WATER, THE THIRD THING

The cultural value of water as a driver for increasing urban resilience in informal settlements in Brazil

Summary

In 2020, the Covid-19 virus global pandemic poses great challenges for the future(s) we dreamt of. As numbers rise and information is shared widely, the main recommendation issued by governments and organizations is to promote hygiene measures and maintain physical distance to avoid contagion. However, hygiene is not always possible when water is not available, and physical distance also poses a challenge when there is not enough room for a family living in a reduced space. This project aims to understand the possibilities to leverage a systemic change through increasing the cultural value of water, engaging local communities, and promoting a long term development vision.

The problem

Water can be used as a powerful tool to shape and transform society (Gandy 2004). Throughout the world, water has played a central role in culture development, however, as a transboundary, finite resource many, often conflicting, stakeholders are involved in the governance of water access. Those with the lowest position in society have the least leverage to gain access to formal water infrastructure.

Value is made up of several dimensions. Intangible values such as spiritual and cultural are very difficult to quantify. We aim to change the cultural perception of water to stimulate long-term, collective action that increases access to water, promotes sustainable use and reinvigorates tradition and culture. Our purpose is to use the cultural value of water as a leverage point to increase urban resilience of communities living in informal settlements in Brazil. By taking ownership of water resources and considering water as a finite resource, this project seeks to engage local communities to be integrated in the water governance system by revaluing rainwater and creating rain gardens in public spaces.
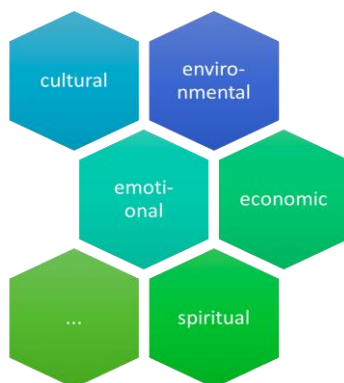
Increasing people's awareness and understanding of the natural environment has co-benefits for urban water management and can help people feel more connected to their local landscape (McGinlay et al. 2017), in the case of informal settlements, foster a greater sense of place and belonging.

In the Covid-19 pandemic, hygiene measures have been widely acknowledged as one of the main tools to prevent the virus spread. However, in some urban areas, water access is still limited. Access to water infrastructure that provides a safe and stable supply at an affordable rate to the poorest in society is a complex challenge linked to health, governance structures, pricing, urban growth policies, urban planning and social justice and inclusion.
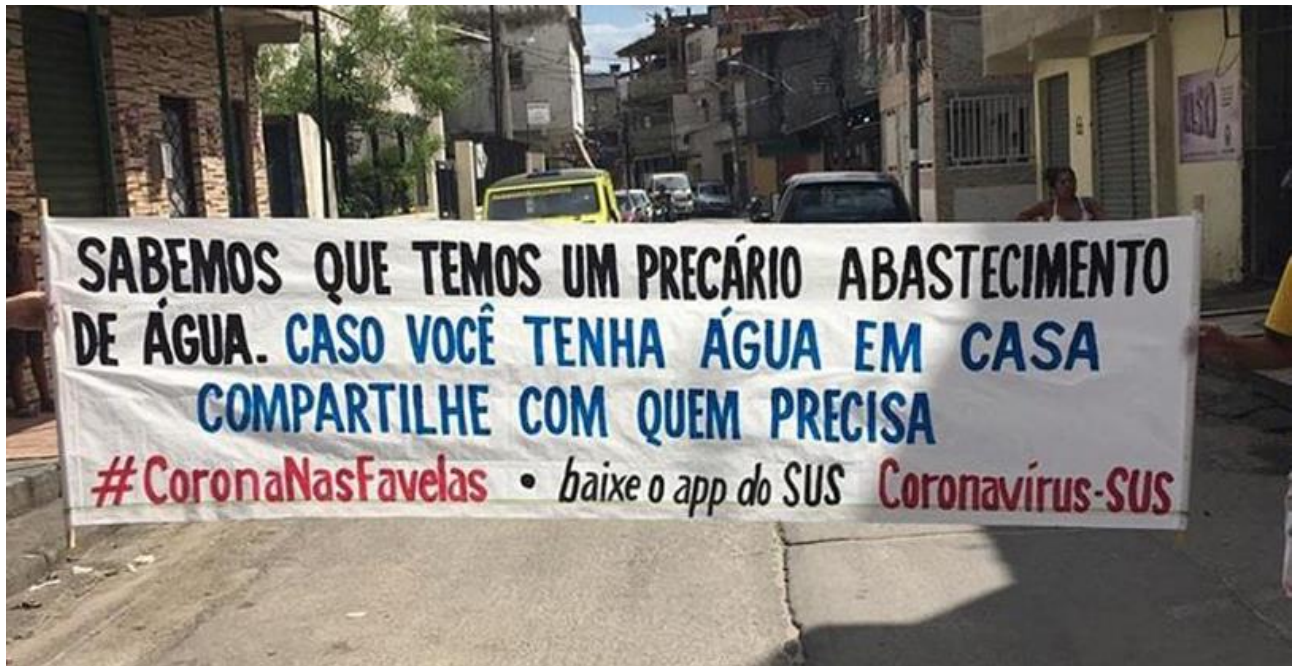
"We know that you have precarious water access at your home. If you have water please share it with those who don't". **#CoronaNasfavelas.** Source: https://www.ecodebate.com.br/

