



Zavod za gozdove Slovenije
Slovenia Forest Service

Interreg



Co-funded by
the European Union

Alpine Space

Forest EcoValue

Changing perceptions of forest value – insights from the Slovenian Living Lab

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Slovenia Forest Service
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Torino, 26.3.2026

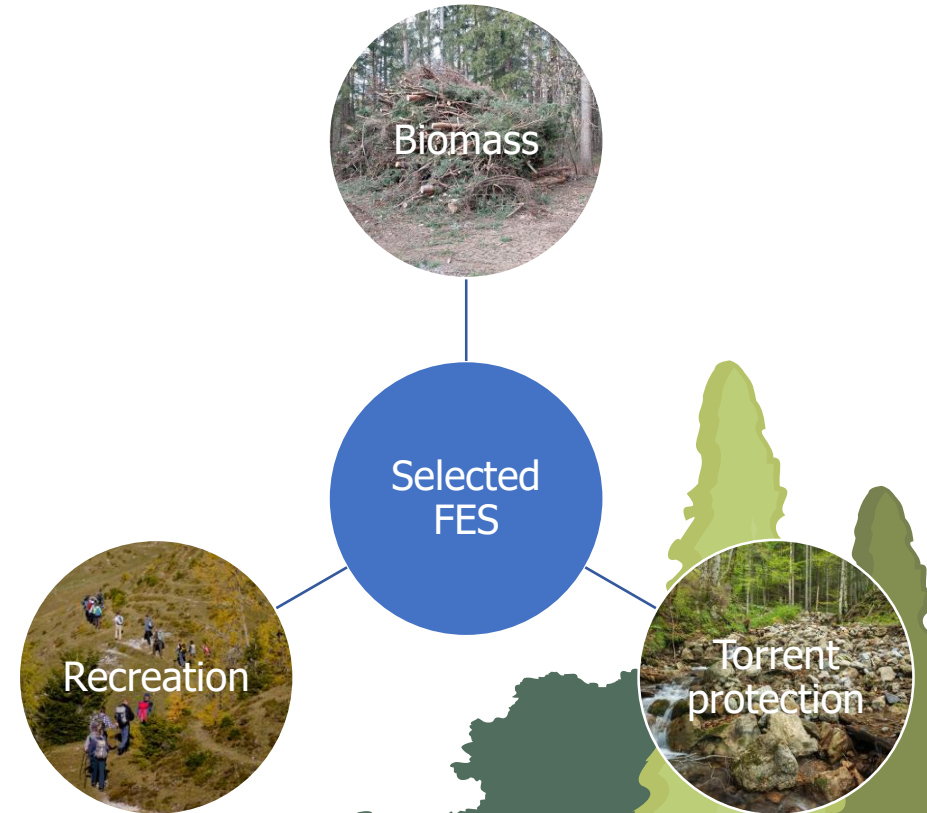


Multifunctionality in our Living Lab



Forest EcoValue in the Living Lab

- **Forest EcoValue:** Supporting multiple forest ecosystem services **through new circular/green/bio markets and value chains**
- Multifunctionality as a core concept
- Three main alpine FES



Forest EcoValue in the Living Lab

- A new concept
- We know (only) little about it
- Requires new knowledge
- Builds on local people
- People need to understand it
- People need to believe in it



A checklist before the ride

Data on resources, land uses, species, forests stands	✓✓✓✓✓
Importance of forest ecosystem services	✓✓✓✓
Importance of forests for local community	✓✓
Motivation of forest owners	✓✓✓
Potential of forests to support local environment	✓✓
Appropriate practices	✓✓✓
Management costs	✓✓
Ecological benefits	✓✓✓✓
Social benefits	✓✓✓
Economic benefits	✓

