GEO WEEK & MINISTERIAL SUMMIT 2023

Harmonized open and free in situ data for agricultural monitoring

#TheEarthTalks

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GEO GROUP ON EARTH OBSERVATIONS

OUTLINE

FAO EOSTAT approach to Crop type mapping and yield modelling

Official data collection protocols and ad-hoc surveys

Data collection tools

Global repository perspectives

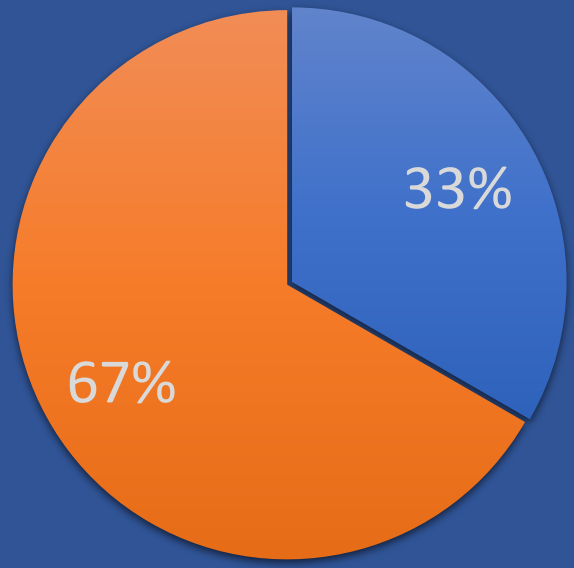
Earth Observations for STATistics (EOSTAT) approach to crop type mapping and yield modelling

- Build and strenghen technical capacity in NSO's and concerned line ministries in the use of EO data to produce official agricultural statistics (crop acreage and yield) and to support sustainable agriculture development and management of natural resources.
- In agreement with coutries generally a three phased approach is used:
  - **Phase I:** assesment of data availability and demonstration of available tools (e.g. Use of Sen2Agri, Sen4Stat, or GEE) and of FAO custom made algorithms at local scale.
  - **Phase II**: implementation of optimized field survey, mapping is scaled up at the national level
  - **Phase III:** country experts lead the update the baselies on their own

Data collection systems in 21 countries: experience from the FAO EOSTAT

Country	Crop Type 10m	Crop yield 10m	In situ data from AAS*	In situ from ad hoc survey
Afghanistan				X
Angola				X
Cameroon				
Chile				
Colombia				
Ecuador				
El Salvador				
Eswatini				
Ethiopia				
Gabon				
Guatemala				
Lesotho				
Mali				
Mozambique				
Peru				
Rwanda				
Senegal				
Sri Lanka				
Tajikistan				
Timor Est				
Zimbabwe				