Informal settlements, which are densely populated, located in marginal areas of the city usually lack basic sanitation infrastructure are the scenario of this project. In Brazil, 80% of the population live in cities, with an estimated 20% in slums. This accounts for 13.6 million people. In Complexo do Alemão, a slum in Rio de Janeiro, residents reported being without water access for 12 days straight. Slum leaders say that communities are being ignored by the government in their strategy to combat the Covid-19.
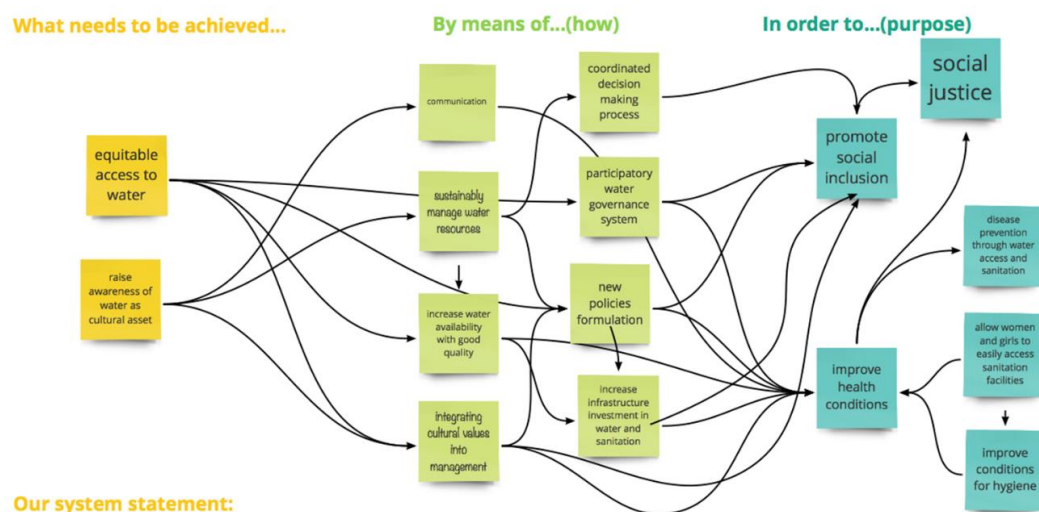
Figure 1. The system Statement

