LANDSCAPE ECONOMY
from systems thinking to systems design

Winter School in Antalya, Turkey
hosted by Akdeniz University
from February 16 - 25, 2024
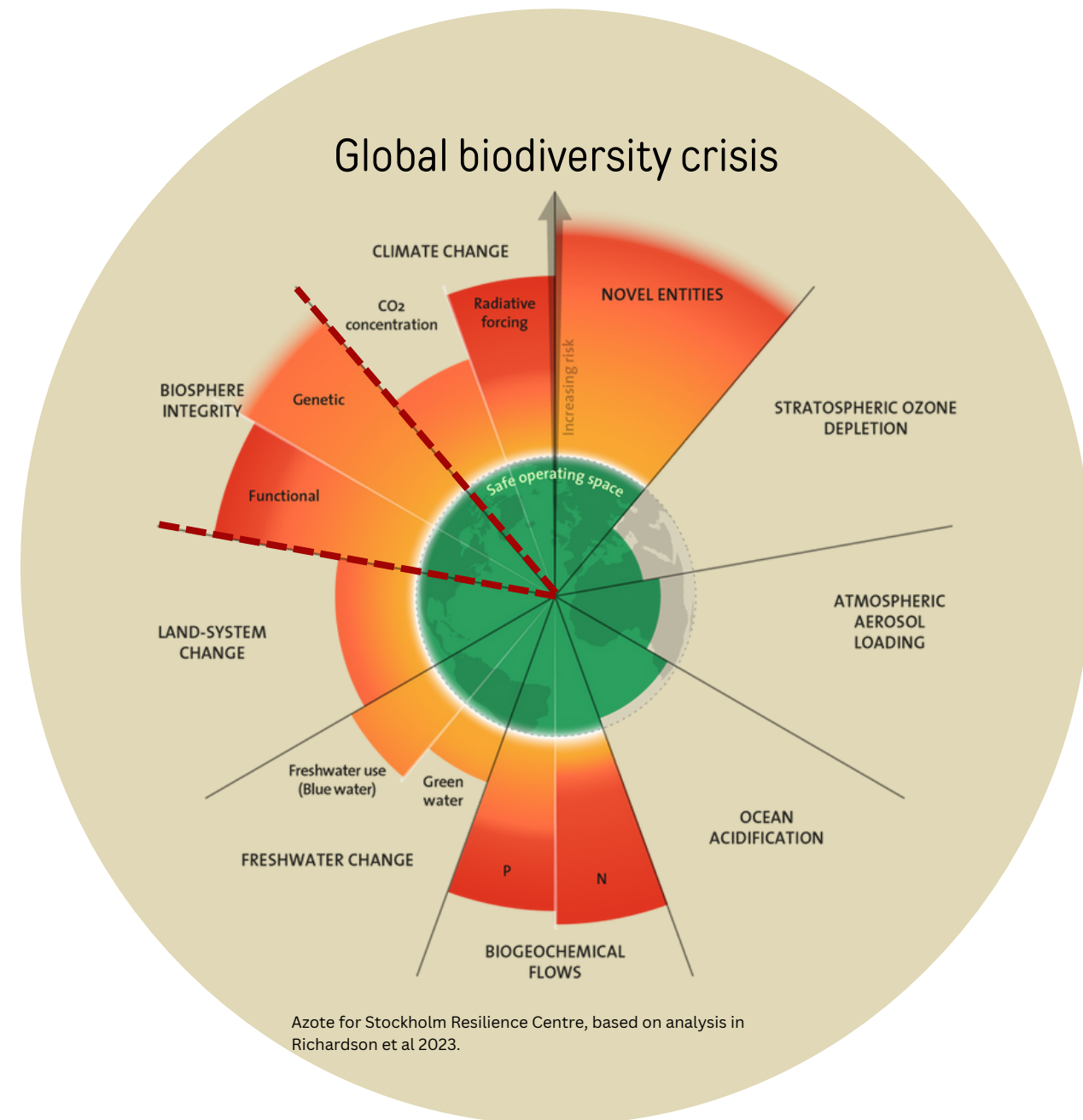
Case study area: **MANAVGAT**
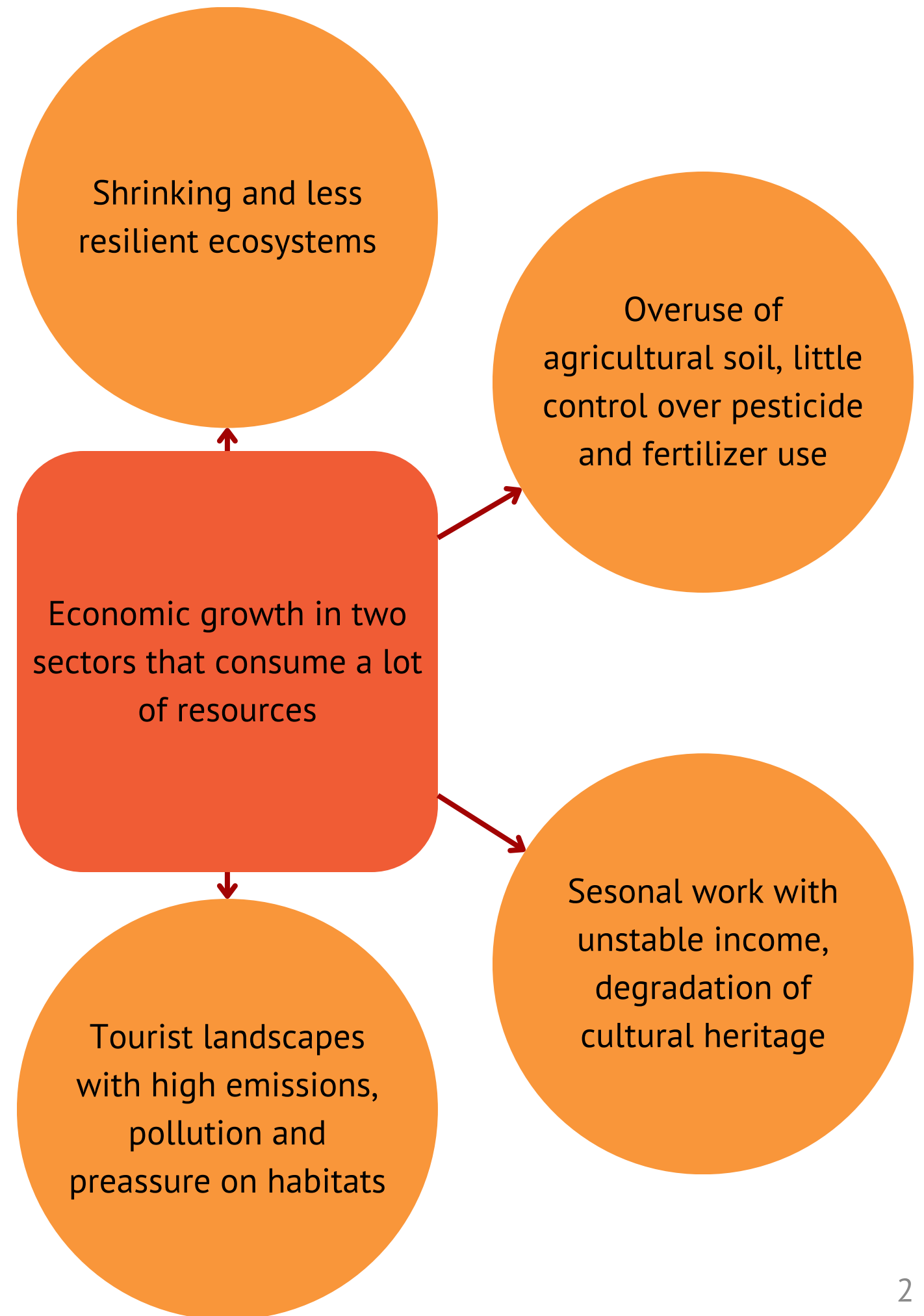
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Funded by
the European Union

