

Sustainable Development of Mountain Resorts



ИНСТИТУТ ЗА АРХИТЕКТУРУ И УРБАНИЗАМ СРБИЈЕ
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Climate Change Mitigation and Adaptation Options and Necessity for Replanning in Serbian Mountains

METHODOLOGY

- Questionnaires conducted:
 - Citizens in rural areas of central Serbia (37)
 - Ministries / National public institutions (5)
 - Ministry for Environmental Protection
 - Ministry of Agriculture, Forestry and Water Management
 - Ministry of Construction, Transport and Infrastructure
 - Ministry of Economy
 - Chamber of Commerce and Industry of Serbia
- Spatial and implementation plans reviewed:
 - Spatial Plan of the Republic of Serbia 2010-2020
 - Special Purpose Area Spatial Plan for the Kopaonik National Park 2008 and 2016
 - Special Purpose Area Spatial Plan for the Stara Planina Tourism Region and Nature Park 2008 and ?
 - Special Purpose Area Spatial Plan for the Šar Planina 1981 and 2009.

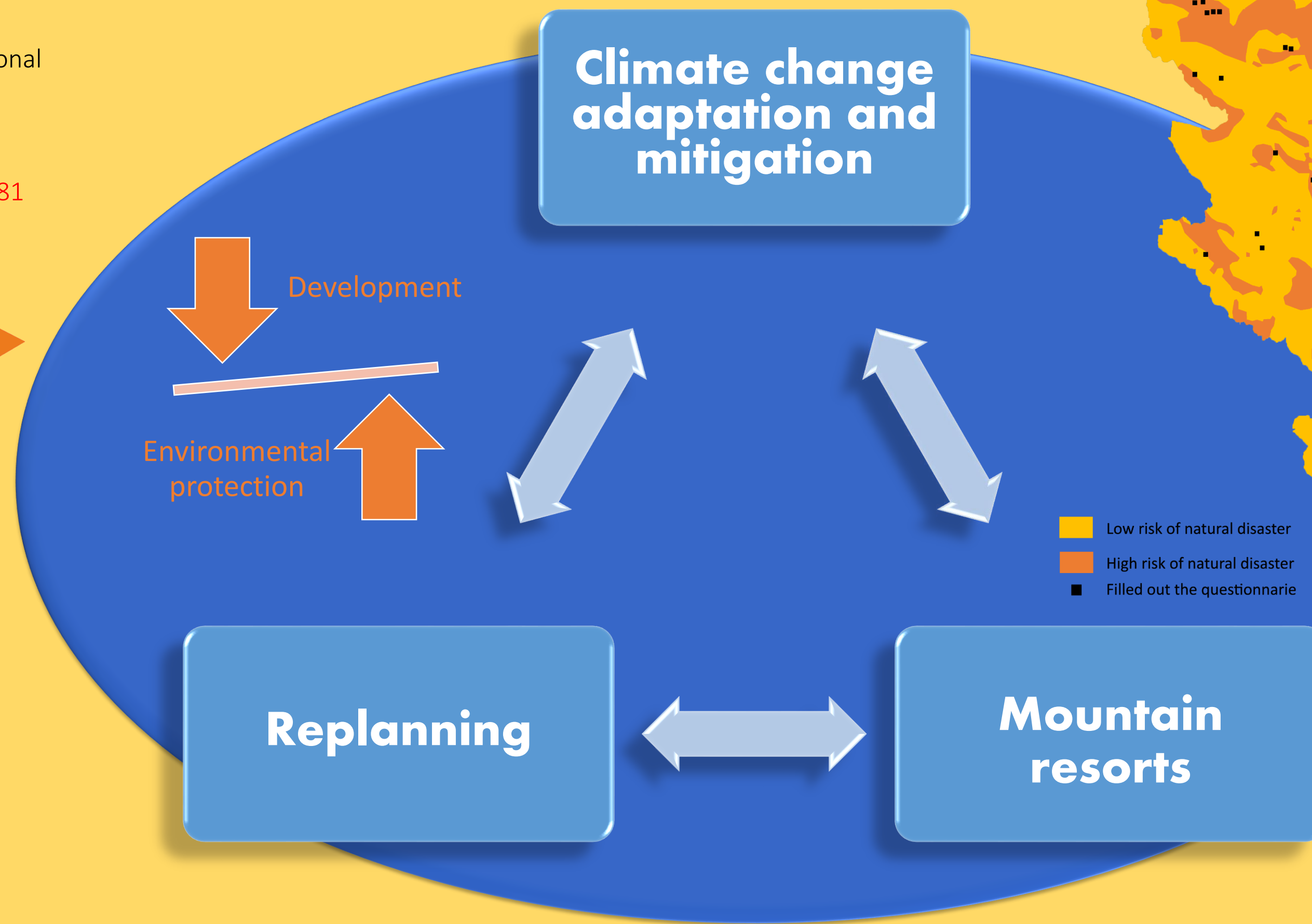
ISSUES

- Early snow melting
- Increasing energy demand
- Growing demand on natural hazards protection
- Insufficient information flow
- Spatial planning measures are not consistently implemented
- Use of renewable energy sources is very low

PLANNING PARADIGM SHIFT

- Climate change awareness rises since the adoption of the Spatial Plan of the Republic of Serbia in 2010
- Biodiversity becomes one of regular dimensions to consider in planning
- Maximal number of simultaneous skiers is more carefully considered and limited
- Maximal number of simultaneous tourists with over-night stay is more carefully considered
- Land-use is more precisely defined
- Illegal building and pressure on resources by illegal actions are regularly addressed
- Construction is more precisely defined (number of floors, ratio between parcel, occupation by building and total size (square m) of the building)
- Building is recommended strictly in phases
- Accent of development put outside of the borders of a protected area
- Increased use of biomass is considered

Climate change adaptation and mitigation



MEASURES RECOGNISED BY CITIZENS

- Riverbed cleaning
- Landslide recovery
- Education (environ. risks and recommended behavior)
- Afforestation**
- Use of biomass (hay, abandoned orchards, etc.)**