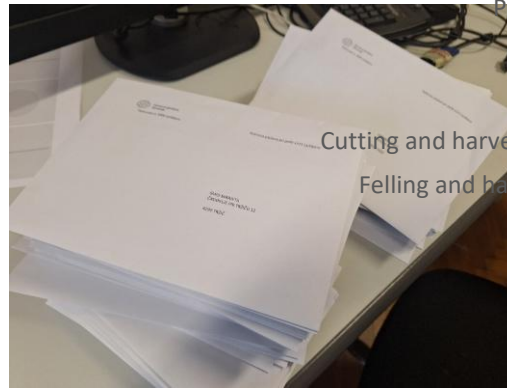
Wood biomass for energy

- Can the woody biomass presents a renewable energy potential for the municipality and a prospect for additional income for forest owners?

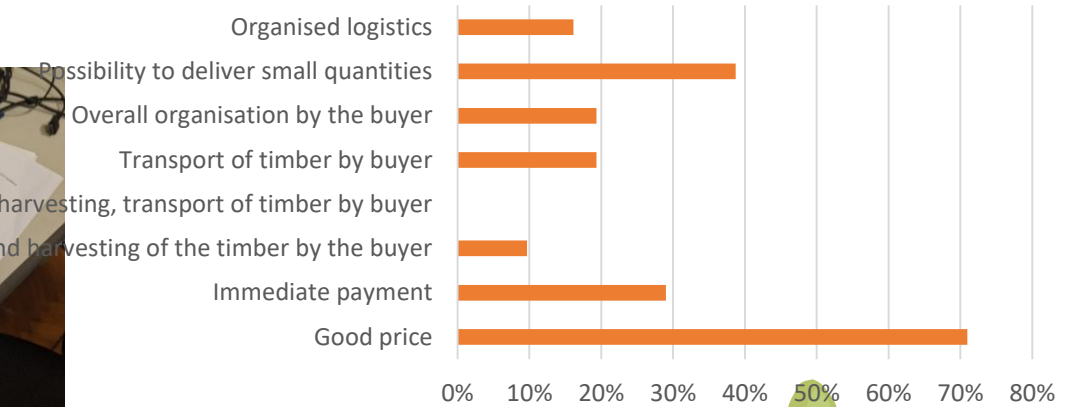


Wood biomass for energy

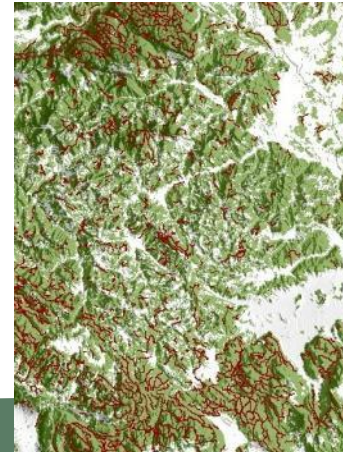
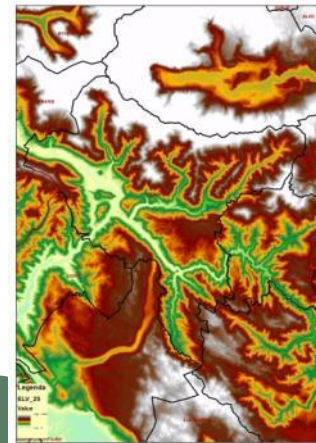
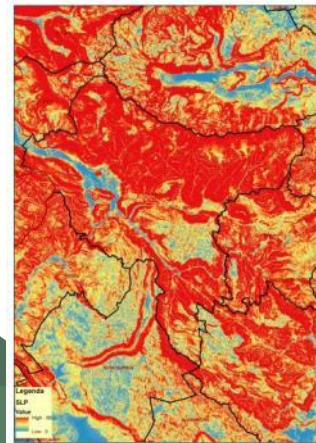
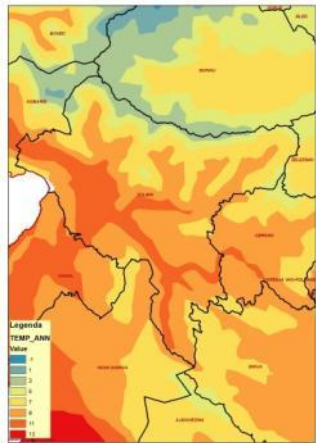
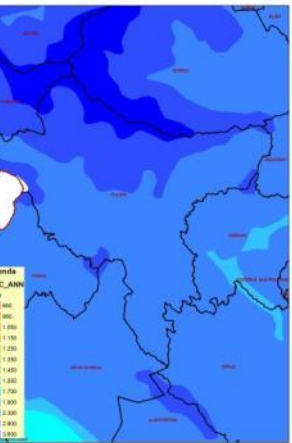
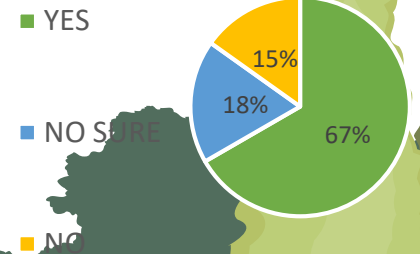
- Biomass potential analysis including forest owners' willingness to supply biomass
- Biomass demand analysis
- Review of legislation, literature, best practices



