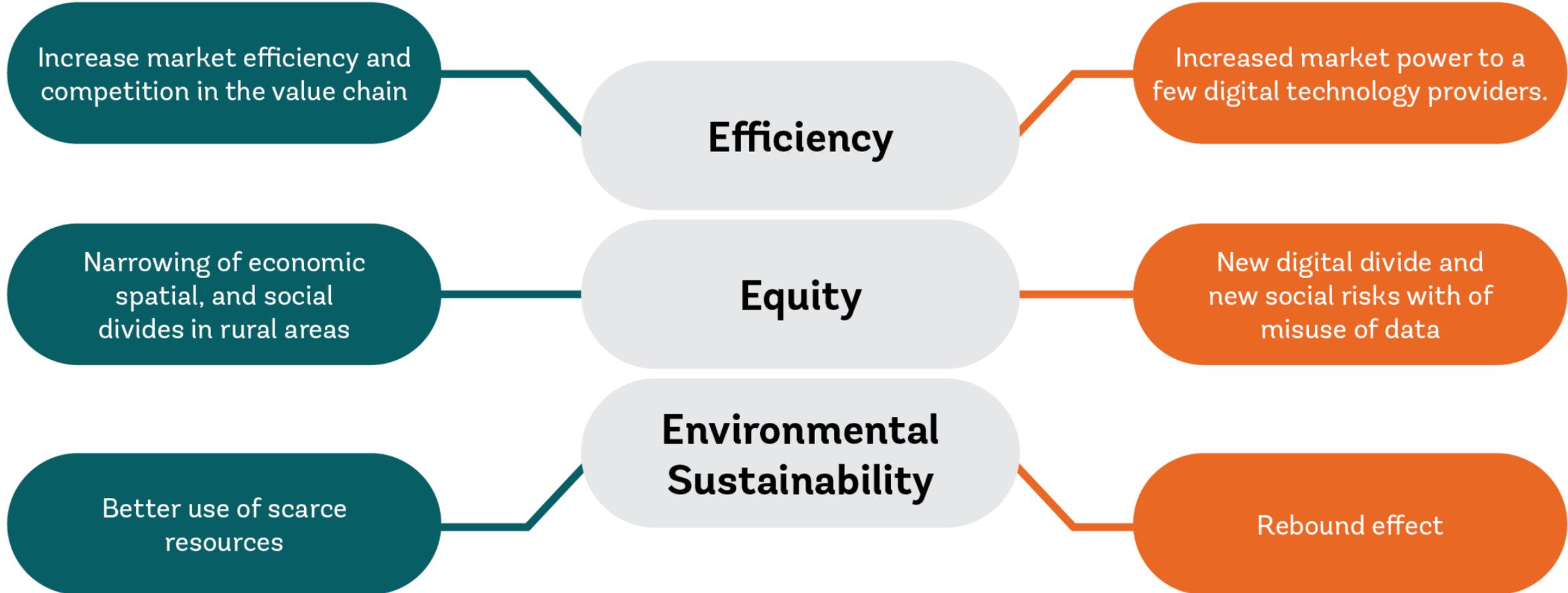Feedback loop to inform all aspects of the value chain

Input & Machinery Suppliers

Farmers

Processors

Distributors, Wholesalers

Retailors

Consumers

Digital Innovations in Mashreq

The publication underlines that digital technologies of particular relevance in Mashreq are oriented toward
- resource efficiency and improved climate resilience,
- youth employment,
- access to knowledge,
- trade, financial inclusion,
- improved traceability and food safety, and
- improved public services.

