Regional Symposium on Innovation in Agriculture
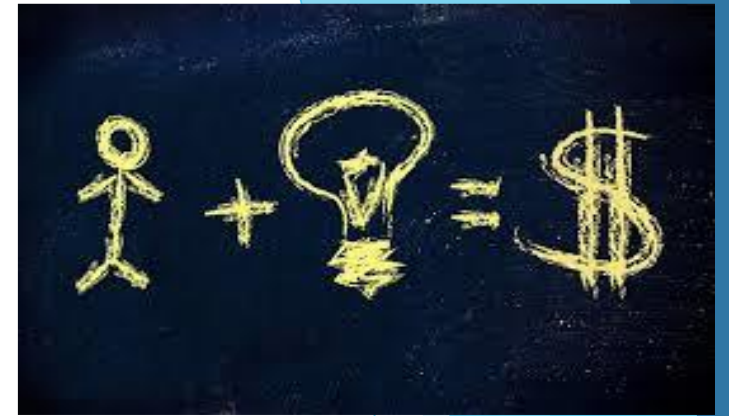
Rachid Serraj

Regional Initiative on Small Scale Family Farming
FAO Near East and North Africa Regional Office

Food and Agriculture Organization of the United Nations

Innovation: the simple meaning

Research turns money into ideas; Innovation turns ideas into money

A process that combines:

– *Technological breakthroughs or inventions*: creation of ideas from research, but also from other sources

– *Technological artifacts:* embodiment of technology and ideas in new products and services

– *Using ideas for gain:* actions, practices and conditions that allow ideas to be put into productive use.

Knowledge may be brand-new, but usually it is new combinations of existing knowledge
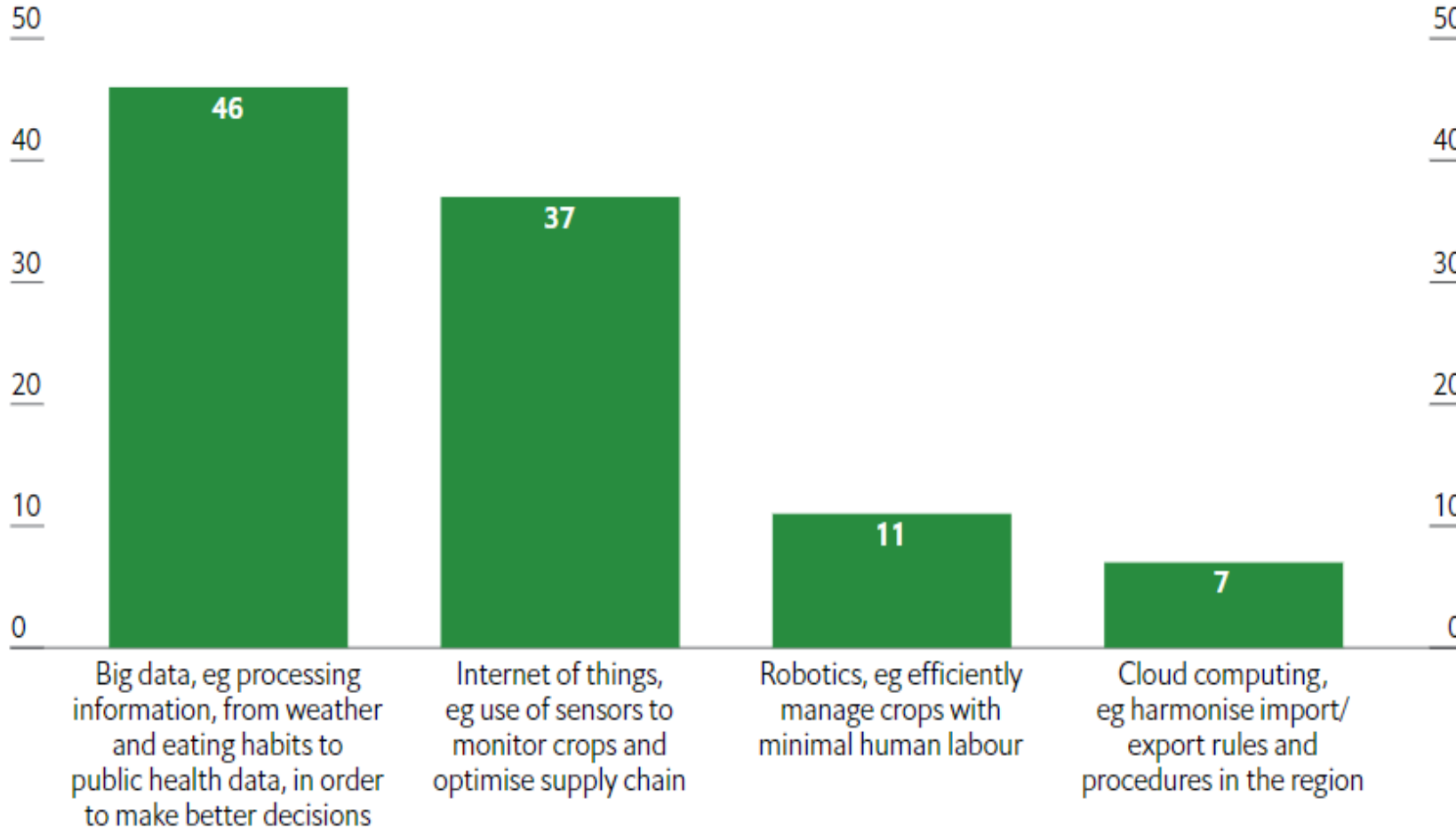
Andy Hall (CSIRO)