**Final Presentation
Team Biodiversity**
Sena Agil, Chandni Thadani, Sabrina Luff,
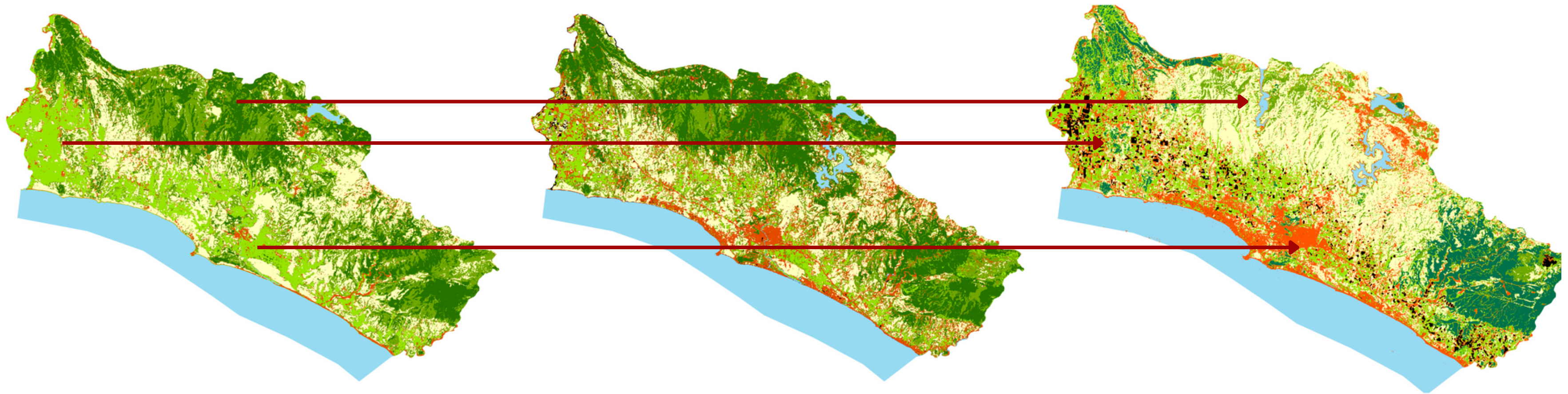Alisan Taspinar, Antoni Hope

Manavgat's landscape today and its challenge

Global biodiversity crisis

Azote for Stockholm Resilience Centre, based on analysis in Richardson et al 2023.

Unique mediterranean landscape in small ecosystems

Shrinking and less resilient ecosystems

Economic growth in two sectors that consume a lot of resources

Overuse of agricultural soil, little control over pesticide and fertilizer use

Tourist landscapes with high emissions, pollution and preassure on habitats

Sesonal work with unstable income, degradation of cultural heritage

Manavgat's landscape today and its challenge

Landuse map - 1985

Landuse map - 2005

Landuse map - 2023

Map legend
- Forest
- Maquis
- Cropland
- Exposed surface
- Urban
- Greenhouse
- Water

The future landscape system

Challenges

baby seaturtles in danger

extinction of bird species
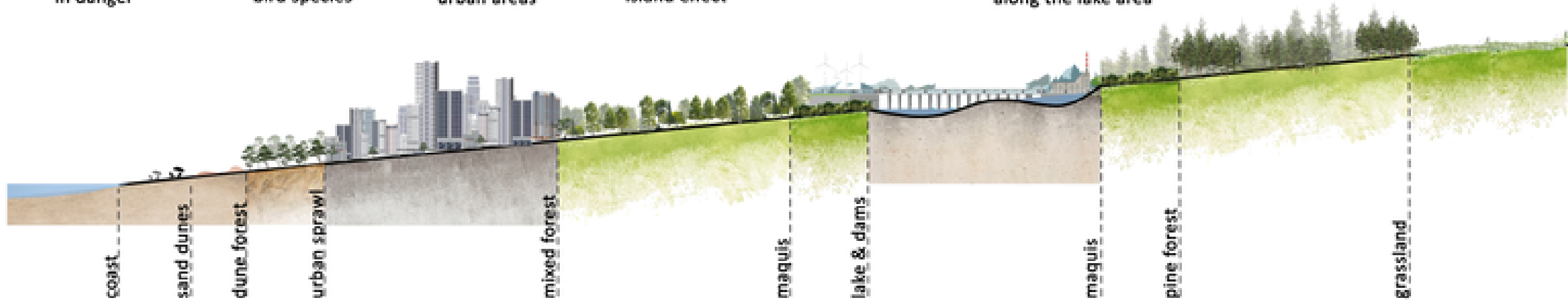
pollution in urban areas

urban heat island effect

habitat loss

lack of connectivity along the lake area

frequent wildfires

coast

sand dunes

dune forest

urban sprawl

mixed forest

maquis

lake & dams

maquis

pine forest

grassland

Solutions needed

habitat protection measures

wetlands for providing new habitats

balancing blue-green infrastructure

implementing sustainable building approaches

policies for securing migratory birds

nature trails connecting the city to mountains

policies for forest protection

Our vision

We invision to built a community that is willing to change their personal lifestyle and professional decisions. A community that values nature and identifies with the local habitat types. A community that is willing to volunteer and protect nature.