In our system diagnosis, the interrelations among governance systems, Covid-19 rates, and water access and availability were identified, all of which negatively intersect with climate change. The cultural value of water, community engagement and participation also are interlinked in our analysis and were identified as leverage points for a systemic change.
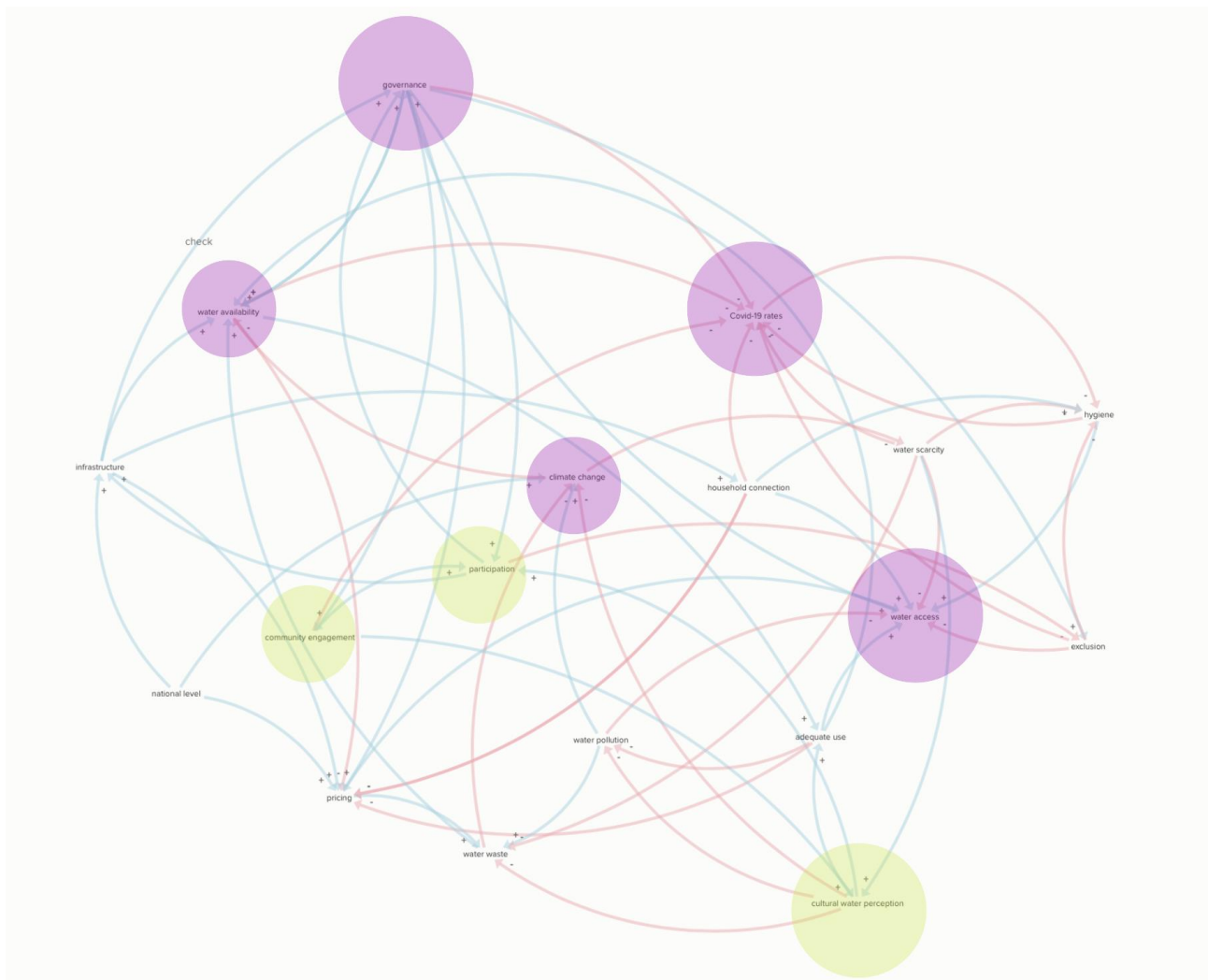

Figure 2. Interdependencies and Interrelations

We envisioned an urban environment where the water governance system responds to the finite nature of water by enhancing its cultural value leveraging community engagement.

This is a world in which water is used rationally and consciously, however with centralized decision making, local priorities are not always met.

In this world we value innovation on water resources, saving counsciousness

Misused water tends to diminish and local governments are leading the urban transformation despite national and centralized management.

This is a world in which access to water is universal and water is preserved and used rationally.

In this world we value safe water access as part of the environmental system and as finite resource. Water is also culturally valued.

As a rising trend, water is part of the nature based solutions, it is integrated in the urban environment, and incentives for rational use are in place. Policy coherence is promoted through integrated governance systems

Water considered as finite resource (taken care of)

Monopolized water governance system

Integrated water governance system

Water considered as infinite resource (taken for granted)

This is a world in which there is no coordination among stakeholders (national and local), local safe water needs are not met, and increasingly urban population lack access to safe water or nature environments.

