

# **Sustainable Development of the Environment and the Society** ***Устойчивото Развитие на Околната Среда и Обществото***

**Chance and Challenge  
for Europe's High Mountain Observatories**  
***Шанс и Предизвикателство  
за Европейските Високопланински Обсерватории***

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# Content

- **Historical Background, Modern Definition**  
*История. Модерно определение*
- **Concepts**     *Концепции*
- **Sustainable Development Issues** (General and Mountain-specific)  
*Въпроси на устойчивото развитие*
- **Present and future role of High Mountain Observatories**  
*Настояща и бъдеща роля на  
Високопланинските обсерватории*
- **Mountain Environment** (Benefits and Threats)  
*Планинската среда*
- **Mountain Ecosystems and Forest Functions**  
*Планинските екосистеми  
и функциите на гората*
- **The Center of Forestry and possible Cooperations**

# The Forest view: German Pioneers



## 1713: Hans Carl von Carlowitz

coins the phrase "Forstliche Nachhaltigkeit"  
(= "**sustainable use of forests**"; gifts of  
god should be treated gently)



## 1795: Georg Ludwig Hartig

proposes forest **planning horizons**  
of up to 200 years

# From Forestry to Politics

## 1987: UN Brundtland Report '**Our Common Future**'

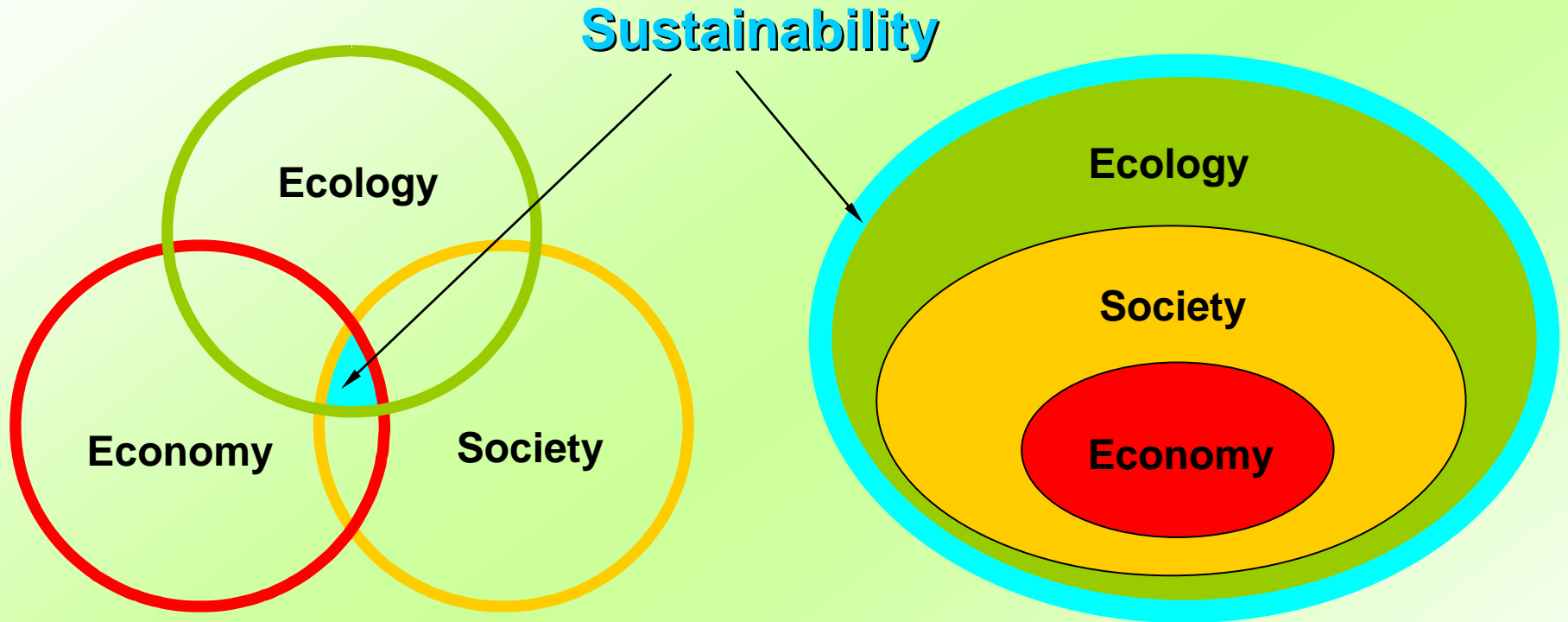
- Identification of severe environmental problems
- Definition of Sustainability:

