

# SMART SURVEYORS FOR LAND AND WATER MANAGEMENT CHALLENGES IN A NEW REALITY

### Session 08.1 — Land Consolidation: From Plan to Implementation

Presentation — Multifunctional Land Consolidation. An approach to a holistic and sustainable land use in rural areas

[Paper ID-Number — 11195]

Presenter — Torben Juulsager (DK)

(President of The Danish Association of Surveyors. Contact tgj@geopartner.dk)

Session date, time — Wednesday 23 June, 10:30-12:00

















# Challenges



- High intensive farming 61% of the area of Denmark
  - Large and fragmented farms significant operating costs
  - High carbon footprint share of DK-CO2 emissions is 23% (2018)
  - Leaching of nutrients to the aquatic environment
  - Leaching of pesticides to groundwater
  - Less biodiversity
- 2. Achievement of UN Sustainable Development Goals
  - Particular on climate and environmental impact
- 3. Increased focus on other uses of rural areas
  - Need for 140% of the total Danish area to fulfill all known plans and wishes for land use
- 4. "Silo thinking" in open land management
  - The open land is regulated by sector plans, restrictions and bindings
  - A weak tradition of interdisciplinary planning of open land











# **Targets**





#### **Environment**

- Clean drinking water and good water quality



#### Climate

- Reduction of greenhouse gases and floods



#### **Nature**

- Variation in nature and improvement of biodiversity



#### Leisure / recreation

- Facilities and access into the landscape



#### **Economy**

- Profitable agriculture



#### Rural development

- Place to live and stay



































# Approach



#### 1. The Collective Impact methodology

- Bringing people together in a structured way, to achieve social change
- Builds on five conditions













### Solutions





- Builds on dialogue-based solutions between authorities, interest groups, stakeholders, rights holders and owners
- Under development to contain multifunctionality multifaceted land use
- 2. Pilot projects in progress conducted by Ministry of Food, Agriculture and Fisheries
  - Opportunity to apply for financial support for the implementation of multifunctional land consolidation – in a two-year trial period
- 3. Requirements for the project
  - Municipalities or the Danish Nature Agency must be applicants
  - Projects must be locally based
  - Project description must be available
  - There must be a financing plan
  - Projects must meet at least three national interests including at least one EU Directive implementing interest









### Solutions





- EU Directive implementing interests
  - Clean drinking water
  - Clean aquatic environment
  - Natura 2000
  - Greenhouse gas reduction
- Other interests
  - -Climate adaptation
  - Nature and biodiversity
  - Afforestation
  - Organic farming
  - Outdoor life
  - Rural development
  - Land allocation of agricultural property











## Solutions







Predesign



Development



Realization



Registration

Project development and financing plan

Studies of interests and project area

Physical establishment and realization

Updating public registers with property changes

Assessment and measurement of impact

Land acquisition

Multifunctional Land Consolidation

**Application** 

Sale of land

Compensation