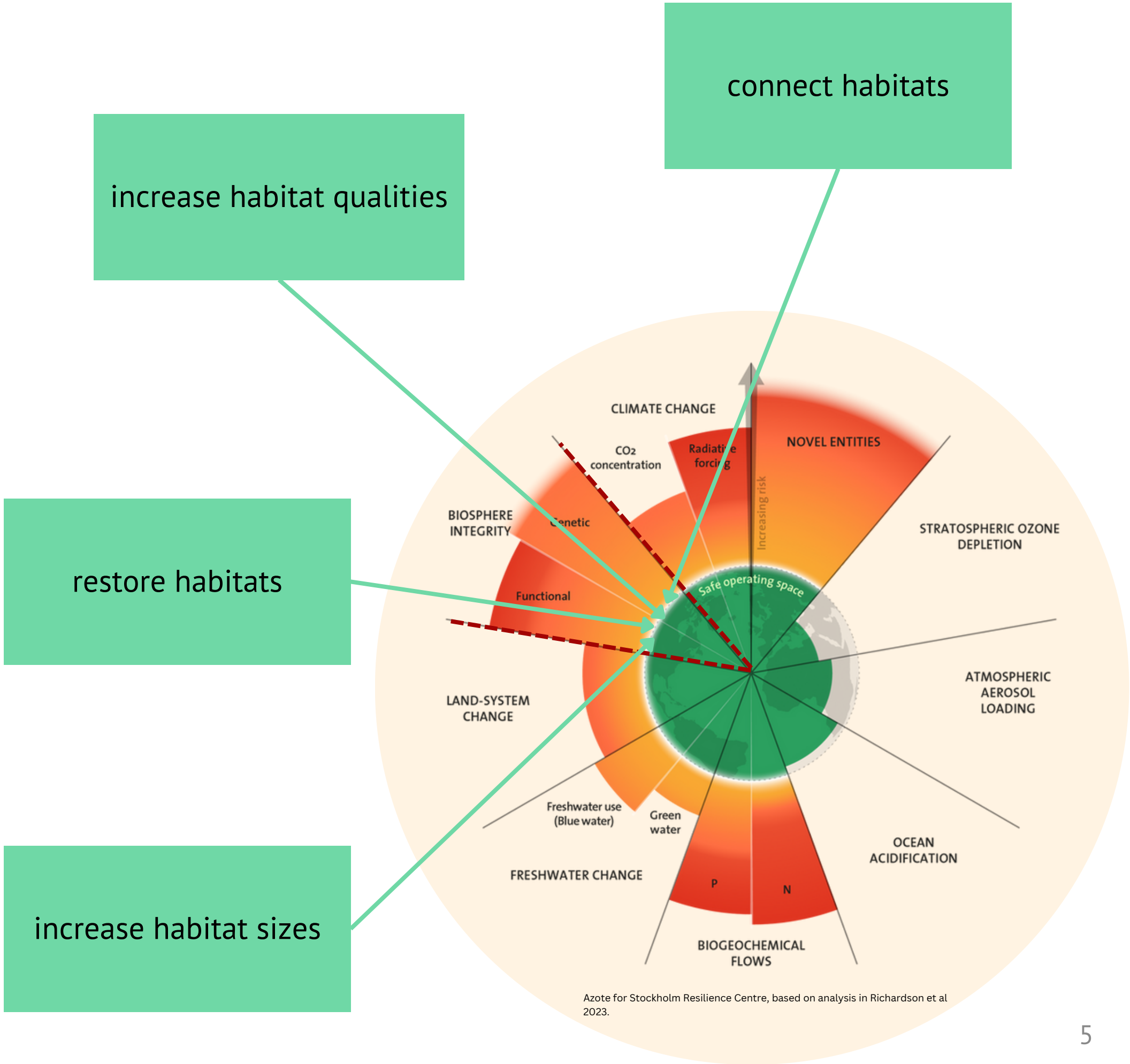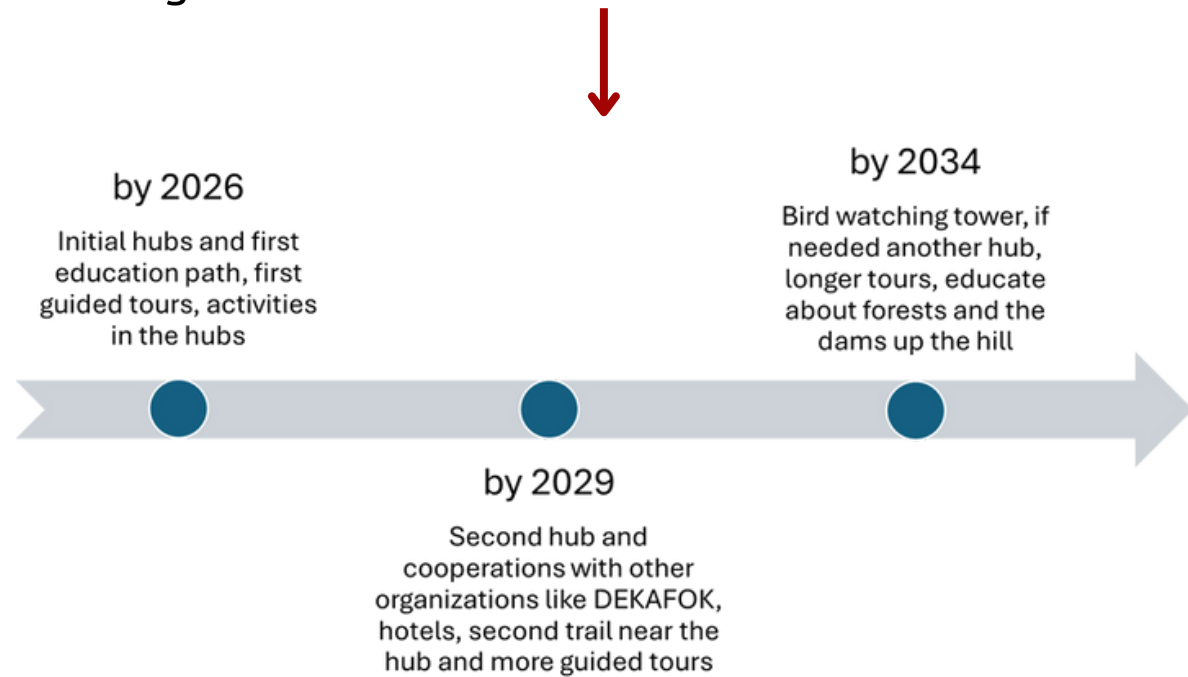|	
awareness rising	nature education in hubs
collaborating with tourist organizations	establishing nature education paths
collaborations with social organizations	guided nature tours
collaborations with nature organizations	restoration projects

connect habitats

increase habitat qualities

restore habitats

increase habitat sizes

CLIMATE CHANGE

CO2 concentration

Radiative forcing

NOVEL ENTITIES

BIOSPHERE INTEGRITY

Genetic

STRATOSPHERIC OZONE DEPLETION

Functional

Safe operating space

Increasing risk

LAND-SYSTEM CHANGE

ATMOSPHERIC AEROSOL LOADING

Freshwater use (Blue water)

Green water

OCEAN ACIDIFICATION

FRESHWATER CHANGE

P

N

BIOGEOCHEMICAL FLOWS

Azote for Stockholm Resilience Centre, based on analysis in Richardson et al 2023.