Broad categories of innovation

- **Technological innovation**: Farmers adopting a new crop variety, a new agronomic practice, or animal feeding regime

- **Organizational innovation**: farmers work collectively to market produce

- **Institutional innovation**: developing new partnerships with farmers and companies to deliver solutions that give income and profits

Figure 2: Seeking tech support
Which technology has the greatest promise to improve food systems in your country?
(% respondents)

Bar chart values:
- Big data, eg processing information, from weather and eating habits to public health data, in order to make better decisions: **46**
- Internet of things, eg use of sensors to monitor crops and optimise supply chain: **37**
- Robotics, eg efficiently manage crops with minimal human labour: **11**
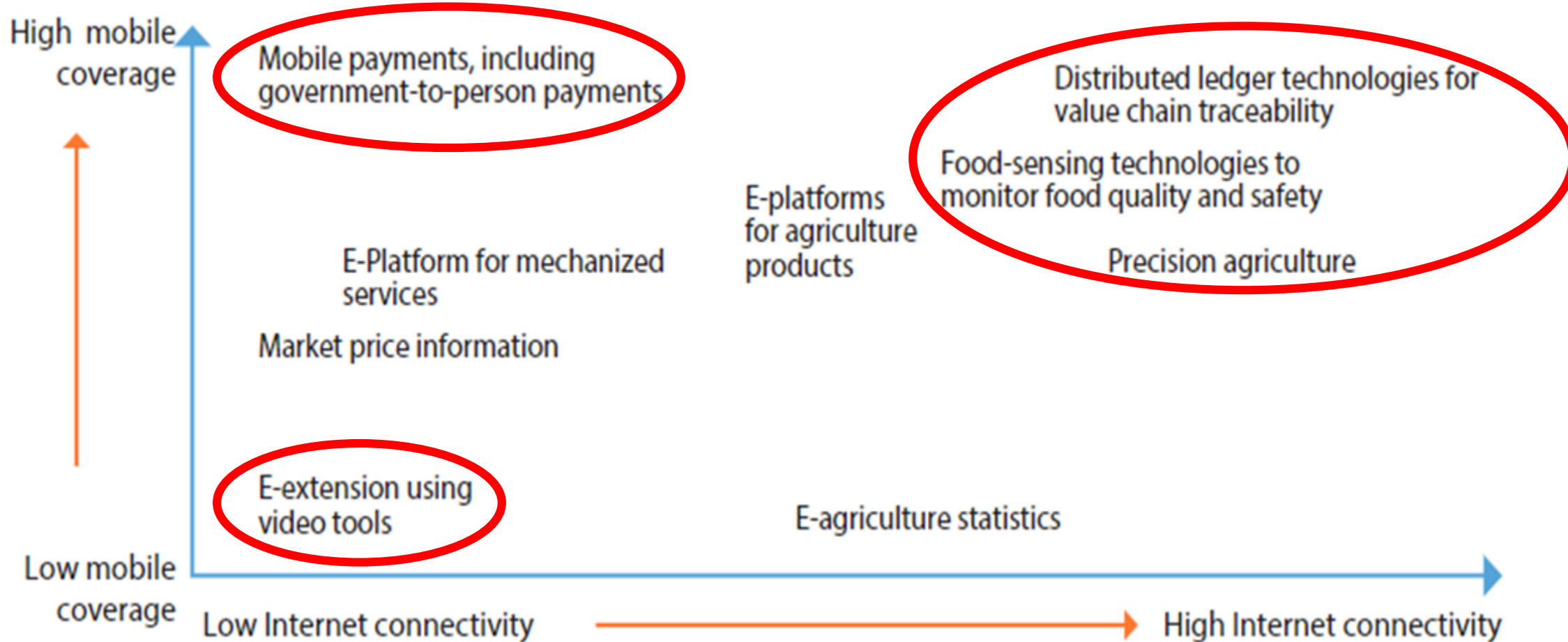- Cloud computing, eg harmonise import/ export rules and procedures in the region: **7**

Source: The Economist Intelligence Unit.

