



Global Innovation Gathering - Critical Making

Ecosystem Services

Aravinth Panch | DreamSpace Academy



Behind The Scenes

Why do we do what we do?

Three decades of **civil war** in Sri Lanka caused a massive impact on **socio-economy** and **environmental ecosystems**

International aid provided significant support, but **imported solutions** couldn't solve fundamental **local problems sustainably**

We set out to **empower locals** to solve complex **local challenges !!!**

Who are we?



DreamSpace Academy is a **non-profit social enterprise** tackling local **socio-economic** and environmental challenges through **challenge-based learning**, grassroots innovation and **impact-venture building**

What is our mission?

Our mission is to achieve **sustainable development goals** in Sri Lanka by empowering **underserved communities**, protecting **environmental ecosystems**, facilitating **peacebuilding** and fostering **impact venture**

How do we empower with DreamSpace Lifecycle?



**Changemaker
Discovery**



**Challenge-based
Learning**



**Grassroots
Innovation**



**Domain
Expertise**



**Impact-Venture
Building**

How does DreamSpace Lifecycle work?



Changemaker
Discovery



Source: dreamspace.academy

How does DreamSpace Lifecycle work?



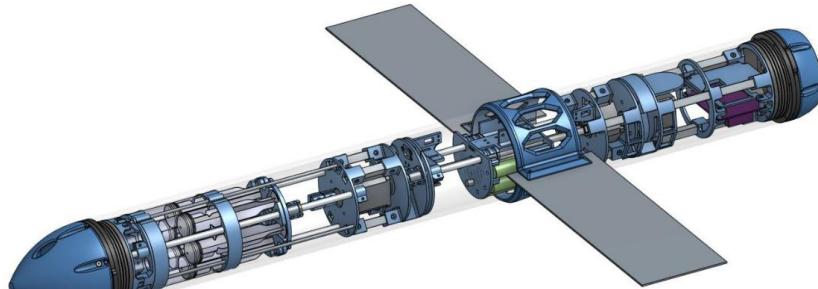
**Changemaker
Discovery**

**Challenge-based
Learning**



Source: dreamspace.academy

How does DreamSpace Lifecycle work?



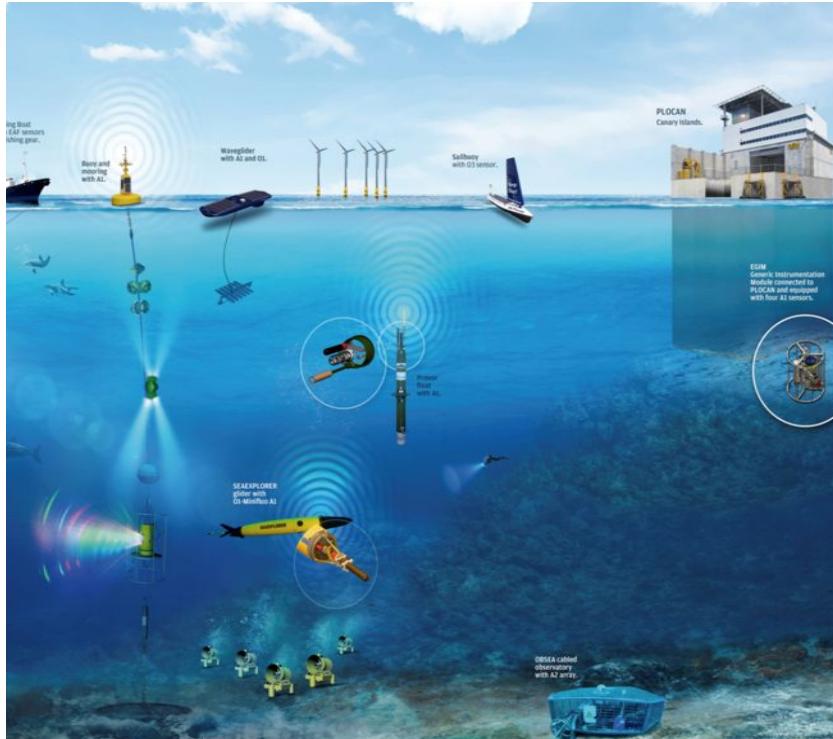
Changemaker
Discovery

Challenge-based
Learning

Grassroots
Innovation

Source: dreamspace.academy

How does DreamSpace Lifecycle work?



