

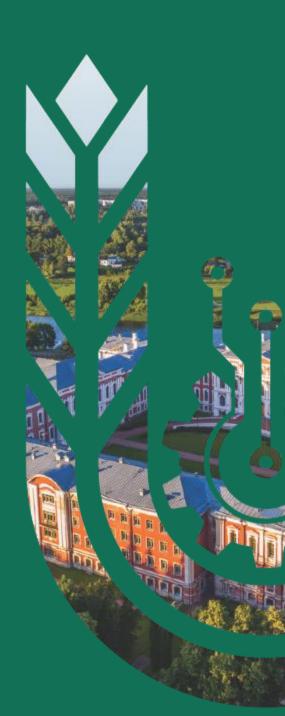


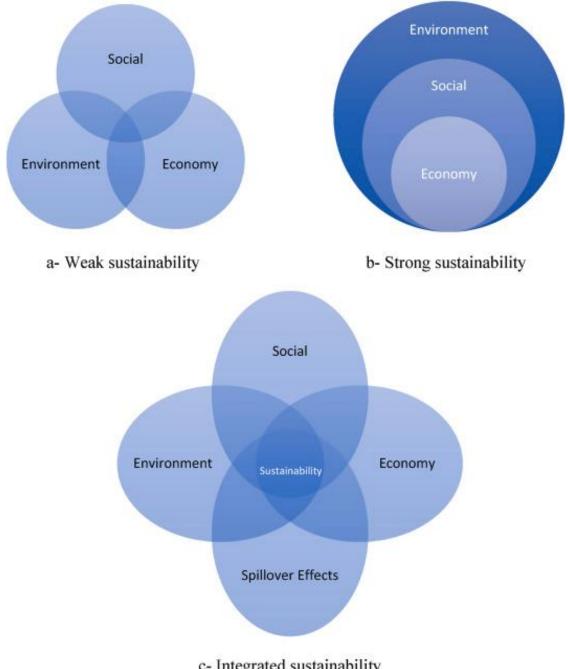


The Svēte River as a Model for Ecosystem Services: Triple Helix and Citizen Engagement for Sustainable Development

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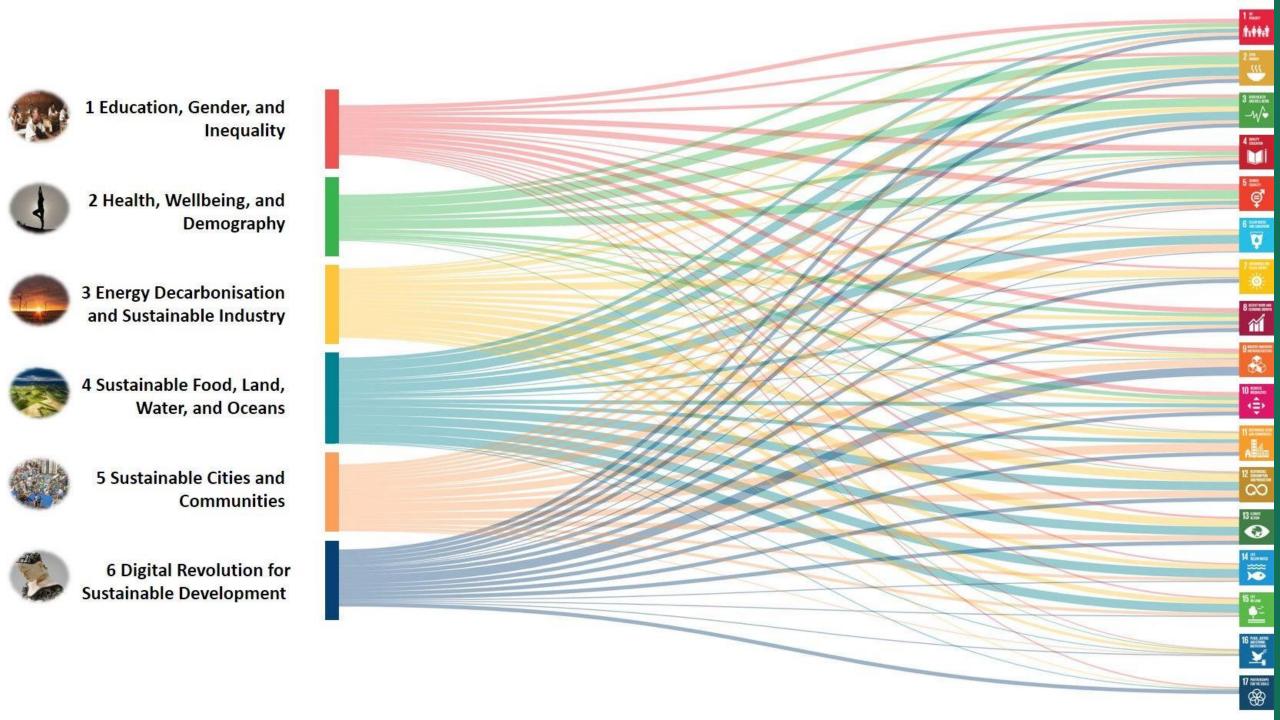
c- Integrated sustainability

(Taghvaee et.al. 2022)



The idea of sustainability have been changed during last 30 years:

