

BOOK OF ABSTRACTS

- I. SESSION DESCRIPTION
- II. SESSION PROGRAM
- III. ABSTRACTS

I. SESSION DESCRIPTION

ID: T20

Equity and justice perspectives from Latin America

Format: Hybrid

Hosts

	Name	Organisation	E-mail
Host	Felipe Benra	Leuphana University Lüneburg, Germany	felipe.benra@leuphana.de
Co-Hosts	Laura Nahuelhual	Universidad de los Lagos, Osorno, Chile	laura.nahuel@gmail.com

Abstract

Equity and justice are multidimensional concepts rooted in a range of scholarly traditions of what is considered fair and equitable. However, the ecosystem services research field is still starting to address the diversity of justice and equity dimensions to provide a more in-depth understanding of their reach. This includes important work recognizing the (un)equal distribution of ecosystem services and their benefits across space and time, the need of disaggregation of beneficiaries, and unbalanced power relationships. This gap is particularly true for Latin America, a geographical-cultural area characterized by ecosystem services diversity and strong social inequalities and injustices. This session aims to bring together scholarly work from different disciplinary backgrounds, geographical contexts and cultural realities within Latin America. Ecosystems assessed may range from terrestrial to marine, natural, to working landscapes and urban ecosystems. We invite empirical case studies from Latin American regions, showing methodological and conceptual advancements reflecting on the role of (in)equity and justice on ecosystem services supply distribution and benefit access as well as on feedbacks.

Goals & Objectives

Scientific exchange on advancements of scientific work in Latin America for this growing strand of literature. Work on regional collaborations and networks, and plan future outcomes in the frame of the ESP “Equity in ES research” working group. We seek and will promote an explicit integration of local Latin American networks into the “Equity in ES research” working group.

Planned Output

Further development of the scholars' network in Latin America 1.5 h: presentations (5x10 min) + joint discussion 1:5 h: A "solution room" where participants share experiences around specific topics selected from the presentation part of the session. This exchange is intended to deepen common understanding and interest on two main elements:

- On the ground (practical) difficulties confronted by researchers when investigating ES/equity and justice linkages in Latin America
- Conceptual difficulties faced when working with ES/equity and linkages in Latin America The output of this part of the session will be a review of solutions to the above-mentioned problems with insights for Latin American and global settings.

Session Format

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Acceptance of voluntary contributions

Yes, I allow any abstract to be submitted to my session for review

Relation to ESP Working Groups or National Networks

Thematic Working Groups: TWG 20 – Equity in ES research

II. SESSION PROGRAMME

Date of session: Session T20. Wednesday, November 8th

Time of session: 11:00–12:30 and 16:00–18:00

Time	First name	Surname	Organization	Title of presentation
11:00–11:15	Laura	Nahuelhual	Universidad de Los Lagos	The ecosystem service concept as a lens to analyze distributive inequalities
11:15–11:30	Giulia	Benati	Sapienza University of Roma	Spatial analysis of cultural ecosystem services and socio-economic characteristics in Cali, Colombia: enhancing equity in urban green spaces

11:30– 11:45	Miroslav	Horák	Mendel University in Brno	Traditional Ecological Knowledge in Latin America: A Critical Literature Review
11:45– 12:00	Miriam	Montero– Hidalgo	Universidad Rey Juan Carlos	Aportaciones al campo de la justicia ambiental para la gestión de los servicios de los ecosistemas.
12:00– 12:15	Felipe	Benra	Leuphana University Lüneburg	Ecosystem services supply and (in)equality archetypes
12:15– 12:30	Ernesto	Lopez–Morales	Universidad San Sebastian	Exploring ecological gentrification by ecosystem services in Chile: a critical literature review
16:00– 16:15	Katherine	Huaiquimilla Guerrero	Universidad Católica del Norte	Desposesión y Gobernanza: El rol invisible de los pueblos indígenas en las áreas naturales protegidas de Chile
16:15– 16:30	Jarumi	Kato–Huerta	University of Trento	Inclusion of Environmental Justice concerns in Urban Climate Action Plans: Insights from Latin American Cities
16:30– 18:00	WORLD CAFÉ SESSION with all authors			