Digital highway to shorten supply chain. e.g. Alibaba invest US$1.6bn over 5 y to create Rural centres in 100,000 villages - two-way distribution infrastructure and help farmers sell directly to city dwellers, and connect to the system—obviating need for scale

Partnering along supply chains - business leaders and policymakers turning to partnerships to address broader value and supply chain issues. e.g. India Public-Private Partnership for Integrated Agricultural Development (PPPIAD)

GETTING FROM FARM TO FORK: ROADS, DRONES AND DIGITAL HIGHWAYS

Cargill®

The Economist INTELLIGENCE UNIT

FIGURE 1: Continuum of digital technology opportunities (illustrative)

High mobile coverage / Low mobile coverage (vertical axis)
Low Internet connectivity / High Internet connectivity (horizontal axis)

- Mobile payments, including government-to-person payments
- Distributed ledger technologies for value chain traceability
- E-platforms for agriculture products
- Food-sensing technologies to monitor food quality and safety
- E-Platform for mechanized services
- Precision agriculture
- Market price information
- E-extension using video tools
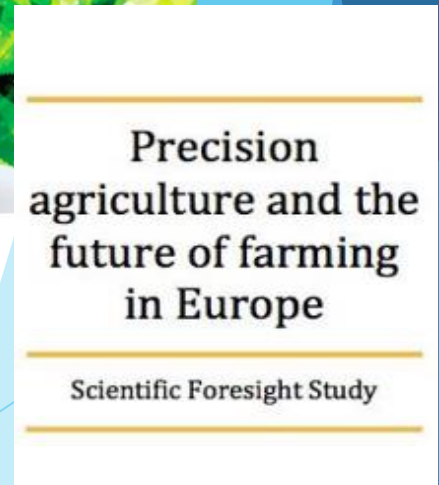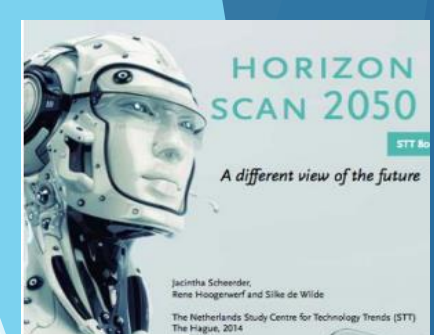- E-agriculture statistics

FUTURE of FOOD
Harnessing Digital Technologies to Improve Food System Outcomes

WORLD BANK GROUP

Disruptive innovations

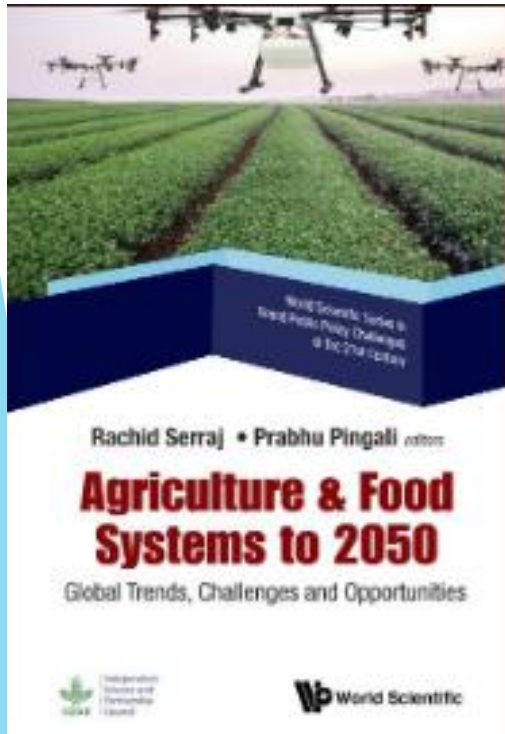**Disruptive futures & Promising technologies in agriculture in different scenarios**

- Future of the (global) food system
- Technological trends
- Societal, Economic, Ecologic, Political and Demographic Trends
- Alternative future scenarios to be considered for decision-making

