THE SCHOOL FOR FIELD STUDIES

Environmental Justice from the Ground Up
SFS 3232

Syllabus
4 credits

The School for Field Studies (SFS)
Center for Ecological Resilience Studies (CERES)
Atenas, Costa Rica

This syllabus may develop or change over time based on local conditions, learning opportunities, and faculty expertise. Course content may vary from semester to semester.

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COURSE CONTENT SUBJECT TO CHANGE

Please note that this is a copy of a recent syllabus. A final syllabus will be provided to students on the first day of academic programming.

SFS programs are different from other travel or study abroad programs. Each iteration of a program is unique and often cannot be implemented exactly as planned for a variety of reasons. There are factors which, although monitored closely, are beyond our control. For example:

- Changes in access to or expiration or change in terms of permits to the highly regulated and sensitive environments in which we work;
- Changes in social/political conditions or tenuous weather situations/natural disasters may require changes to sites or plans, often with little notice;
- Some aspects of programs depend on the current faculty team as well as the goodwill and generosity of individuals, communities, and institutions which lend support.

Please be advised that these or other variables may require changes before or during the program. Part of the SFS experience is adapting to changing conditions and overcoming the obstacles that they may present. In other words, this is a field program, and the field can change.

Course Overview

Environmental justice (EJ) is the principle of ensuring that all individuals and communities have equal access to the natural resources necessary for a healthy and fulfilling life. This includes access to clean water, pesticide-free food, clean air, and the benefits of sustainable biodiversity. EJ combines the concepts of environmental sustainability and social justice, emphasizing the equitable distribution of environmental risks and protection among people of different economic and ethnic backgrounds. EJ combines notions of environmental sustainability and everyday environments with demands for social justice (Agyeman 2013, Walker G. 2012). EJ focuses on the unequitable distribution of environmental risks and governmental protection among people of different economic and ethnic backgrounds (Schlosberg 2009). This concept has a long history in conservation and sustainable development. The modern view derived from the US civil rights movement and advocates' calls for racial equality with environmental action. Socioeconomically disadvantaged groups across the world have harnessed social justice action to fight against unequitable environmental outcomes, although its origin is much older and can be traced back to historical conflicts for limited natural resources.

Current environmental movements have stressed the consequences of unequal access to natural resources imposed by corporations and rich countries that do not consider the negative and disproportionate consequences of uncontrolled economic development, and which concentrate environmental harms on economically weaker human groups. These groups include the poor, indigenous communities, women, and residents of the Global South who have less access to resources, are vulnerable to different forms of opresion (i.e., racism), and lack government representation. At the local level, much of the environmental costs fall on poor communities suffering from polluted environments. At the global level, developing countries bear the consequences of global warming, despite of not being responsible for the enormous environmental cost of greenhouse gas emissions, or just being minor consumers of fossil fuels. These countries have also suffered the extraction of raw materials as well as the appropriation of agricultural and genetic resources without being compensated.

A healthy ecosystem secures healthy conditions for human populations. The terms "global health" and "climate justice" have been integrated into the realm of EJ as consequence of the challenges imposed by the progression of global warming and other impacts of climate change. These challenges have been heightened by the emergence of new diseases and pandemics such as covid-19. EJ also integrates the concept of "ecological justice" to acknowledge the right of living systems to exist with minimal human intervention. Environmental and ecological justice in the broad sense impose limits on excessive economic growth, the loss of ecosystems, and agricultural, livestock, massive tourism, and urban expansion. EJ emphasizes the imperative need to implement sustainable development policies and intra- and intergenerational equity at the global level, which must respect the rights of future generations to a healthy environment.