III. ABSTRACTS

1. *Type of submission:* Abstract / Resumen

[T. Thematic Working Group sessions / Sesiones del Grupo de trabajo Temáticas T20 – Equity and justice perspectives from Latin America](#)

Traditional Ecological Knowledge in Latin America: A Critical Literature Review

First author(s): Miroslav Horák

Presenting author: Miroslav Horák

Other author(s): Gabriel Castro Siqueira, Heitor Martins Guimarães, Beatriz Helena Toledo Pastre

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The objective of this contribution is to provide a critical review of scientific articles on the “traditional ecological knowledge” (TEK), focusing specifically on Latin America. The systematic literature review of scientific papers published between 2017–2021, indexed in Web of Science and SCOPUS, was conducted considering data triangulation based on economic, psychological, and sociological perspectives. 14 articles were found with all the criteria, including TEK in their titles and related to Latin America. Their analysis showed that the fight against social inequalities and the devastation of the planet requires strategies that include lifestyles and knowledge of minority ethnic groups. The TEK is presented as a frame of reference that can help the exchange and preservation, since the people who hold the original knowledge participate equally in the processes of interpretation and validation of the information generated.

Keywords: traditional ecological knowledge; Latin America; colonialism; eurocentrism; native people

2. *Type of submission:* Abstract / Resumen

T. Thematic Working Group sessions / Sesiones del Grupo de trabajo Temáticas T20 – Equity and justice perspectives from Latin America

Ecosystem services supply and (in)equality archetypes

First author(s): Felipe Benra

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The overall patterns of ecosystem services (ES) supplied by a landscape often hide distributional (in)equalities that condition how the benefits from nature are provided and used by people. This is particularly evident in landscapes dominated by private ownership and composed of a mosaic of property sizes, across which ES supply can vary substantially. However, studies that analyze how ES supply is shaped by distributional (in)equalities are lacking. Taking southern Chile as a case study, we applied a clustering approach at the municipality scale ($n=177$), using data at the property level (i.e., plot or farm) to identify recurrent patterns (i.e., archetypes) in the supply of eight ES and the (in)equalities of that supply using the Gini coefficient. Then we analyzed the spatial co-occurrence between ES supply and supply (in)equality archetypes, to identify which patterns of distributive (in)equality underlie the supply of ES. We obtained six ES supply archetypes and ten inequality archetypes (InqA) that showed characteristic spatial patterns. Supply archetypes were spatially dominated by a single archetype (with below average values) and thus had a relatively homogeneous distribution. (In)equality archetypes presented a more heterogeneous distribution across the study area. The majority of both supply and (in)equality archetypes were dominated by regulating ES, but cultural ES were also important in supply archetypes. Spatial co-occurrence analysis showed that all (in)equality archetypes intersected with the dominant supply archetype. The results suggest that while ES supply was homogeneous across the study area (e.g., including many municipalities) the (in)equality in their distribution was highly heterogeneous. Unraveling patterns of ES supply and their spatial distributional (in)equalities at large spatial scales and low resolution is an important step for addressing challenges posed by inequality issues in rural socio-ecosystems and providing context for ES policy. Understanding the linkages between ES and equity can help to unveil the causes, mechanisms and effects of (un)justice in social-ecological systems, and to identify areas in which to apply interventions that consider (in)equality to improve sustainable ES supply.

