Agricultural survey in Poland and ways of their improvement

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Plan of presentation

- Information needs
- Sources and ways of data collection
- The statistical farm register
- Data collection methods
- Data processing and analysis
- Conclusions

Needs – main stakeholders

- International organizations FAO, OECD
- **European Union – Common Agriculture Policy**
- Government organizations
- Non governmental organizations
- Politicians, stakeholders
- Business, markets
- Researchers

Areas of interest of agricultural statistics

- Food security,
- Prices, economic accounts, market,
- Environment (in relation to agriculture), water, land, soil, climate change,
- Fishery and landings,
- Energy, biofuels,
- Social-economic data, household consumption,
- Natural disasters

Information needs – dimension of agricultural statistics

Economy	Environment	*Society*
✓Land, labor and capital in agricultural production ✓agricultural markets ✓farm and non-agricultural incomes	✓Use of natural resources, ✓"environmental services" ✓sustainability of agriculture	*✓rural development* *✓household versus agricultural holding* *✓food security* *✓social roles of individuals*

Data sources

- Administrative registers
- Farmers
- Observations, direct measurements
- Maps
- Enterprises, business
- Experts

The statistical farm register

- Focus on farms >1ha + specific thresholds
- Census data – the base for the farm register
- Updating permanently by administrative registers – mainly identification
- Updating periodically by surveys
- Spacial farm description – updating a set of parcels from administative registers

Content of the statistical farm register

General characteristics

name, address of the seat of holder and the seat of the holding, identity numbers,

Land

agriculture area, arable land, wheat, rye dried pulses, potatoes, sugar beet, rape and turnip rape, vegetables, permanent meadows, permanent pasture, orchards, forest and forest land,

Livestock

cattle, pigs, sheep, goats, horses, poultry

Comparison of different administrative registers

| Register /source	Farm definition	crops	livestock	User / holding identification	Parcel identification
Census	> 1 ha + thresholds	all	all	User and holding	yes
IACS	>1ha	groups	cattle	user	yes
Register of organic farms	No thresholds	all	all	user	yes
Tax register (PIT-6)	thresholds	Glasshouse crops, mushrooms	all	user	no
LPIS	parcels	no	no	User/holding	yes
Registers and records of land and buildings	parcels	none	none	ownership	yes
Immovable Property Tax	parcels	none	none	ownership	yes

Data collection methods

- Data collection from administrative registers
- Surveys
  - Electronic data collection systems – CAII, CAPI, CATI)
  - Area frame surveys (in situ, remote sensing)
- Expert estimates
- Models

Integration of agricultural surveys

- Use exclusively electronic questionnaires in agricultural surveys (CAxI)
- Survey management systems
- Intensification of CATI
- Integration of variables in surveys (core / module approach)
- Gathering surveys in blocs
- Replacement of survey data with administrative data e.g. organic production
- *Documenting - the meta-information system for defining of data collection, processing and analysis*