Under what conditions would you be interested in selling wood for a district heating system?



Would you be willing to supply lower quality wood or woody biomass?



Wood biomass for energy

- Cooperation with the Municipality
- Interviews with biomass companies
- Education, networking, and stakeholder engagement



Februar 2025

NAŠE OKOLJE

23

V Tržiču preverjamo možnosti večje rabe lesne biomase

ŽIVA BONČINA, ALJAŽ ČERNE, ZAVOD ZA GOZDOVE SLOVENIJE
FOTO: MATJAZ GUČEK, ZAVOD ZA GOZDOVE SLOVENIJE

V okviru evropskega projekta Forest EcoValue (Interreg Alpine Space) na Zavodu za gozdove Slovenije preverjamo, kakšni so raba in potenciali lesne biomase v občini Tržič. Zaradi naravnih razmer je eden pomembnejših energentov v Sloveniji les. Les slabše kakovosti kot vir ogrevanja uporablja več kot 30 % gospodinjstev, večinoma v individualnih kuriščih, vedno bolj pogosti pa so tudi sistemi daljinskega ogrevanja na lesno biomaso (DOLB), kjer je na toplarno priključenih več porabnikov, npr. zdravstveni domovi, telovadnice, šole, celotne soseske.



Nekateri DOLB sistemi poleg toplote proizvajajo tudi električno energijo. Prednosti DOLB sistemov in rabe lokalne lesne biomase je več: povečuje se samooskrbnost ter zmanjšuje uvozna in energetska odvisnost od fosilnih goriv, cene lesa so praviloma stabilnejše od drugih energentov, les je oglično nevtralen in ni toksičen. Raba lesne biomase aktivizira gospodarjenje z gozdovi. Raba lesa kot obnovljivega vira energije finančno spodbujata EU in država.

Zakonodaja hkrati zapoveduje tudi nekatere obvezne do občin glede proizvodnje toplote in elektrike (Direktiva o energetski učinkovitosti, Direktiva o spodbujanju energije iz obnovljivih virov). Tudi zato vse več občin poleg drugih ukrepov posodablja ali gradi nove DOLB sisteme (npr. Preddvor, Vrankso, Maribor, Kočevje, Ljubno ob Savinji, Slovenj Gradec...). Občina Tržič je zelo primerna za rabo lesne biomase, saj gozd pokriva kar 73 % območja občine.