Keywords: rural landscapes; nature's contributions to people; municipality; SOM; ecosystem services policy

3. *Type of submission:* Abstract / Resumen

T. Thematic Working Group sessions / Sesiones del Grupo de trabajo Temáticas T20 – Equity and justice perspectives from Latin America

Spatial analysis of cultural ecosystem services and socio–economic characteristics in Cali, Colombia: enhancing equity in urban green spaces

First author(s): Giulia Benati

Presenting author: Giulia Benati

Other author(s): Emmanuel Zapata, oscar buitrago, marco aguirre, miguel murillo

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This study focuses on conducting a spatial analysis of cultural ecosystem services (CES) in Cali, Colombia, considering socio–economic characteristics. By utilizing social media data and an established protocol, CES estimation is performed, along with the identification of the urban ecological structure based on land cover. The research aims to explore the spatial relationship between CES accessibility and two crucial socio–economic indicators: the index of quality of life and unsatisfied basic needs.

Cali's socio–spatial segregation and inequality provide a significant backdrop to this study. The study recognizes the pivotal role of nature–based services in addressing the fundamental physical and mental health needs within an unequal urban context. By investigating the accessibility of cultural ecosystem services, the research sheds light on spatial disparities and seeks to promote equity in urban green spaces.

The findings contribute to a comprehensive understanding of the distribution and availability of cultural ecosystem services in Cali. Through spatial analysis, integrating socio–economic characteristics, this study provides valuable insights for urban planning and policy–making. The results inform strategies aimed at enhancing access to green spaces, fostering inclusivity, and improving the overall well–being of Cali's diverse population. By considering the spatial dynamics of socio–economic factors, this research advocates for the equitable distribution of cultural ecosystem services, supporting sustainable and inclusive urban development in Cali.

Keywords: cultural ecosystem services, urban green spaces, social media data, environmental justice, spatial analysis

4. *Type of submission:* Abstract / Resumen

T. Thematic Working Group sessions / Sesiones del Grupo de trabajo Temáticas T20 – Equity and justice perspectives from Latin America

Aportaciones al campo de la justicia ambiental para la gestión de los servicios de los ecosistemas.

First author(s): Míriam Montero–Hidalgo

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El marco de los servicios ecosistémicos (SE) reconoce y cuantifica la dependencia de los seres humanos de los ecosistemas, así como la dependencia de la salud del ecosistema de la relación entre los seres humanos y su entorno. El flujo de SE de la naturaleza a los humanos y viceversa podría ordenarse de forma equitativa mediante algunas consideraciones morales, como las que establece la justicia ambiental.

Aunque el marco de los SE está ganando impulso como base conceptual para diversas estrategias que hacen operativos los beneficios de los ecosistemas, incluidas las infraestructuras verdes, la adaptación basada en los ecosistemas y las soluciones basadas en la naturaleza, su aplicación debe tener en cuenta la equidad y la justicia para evitar (re)producir desigualdades sociales y medioambientales. Por lo tanto, la mejora del marco de los SE a través de una perspectiva de justicia ambiental podría dar lugar a un enfoque más holístico e inclusivo para legitimar los enfoques existentes de aplicación de los servicios ecosistémicos.

Nuestra contribución describe al ser humano como parte de la naturaleza (no solo dependiente de ella), cuestiona la visión utilitaria de la misma, expone el valor intrínseco de cada ser, y propone el principio de "subsidiariedad ambiental" como método de gobernanza de los servicios de los ecosistemas para aproximarnos a la justicia ambiental en cada una de sus tres dimensiones: reconocimiento, participación, y distribución. La subsidiariedad ambiental implica promover sistemas locales de justicia ambiental que permitan que las personas promulguen sus propias formas de distribución de los SE siempre y cuando estén en el marco de un bien común. Nuestro enfoque explica como la "subsidiariedad ambiental" puede facilitar la gestión de los servicios ecosistémicos, y se ejemplificará a través de una serie de medidas a aplicar en un caso de estudio sobre los servicios ecosistémicos costeros.