*"Meeting the needs of the present generation without compromising the ability of future generations to meet their needs"*

## 1992: Rio de Janeiro UN Earth Summit on Environment & Development

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# Traditional and Modern Concepts



**“Traditional” Concept:**  
Equivalence of Ecology, Economy  
and Society

**“Modern” Concept:**  
Economy as only instrument for Society,  
Society as only part of the Environment

# United Nations' list of Sustainable Development Issues

## **Agriculture**

## **Atmosphere**

Biodiversity

Biotechnology

## **Capacity-building**

## **Climate Change**

Consumption & Production Patterns

Demographics

Desertification & Drought

## **Disaster Reduction & Management**

## **Education & Awareness**

Energy

Finance

## **Forests**

## **Fresh Water**

## **Health**

Human Settlements

Indicators

Industry

Integrated Decision Making

International Law

## **International Cooperation**

Institutional Arrangements

## **Land management**

Major Groups

## **Mountains**

## **National Development Strategies**

Oceans and Seas

Poverty

Sanitation

## **Science**

Small Islands

## **Sustainable tourism**

Technology

## **Toxic Chemicals**

Trade and Environment

Transport

Waste (Hazardous, Radioactive, Solid)

Water



# Present (and future?) role of High Mountain Observatories

H re's ph nditions

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- H
- processes
  - BEO Moussala
  - correlations
  - interactions and

Jungfrauoch, Switzerland  
 Mt. Cimone, Italia  
 Sonnblick, Austria  
 Lomnický štít, Slovakia  
 Testa Grigia, Italia  
 .....