Changemaker
Discovery

Challenge-based
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Grassroots
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Domain
Expertise

Source: plocan.eu

How does DreamSpace Lifecycle work?



Changemaker Discovery

Challenge-based Learning

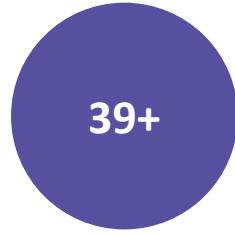
Grassroots Innovation

Domain Expertise

Impact-Venture Building

Source: dreamspace.academy,oceanswell.org,generationunlimited.org

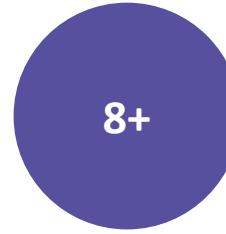
What impact have we co-created?



Changemakers



Trainees



Labs

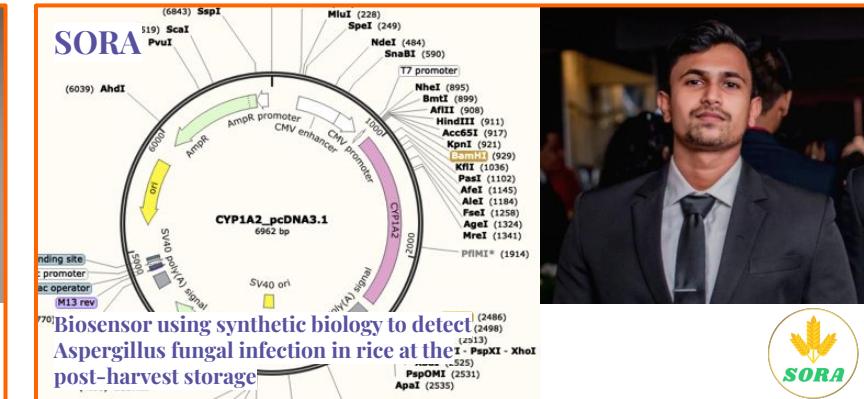


Innovations



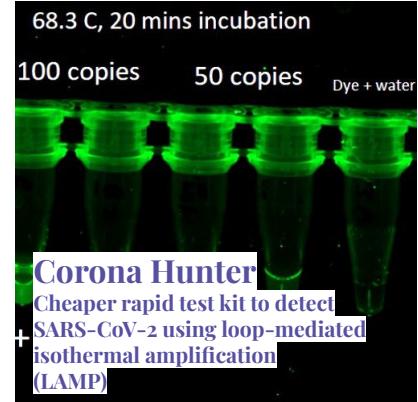
Ventures

What are our grassroots innovations?



Source: trashfortrade.com, siwi.org ,igem.org

What are our grassroots innovations?



Our interdisciplinary labs



Peace Lab



Electromechanics
Lab



Media Lab



Software Lab



Bio Lab



Business Lab



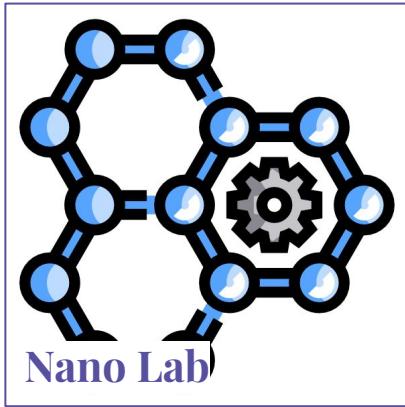
Space Lab



Art Lab

Source: dreamspace.academy

Our interdisciplinary labs



Source: dreamspace.academy

Our infrastructures: DreamSpace Collective



Source: dreamspace.academy

Our infrastructures: DreamSpace Hive



Source: dreamspace.academy

How do we build domain expertise?