In this world local voices are not heard, but some individuals voices are privileged, there is no data on local needs, and we only value decisions taken from the national level.

As a trend, nationalization is arising, individual well being is prevailing, corruption and lack of transparency grow and water waste is increasing

This is a world in which available water is not enough for everyone but some population miss-uses it. Participatory processes are in place, but without a broad population engagement, and unlimited water use leads to user and transboundary conflicts.

In this world we value water as a local resource with limited consideration for up/downstream/ generational users

As a trend, water is wasted where available, social conflicts related to safe water availability are present, and vulnerable population is excluded from the governance system.
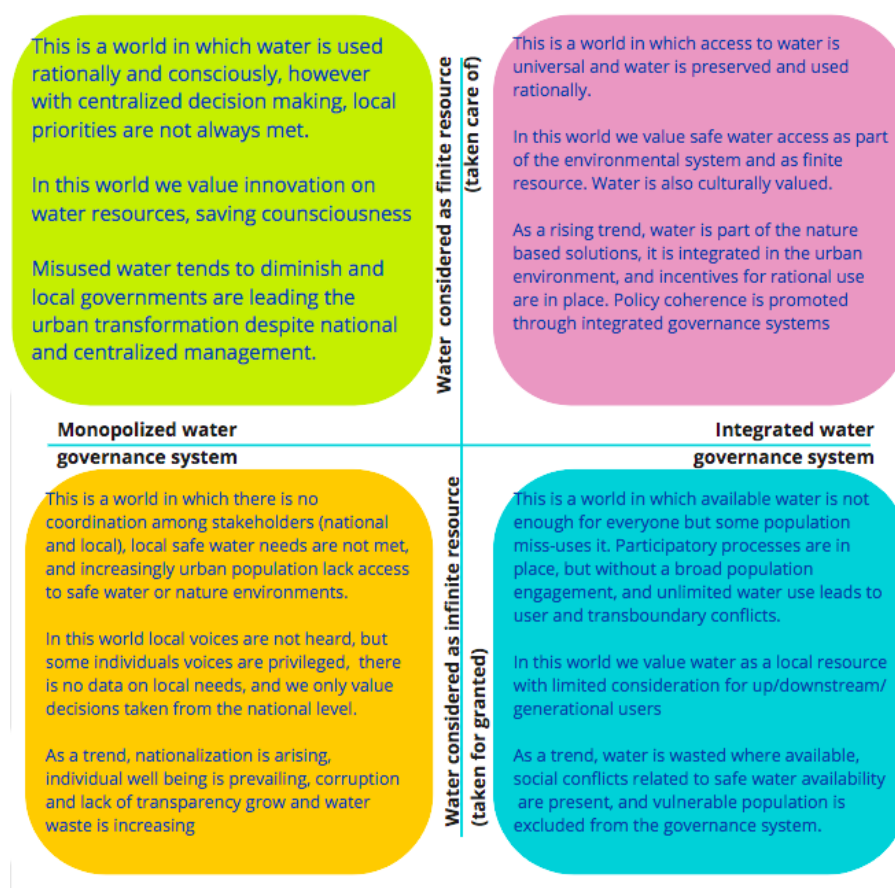
Figure 3. Future Scenarios