*** AAS is optimized f**



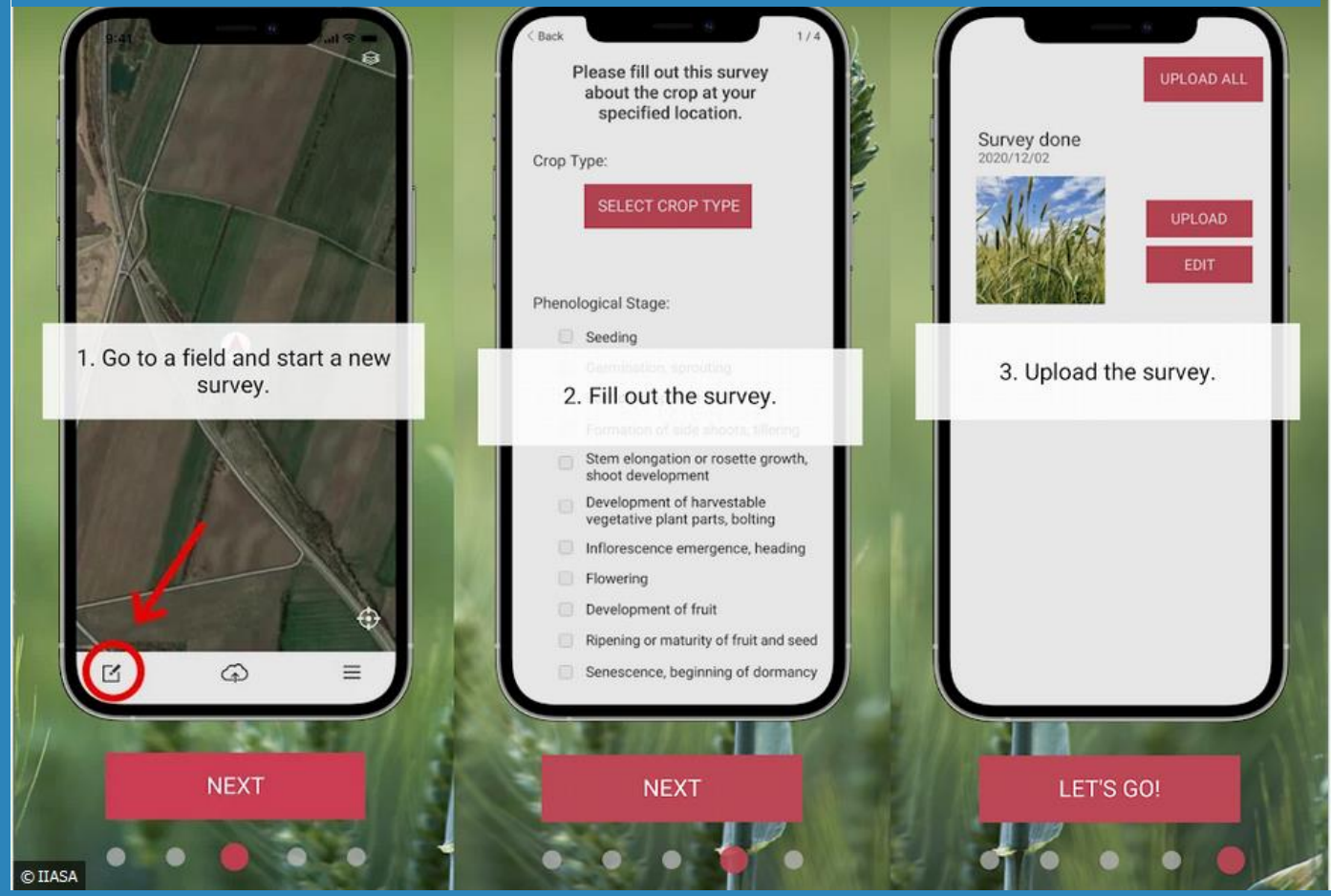
LIMITATIONS OF *AD HOC* SURVEYS

- Lack of standards
- Focus limited and different in time areas
- Survey is not repeaded systematically over seasons and years
- Sustainibility
- Accuracy and country endorsement
- Confidentiality and limitations for sharing (for AAS as well)

Field Data collection tools

- Agreed with country – integration with existing systems is key
- Easy to use
- Free
- Ensure best georeferencing practices
- Ensure minimum crop relevant information is collected
- Ensure best practices in georeferencing are enforced (crop parcels and crop boundaries)

e-shape CropObserve



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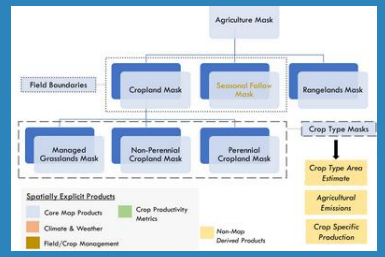
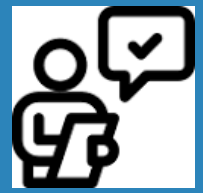
Persepctives for a global repository of open and free in-situ repository for agriculture

- Mandate
- Data standards
- Quality (thematic, positional and temporal accuracy)
- Consistency in time
- Confidentiality:
  - Country permission for sharing
  - Anonymization, differential privacy, data aggregation and randomization etc

Standards (EAV, FAO LCCS)		
Field survey actors	AAS 	Ad hoc field survey 
Tools	CropObserve, ODK, Survey Solutions, Survey 123, etc	

Agreements and protocols for sharing in place to common repository


Thank you

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6-10 NOVEMBER

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