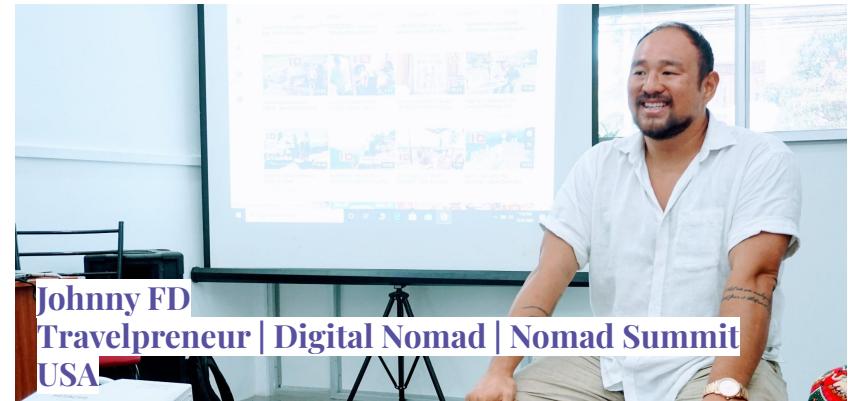
Maite Hernandez Zubeldia
Design Thinking Expert | Hasso Plattner Institute
Germany | Cuba



Dr. Nico Meißner
Storyteller | Deputy Director | Griffith Film School
Australia | Malaysia



Femke Kroes | Janene Liston
Business Mentor | Pricing Strategist | BookBridge
Switzerland | Netherlands



Johnny FD
Travelpreneur | Digital Nomad | Nomad Summit
USA

Source: dreamspace.academy,bookbridge.com

How do we build peace and advocate well-being?



Fine Arts | Painting



Performing Arts | Vocal | Instrumental | Music



Handcrafting



Mind Sport | Critical Thinking

Source: dreamspace.academy

How do we build peace and advocate well-being?



Environmental Advocacy



Youth & Women Empowerment



Peacebuilding and Reconciliation



Rural Development

Source: dreamspace.academy

Who are our team members?





Ecosystem Services

Critical Making

Critical Making incorporates scientific knowledge to enhance the transformative potential of the Maker movement in fostering responsible creation.

We highlight how grassroots communities present fresh avenues for creators to actively participate in an open society through the power of open innovation.

Sustainable Making

A lot of **The Making** happening, but

Do they make sense?

Are they solving real problems?

Are they environmentally sustainable?

Are they socio-economically feasible?

Are they producible and scalable?

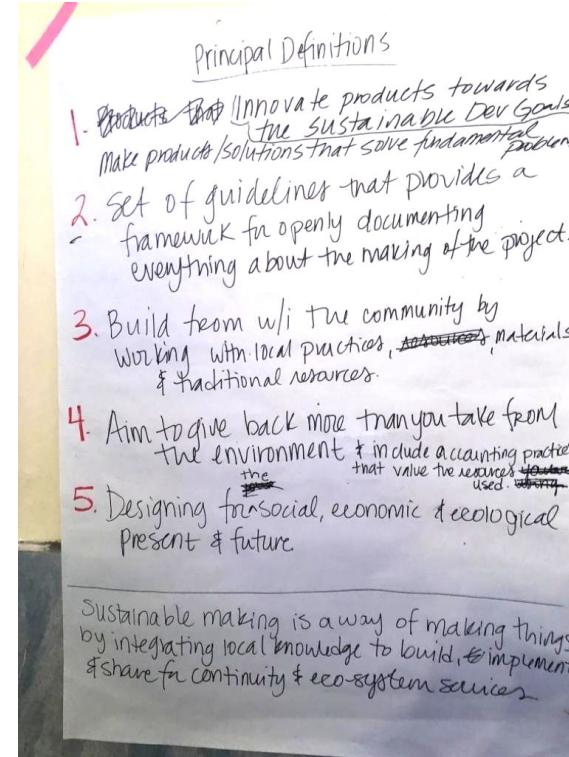
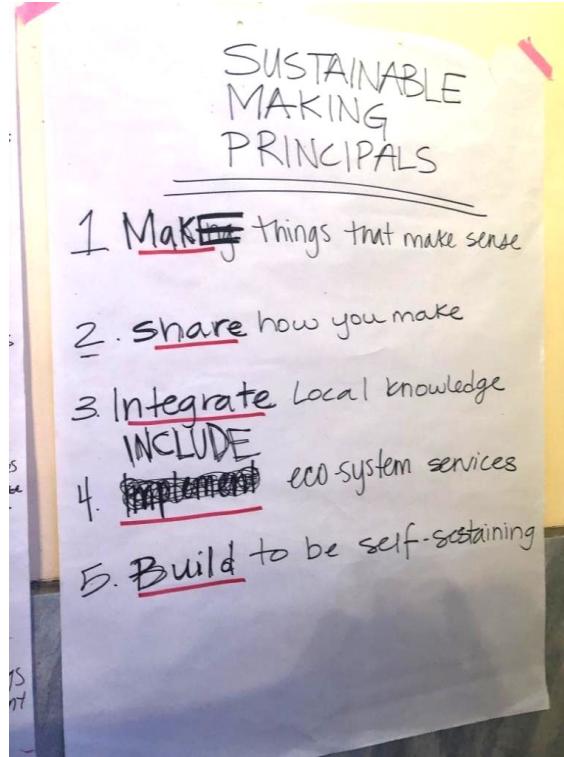
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Sustainable Making at DOTS 2019 in Nakuru, Kenya