Keywords: justicia ambiental, servicios ecosistémicos, equidad, subsidiariedad, ambientalismo utilitarista

5. *Type of submission:* Abstract / Resumen

T. Thematic Working Group sessions / Sesiones del Grupo de trabajo Temáticas T20 – Equity and justice perspectives from Latin America

Exploring ecological gentrification by ecosystem services in Chile: a critical literature review

First author(s): Ernesto Lopez–Morales

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Northern Patagonia, a broad southern area of Chile, South America, attracts wealthy migrants due to its natural beauty. But efforts to encourage sustainable urbanization through eco–friendly initiatives may negatively affect vulnerable social groups, leading to ecological gentrification. The impact of green gentrification on low–income communities in Patagonia is a relatively unexplored topic in the ecosystem service and gentrification literature. However, Northern Patagonia is a broad space with enormous ecological frailty and socioeconomic imbalances.

As a first stage of a more extended research study, this presentation offers a critical literature review on ecosystem services applied to observe ecological gentrification. Currently, it is accepted that gentrifiers benefit from improved access to cultural ecosystem services (ES), and this leads to property value appreciation. Also, gentrification can lead to excluding the gentrified population from participating in planning processes related to green initiatives. This is due to the lack of social cohesion that gentrification often brings. In this presentation, we offer a methodological approach to address three objectives. First, investigate how the development of green infrastructures relates to affluent residents' access to regulating and cultural ES; second, how this access creates property value marginal appreciation; and third, how decision–making power in urban planning excludes marginalized populations.

This study addresses the importance of urban planning informed by ecosystem services in achieving social and environmental equity. A contribution by ecosystem services research is expected to provide valuable insights into the country's housing equality and better urban policies.

Keywords: Ecological gentrification; Ecosystem Services; Northern Patagonia

6. *Type of submission:* Abstract / Resumen

T. Thematic Working Group sessions / Sesiones del Grupo de trabajo Temáticas T20 – Equity and justice perspectives from Latin America

Desposesión y Gobernanza: El rol invisible de los pueblos indígenas en las áreas naturales protegidas de Chile

First author(s): Katherine Huaiquimilla

Presenting author: Katherine Huaiquimilla Guerrero

Other author(s): Jeimy Moscote Guerra, Sebastián Ramírez–Riveraa, Duhalde–Correa, María José Peralta–Scholz Fernanda Orellana Silva Verónica Plaza Santana Carlos F. Gaymer

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A nivel internacional, el progresivo reconocimiento de los pueblos indígenas y sus derechos consuetudinarios en las herramientas legislativas ha establecido nuevas directrices para la conservación de los recursos naturales en las áreas protegidas (AP). En Chile, los pueblos indígenas (PI) que sufrieron el despojo de áreas ancestrales tras la declaración de APs, han demandado su inclusión y participación en ellas. A partir de la literatura científica, institucional y gris, identificamos siete formas en que los PI contribuyen y participan en áreas naturales protegidas terrestre y marinas: resistencia o defensa de áreas ancestrales, conservación biocultural, prácticas sustentables, participación en consulta, creación de áreas, desarrollo de planes de manejo y gestión, que comprende la participación en la administración, coadministración o cogestión. Nuestros resultados muestran que el 60% de los PI participan en la gestión del 7,3% de las APs de Chile. Los pueblos Rapanui y Kawashkar participan mayoritariamente en la cogestión de 729.439 km² y 668 km² de áreas marinas protegidas, respectivamente. Los pueblos Aymara y Atacameño lideran la gestión de áreas protegidas terrestres en el norte de Chile, con 1.378 km² y 872,36 km², respectivamente. El pueblo Mapuche, con mayor densidad poblacional, participa en ambos ambientes, liderando la administración de maritorios con 3.475,98 km² de Espacios Costeros Marinos para Pueblos Originarios (ECMPO). La participación de los pueblos restantes es limitada. Avanzar en el reconocimiento y rol de los PI en la protección de la naturaleza a través de una gobernanza biocultural compartida es un desafío para el Estado chileno.

Keywords: Conservación, Pueblos Indígenas, Consuetudinario, Gestión, Áreas Protegidas.