Our idea

	green wastelands + infrastructure	protected areas	habitat restoration	nature education / excursions trails
pine forest		X		X
orchards		X		X
lake + dams			X	X
mixed forest		X		X
urban area	X			X
lake / wetlands	X	X	X	X
coast / dunes		X		X

Change policies by democracy.
Raising awareness and educate locals and tourists

by 2026
Initial hubs and first education path, first guided tours, activities in the hubs

by 2029
Second hub and cooperations with other organizations like DEKAFOK, hotels, second trail near the hub and more guided tours

by 2034
Bird watching tower, if needed another hub, longer tours, educate about forests and the dams up the hill

Mixed forest

Urban area

Coast / dunes
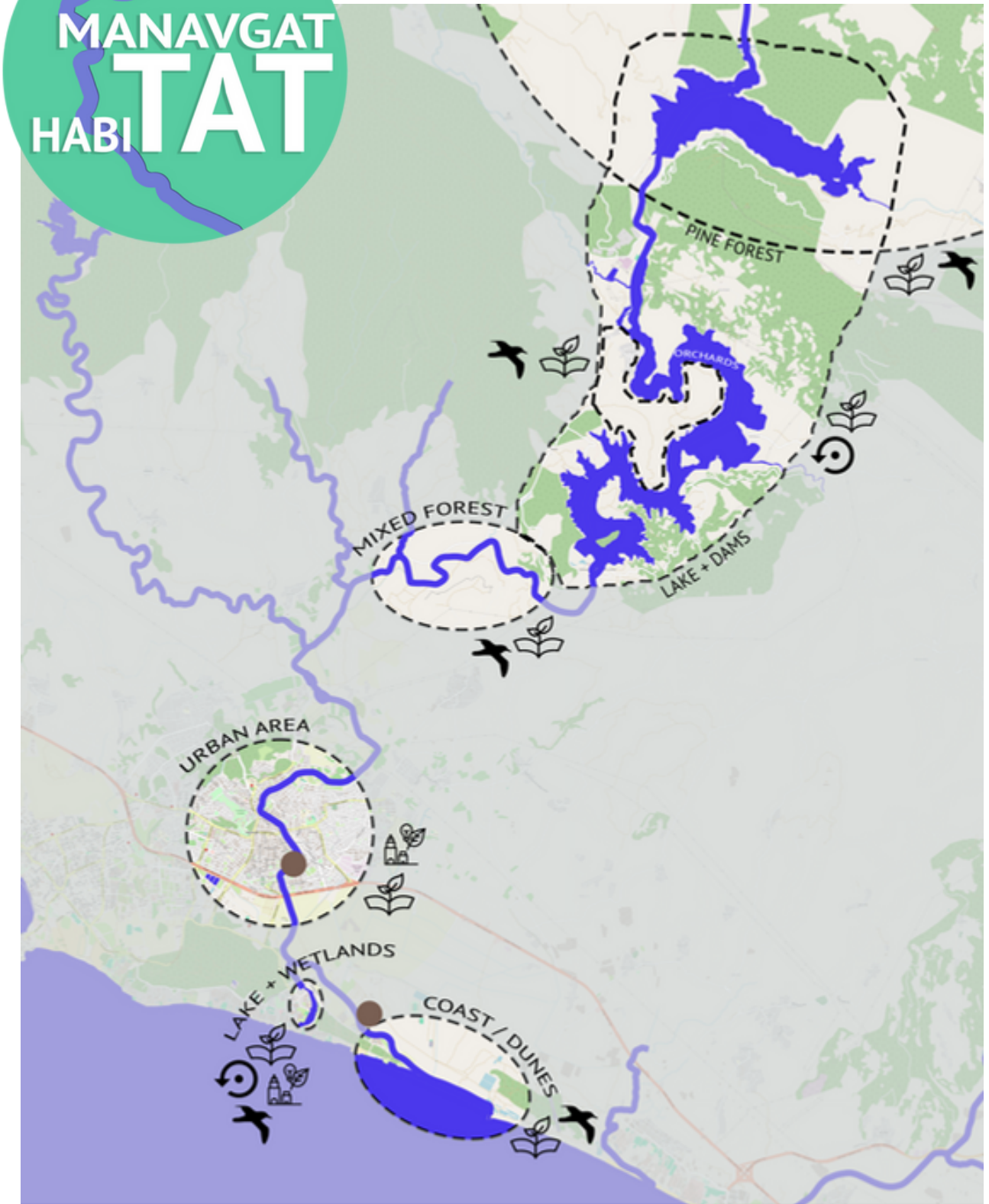
MANAVGAT HABITAT

Map legend
Area
HUB
Water
OSM Standard
Nature education
Habitat restoration
Protected areas
Green wastelands + infrastructure

0   1   2km

Manavgat habi**TAT** - A social enterprise in Manavgat with educational trails and hubs organised by local people.

Mission Statement

To increase the quality of ecosystems for flora, fauna and strenghtening the ecosystem service for human benefit through awareness rising and education, to explore urban area and coastal zone through the habiTAT hubs, trails and guided tours by educated locals.

Key-Partners

-) DEKAFOK and other NGOs
-) Local authorities
-) Local professionals
-) Universities
-) Tour agencies
-) Tourist's informations
-) Manavgat city museum
-) Green certified hotels
-) Schools
-) Local businesses

Key Processes

-) Education of the local guides
-) Networking
-) Planning
-) Building
-) Funding from EU or locals

Key Resources

-) Biodiversity experts
-) Landscape architects
-) DEKAFOK
-) River and it's habitats
-) Fundings
-) Sponsors
-) Partners
-) Scientists data, land use and development maps

Value Proposition

Customers
We offer habitat's hubs, trails and tours for local people, tourists, students and institutions. When people experience ecosystems services through activities, they enhance awareness about sustainability and knowledge exchange among communities.

