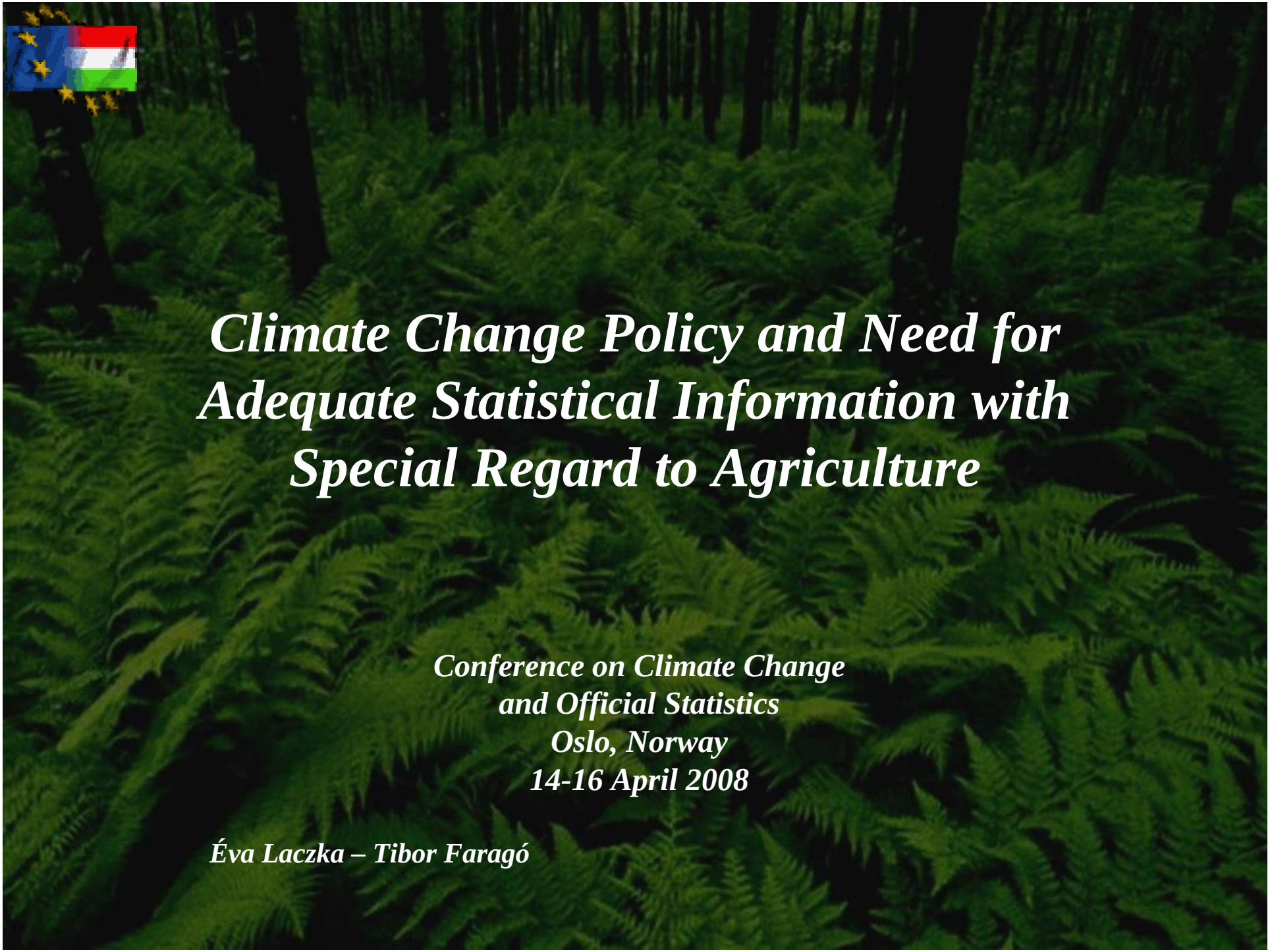


Climate Change Policy and Need for Adequate Statistical Information with Special Regard to Agriculture

Conference on Climate Change
and Official Statistics
Oslo, Norway
14-16 April 2008

Éva Laczka – Tibor Faragó

Outline

- **Milestones of the Hungarian Climate Change Policy**
- **Hungarian Climate Change Strategy**
- **Hungarian Agriculture**
- **Interaction between Climate Change and Agriculture**
- **Adaptation**
- **Information needs – how to improve it**
- **Conclusion**

Milestones of the Hungarian Climate Change Policy

- **Climate change related research dates back 25 years**
- **1980s - the first complex studies about the effects of extreme weather patterns**
- **1990 - first strategic documents and programs**
- **2007 - National Strategy on Climate Change adopted**
- **2007 – National Forum established for coordination of research and adaptation**