Kljub temu v občini, razen sistema na Kovorski cesti, ni večjih DOLB sistemov, sploh za javne zgradbe. Občina iz lastnih gozdov ne bi mogla zagotoviti zadostne količine lesa za ogrevanje. Zato bi lahko k oskrbi pristopili tudi drugi lastniki gozdov, predvsem tisti z večjimi posestmi. Zavod za gozdove je večjim lastnikom gozdov poslal anonimno anketo o rabi lesne biomase, katere rezultati bodo predstavljeni v prihodnjih številkih Tržičana.

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NAŠE OKOLJE

Tržičan

Raba lesa slabše kakovosti med lastniki v občini Tržič

ŽIVA BONČINA, ALJAŽ ČERNE, ZAVOD ZA GOZDOVE SLOVENIJE

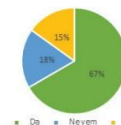
V okviru Interreg Alpine Space projekta Forest EcoValue smo na Zavodu za gozdove Slovenije raziskali, kakšna sta raba in potenciali dobave biomase med večjimi lastniki gozda v občini Tržič. Lastnikom z več kot 10 ha gozda (n = 129) smo po pošti poslali anonimno anketo, odziv nas je presenetil, saj je anketo rešila več kot četrtnina lastnikov. Vsem sodelujočim se zahvaljujemo.

Rezultati ankete so pokazali, da je povprečna starost lastnika gozda 55 let, med lastniki je precej več moških (77 %) kot žensk, nekateri lastniki pa so tudi pravne osebe. Prevladujejo posesti do 30 ha, skoraj tretjina ima večje posesti od 50 ha in 14 % večje od 100 ha. Nasploh je velikost gozdne posesti v občini precej nad slovenskim povprečjem. Lastniki si delo v svojem gozdu organizirajo na različne načine, 23 % lastnikov dela v svojem gozdu opravijo sami s pomočjo družinskih članov, 23 % organizira le prevoz in prodajo, 17 % lastnikov manjše količine posejajo sami, za zahtevnejše najožje izvajalca. Za 37 % lastnikov drugi opravijo vsa dela od posejka do prodaje. Lastniki so v gozdu različno aktivni, 27 % lastnikov je v petih letih posejalo manj kot 100 m³ lesa, približno polovica lastnikov je v petih letih posejala od 100 do 500 m³ lesa. Lastniki so ocenili delež sanitarnega posejka (npr. po podlahnikih, vetrolomih) ter delež lesa slabše kakovosti (slika 1). V povprečju 15 % lesa lastniki porabijo zase za energetske namene, 11 % pa ga za ta namen prodajo. Kar 60 % lesa v poprečju prodajo kot hlodovino. Rezultati torej kažejo, da se seka razmeroma kvaliteten les ter da se za energetske namene trenutno proda malo lesa.

Med anketiranimi lastniki obstaja velika pripravljenost za prodajo lesa slabše kakovosti, če bi bil odkup organiziran blizu, znotraj občine (slika 2). Med tistimi, ki jih dobava lesa ne bi zanimala, kot glavne razloge navajajo (premajhne količine lesa, druge obremenitve, ostrizna da se jim to ne bi splačalo). Lastniki bi bili pripravljeni dobavljati različne količine lesa, največ lastnikov do 25 m³ letno, nekateri lastniki pa tudi več kot 500 m³. Skupna količina lesa pri anketiranih lastnikih znaša 3000–5000 m³ letno. Lastniki kot poglje za odkup navajajo dobro obvladano ceno (71 % lastnikov), različne načine organizacije dobave s strani kupca (60 %, od tega celotna organizacija 20 %), možnosti dobave manjših količin (39 %), takojšnje plačilo (39 %) in tudi urejeno logistiko (16 %).



Bi bili pripravljeni dobavljati les slabše kakovosti oz. lesno biomaso?