Equitably Connected Digital Community

Digital Readiness in Mashreq
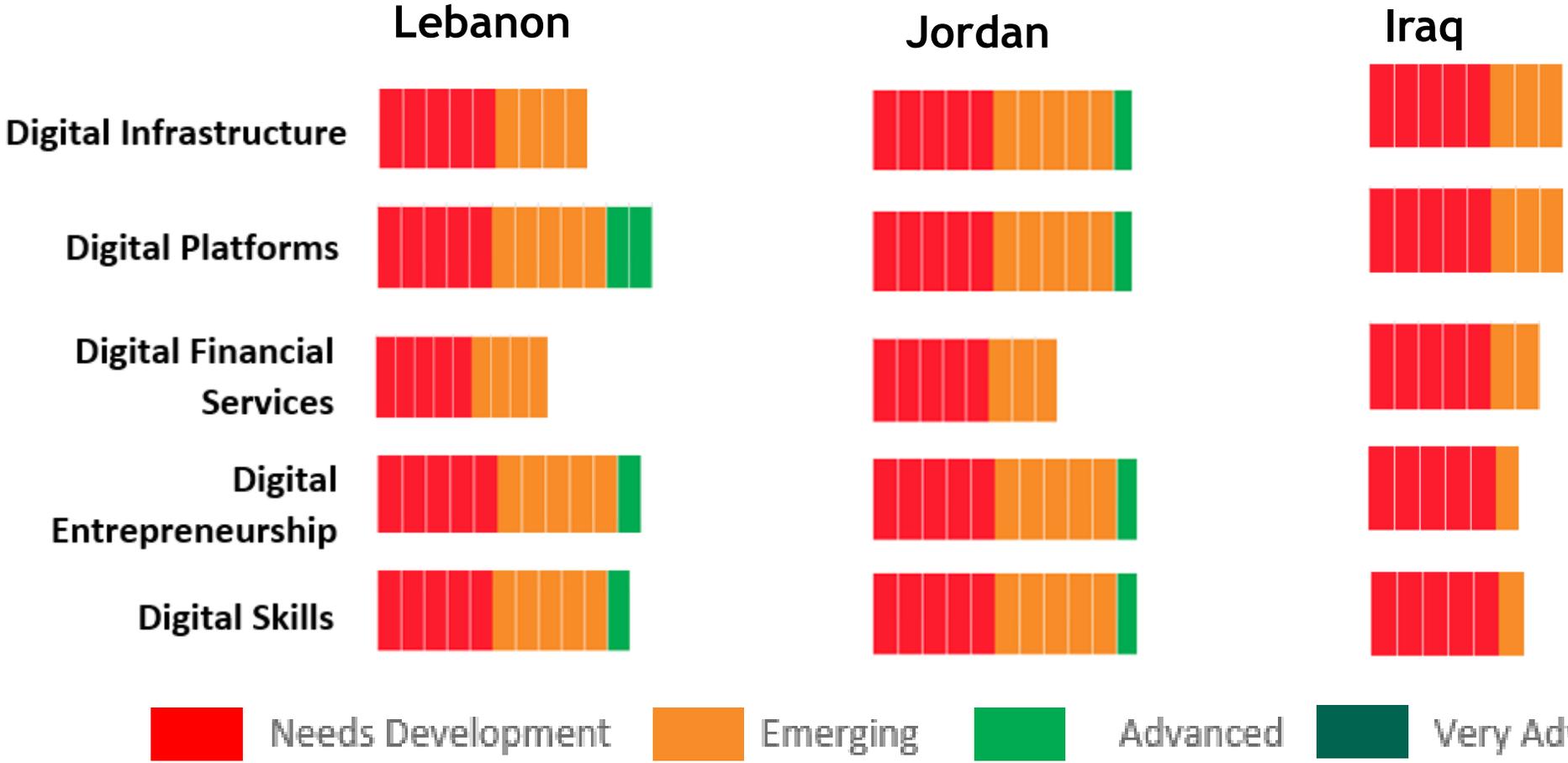
Iraqis' digital skills are below the MENA average, and farmers lag even further

Source: MENATech World Bank

Digital technologies show promise to advance the digital transformation of the agri-food sector in Mashreq.

In Lebanon and Jordan:

- On-farm digital technologies are already in use by large, high-value, and export-oriented farms.

- A dynamic ecosystem for digital technologies featuring incubators and accelerators is rapidly evolving.
  - Start-up companies are developing new digital technologies, focused on efficient use of scarce resources or improved market access (farmers to consumers).

- Digital technologies have not yet been applied on a large scale to public extension services or frequent monitoring of market prices.

In Iraq, digital technology in agriculture is at an early stage.

- Technologies in use are largely government-led, notably in the area of data collection and dissemination.

- Digital technologies like remote sensing and satellite observation are used for land use monitoring and mapping.

Digital technologies to improve natural resource management, disseminate knowledge, and improve traceability have a paramount importance for the transformation of the agri-food-sector.

Vision

Develop an e-Agriculture Strategy with specific targets.
Integrate it into the overall agricultural sector and development strategies.

Catalytic Investments and Policy Entry Points

Improve efficiency of public services and provision of public goods.	Create enabling ecosystem for the investment and research targeting digitalization of agri-food sector.
• Improve e-governance systems through digitally enabled smart subsidy programs, digital farmer IDs, e-cadaster for rural areas. • Facilitate the deployment of smart irrigation and fertilizer systems. • Public investments in areas of open data collection and provision: national digital land use and soil maps, yield predictions, real-time agricultural weather observatory/early warning systems, market data.	• Support incubator and accelerator services targeting start-ups and private innovators in the agri-food sector. • Invest in agricultural research, including partnerships between academic programs and industry tailored for digital agriculture technologies and innovation. • Improve digital skills in rural areas. • Facilitate the digital payments and affordable network coverage in rural areas.

Foundation

Digital
Support digital literacy, facilitate last-mile internet delivery in rural areas.

Non Digital
Develop rural road networks, post-harvest storage, power, and irrigation infrastructure.

Legal
Adopt policies on digital data privacy, ownership which will stimulate competition, effective intellectual property protections, incentives for technology diffusion.

Conclusions and Recommendations

- Digital technologies are at **early stage**, but show **promising prospects** to advance the digital transformation of the agriculture sector in Mashreq countries of focus: Iraq, Jordan, Lebanon.

- **Public action** to facilitate the adoption of digital technologies in agri-food systems:
  - **Supply-side** changes may focus on **reforms to the business environment** specific to the use of digital technologies or may support the **supply of digital technologies to the market.**
  - **Demand-side** changes may focus on **increasing farmer** or end-consumer **demand for digital technologies.**

- The public sector can capitalize on digital technologies to **improve the efficiency and reduce the cost** of some public sector functions: **gathering and dissemination of statistics** relevant to ag, provision of **extension services, regulation of land tenure & markets, subsidy payments**, …

- As the digital transformation of agri-food advances, it is essential to **protect farmers' interests** – particularly smallholder farmers' – and **data ownership, privacy, and confidentiality**.