Priorities of the Hungarian Climate Change Strategy (HCCS)

- **Perception: inform the social and professional partners**
- **Mitigation: achieve emission reduction**
- **Adaptation: prepare for adaptation**

Coverage and Results of Hungarian Climate Change Research

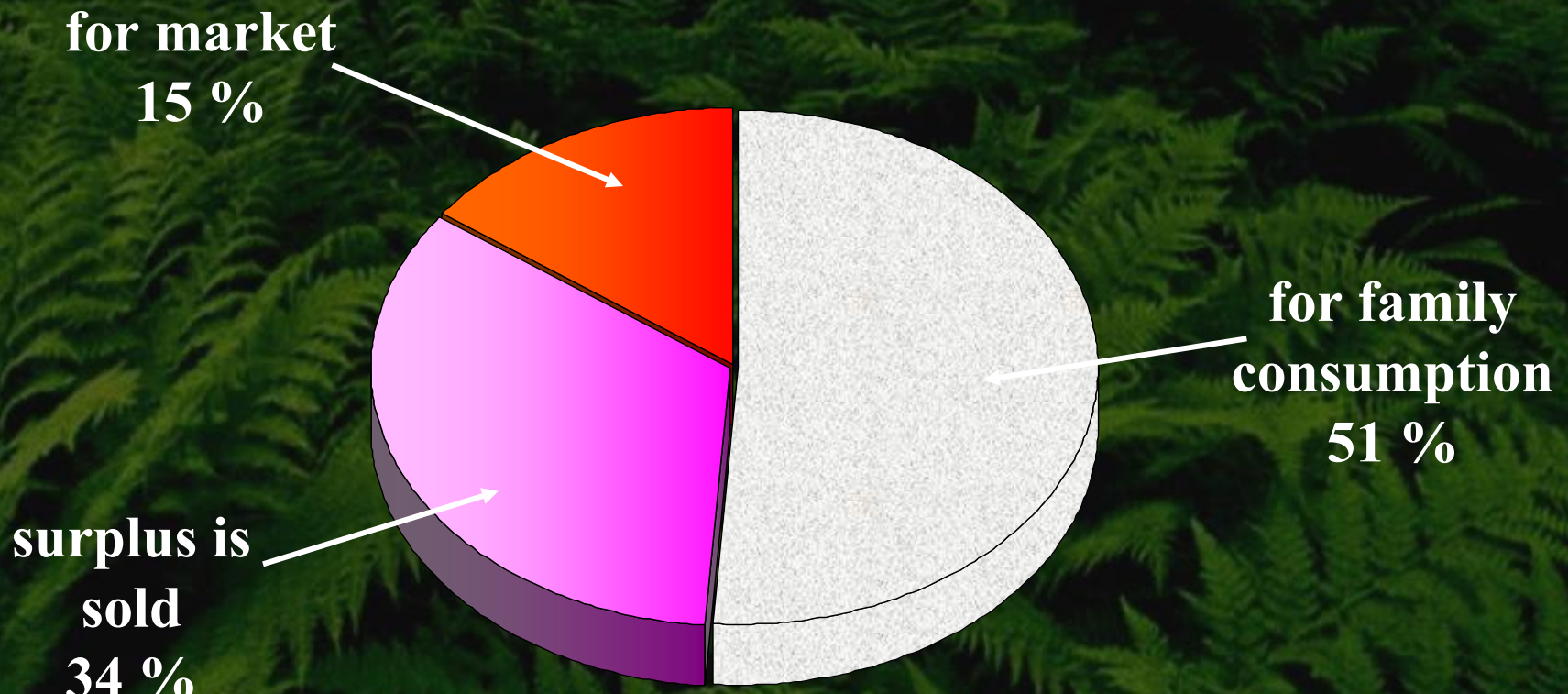
- **Environment**
- **Economy**
- **Society**
- **Human health**
- **300 publication over the past 2 years**
  - **basically examine the interaction between climate change and agriculture**

