Farm Data Management, Sharing and Services for Agriculture Development

Massive Open Online Courses (MOOCs)

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Capacity Development and Academia Partnerships Division (PSP)
Food and Agriculture Organization of the United Nations (FAO)
Partnering to Enhance Digital Access to Scientific Information and Digital Data for Innovation

To increase the accessibility and visibility of research products in its Member Countries

To promote the exchange of scientific and technical information related to all aspects of food and agriculture

To make data and information on food and agriculture available, accessible and usable worldwide

To contribute to the five priorities of FAO to achieve a world without hunger, malnutrition and poverty in a sustainable manner, with focus on exchange of knowledge, information and data as a key step to achieving the SDGs
How access to data can improve lives of farmers?

**Inputs**
- Forecasts
- Agro conditions eg. soil

**Extension**
- Farmer profiles allow targeted production information

**Production**
- A more efficient data management system for supporting the agribusiness can improve production, farmer organisations, access to financial services as well as access to markets.

**Organisation**
- Accurate knowledge of agribusiness members ensures more efficient operations in the organisation.

**Trade & Markets**
- New markets open up when the farmer owned business can describe the location of production
  - Certification
  - Traceability
  - New markets open up when the farmer owned business can describe the location of production

**Finance**
- Farm profiles are used to access credit and engage financial institutions
  - Credit
  - Insurance
  - Subsidy
## Challenges in Agriculture: Access & Sharing

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<th>Challenges</th>
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<tbody>
<tr>
<td>Incomplete and unreliable farmers' records</td>
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<td>Lack of affordable access even to open data</td>
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<td>Lack of digital literacy and awareness of data sources</td>
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<td>Data not published in form that is FAIR</td>
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<td>Quality of data unknown</td>
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<td>Are rights controls in place</td>
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<td>Aggregation of data difficult also respecting anonymity</td>
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### Capacity Development
Massive Open Online Courses (MOOCs)

FAO actively engages with various types of partners such as the United Nations’ sister agencies, development agencies, international and intergovernmental organizations, private sector, academic and research institutions as well as CSOs and NGOs to foster an innovative environment to maximize the outreach of FAO’s programmes, as well as enhance awareness about the principles of data, information and knowledge sharing.

Enabling individuals and organizations to access, manage and use information and data.

“…This course is really timely, it help me in adequately managing data and analysis my doctoral experimental trials data without stress.” GODAN Action MOOC participant

15,000 PARTICIPANTS

148 COUNTRIES
Farm Data Management

Moving towards Data Management, Sharing and Services for Agriculture Development

"Data protection and services is a very critical element in every development sector and the content of the training gave me an in-depth understanding of critical issues in working with data that needs to be preached to others for sustainable development especially in developing countries." - Shadrack Richard Ngulube, Malawi

Lesson 1.1: Data for Agriculture

LEARNING OUTCOMES
- Understand the value of data in agriculture to support farmers, increase their income and develop food production
- Identify the type of services that data enables
- Understand the two main categories of data: Global data and farm-level data
- Identify key datasets in farming crop cycles
- Understand how and why farm-level data can be collected and exploited
Farm Data Management, Sharing and Services for Agriculture Development MOOC

Resulted from work undertaken as part of the Data4Ag project of the Technical Centre for Agricultural and Rural Cooperation (CTA) with the Pan African Farmers’ Organisation (PAFO)

The content was developed and delivered as a course by FAO in 2019. It was aimed to strengthen the skills of professionals who use, manage data for the benefit of farmers and farmers organizations by exposing them to the topics of importance of data in the agriculture value chain and how new and existing technologies, products and services can leverage farm level and global data to improve yield, reduce loss, add value and increase profitability and resilience.
Course outline: 4 units in a 4-week time