The proposal

In order to leverage water cultural value, our first stakeholders analysis leads us to target urban planners as the key actors. However, a deeper understanding of the systemic nature of our problem led us to identify the importance of community ownership and engagement. It is against this backdrop that we consider NGOs grounded in the local context as a key driver for co-creation in an informal community.
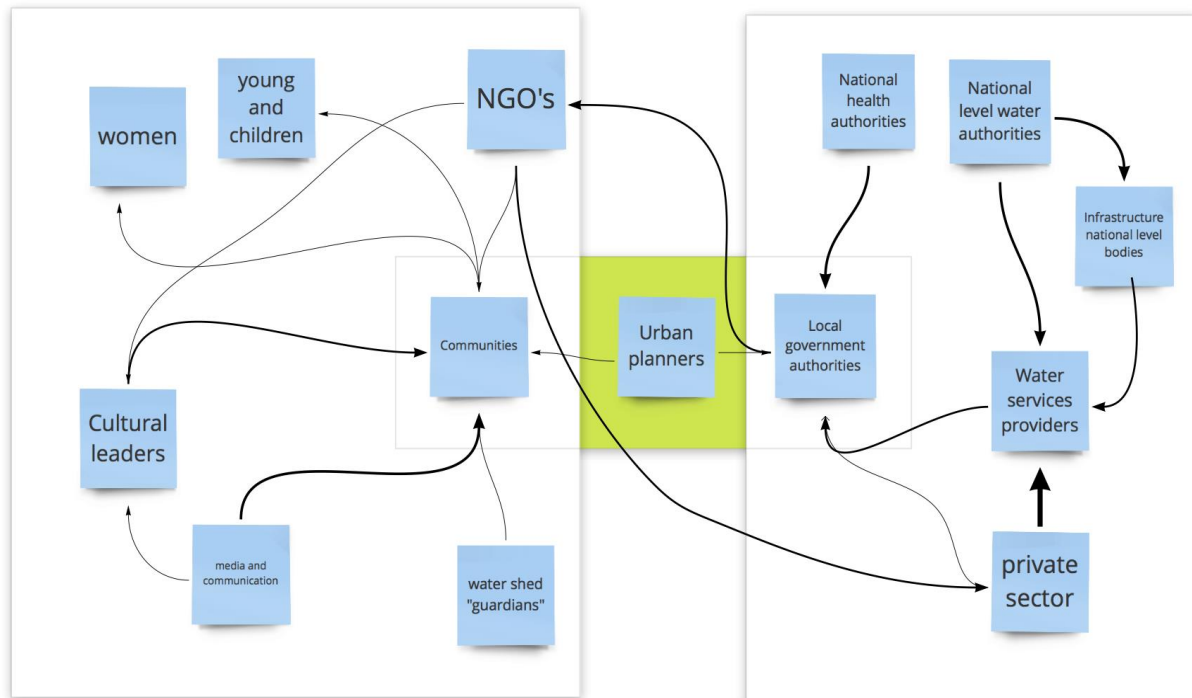

Figure 4. Stakeholder Relationship and Dynamics

Considering that where the social contract is weak, interventions must be tailored to the political context we take account of the fact that meaningful consultation and social accountability mechanisms lead to a better understanding of the local context—and also increase transparency and effectiveness. Besides, it has been established that building social cohesion and social capital helps build urban resilience. As such, balancing the interests of different groups through a community-led process is a key tool for strengthening social cohesion.

Adding to this, projects that are multi-sectoral and integrated are more likely to address multiple risks than single-sector interventions. Slum upgrading projects - and by extension development projects more generally - can build urban resilience if they prove effective to secure trust between communities on one hand, and between the project and communities on the other hand. In the absence of trust and buy-in from the local community, and without community engagement and community-led processes, urban resilience building interventions will hardly mitigate risks.

Therefore, our brokering role as a NGO rooted in the local context serves to facilitate the advent of community engagement. When all is said and done, the main activities that could be responsible for

co-creation of knowledge, new values and strategies to improve the cultural value of water and assure an equal access to reduce risks in informal settlements include:

1. AWARENESS

Raising awareness through campaigns and cultural activities among the local dwellers, focusing on children and youth, because this social group can advocate for safe and sustainable water use and can influence adults to do the same

2. LEARNING

Learning programmes such as workshops for local families. The community mapping can be a powerful tool for people engagement and support public spaces and its relation with water in the learning programmes.

3. INTERVENE

Local interventions and project solutions such as rainwater harvesting led by children and youth from the local community. This first action can lead to other initiatives, such as to implement Nature Based Solutions that can act as effectual climate change adaptation measures. Private sector can be an investor

Figure 5. Proposed Activities

The proposal

It is important to acknowledge that there are assumptions linked to the project. In sum, these address:

ASSUMPTION	WHAT	IMPACT
Perception of value	short term revaluation of increasing rainwater value through harvesting,	reduced purchase of water could hinder the perception of water as a finite resource.
Willingness of stakeholders	the positioning of an integrated NGO has the ability to build trust with the local community and local government	limitations to local participation and engagement, consider alternative entry points
Rainfall regime	rainfall is expected to increase in Brazil, supply of rainwater is not foreseen as a limiting factor	there is *high confidence* that changes in weather will have a negative impact on human health, consider storage NbS