Hungarian Agriculture

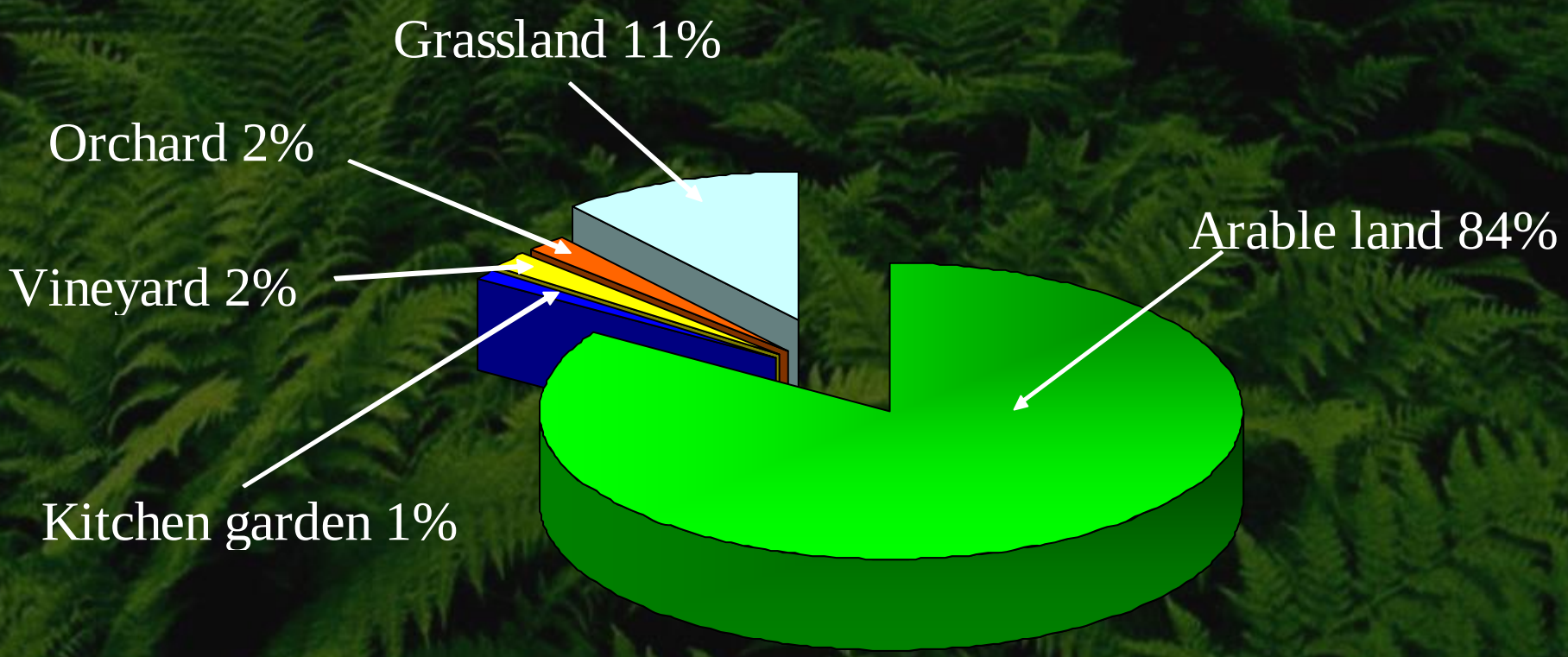
- **3-4 percent of GDP**
- **2-3 percent of export**
- **7 900 agricultural enterprises and 707 thousand private holdings**
- **One fifth of the Hungarian population is involved in some kind of agricultural activity**

