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
Solving old issues but creating new risks

Opportunities

- Increase market efficiency and competition in the value chain
- Narrowing of economic spatial, and social divides in rural areas
- Better use of scarce resources

Efficiency

- Increased market power to a few digital technology providers.

Equity

- New digital divide and new social risks with of misuse of data

Environmental Sustainability

- Rebound effect
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.
Iraqis’ digital skills are below the MENA average, and farmers lag even further.

Source: MENATech World Bank
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 show promise to advance the digital transformation of the agri-food sector in Mashreq.

Digital technologies to improve natural resource management, disseminate knowledge, and improve traceability have a paramount importance for the transformation of the agri-food-sector.
Develop an e-Agriculture Strategy with specific targets. Integrate it into the overall agricultural sector and development strategies.

Improve efficiency of public services and provision of public goods.

- 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.

Create enabling ecosystem for the investment and research targeting digitalization of agri-food sector.

- 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.

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

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

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**.