Source: Aravindh Panch

Sustainable Making at DOTS 2019 in Nakuru, Kenya



Source: Aravindh Panch

5 Principles of Sustainable Making

- ❑ Make Things That Make Sense
- ❑ Share How You Make
- ❑ Build for Continuity Design
- ❑ Integrate Local Knowledge
- ❑ Include Ecosystem Services

Source: Aravindh Panch

What are Ecosystem Services?

Ecosystem services are the benefits in the form of goods and services that people obtain from natural ecosystems, such as forests, wetlands, rivers, oceans and animals.

Examples of Ecosystem Services



Source: en.wikipedia.org/wiki/Ecosystem_service, pexels.com

Why do we need Ecosystem Services?

Over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history, largely to meet rapidly growing demands.

This has resulted in a substantial and largely irreversible loss in the diversity of life on Earth.

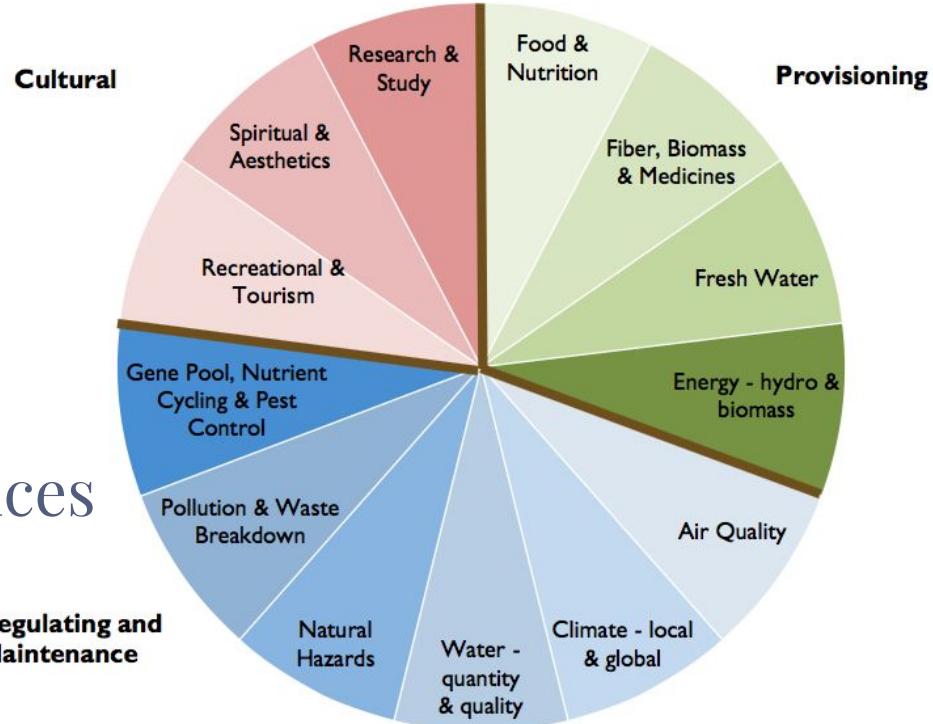
Why do we need Ecosystem Services?