Beneficiaries
Locals community and municipality can improve their economical status by receiving tourists. DEKAFOK would gain new visitors and volunteers, same for museums. Guides can find jobs. Landscape is used more sustainable

Key-Products & -Services

-) Trails
-) Guided tours
-) Conferences
-) Courses
-) Meet up spaces (with coffee, tea)
-) Workshops

Channels

-) Social media
-) Publicity in the city
-) Informations points
-) Local platforms
-) Eco friendly flyers
-) Tour agencies
-) Tourists offices

Customers

-) Local population
-) Tourists
-) Students
-) Youth

Beneficiaries

-) Local community
-) Municipality
-) Institutions
-) DEKAFOK
-) Manavgat belediyesi kent müzesi

Cost-Driver

Constructions in general, staff, marketing, infrastructures, funding and research team, trainig of guides and maintenance of hub's

Revenue-Driver

Funding, EU funding, sponsors, donations, partnerships, grants, shops, events, conferences, workshops, online platform, philanthrophy, guided tours

Customer & Beneficiary Input

-) Local: Business- demand supply
-) Tourists: agency- what they like
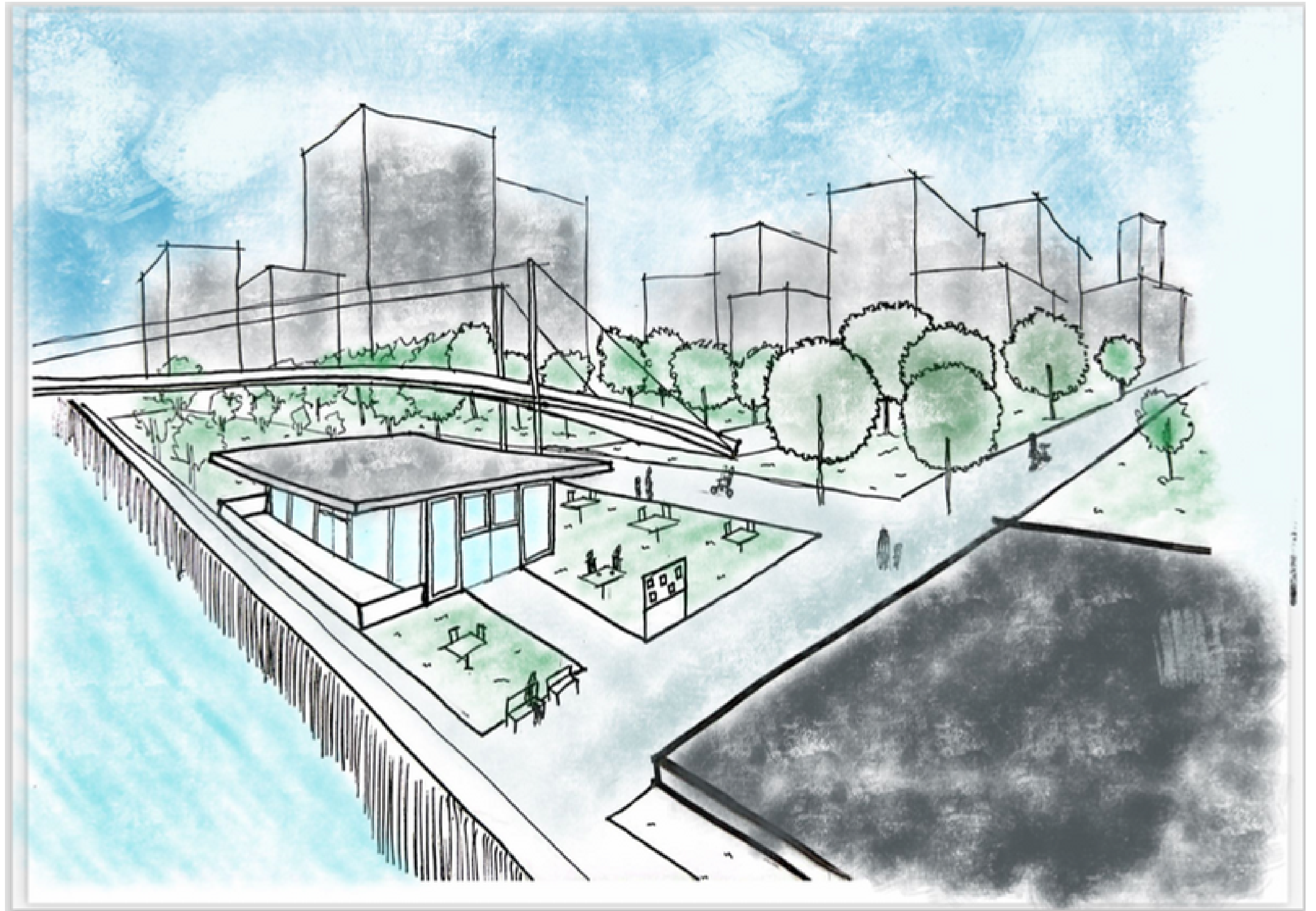-) Authorities: policy implementation and improve

-) Research organistions: all the relevant
-) Education: institutions- work force, new ideas, collaborations
-) Communities: volunteers

KPI (Key Performance Indicator)

-) Satisfaction
-) Amount of tours
-) Income

-) Quality institutions to collaborations
-) Amount of volunteers
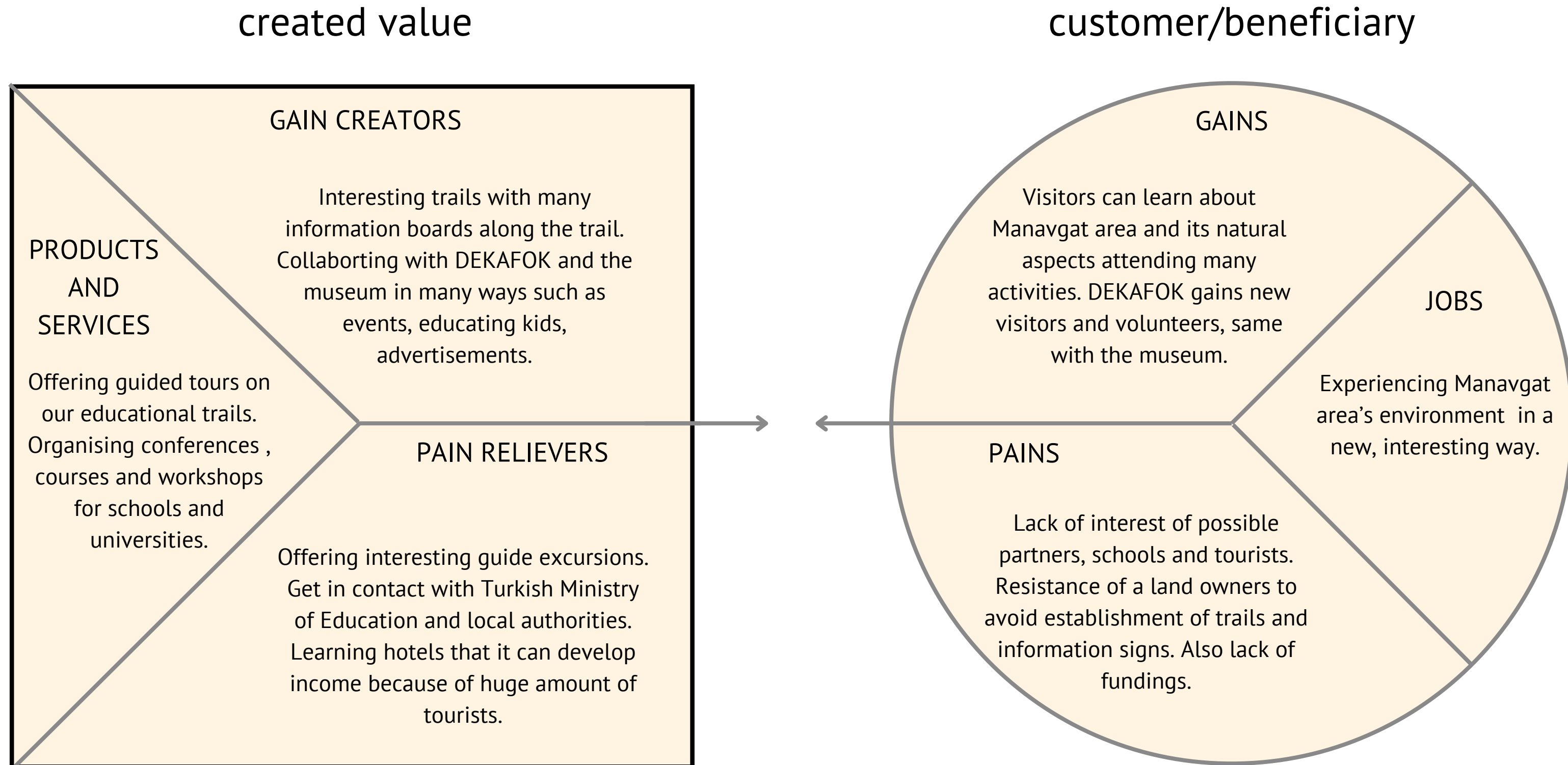-) Measurable improvement of target ecosystem