Z raziskavo v sklopu projekta Forest EcoValue smo ugotovili, da v občini Tržič obstaja velik potencial za dobavo oz. odkup lesa slabše kakovosti. Lastniki gozdov in (lokalna) gozdarska podjetja pa so pomemben člen pri zagotavljanju energenta za vse nas. Čeprav je gozd v Sloveniji praktično na vsakem koraku, je potrebnega veliko dela in organizacije, da les dobimo pred domačo pragov in v skladišče. Kljub temu pa menimo, da bi les kot energent morali izkoristiti, saj bo, glede na trenutne razmere v svetu, energetska samooskrbnost vedno bolj pomembna, da nam bo lahko še naprej toplo.



Main findings

- **VERY GOOD POTENTIAL:** extensive forest cover, suitable ownership structure, potential in forest management plans, willingness of forest owners, windy area, poor potential for other RES
- **LEGAL BACKGROUND EXIST:** strategic municipal plans - Local Energy Concept, national energetic plan, forest management plans
- **NO TRADITION:** no large-scale municipal BDHS currently exist, no practical collaboration between municipality and forest owners
- **NEED TO START WITH PILOT PROJECT:** establishment of a BDHS would create a new market for lower-quality wood in the municipality - additional income for owners and companies involved in biomass production and supply



Main findings

- **PEOPLE ARE SLOWLY BECOMING AWARE:** from forest as a non-profit resource to economically interesting resource; from forest as a source of firewood to the pillar of energy self-sufficiency and the green transition
- **The INCREASED VALUE:** economic benefits, local energy self-sufficiency, reduced carbon footprints, promotion of a circular economy, lower heating costs for public buildings and private consumers, vital and resistant forests
- **FAIR PLAY MATTERS:** benefits for all partners in the chain
- **WAY FORWARD:** Municipal awareness, starting with pilot projects; national STRATEGY and support for investments; a local market, with stable demand (stable consumer) for lower-quality wood; forest owners associations; constant awareness raising



Torrent protection

- **Protection against torrential floods:** are forests an effective protection measure against water related natural hazards and can we reduce costs and increase revenues with the proper torrent management?



Torrent protection



State of the art, legislation, terminology, guidelines and measures in torrential areas

nov.
2024

dec.
2024



Case studies of good practice from Slovenia

jan.
2025

feb.
2025



Three-day training on torrent supervision in Osiach

mar.
2025

apr.
2025

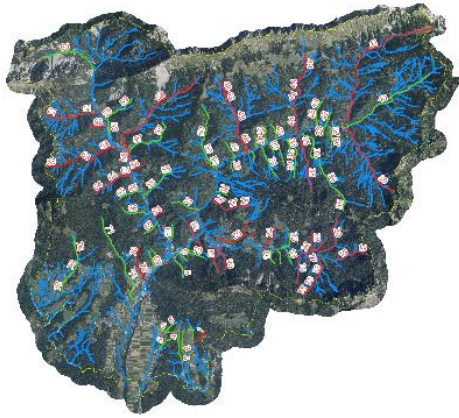


Challenges in torrent management within forestry sector, and key steps for further development