The history of the development of environmental movement in Costa Rica is full of examples of social and political struggles molding policies for biodiversity protection. Currently, Costa Rica has reached important landmarks setting aside 26% of its continental area -Avalos 2019- (and 11% of its national waters, Alvarado et al. 2016) and is moving towards banning oil exploration permanently. This small country of only 51,100 km2 protects 5% of Earth´s biodiversity and has one of the highest concentration of species per unit of area (Kappelle 2016). A coalition of community organizations, scientists and government offices combined to increase forest cover from the low of 21% caused by cattle ranching and the expansion of agroindustry in the 1980s to today´s 60% forest cover (Furumo & Lambin 2021). The establishment of the system of National Parks (now, SINAC) in the early 1970s changed the

economic model of the country from an agricultural to a service-based economy, where tourism is one of the main income generators (Stan & Sanchez-Azofeifa 2019). The income generated by tourism supported a significant conservation effort along with the development of a strong legal framework (i.e., the 1949 constitution was amended in 1994 to incorporate the right to a healthy environment and the responsibility of the State to guarantee that right), as well as setting ambitious goals (such as achieving carbon neutrality in 2031, Mora 2017).

Despite significant progress, Costa Rica still faces great environmental challenges. Key resources, like water and food, are often directed to tourists instead of local populations. The expansion of monocrop agricultural production, which depends on the intensive use of pesticides and fertilizers, is polluting water sources and destroying the natural forests. Rural communities in rural and coastal areas have seen their way of life threatened by gentrification. Ecosystem services are jeopardized by development strategies placing profit ahead of human and environmental health. The challenges are many, and in this course, we will analyze three case studies illustrating environmental threats and the social movements working to alleviate them and create more just societies:

- Case study 1: Food justice and seed sovereignty.
- Case study 2: Water justice and social movements.
- Case study 3: Use of bioindicators and measurement of ecosystem services to assess ecological justice.

Specific components of this four-week summer program will include:

- Explore local community efforts to preserve food production and seed-saving by visiting agroecological farms and learning about sustainable farming practices.
- Analyze water management practices and social movements in defense of water by visiting a local water management committee (known as ASADAS) in Costa Rica.
- Visit Monteverde to learn about the transition from pastures to forests to reserves, including different perspectives on ecological and environmental justice. This includes balancing the needs of tourists, local communities, conservationists, and farmers.
- Examine how the Monteverde community has increased economic resilience by implementing food production and distribution strategies in response to Covid-19.
- Compare two rural communities in Monteverde and Alto del Roble to see how they have managed tourism initiatives, local actors, and environmental threats to protect key biodiversity resources. Study cases include the Monteverde Golden Toad and the Holdridge's Toad in Alto del Roble.

These themes will be analyzed during lectures, discussions, and field trips. For the final component of the course, students will actively synthesize concepts and methodologies learned in class and field activities in an integrated final essay summarizing a specific aspect of the EJ issues examined here. Throughout the program, there will be room for discussion with fellow students and faculty, to provide a comprehensive introduction to EJ issues and conflicts and how to propose solutions.

Learning Objectives

The learning objectives of this summer program are:

1. Compare areas with different levels of community organization, development, and key biodiversity resources to identify threats, opportunities, and EJ cases.
2. Analyze the connections between biodiversity conservation and water management, in the development of regenerative agroecological systems.
3. Analyze the role of community and NGO efforts to develop sustainable and equitable watershed protection.
4. Analyze the role of the government and private institutions (Costa Rican Institute of Tourism and the National System of Protected Areas, the top-down approach) to promote sustainable and environmentally and socially just tourism options.
5. Compare Alto del Roble with Monteverde to discuss different approaches to rural community economic development, the role of local actors, and environmental threats on key biodiversity bioindicators (birds, amphibians, mammals).

Assessment

The assessment of student contributions has the following components. Grade corrections for any item should be requested in writing at least 24 hours after assignments are returned. No corrections will be considered afterward.