Social & Environmental Impact / Impact on Beneficiaries

-) Social: - Community engagement
        - Awareness/ conciousness
-) SDG's: 1; 3; 4; 8; 9; 11; 13; 14; 15; 17

-) Environmental: - Biodiversity protection \ enhancement management

-) Beneficiaries: - Satisfaction to contribute for a good cause
More networks and opportunities

-) Global: - Policy implementation prototype design

Pilot HabiTAT Hub

Location:

Value Proposition

created value

GAIN CREATORS

Interesting trails with many information boards along the trail. Collaborting with DEKAFOK and the museum in many ways such as events, educating kids, advertisements.

PRODUCTS AND SERVICES

Offering guided tours on our educational trails. Organising conferences , courses and workshops for schools and universities.

PAIN RELIEVERS

Offering interesting guide excursions. Get in contact with Turkish Ministry of Education and local authorities. Learning hotels that it can develop income because of huge amount of tourists.

customer/beneficiary

GAINS

Visitors can learn about Manavgat area and its natural aspects attending many activities. DEKAFOK gains new visitors and volunteers, same with the museum.

JOBS

Experiencing Manavgat area's environment in a new, interesting way.

PAINS

Lack of interest of possible partners, schools and tourists. Resistance of a land owners to avoid establishment of trails and information signs. Also lack of fundings.

Value Proposition

	pains	pain reliviers	gains	gain creator	jobs	products & servicies
customers						
tourists (also inhabitants)	Lack of interest from tourists	Interesting guide excursions	Active form of spending the time, gaining knowledge	Guidance trips as a source of knowledge. Interesting events	Offering their time. Need of learning new things	Guide trips, trails
students and youth	Lack of activities related to Manavgat's environment in the city	Wide offer activities in hubs	Knowledge, experiences	Organised courses, workshops, conferences	Entertainment	Activities in the hub
beneficiaries						
local community	Lack of knowledge about their city's biodiversity	Special offers for inhabitants	A new place for meetings / new workplaces	Places to sit and dring cafe and tea, walks along the trail	Working there, vitisting hubs	Vacants, need of volunteers
municipality	Less and less tourists in the city	Attractive eco centers	More income because od the tourists	Tourists while coming to the hubs support local economy (gastronomy, hotels...)	Problem with land owners while building a trails	Land owners incentives to support hubs expansion
institutions	No contacts with other entities	Hubs as the way to get in contact with other ones	Wider web of contacts	Collaborations while working with the hub	Investing in hubs and helping to develop	Ability to create something on a bigger scale and make it work
NGOs (such as DEKAFOK)	Small number of volunteers, lack of recognition	Collaboration with hubs	More popularity aiming to doing bigger things for good	The platform thanks to collaboration with hubs	Offering interesting activities with the hubs, offering help	Events, courses
Museum	No activities related to the museum outside the building	Collaboration with hubs	New visitors, high profile in the region	People visiting hubs, signs of the museum	Share knowledge about the region and biodiversity in it	Their knowledge and items

Customers

Local people   Tourists   Students/ Youth   School kids
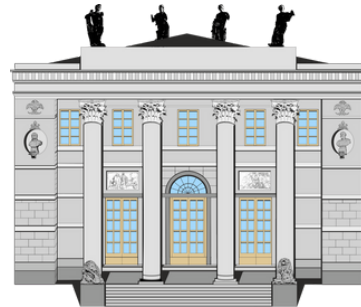
Beneficiaries

Local communities   Municipality   Institutions   Biodiversity protection organisations   Manavgat belediyesi kent müzesi

Customer persona - Tourist

Information

- Ahmet
- 32 years old
- Designer

Needs

- interested in exploring the local culture, historical sites, and landmarks in addition to enjoying the coastal attractions.

Positive trends

- Cultural Diversity
- Access to Nature
- Local Design Trends

Hopes

- Inspiration and Creativity
- Cultural and Artistic Exploration
- Networking and Collaboration
- Sustainable Design Inspiration

Opportunities

- Cultural Exploration
- Relaxation and Rejuvenation
- Networking

Negative trends

- Rising Sea Levels and Climate Change
- Environmental Degradation
- Lack of Infrastructure

Headaches

- Distractions and Balancing Work and Leisure
- Limited Workspace Availability
- Client Expectations and Communication

Fears

- Health and Well-being
- Cultural and Language Barriers
- Security and Safety Concerns

Beneficiary persona - Municipality officer

Information:

- Ayse
- 35 years old
- Municipality officer

Needs

- Citizen support and trust
- Co-operation during policy implementation
- Harmonious environment

Positive trends

- Sustainable tourism
- Global recognition
- Biodiversity enrichment

Hopes

- Citizen awareness
- Cleaner and safe forests
- Harmony for all living beings

Opportunities

- More jobs for locals
- Happy citizens
- Less unemployment ratio

Negative trends

- Concentrated crowds in specific periods
- Over-exploitation
- Overwhelming for reserved communities