maj
2025

jun.
2025

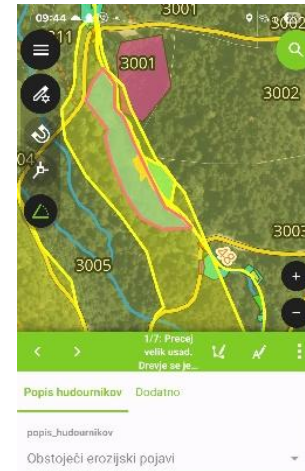
Torrent protection



Analysis of torrents before field survey



Field training with expert on torrent supervision in Slovenia

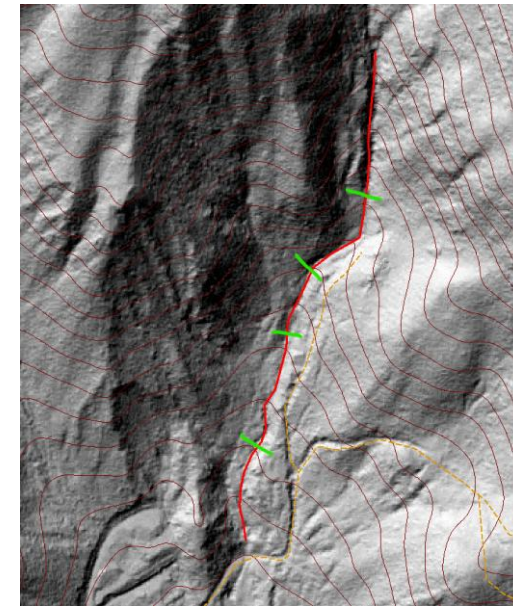


Preparation of guidelines and application for torrent supervision (Qfield project)



Kick-off workshop to introduce the torrent supervision methodology and the app to our staff

Torrent protection



Starting with the pilot action



Constant awareness rising

Hudourniki – Pregled hudournikov v zalednih predelih

Obstoječa erozija	Obstoječa akumulacija	Leseno plavje	Tehnična infrastruktura	Prečkanje gozdnih prometnic

Main findings

- **TORRENT MANAGEMENT IS A COMPREHENSIVE SYSTEM** – interdisciplinary field in which every stakeholder must be aware of their roles, authority, and responsibilities (torrent-control specialists, foresters, forest owners, the municipality, and the state)
- **FOREST MANAGEMENT PLAYS A CRUCIAL ROLE** - active and targeted interventions by forest owners and managers are essential
- **PRIORITIES:** manage forests where infrastructure is endangered - **PUBLIC DUTY!**
- **POOR FUNDING OF PREVENTIVE MEASURES:** focus on post-event measures
- **LOW AWARENESS ON ALL LEVELS:** state – municipality – managers and owners

Main findings

- **NEGLECTING ECONOMIC ASPECT** of forest protection management
- **THE increased VALUE:** economic benefits of protection are incomparable to the costs of restoration measures - but the societal benefits are enormous
- **LOCAL OWNERS** have responsibilities and need support!
- **LOCAL AWARENESS** is not enough
- **POLITICAL SUPPORT IS CRUCIAL:** legislation, sufficient funding
- **WAY FORWARD:** Action needed! Municipal awareness and starting with pilot projects; national support with subsidies and financial stimulation; constant awareness rising