⇒ **Reference stations for Mountain Ecosystems**

**UFS Schneefernerhaus**

# The Mountain Environment I



**Pastures**



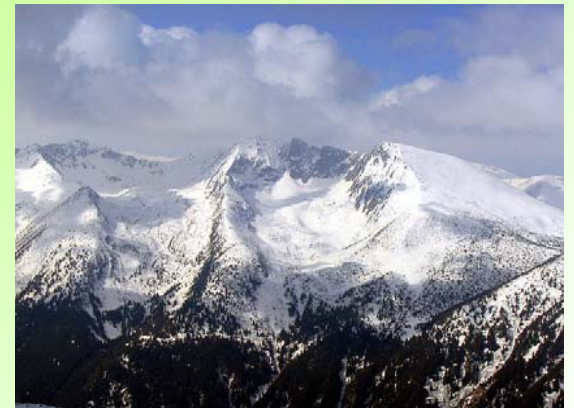
**Rivers**



**Lakes & Recreation areas**



**Agriculture & Farming**



**Glacier and Forests**



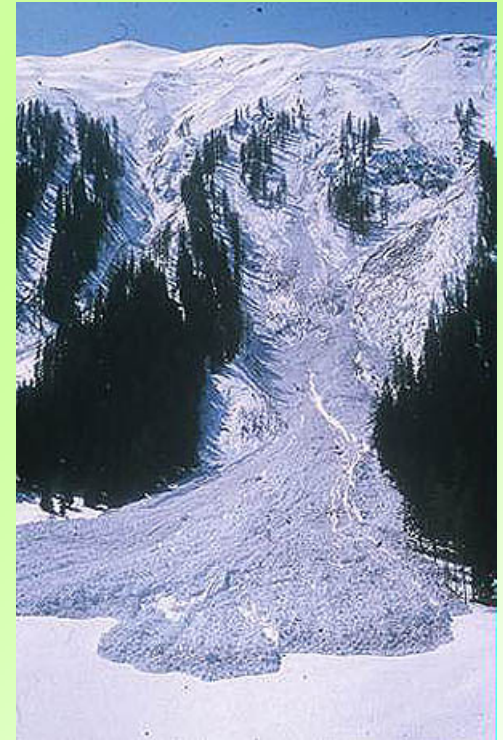
# The Mountain Environment II



**Land slides**



**Slope erosion**



**Avalanches**



**Storm damage**



**Floods & Debris**

# Mountain Ecosystems

Rocks

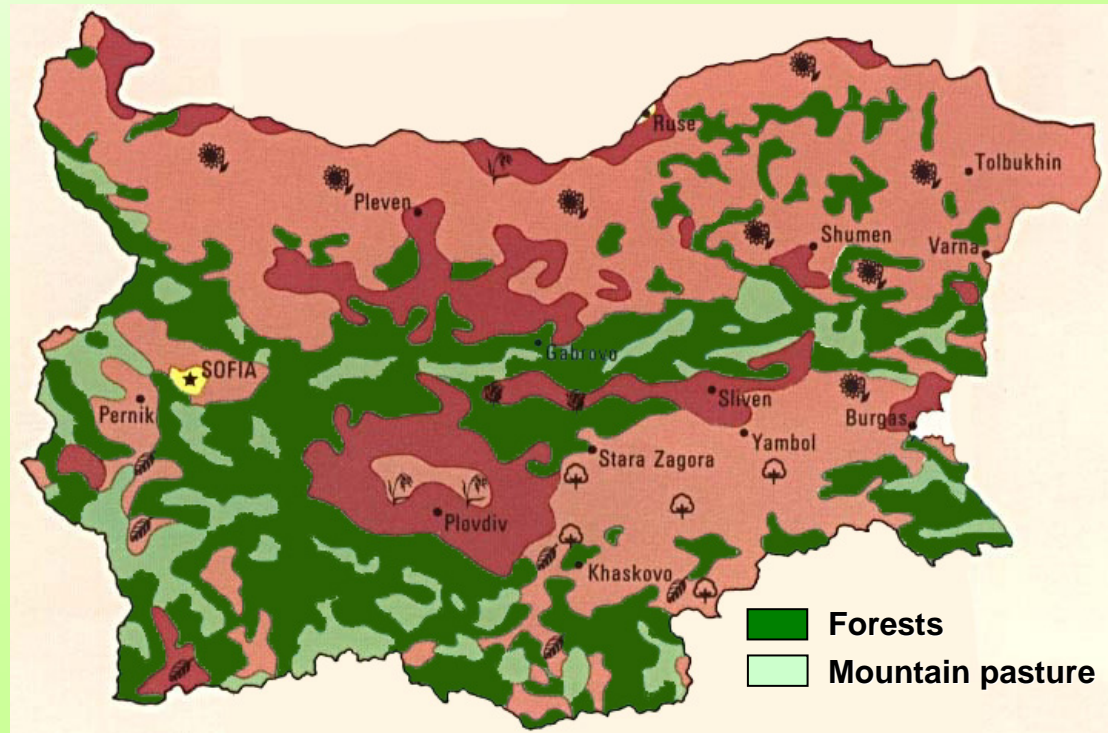
Glaciers

Meadows

Pasture

Rivers and Lakes

**Forests**



## Forest cover

50 % of Europe (with timberline up to 2.500 m)

35 % of Bavaria

**35 % of Bulgaria**

# Forest Functions

- ✓ **Timber production**
- ✓ **Water conservation**
- ✓ **Water cleaning**
- ✓ **Air cleaning**
- ✓ **Soil protection**
- ✓ **Noise protection**
- ✓ **Recreation**
- ✓ **Living environment conservation**
- ✓ **Natural environment conservation**



# Center of Forestry Weihenstephan

A strong and competent partner  
for all aspects of forestry at only one place



School of Forest Science and Resource Management,  
Technical University Munich



Faculty of Forest Science and Forestry,  
University of Applied Sciences Weihenstephan



Bavarian Forest Institute

- 250 Scientists
- 50 Institutes





# Main tasks

## Focal point: Mountain forests Фокус: Планинските гори

- Basic, applied and practice-oriented research  
*Фундаментални, приложни и практически ориентирани изследвания*
- Long-term monitoring and inventories  
*Дългосрочен мониторинг и инвентаризации*
- Consulting and knowledge transfer  
*Консултиране и трансфер на знания*
- Academic and practice-oriented education  
*Академично и практически ориентирано образование*
- Practice-oriented training  
*Практически ориентирана квалификация*

# Future Cooperation?



**HMO**  
**BEO Moussala**



**HMO**  
**Schneefernerhaus**



**BAS, Forest Research Institute**



**University of Forestry**