Headaches

- Lot of immigrants
- Creating and following new policies
- Facing criticism from some communities

Fears

- Lack of co-operation from communities
- Natural disaster during execution period

Key-products and -services
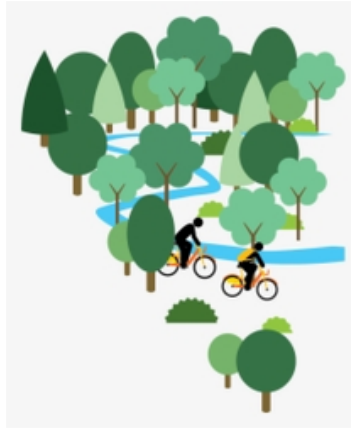
Nature education
trails with
differten topics

Courses for students,
scientists and
professionals about
species identification

Guided tours along
the river ecosystems
to rise awareness
about nature

Meetup spaces for
the customers (with
coffee, tea)

Conferences
according
nature topics

Workshops about
sustainable living

Channels

 Social Media

 Publicity in the city
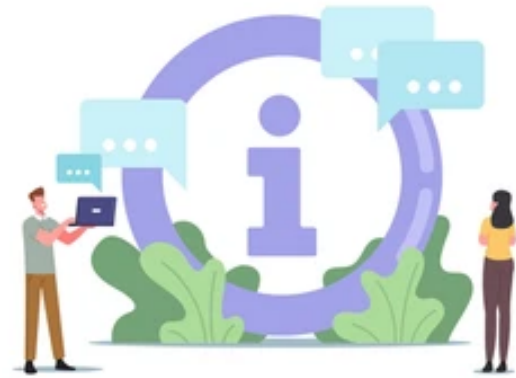
 Informations points

 Tourist offices

 Local platforms

 Eco-friendly flyers
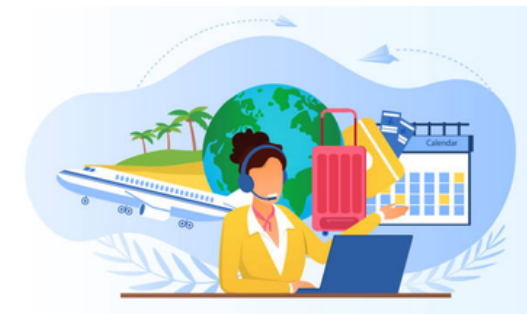
 Tour agencies

Key Resources
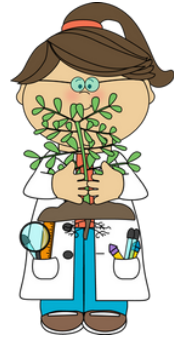
Biodiversity Experts

Fundings

Landscape architects
& planners

Sponsors

Biodiversity
organisations

Partners
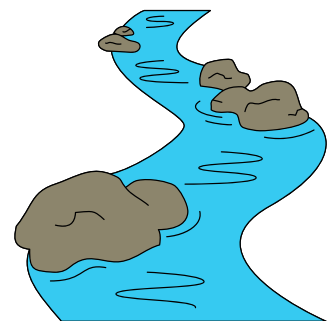
River and its
habitats
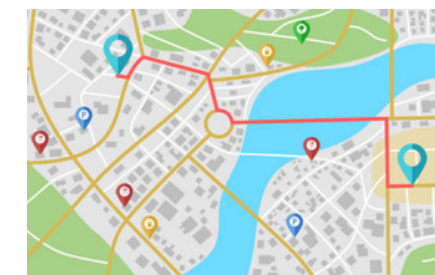
Scientific data, land
use & development
maps

Key Processes

Analysis & Planning

Funding from local authorities or EU

Building hubs & trails

Guided tours

Education of guides

Promoting

17

Key Partners
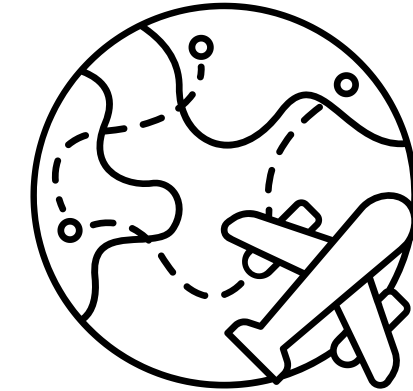
DEFAKOK and other NGOs

Local universities and students

Land owners
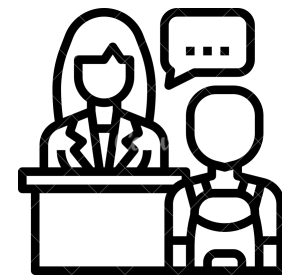
Tour agencies

Local authorities
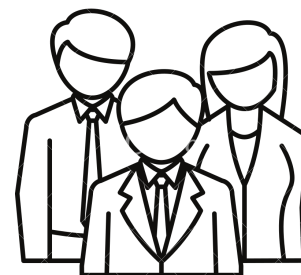
Local professionals
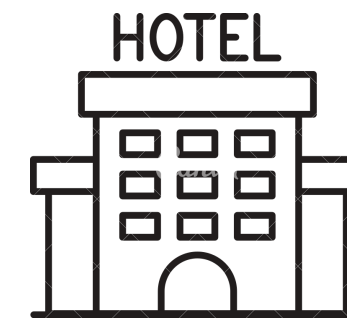
Hotels