1 3D printing	9 Smart farming	17 Vertical agriculture
2 4D printing	10 Renewable energy	18 Conservation technology
3 Smart materials	11 Biorefinery and biofuels	19 Transport technology
4 Robotics	12 Genetics	20 Weather modification
5 Autonomous microrobots	13 Synthetic biology	
6 Sensor technology	14 Protein transition	
7 Information technology and IT infrastructures	15 Food design	
8 Bioinformatics	16 Aquaculture	

Is it technology or is it sociology?

de Wilde & van der Duin, STT, Netherlands

THE INTERNATIONAL SYMPOSIUM ON AGRICULTURAL INNOVATION FOR FAMILY FARMERS

Food and Agriculture Organization of the United Nations | SUSTAINABLE DEVELOPMENT GOALS

PROCEEDINGS OF THE INTERNATIONAL SYMPOSIUM ON AGRICULTURAL INNOVATION FOR FAMILY FARMERS

Unlocking the potential of agricultural innovation to achieve the Sustainable Development Goals

Unlocking the potential of agricultural innovation to achieve the Sustainable Development Goals

FAO Headquarters, Rome
21-23 November 2018

http://www.fao.org/documents/card/en/c/ca4781en

Outputs

1. a **Call for Action** to unlock potential of ag. innovation for family farmers to achieve the SDGs;

2. Identification of **priority intervention areas** where key stakeholders, can support countries to unlock the potential of innovation

3. Identification of **potential actions & strategies for scaling up successful innovations** to meet needs of family farmers

4. **Policy recommendations**

THE INTERNATIONAL SYMPOSIUM ON AGRICULTURAL INNOVATION FOR FAMILY FARMERS

20 Success Stories of Agricultural Innovation from the Innovation Fair

1. **GROWING FOOD IN IMPOSSIBLE PLACES** *(hydroponics)*

2. **A-MAIZE-ING!** *(DTM)*

3. **OUTSMARTING THE WEATHER (CSV)**

4. **PEST CONTROL ON THE FLY** *(App 4 Desert Locust)*

5. **A FRUITFUL ECONOMY** *(medit. fruit fly)*

6. **WHAT'S IN A NAME?** (label for high-quality mountain products)

7. **FARMERS OF THE FUTURE** (Kaydara Agroecological School Farm)

8. **A GOOD SEED)** (Allanblackia tree seeds supply chain)

9. **FARMERS' WINDFALL** (grant + insurance scheme)

10. **FOREWARNED IS FOREARMED** (climate information services)

11. **REFRAMING THE GREENHOUSE** (low cost wooden GH)

12. **INNOVATION IN THE ANDES** *(Shelters and mobile livestock pharmacies)*

13. **FULL OF BEANS** *(biofortification)*

14. **UP IN THE CLOUDS** *(VFM: an App-based e-commerce platform)*

15. **MENDING THE CHINK IN THE COFFEE CHAIN** *(blockchain)*

16. **A WALK IN THE PARK** (IITA agribusiness incubator)

17. **IN DEEP WATERS** (Seaweed industry)

18. **EARTH-FRIENDLY STAMP** (Organic label in Burkina)

19. **HACK FOR HARVESTS** (smartphones & drones for pest control)

20. **MORE FOR LESS** (rice sector)

Technological/Agroecology – Social – Digital

Innovation @ NENA

Since 2014: over **30,000 farmers** & agribusinesses for innovations in sustainable agriculture.

6th edition (April 2019) dedicated to sustainable agtech.
7th edition **March 2020**: 7,000 food producers from MENA

SIAM 2019 : pour une agriculture au service de l'emploi et du développement rural

SIAM 14ème édition
SALON INTERNATIONAL DE L'AGRICULTURE AU MAROC
L'agriculture, levier d'emploi et avenir du monde rural
PAYS À L'HONNEUR

Agrytech: Lebanon's Agri-Food Innovation Hub.

Ahmini, an application to protect Tunisian women farm workers

Should help 500k workers with less than 3$/d

,000 workers whose daily

VIVA TECHNOLOGY
May 16 – 18 2019, Paris
The world's rendezvous for startups & leaders

PRACTICAL ACTION مكتب السودان

Practical Action uses technology to challenge poverty in developing countries
Transforming lives, inspiring change

Egypt's agritech startups & entrepreneurs

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Farminal
Innovative solutions for dairy farms

gogreen
A Cyber Gear Initiative
Cyber Gear
THE INTERNET COMPANY
Sélectionner une langue
Google Custom Search Go
Go Green Blog

http://www.go-green.ae/

TUNISIE RESEAUX D'INNOVATION:
Technopoles , Pôles de compétitivité, centres techniques & institutions R&D

بستان BUSTAN
Bustan Aquaponics

schaduf
URBAN FARMINIG

Masdar City