

Earth Observation to support Agricultural Damage Assessment in Crop Insurance Schemes



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Introduction

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BELGIAN SCIENCE POLICY



Law 12 July 1976 for natural calamity and agricultural disaster

Methodology

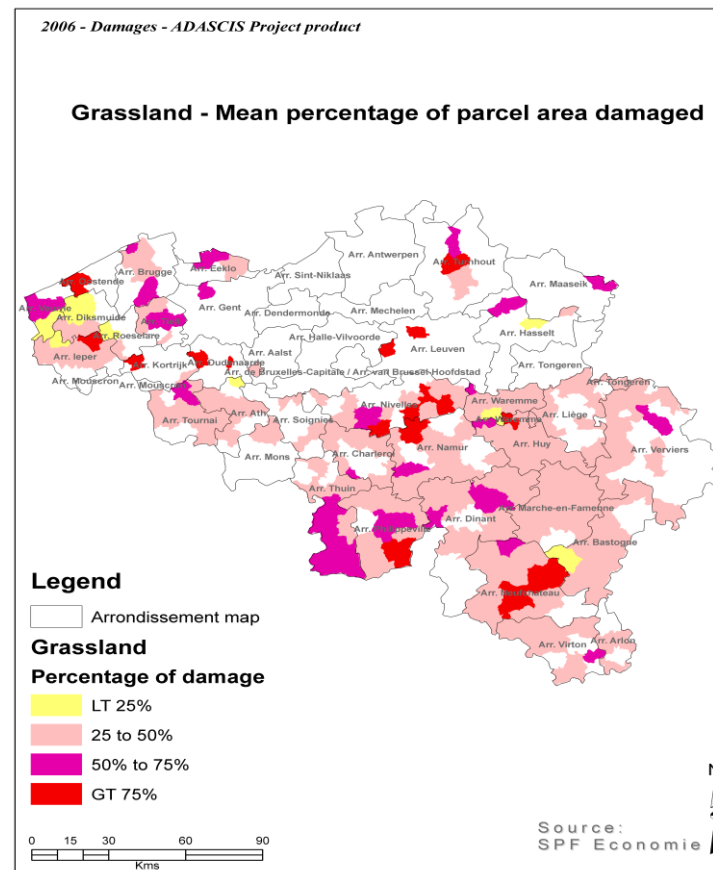
- Observation/estimation of damage by the municipality
- Recognition as calamity if exceptional
 - 1) frequency of the weather phenomenon > 20 years
 - 2) total amount of damage > 1,24 million €
 - 3) average amount per case > 5580 €
- + EU condition financial loss > 30%
- delineation of the geographical area and determination of the crops
- Compensation for the farmers by the calamity fund



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Problems (for example: drought - rain 2006, drought 2010 and 2011)

- estimation of the damage at municipality level: unclear (especially grassland), no variability in the municipality but high variability between municipalities



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Problems

- soil, crop, phenological stage are not taken into account by the analysis of meteorological data
- Control of individual cases (overcompensation)
- Long processing time (for example: summer 2006 recognized in 2007 and payments in 2009 and 2010)



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⇒ we need a tool to support our decision
independent, more objective and faster



An information system for agricultural risk and damage assessment based on remote sensing and agrometeorological modelling



The partners:



Project Objectives

“To develop a operational tool , allowing natural damage assessment and control of farmers’ claims for losses using information from multiple Earth Observation sources and agrometeorological modeling at regional and local scale”.



Specific objectives

1) Selection of a relevant set of indicators

Indicators are based on a combination of meteorological, agrometeorological models and EO data.

2) Database development

Indicators and return periods are calculated at different levels. They are based on reliable long-term and independent agrometeorological or EO databases.

3) Crop damage information system development

Integration of raw and processed data in an interoperable centralized architecture. The system will allow to visualize results before and after harvest associated with different indicators and risk factors.