Through the interdependency analysis, the resilience that this intervention intends to address is access to water, social inclusion and climate change, through: governance, culture and infrastructure. Thus, the enabling systems that can support this system intervention and provide co-benefits include those linked to the improvement of livelihoods in informal settlements such as health, education, food security and employment. For example, a well functioning and attended education system, provides an access point for disseminating information. Whereas the relationship and trust that is built with the local through this intervention will enable healthcare workers to access potentially inaccessible communities.

To support the sustainability of the interventions, potential allies and resistors should be acknowledged. Resisting forces are foreseen to be linked to the water supply and access. Firstly, small-scale service providers may operate in the area and their business will be impacted by the reduced resale of water, these stakeholders should be included. Secondly in the long-term, if water can be used as an enabler to work towards the community's formalisation then there may be resistance to pay water-service-providers for services in the future. Sanitation is a method to limit Covid-19 transmission, therefore the health sector, at multiple governance levels, is expected to be a key ally in this intervention.

This proposal seeks outcomes at multiple temporal scales. Short-term outcomes can be quantified by the number of households that have access to rainwater technology, health indicators to monitor the intervention through variations of waterborne diseases and the number of workshops and outreach programmes organised. In the long-term, this intervention seeks to transform mental models through leveraging cultural value of water and strengthen the resilience of informal communities.

"The virus doesn't act alone, the virus exploits weak control," warned Ryan. "The virus exploits weak health systems. The virus exploits bad governance. The virus exploits lack of education, lack of empowerment of communities," he said. "That's the reality of the pandemic... - See more at:

https://noticias.uol.com.br/colunas/jamil-chade/2020/06/24/oms-am-latina-nao-atingiu-pico-e-medidas-sociais-precisam-ser-mantidas.htm?cmpid

Articulating your theory of change and monitoring & evaluation approach

What's the context, key dynamics and root causes?

What are your assumptions about each of these levels?

Sphere of concern/interest
Taking care of water will be rooted as a cultural value
Water will be recognized as a driver for safer, healthier and happier urban environments

Wider changes in attitudes, behaviour, practices, policies you are seeking to influence
We all take care of water
Kids are agents of change to save water
Water waste is diminished
The cultural value of water is recognized as a core human value

Sphere of direct influence
Immediate changes for stakeholders
Private sector will invest in water related cultural activities
Organized communities will demand access to safe water as a urban right
Kids will save water and become advocates for safe and sustainable water use and access

Use of outputs by stakeholders in your power analysis
Municipalities will encourage water communities through cultural incentives and policies
Private sector will support and promote water related spaces in neighborhoods
National level authorities will grant access to water

Sphere of control
Awareness raising on the cultural value of water
Cultural activities and everyday spaces
Learning and education activities
Neighborhood contest to harvest water
Childhood activities

Intervention outputs
Increased wise water use
increased water-related activities
increased water and nature spaces at neighborhood level
(increased time kids spend playing in an open green area)

Worksheet based on Hives International - Visualisation of a Theory of Change

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resilience of informal settlements in Sao Paulo

Resilience to what
- no access to safe water
  - increased health concerns
  - no hygiene measures
  - Covid-19 increase rates
- socio economic exclusion
- climate change impacts
  - water pollution
  - water scarcity

Resilience through what
- governance
  - stronger participation
  - community engagement
  - vertical linkages local/national
- culture
  - reduce waste
  - value water sources
  - adequate water use
- infrastructure
  - availability
  - reduce pricing
  - household connections

References

Gandy, M., 2004. Rethinking urban metabolism: water, space and the modern city, City, 8:3, 363-379, DOI: 10.1080/1360481042000313509

McGinlay, J., Parsons, D.J., Morris, J., Graves, A., Hubatova, M., Bradbury, R.B., Bullock, J.M., 2017. Leisure activities and social factors influence the generation of cultural ecosystem service benefits. https://doi.org/10.1016/j.ecoser.2018.03.019 2212-0416/ 2018 The Authors. Published by Elsevier B.V. T