- Weak sustainability
- Strong sustainability
- Integrated sustainability

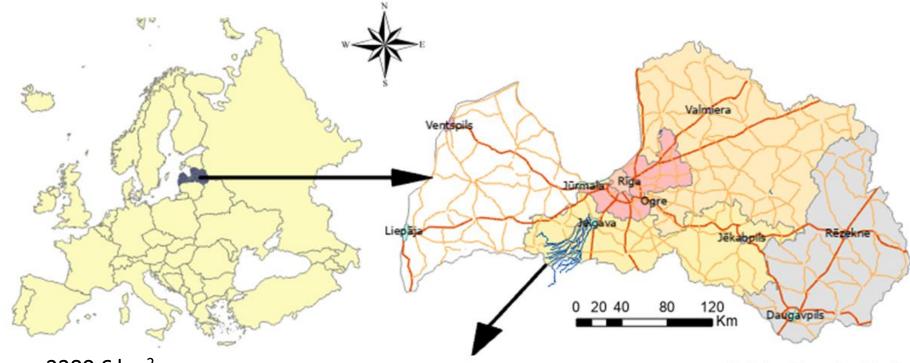




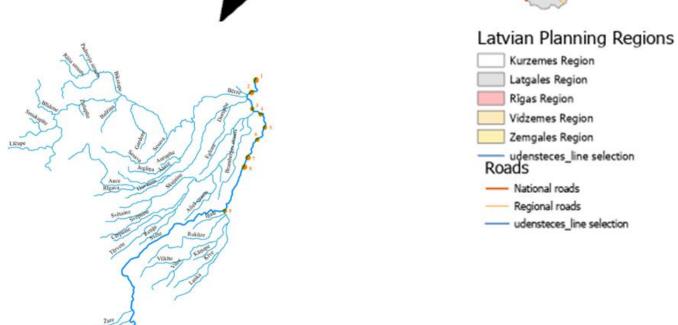
The Triple Helix Concept

- University
- Indusrty
- Government





- The cathcment area 2380,6 km²
- Height above sea leavel 1,34m
- The forest area **30%**
- The swamp area >1 %
- The lake area >1 %





Assessment of Ecosystem Services

- ◆ The assessment of ecosystem services has been carried out in determining the us eful value of ecosystem services:
 - 1) biophysical assessment (the structure and functions of the ecosystem);
 - 2) social assessment (clarifying ecosystem services of relevance to society);
 - 3) economical assessment.



Ecosystem services

In this stage, ecosystem services (Supply services (S); Environmental and support services (E); Cultural services (C)) were analysed in the context of SDG and for each purpose a set of ecosystem services for the Svete River was identified, which is geared towards achieving the specific objective.



E;C SDG 17 – PARTNERSHIPS FOR THE GOALS Latvia and Lithuania work in partnership to achieving SDGs	SDG 1 – NO POVERTY The small tourism and wellness business can be developed close to Svete river System 1.
E;C SDG 16 – PEACE, JUSTICE & STRONG INSTITUTIONS Effective management of transboundary Svete river contributes peace and security	SDG 2 – ZERO HUNGER Svete river support food production by drainage of agricultural and forest areas S;E
E SDG 15 – LIFE ON LAND River Svete provide biodiversity	SGD 3 – GOOD HEALTH & WELL BEING The Svete river provide access to recreation and relaxation in costal areas E;C
SDG 14 – LIFE BELOW WATER Healthy and productive Baltic Sea relay on well functioning of Svete river SVETE 3	SDG 4 – QUALITY EDUCATION Svete river provide environmental education and education for sustainable development
S;E SDG 13 – CLIMATE ACTION Artificial reservoirs on River Svete provide carbon sequestration RIVER and the	SDG 5 – GENDER EQUALITY Woman at household level play a central role in provision, management and safeguarding of water resources S;E;C
SDG 12 – RESPONSIBLE CONSUMPTION & PRODUCTION Svete river properly managed can sustainably support increased demands od water in all sectors SDGS 6 7	SDG 6 – CLEAN WATER & SANITATION The Svete river indirectly provide freshwater and is direct receiver of cleaned sanitary water
E;C SDG 11 – SUSTAINABLE CITIES & COMMUNITIES Urban part of Svete river play vital role in making Jelgava city safe, resilient and sustainable	SDG 7 – AFFORTABLE & CLEAN ENERGY
E;C SDG 10 – REDUCED INEQUALITY Healthy Svete river provide public open recreation areas for all inhabitants	Sustainable upstream water management can provide affordable sustainable energy
SDG 9 – INDRUSTRY, INNOVATION & INFRASTRUCTURE Svete River form a natural buffer against increasing number of natural disasters	SDG 8 – DECENT WORK & ECONOMIC GROWTH Svete river sustain jobs in ecotourism and travel E;C



SDG 1- NO POVERTY







SDG 3 - GOOD HEALTH & WELL BEING







Photo Dace Grazule



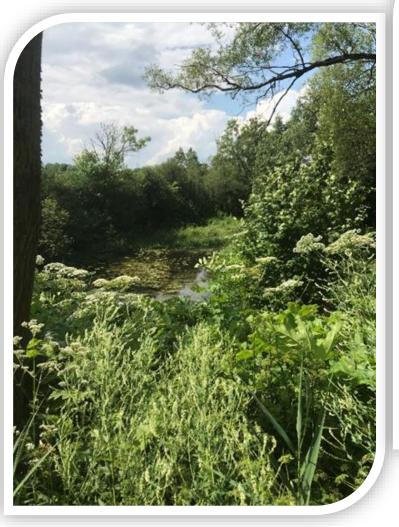
SDG 14 - LIFE BELOW WATER







SDG 15 - LIFE ON LAND









Conclusions

- ◆ Water quality, a healthy ecosystem and the restoration of biodiversity will benefit not only freshwater ecosystems and downstream users, including fast-growing cities, but also marine life in coastal areas and oceans.
- ◆ The Ecosystem Services of freshwater ecosystems play important roll on providing stability and sustanability of region. The development and promotion of ecosystem services by local municipalities will force achievement of Sustainable Development Goals.



The Earth is not a platform for human life. It's a living being. We're not on it but part of it. Its health is our health.

/Thomas Moore/

Thank you!

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