Purpose of farming

Private holdings



Land Use – Crop Production



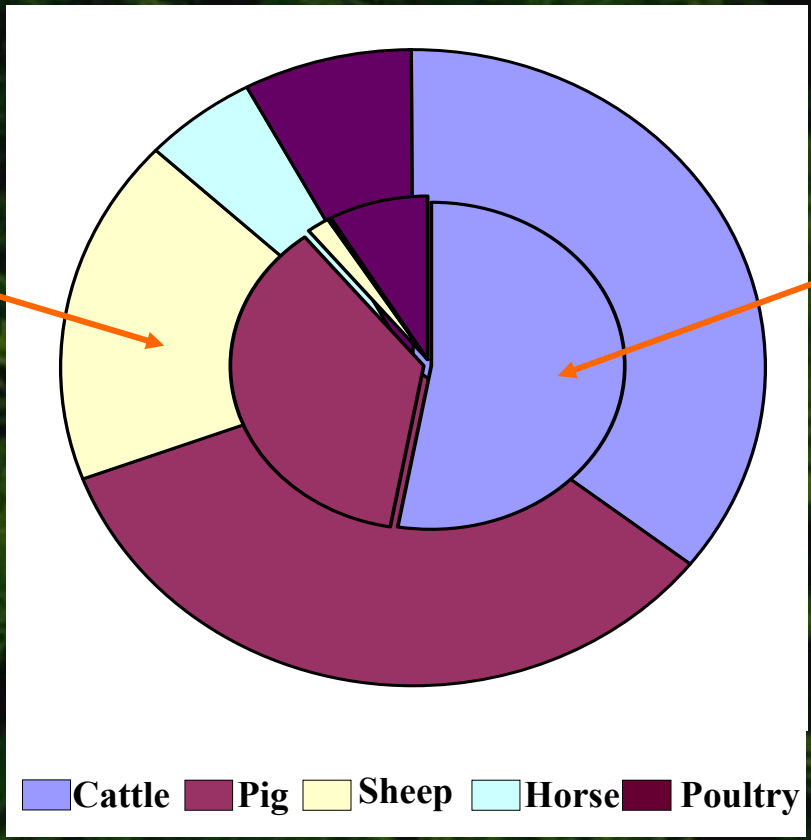
HCCS on Crop Production

- **Effects of CC on crop production**
  - **more frequent extreme weather patterns**
  - **erosion**
  - **extreme wind**
  - **spread of invasion species**
- **Effects of crop production on CC**
  - **nitrous oxide and methane emission**
- **Adaptation**
  - **decrease nitrous oxide and methane emission by water efficient and soil preserving production methods**
  - **improve production methods**
  - **limit the spread of invasion species**

Livestock unit by species

Private farms

Agricultural enterprises



HCCS on Animal Breeding

- **Effects of CC on animal breeding**
  - **has different effects by type of animals (extensive and intensive breeding)**
  - **increasing water and shade requirement**
  - **changing nutrient content of the grass composition of pasture**
- **Effects of livestock breeding on CC**
  - **significant carbon dioxide and methane emission**
- **Adaptation**
  - **improve technology of animal breeding**
  - **increase the extensive animal breeding**
  - **increase the number of traditional domestic species**
  - **environmentally sound treatment of manure**

Forested and Green Areas

- **Forest**
  - **20 percent (1.9 million hectares) of the total area**
  - **71 percent hardwood, 13 percent softwood, 16 percent pinewood**
- **Green areas of settlements**
  - **40 thousand hectares**
  - **size of green areas has been decreasing**

HCCS on Forest and Green Areas

- **Interaction between forest, green areas and CC**
  - **play an important role in natural carbon cycle**
  - **influence the concentration of greenhouse gases**
- **Adaptation**
  - **increasing the size of forest and green areas**
  - **incorporation of strategies to the national forest program**
  - **planting species suitable for the new conditions resulted by CC**
  - **analysing the impact of energy source plantations**
  - **expansion of green areas in urban regions**

Data Sources on Agricultural Production

Agricultural Censuses

- 1872 Vineyard
- 1895
- 1935
- 1972
- 1981
- 1991
- 2000
- 2001 Vineyard and Orchard
- 2003
- 2005
- 2007

Regular Surveys

- Annually 15-20 sample surveys

- Covering:
  - Land use
  - Crop production
  - Livestock
  - Animal products
  - Prices

Weaknesses of Agricultural Production Data

- **provide limited information on production methods**
- **do not provide information by crop and animal species**
- **do not cover quality characteristics of production**
- **regular surveys provide data only at regional level**

Future Data on Agricultural Production

EU Farm Structure Survey (FSS)

- **since 2010 new regulation**
- **FSS 2010 will be a full scope survey**
- **module on agricultural production methods**

Indicators to be collected on Agricultural Production Methods

- **Tillage methods**
- **Soil conservation**
- **Actions against erosion and nutrient leaching**
- **Animal grazing**
- **Animal housing**
- **Nutrients**
- **Manure storage and treatment facilities**
- **Plant protection**
- **Irrigation**

Additional Data Sources

- **Energy use of Agriculture (HCSO + administrative data sources) → quality of data/estimation need to be improved**
- **Forestry statistics (MARD) → coverage of data needs to be improved**
- **Data on green areas (HCSO) → type of plants and cultivation methods should become subject of data collection**

Estimation of Emission Data

- **Compilation of Emission inventory is responsibility of Ministry of Environment and Water**
- **Agricultural and industrial production data are provided by National Statistical Institute (HCSO)**
- **Data on soil types and production of plant species provided by Ministry of Agriculture and Rural Development**

Measurement of Immission Data

- **Joint responsibility of Ministry of Environment and Water and Ministry of Public Health**
  - **measurements are carried out by the ministries**
- **HCSO supports the analysis by applying mathematical statistical methods**

Conclusion

- **Hungarian Climate Change Strategy approved**
- **Responsibilities defined**
- **Detailed list of indicators and definitions need to be finalised**
- **Action plan on how to fill the data gaps**
- **Deepening the cooperation between the National Statistical Institute and professional organisations**


Thank you for your attention!