Local businesses

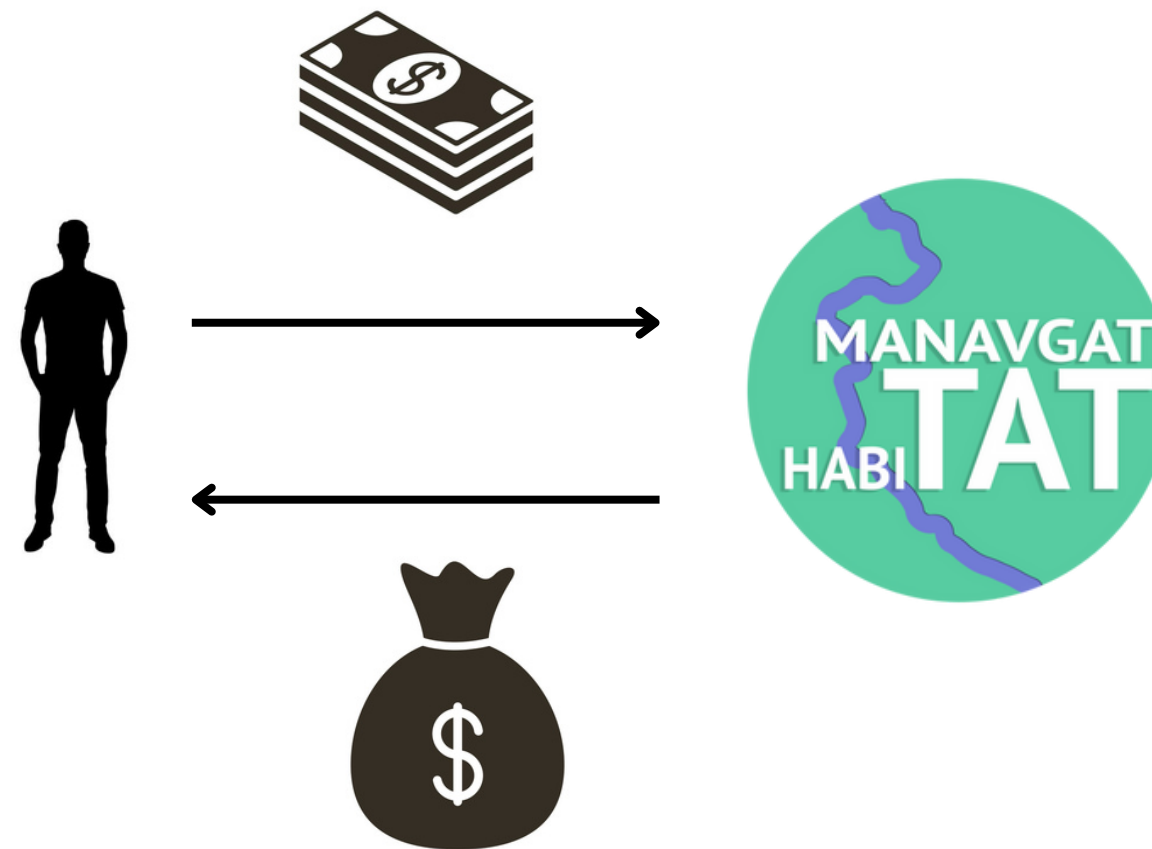Tourist's informations

Manavgat City Museum

KPI: Key Performance Indicators
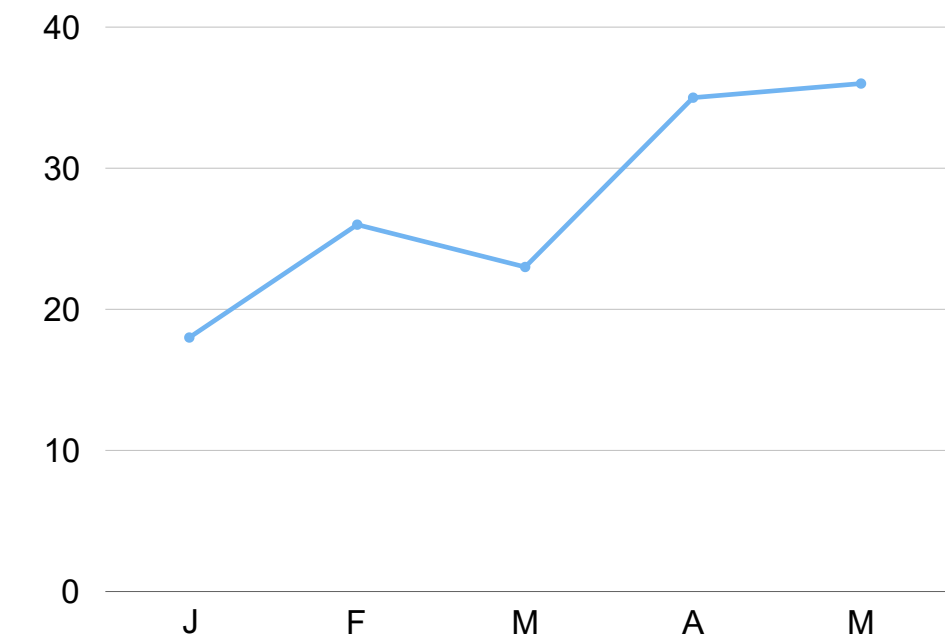
Satisfaction

Visitors can rate the project whether or not they are satisfied with the experience

Income

If the investors can get back their money that they put in the project, with benefits

Amount of tours

We can see if the project works, if the amount of guided tours demands increase

Social and Environmental Impact

	SOCIAL	ENVIRONMENTAL	BENEFICIARIES	GLOBAL
LONG TERM IMPACTS	Community engagement Progressive development	Awareness and conciousness for biodiversity and biotopes	Profit margins for everyone Satisfaction to contribute for a good cause	Policy implementation Prototype design modules Standards for further development
INDICATORS OF SUCCESS	Public response for biodiversity management Collaboration of more NGO bodies	Biodiversity protection policies Co-operation from people	Increased number of tourists Reduced inflation Collaborative business approach	Recognition as sustainable nation Balanced ecosystems
PLAN TO MEASURE AND REPORT	Statistic data of tourists, migrators and community members	Collecting data for scientists Results for SDG's	More networks and opportunities Increased capacity for sustainable tourism	Comparing data throughout the years Frequent analysis of land-use change

Targeting Sustainable Development Goals
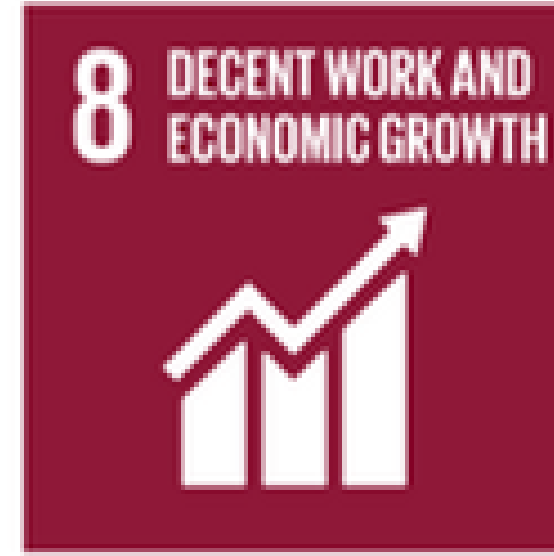
First steps

1 The first step is to **share an idea with the organisations and authorities** and **calculate building costs.**

2 The next one is to **find sponsors and sources of money** to build the hubs.

3 The third step is to **find a staff, build the first education trail and advertise it.**

4 The last is to **start building our first hub and advertising it** in collaboration with hotels, tourist information, and collaborating organizations.

Annex

- Supporting material: Social Business Model Canvas with explantory notes
- Supporting material: Good practice of completed Social Business Model Canvas
- Materials discussed in class: *https://ilias.hfwu.de/goto.php?target=cat_42587&client_id=hfwu* *https://ilias.hfwu.de/goto.php?target=cat_42611&client_id=hfwu*

Thank you!
Tesekkürler!
Merci beaucoup!
Dziękujemy!
धन्यवाद!
Dankeschön!