<table>
<thead>
<tr>
<th>Unit 1: Data, Services and Applications</th>
<th>Unit 2: Data Sharing Principles</th>
<th>Unit 3: Using Data</th>
<th>Unit 4: Exposing Data</th>
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<tbody>
<tr>
<td>Lesson 1.2. Farmer profiling</td>
<td>Lesson 2.2. Challenges for smallholders in data value chains</td>
<td>Lesson 3.2. Quality and provenance</td>
<td>Lesson 4.2. Guiding frameworks for data sharing</td>
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<td>Lesson 2.3. Responsible data sharing in agricultural value chains</td>
<td>Lesson 3.3. Data retrieval, analysis and visualization</td>
<td>Lesson 4.3. Introduction to data interoperability</td>
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<td>Lesson 2.4. Personal data protection</td>
<td>Lesson 3.4. Open data in policy cycles</td>
<td>Lesson 4.4. Interoperability of farm data</td>
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<td>Lesson 4.5. Open licensing for data</td>
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Course design

- Downloadable lessons
- Supporting audiovisual materials
- Forum discussions with moderation from subject experts
- Quizzes for each unit
- Webinars and Q&A sessions
- Certification
Course participants

Types of institutions

- University/college: 1571
- Private Enterprise: 799
- Ministry/Public Org./Extension: 653
- Research Institute: 589
- Civil Society Org. (e.g., NGO): 484
- Farmer Organisation: 417
- Regional/Intl. Org./Donor: 347
- Other: 181
- Library/Information Centre: 47
- Media (newspaper, radio, TV): 37

# of participants

Roles

- Researcher/Scientist: 866
- Manager: 593
- Extensionist: 423
- Agronomist: 419
- Educator: 310
- IT professional: 285
- Engineer (e.g., Agri, Environmental, Food): 274
- Advisor: 225
- Farmer: 200
- Infomediary/Librarian: 131
- Comm. officer: 109
- Policy maker: 72
- Journalist/Reporter: 21
- Legal advisor: 8
- Publisher: 7
Testimonials

“This has been an amazing program and I’ve learnt a lot on almost all aspects of Data collection and management. I feel refined. Thanks to all organisers and all who took part in this to make it interesting.

Dennis Baffour-Awuah, Ghana

“Having gone through this course it is now much easier for me to think about business models around ICT for Agriculture. Many thanks for the sponsor of this programme. I cannot began to describe the status of agriculture in SSA, I’m sure you are familiar with this already, so an opportunity to participate in this course is a huge milestone for me.”

Caleb Olanipekun, Nigeria

“This course is very useful and I am looking forward to design the project to support the Ministry of Agriculture title related to Farm Data Management.”

Fadhili Mtengela, Tanzania

“A very timely course that has the potential to influence change in the once marginalised data management issues. The course has potential to influence how policy can be re-aligned to the realities of more complex data collection and storage and sharing principles.”

Joseph Persevearance Musara, Zimbabwe

“This course has given me the insight into the role the private sector can play in transforming farmers livelihoods if they can just open up their data to the public. It also clearly suggests the dilemma farmers face because their (farmers) data is used against them and this is a very sensitive topic that the government and other stakeholders need to take into consideration.”

Jordan Otim, Uganda

“This has been an amazing program and I’ve learnt a lot on almost all aspects of Data collection and management. I feel refined. Thanks to all organisers and all who took part in this to make it interesting.

Dennis Baffour-Awuah, Ghana
Farm Data Management Community of Practice

This community is formed to create a communication platform among the Alumni of the Farm Data Management, Sharing and Services for Agriculture Development

Managed by FAO

4,900 Member from 97 Countries
User stories

My Experience: 157 Participants from More Than 11 Countries Benefit from “Pass-it-on” Training of FAO’s “Farm Data Management, Sharing and Services for Agriculture Development” Online Course

“Upon completion of the course, as my usual practice, I saw the need to pass the knowledge acquired to passionate colleagues within my network of agricultural practitioners and enthusiasts. I immediately leveraged mobile technology in launching and disseminating a Pass-It-On Training and before long entries rolled in.”

Olusegun Oloruntobi,
Manager at MoreMeatMoreMilk Initiative for Development, Nigeria
http://aims.fao.org/activity/blog/my-experience
Next Steps

Consolidating the collaboration between FAO/PAFO and CTA
New 2020/2021 editions of the MOOC
Translation available in French
Planning the paper publication of the MOOC

Would your institution like to collaborate with us?
Write to AIMS@fao.org
Thank You

For more information contact AIMS@FAO.org or Imma.Subirats@fao.org