Ecosystem services are being evaluated to draw equivalent comparisons to human-engineered infrastructure, goods and services.

Understanding the value of nature to human well-being helps us make more informed decisions about managing and protecting natural ecosystems.

Types of Ecosystem Services

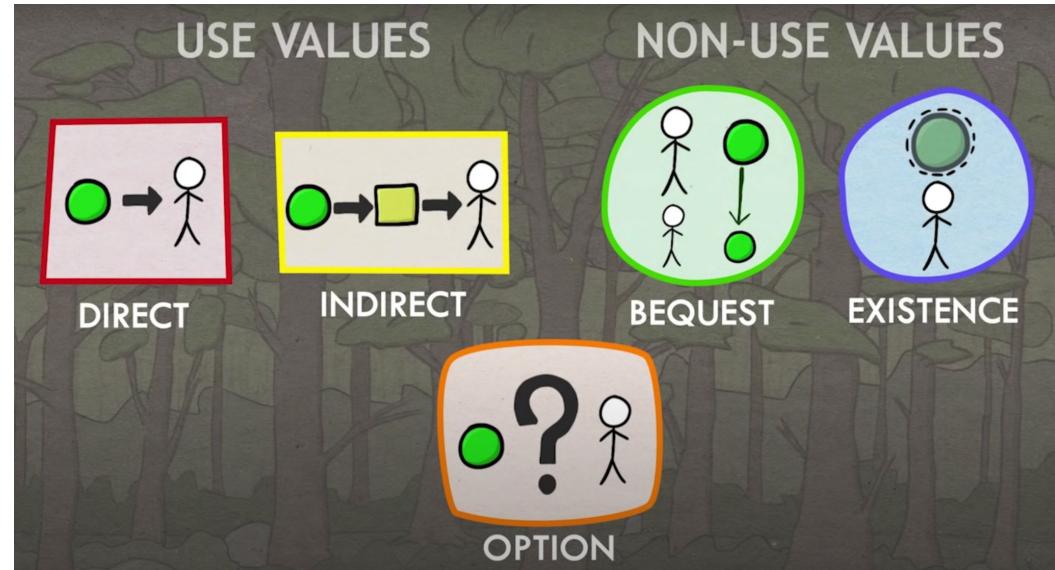
- Regulating services
- Provisioning services
- Cultural services
- Supporting/Habitat services



Source: weadapt.org

How do we value Ecosystem Services?