- Financing refurbishment of damaged buildings
- Automated anti-hail stations**
- Retentions**
- Introduction of electro-vehicles**
- Modernization of meteorological stations**
- Mobile dams**
- Embankments/dykes
- Static dams
- Water accumulations
- Drainage
- Anti-past treatment (forests and cultivated plants)
- Sectoral and strategic planning
- Financial support by local/national government**
- Civil protection enforcement**
- Proclamation of new protected areas**
- Timely notification about potential disasters**

RESULTS

- Financial support is vastly integrated in spatial plans, but in most of the cases it is about credits, not about non-refundable support, as citizens expect. Some **changes in economic incentives and support should be introduced** and specifically aimed to climate change consequences.
- Particular attention should be paid on **the gap between planning and implementation**, because some measures, characterized by citizens as missing, are actually included or elaborated in spatial plans (e.g. use of biomass, organization of landfills and waste-water treatment).
- There are measures that are circumstantially related to climate change, but they **should be specifically elaborated in a climate change section** of the future plans.
- Replanning of mountain resorts in Serbia shifts towards contemporary paradigm that is aware of climate change causes and consequences. The awareness on global issues increasingly rises among planners, but issue on successful implementation and political pressure remain the bottle neck for better outcomes.**

CITIZENS AND GOVERNMENT REPRESENTATIVES

- Public institution representatives recognize the same climate change outcomes as the most influential as the citizens – drought, flood and hail – as well as the least influential outcome – premature melting of snow**
- National and then local governmental sectors are seen as the primary responsible for the climate change issues
- Citizens are highly aware of climate change issues and in total well informed about different measures for adaptation and mitigation
- Citizens do not distinguish adaptation from mitigation measures
- Information dissemination is the most relevant through television and internet because these are the most common means citizens use to get informed