7. *Type of submission:* Abstract / Resumen

T. Thematic Working Group sessions / Sesiones del Grupo de trabajo Temáticas T20 – Equity and justice perspectives from Latin America

The ecosystem service concept as a lens to analyze distributive inequalities

First author(s): Laura Nahuelhual

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The consideration of inequality in the ecosystem services (ES) literature has garnered increased attention in recent years, indicative of a growing recognition of the significance of addressing distributional concerns in environmental management and policy. Drawing from case studies in southern Chile, this study elucidates how the ES approach can contribute to the visibility of disparities in the capacity to provide and access nature's benefits. The first set of examples examines the interconnections between the distribution of resources (land size and forest distribution) and the capacity to supply ES. These relationships are investigated at multiple scales ranging from regional to farm levels. The findings affirm the presence of a trilogy of inequalities, where the concentration of land and forests coincides with the concentration of ES. Additionally, a "trap"-like pattern emerges, whereby these inequalities become entwined with poverty and the loss of natural capital. The second set of examples focuses on marine ecosystems in the Magallanes region, the southernmost part of Chile, revealing the spatial coupling and decoupling between marine ES provision and access to benefits. The outcomes vary depending on the type of ES, yielding four general scenarios: (1) spatial decoupling between provisioning and benefiting areas for food derived from artisanal fisheries and aquaculture; (2) coupling between provisioning and benefiting areas for recreation and education opportunities; (3) coupling between provisioning areas and beneficiaries for a sense of place; and (4) "unidirectional" telecoupling in fish provision, recreation opportunities, and education opportunities, where the Magallanes region acts as a provisioning area with limited regional beneficiaries. Drawing from these examples, we reflect on the importance of distributive considerations in conservation planning and the need for a deeper analysis of the ethical underpinnings surrounding discussions of inequality, inequity, and justice within the ES literature.

Keywords: distributive inequality, land inequality, spatial distribution, ecosystem services mapping.

8. *Type of submission:* Abstract / Resumen

T. Thematic Working Group sessions / Sesiones del Grupo de trabajo Temáticas T20 – Equity and justice perspectives from Latin America

Inclusion of Environmental Justice concerns in Urban Climate Action Plans: Insights from Latin American Cities

First author(s): Jarumi Kato–Huerta

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Urban Climate Action Plans are instruments used to address climate change through adaptation and mitigation strategies. However, the asymmetric impacts of climate responses on marginalised communities, who are already disproportionately affected by climate-related hazards, raise concerns about the lack of attention given to the environmental justice (EJ) implications in these plans. As such, this study focuses on Latin America to analyse the inclusion and framing of EJ concerns in Urban Climate Action Plans from 30 cities.

By conducting content analysis, we assessed whether and how these plans address justice concerns and translate them into tangible strategies, specifically emphasising the deployment of Nature-based solutions (NbS). Our findings reveal an increasing prominence of this topic over the years. However, the translation of EJ concerns into specific actions remains limited. When coded and identified, actions primarily focus on educational and capacity-building strategies rather than systemic policy interventions.

Moreover, we underscore the missed opportunities in the framing NbS within planning documents. While these are often presented in the context of biodiversity conservation, they fail to fully embrace their socially transformative potential for fostering just futures, which increases the risk of rejection by disadvantaged social groups.

Finally, this presentation will showcase best practices identified in the examined Urban Climate Action Plans. We will highlight strategies and initiatives that allow for the effective integration of EJ into planning processes. These best practices demonstrate the potential for addressing the needs of marginalised communities while promoting climate resilience and sustainability.

The results of this research emphasise the urgent need for a more robust integration of EJ considerations within Urban Climate Action Plans in Latin American cities. Moreover, the key

findings provide valuable insights and recommendations for policymakers, urban planners, and practitioners to enhance the effectiveness of climate action strategies while addressing the specific socio–environmental realities of marginalised communities in the region.

Keywords: Climate action; environmental justice; Latin America; urban planning; nature–based solutions