- Direct Values
- Indirect Values
- Bequest Values
- Existence Values



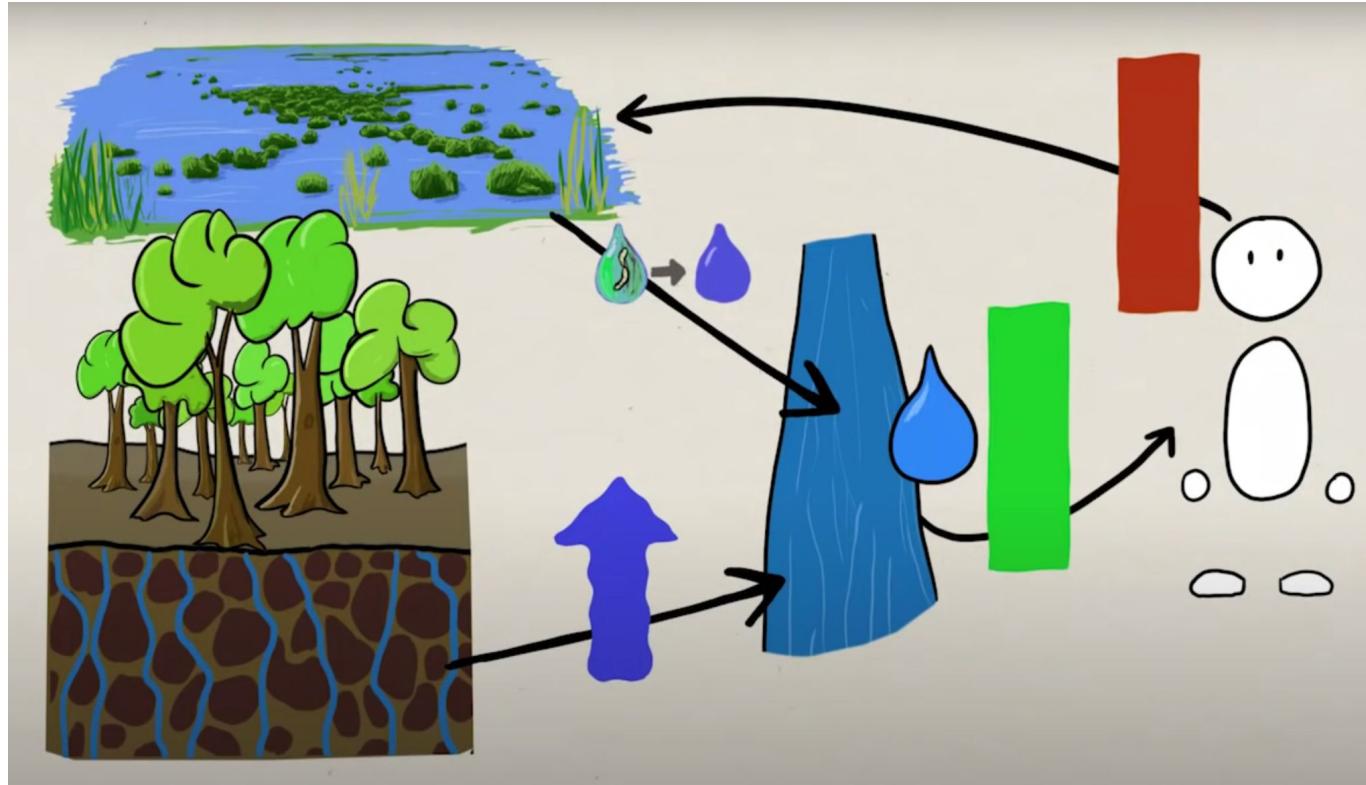
Source: conservation-strategy.org

How do we value Ecosystem Services?



Source: conservation-strategy.org

How do we value Ecosystem Services?



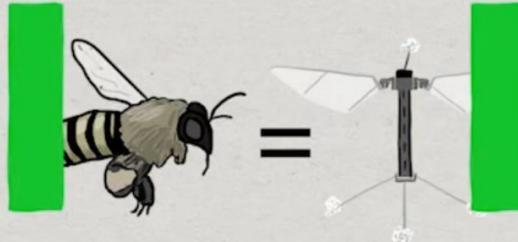
Source: conservation-strategy.org

How do we account Ecosystem Services?

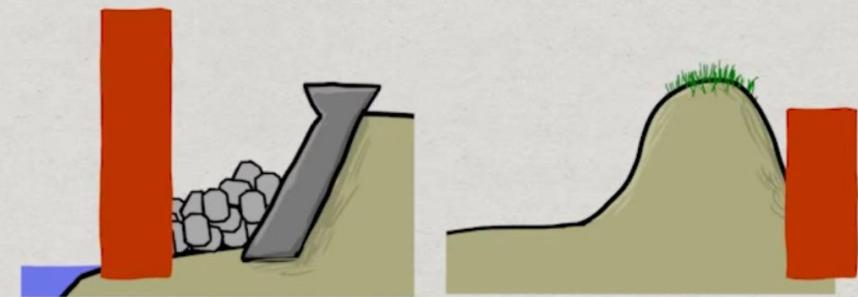
- Replacement cost
- Avoided cost
- Factor income
- Travel cost
- Hedonic pricing
- Contingent

How do we account Ecosystem Services?