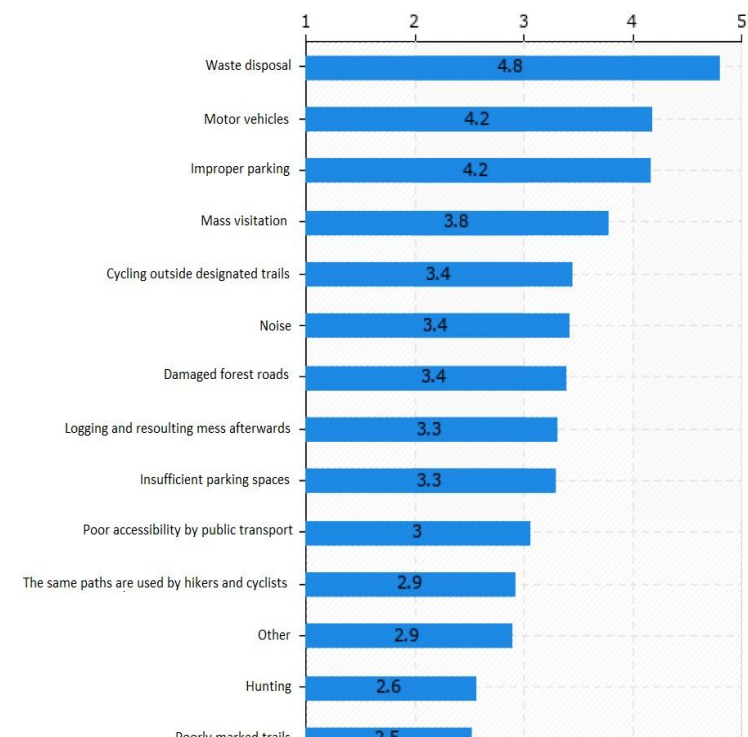
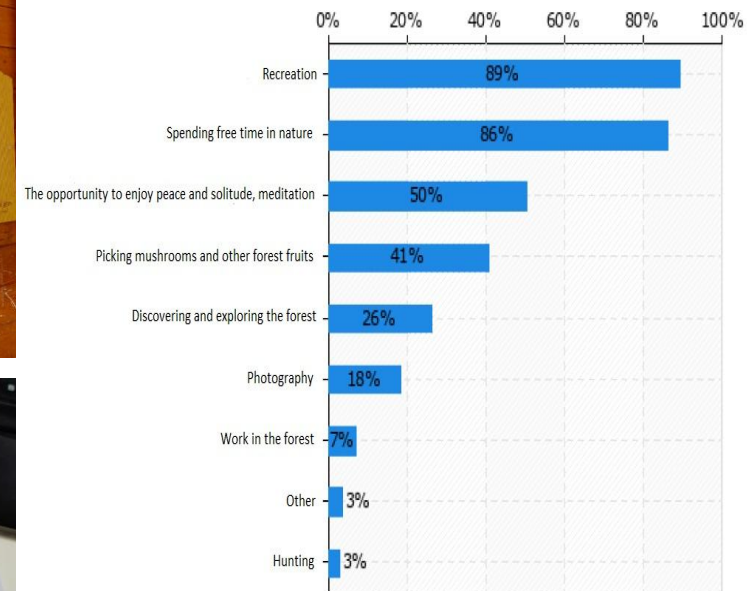
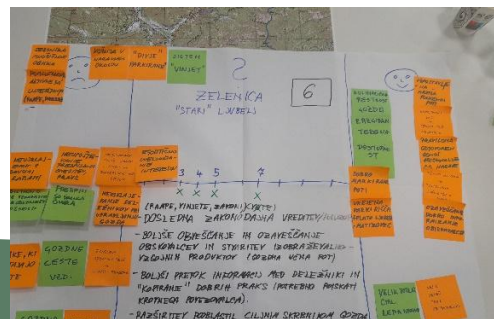
Recreation

- **Recreation:** Can recreation represent an opportunity and income for local community and at the same time strengthen the role of forests and their sustainable use?



Recreation

- Analysis of visitation in the Municipality of Tržič
- Analysis of visitation characteristics and opinions of visitors on recreational activities
- Education, Networking, and Stakeholder Dialogue
- Cooperation with the Municipality
- Raising awareness among the general and professional public



Main findings

- **WHAT WE KNOW IS NOT ENOUGH** – surveys are an excellent tool
- **RECREATION AS A MULTISECTORAL TOPIC** – collaboration between different organisations
- **RECREATION must be accepted by LOCAL COMMUNITY** – collaboration with municipality, landowners, stakeholders in tourism, local associations
- **FIRST WE NEED TO SET CONDITIONS** – only then we can promote it
- **RECREATION (with tourism) REPRESENTS AN OPPORTUNITY FOR THE LOCAL COMMUNITY**: income for local residents, municipality's visibility, support of sustainable development practices through recreation activities

People need to believe in it

- Discussing with the people about the potentials
- Debating on the good-best practices
- Being truly interested in people's proposals
- Seeking solutions together
- Bringing local people, scientists and professionals, and decision-makers together to create the real living lab
- Joint commitment about the implementation of activities in support of Forest Value



Changed perceptions?

- Understanding that the **value of forests** means many different prospects
- Local people's awareness that their forests have **many opportunities**
- Awareness that forest ecosystem services are also **fragile**
- ...and that we need to **actively manage** forests
- Message to the local and national level decision-makers that **management means costs...**
- ...but these costs are **marginal compared to the consequences of FES lost**



New community!