A scheme of an integrated survey
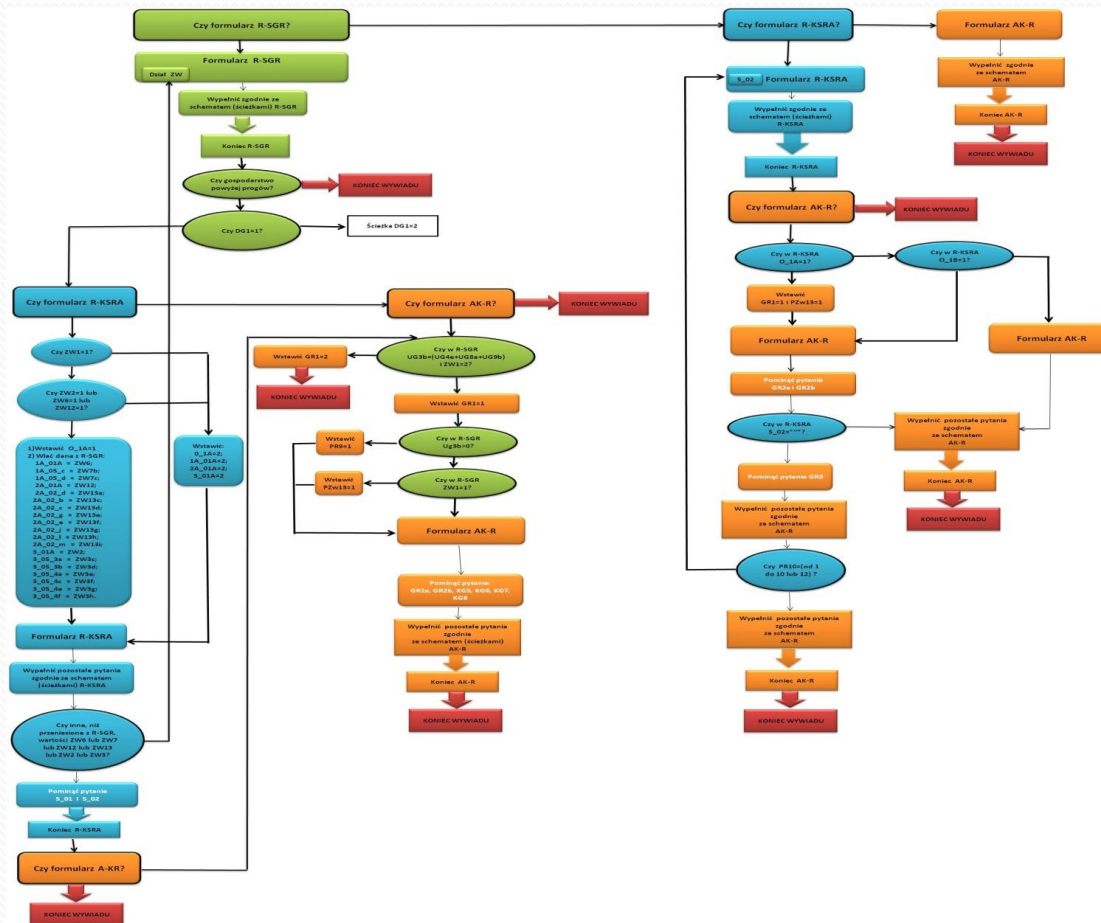
Area frame survey

- Carrying out three pilot surveys, which includes remote sensing (drones, planes, satellites)
- More intensive use of COPERNICUS data
- Adaptation of data collection systems to area frame – maps, gps,
- Working on methodology
- Developing of image interpretation techniques
- *Replacement of traditionally performed expert estimates on crops with area frame*

Models

- Mapping of variables from different databases – harmonisation of definitions, interopearability of databases

- Use of prognostic models for crop forecasts, animal production

- Replacement of expert estimates with models (high costs and a diminishing group of experts)

Data processing

- Designing structures, data mapping, validations to obtain 'golden record'
- Data standardization and merging from different sources
- Multi-dimensional data structure (OLAP)
- *The meta-information system for management of data processing*
- Data warehouses

Data analysis

- Use of SAS tools
- Work on anonymized individual data
- Elaborating of internal standards data analysis
- Support from IT

Conclusions (1)

- ✓ New needs and the necessity to change the current statistical system
- ✓ Looking for higher efficiency of statistical systems (generic model versus stovepipe)
- ✓ Isolated approach to various issues - makes it difficult for cross-cutting analysis
- ✓ Redundancies creating burden for participants of statistical system

Conclusions (2)

Harmonization of definitions of statistical units, geo-references, unique ID of farms

- Synergies and differences between data files
- Registers of economic activity of farms
- Holdings, enterprises, firms, classifications, concepts, identifier …
- Entire production versus production for the market …

Conclusions (3)

Costs / benefit analysis

- Difficulties in collection of certain data (too expensive, too fragile)

- Balance between cost and possibility of collecting reliable data

- Presentation of proxy data

- Thank you for Your attention !

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