Same quality and quantity
as environmental service



Least cost alternative

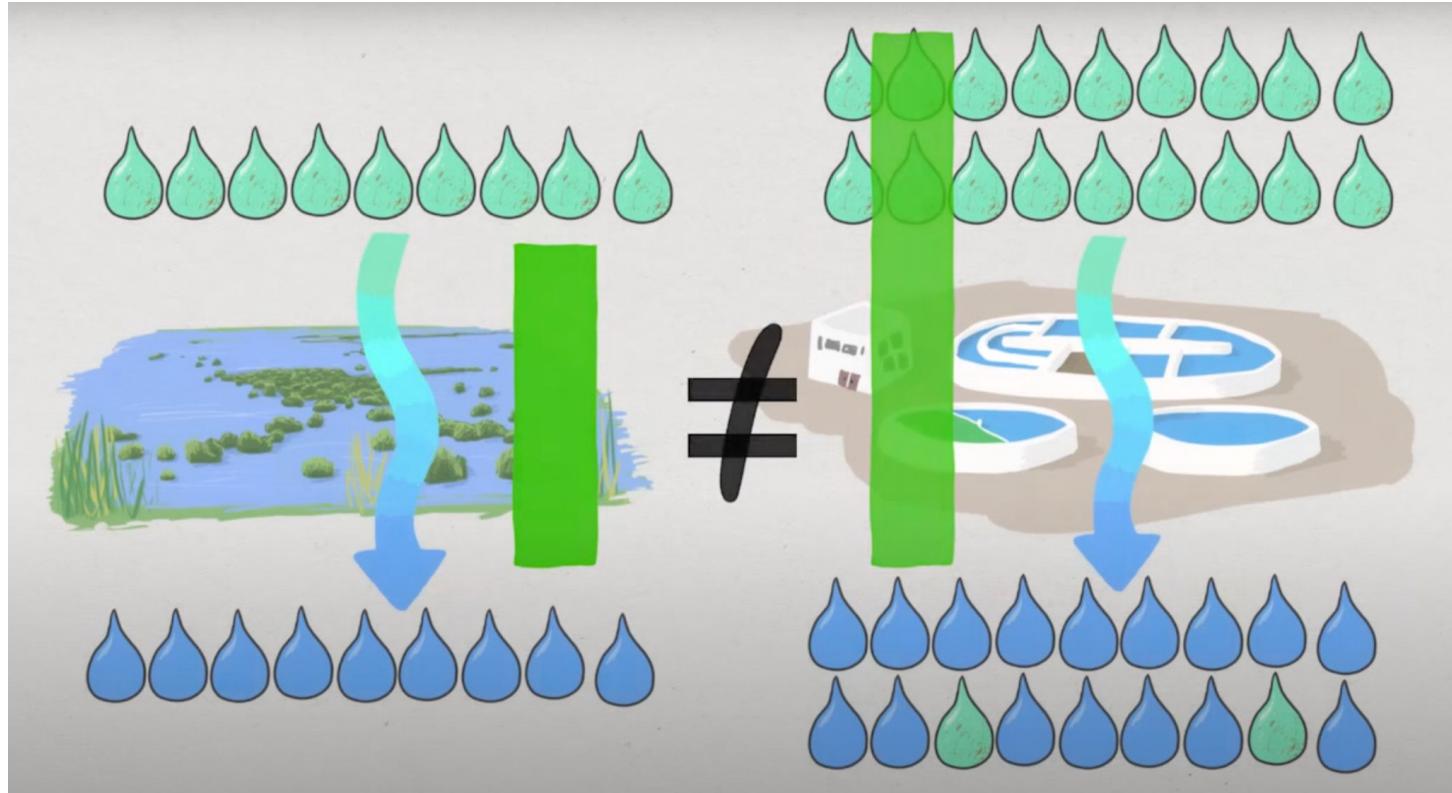


A demonstration of
willingness to pay



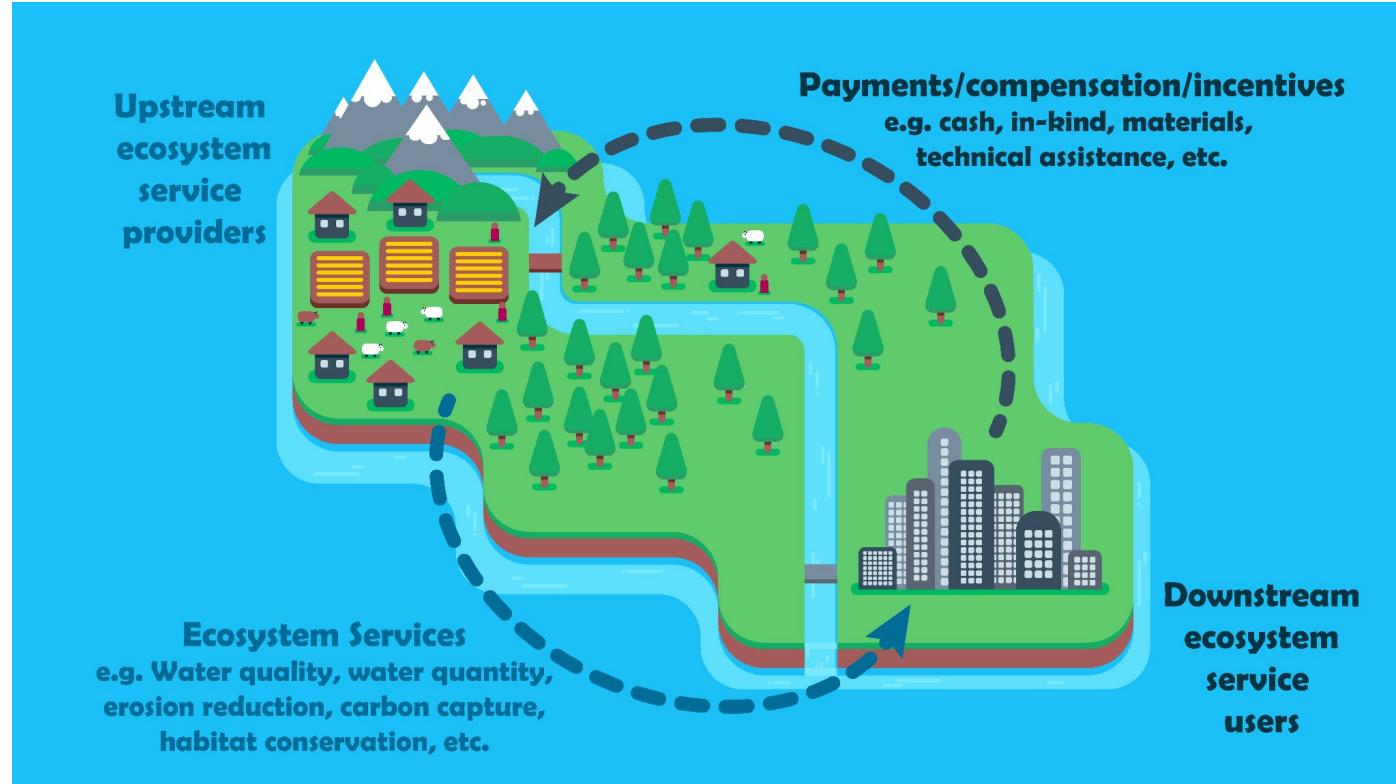
Source: conservation-strategy.org

How do we account Ecosystem Services?



Source: conservation-strategy.org

Payment For Ecosystem Services?



Source:en.wikipedia.org/wiki/Payment_for_ecosystem_services

How do we include Ecosystem Services at DreamSpace?



BioFilter

Biofilter made from syzygium cumini (java plum) seed extract to remove cadmium pollution in water



BioComposite

A biocomposite material using mycelium as an alternative sustainable material

Source: dreamspace.academy

How do we include Ecosystem Services at DreamSpace?



BioPlastic

Biodegradable bioplastic made from
Palmyrah Pulp from naturally
grown Palmyrah tree in the coasts



BioGas + BioFertiliser

Biogas digester and fertiliser
pellets from cattle manure with
the service of dung beetle

Source: dreamspace.academy

How do we include Ecosystem Services at DreamSpace?



Source: oceambio.me, mission-blue.org

Co-Creating The Dreams



Join our mission to **co-create the dreams !!!**

Story Deck at
[http://storydeck.
dreamspace.academy](http://storydeck.dreamspace.academy)

Support Deck at
[http://supportdeck.
dreamspace.academy](http://supportdeck.dreamspace.academy)

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