

Transformation of the Raadi Military Zone, Tartu

Dynamics of vegetation change in the selected zone of Raadi military area

Sadaf Fayaz, Aki Kadulin and Siiri Saas

Raadi Airfield • Tartu, Estonia

INTRODUCTION

- Raadi former military airbase.
- Land-use planning at Raadi involves ecological diversity, reuse of existing resources and limiting negative impacts.
- Land-use decisions involve local communities, property owners and public groups; different views on best usage depending on interest create conflict.
- Brownfield areas may be derelict or underused and require intervention to bring them back to beneficial use.

OBJECTIVE 1

- Dynamics of vegetation change in the selected zone of Raadi military area.

OBJECTIVE 2

- Management of Raadi field as brown area.

METHODS

METHODOLOGY - 1

- Mark the area of interest (in the field)
- Mark name on computer browser
- Create timeline of Sentinel 2 data (from 2019-2024)
- True colour composite
- NDVI Calculation & Analysis
- Create satellite time lapse (new image per year) in Google Earth for land cover change
- Interpretation

METHODOLOGY - 2

- Grey literature review
- Document analysis
- Interviews
- Site visits

CONTACT
Sadaf Fayaz

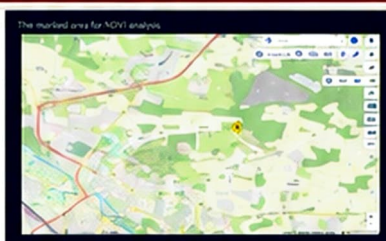
TRANSFORMATION OF THE RAADI MILITARY ZONE



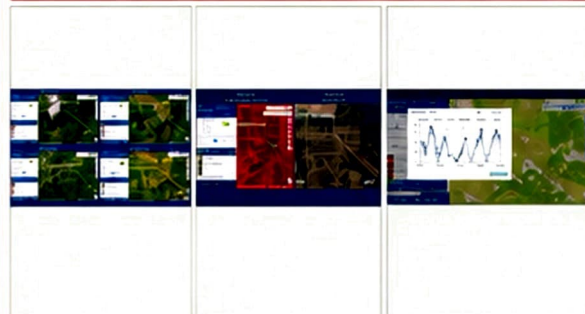
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NDVI ANALYSIS - MARKED AREA



SATELLITE / COPERNICUS EVIDENCE



LUCL / VEGETATION VISUALS



RESULT / INTERPRETATION

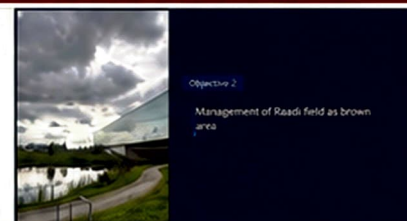
The results reveal that the NDVI values significantly decrease from 2019 to 2024.



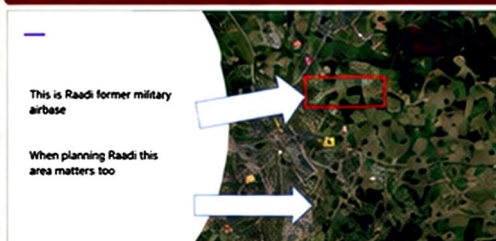
KEY ELEMENTS OF LAND USE PLANNING

- Using existing resources wisely and limiting the negative impact.
- Involving local communities, property owners and public groups in decisions.
- Are land use decisions democratic or technocratic?
- Role of planners with best knowledge available?
- Differences in views on best usage depending on interest. This creates conflict.

OBJECTIVE 2 - MANAGEMENT AS BROWN AREA



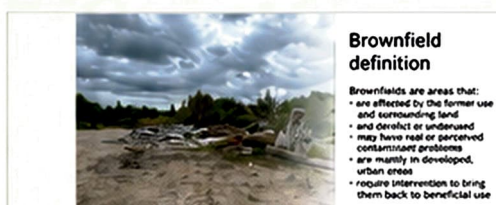
RAADI FORMER MILITARY AIRBASE



When planning Raadi this area matters too.

BROWNFIELD DEFINITION

- Brownfields are areas that are affected by the former use and surrounding land; are derelict or underused; may have real or perceived contaminant problems; are mainly in developed, urban areas; and require intervention to bring them back to beneficial use.



KEY SPOTTED ISSUES

- Pollution has been studied and removed.
- Good location that supports development plans.
- Developing means less brownfields.
- Multifunctional use.
- Local municipality cares and has plan.
- Still looks abandoned.
- Lots of soil sealing, some of it is called heritage.
- Invasive species.
- Development plans take time and are dependant on infrastructure.
- Solar panels vs green areas.
- You can have great plans but if you don't follow them.

PROPOSED INTERVENTIONS FOR SPECIES DIVERSITY

- Proposed interventions for species diversity in the area
1. The Estonian grassland management plan reports 13 protected vascular plant species in 33 ha of Raadi meadows. Lack of management allows tall dominant plants and woody vegetation to overgrow these valuable meadows.
 2. For meadow restoration, prioritize locally appropriate species already associated with Raadi or the surrounding Estonian meadow flora.
 3. Control invasive alien plants before planting.
 4. Prefer natural succession over planting, as it can help provide useful ecosystem services.
 5. There arise a lot of conflicts in land use due to its complexity and ecological diversity, hence planning and monitoring of vegetation plays a crucial role in the restoration of Raadi (former military base).

• 13 protected vascular plant species are reported in 26 ha of Raadi meadows; lack of management allows tall dominant plants and woody vegetation to overgrow these valuable meadows.

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