Assessment Item	Value (%)
Field Exercise 1	20
Field Exercise 2	20
Field Exercise 3	20
Integrated Essay	25
Participation	15
TOTAL	**100**

FEX 1: Environmental Justice Mapping (20%)

The EJ Atlas collects stories of communities struggling for environmental justice from around the world with the aim to make these issues more visible and actions more impactful. The objectives of this FEX are to research one of the cases of environmental injustice in Costa Rica contained in the EJAtlas. These cases include events of deforestation for monoculture production, poaching on protected lands, and water grabbing in tourism areas. Then, you will compare the similarities of one mapped issue with community-identified issues we will discuss at Finca San Luis, Quitirrisí, or Montverde. Finally, you will create your own profile of an environmental injustice issue and community action focusing on Monteverde and add this issue to the EJ Atlas.

FEX 2: Community movements in defense of water in Atenas (20%)

Despite Costa Rica being considered a country rich in water resources, rainfall patterns and water availability are unevenly distributed throughout its territory. Dry tropical ecosystems, such as the Central Pacific region, are characterized by the presence of a strong dry season. In this area, agriculture, deforestation, gentrification, water pollution, lack of infrastructure and poor urban development planification have led to water scarcity in numerous rural communities. That is the case of Atenas, a county of about 25 000 inhabitants, which suffered from water scarcity for about 7 years. Currently, while there are residential areas with private water service, there are communities that do not have

access to intra-domiciliary water. In this field exercise we will conduct surveys and interviews to understand social participation in decision making regarding water management in the community of Balsa, in Atenas.

FEX 3: The Tragedy of the Commons: comparing conservation threats of forests ecosystems (20%)

Even though Costa Rica has strong legislation on the conservation and use of natural resources, harmful practices, and lack of resources to control and protect key species and natural areas are threatening its unique biodiversity and ecosystem services. The lack of effective dialogue between public and private entities, local communities, land-use policy makers, regulatory plans, and tourism development, create a snowball effect matching the definition of the Tragedy of the Commons. In this FEX, we will evaluate two sites with different levels of development and community and tourist management: Monteverde (Puntarenas) and Alto del Roble (Heredia). We will examine the impact on key species and montane forest ecosystems affected by socio-environmental conflicts and the lack of policies or actions. At the end of the FEX, students will be able to contrast both conservation scenarios after visiting the localities, interviewing local actors, and monitoring key species to identify EJ conflicts, as well as to formulate potential solutions.

Integrated Essay (25%)

Students will synthesize the experiences of the summer session in a short, integrated essay, focusing on key topics discussed examined the session including the final discussion.

Participation (15%)

Students will be graded based on their contribution to the program during discussions, field labs, and field experiments. Active participation is fundamental for the successful completion of the summer session.

Grading Scheme

A	95.00 - 100.00%	B+	86.00 - 89.99%	C+	76.00 - 79.99%	D	60.00 - 69.99%
A-	90.00 - 94.99%	B	83.00 - 85.99%	C	73.00 - 75.99%	F	0.00 - 59.99%
		B-	80.00 - 82.99%	C-	70.00 - 72.99%		

General Reminders

Readings – Readings for each lecture and exercises are listed in the syllabus or will be assigned before, or after, the lecture. The material will be provided in the form of an anthology to save printing paper and reduce waste. You are expected to read these materials before class and use them as background information for discussion. If you stay for summer 2, readings will be more specific to the subject of the research component implemented at the end of that session.

Plagiarism – Using the ideas and material of others without giving due credit is cheating and will not be tolerated. A grade of zero will be assigned if anyone is caught cheating or aiding another person to cheat actively or passively (e.g., allowing someone to look at your exam).

Students doing surveys as part of their research on rural tourism, a potential solution to secure that local communities benefit socioeconomically while increasing biodiversity protection.

Deadlines – Deadlines for assignments are established to promote equity among students, to allow faculty enough time to review and return comments and grades before other assignments are due; and to avoid clashes with other activities and courses. Therefore, deadlines are firm, and extensions will only be considered under extreme circumstances.

When appropriate, the files and additional materials should be placed in the assigned folder of the students drive in the CSDS server. Please check ahead of time with the professor in charge regarding the assignments' deadlines. Late assignments will incur a penalty of 10% of your grade for each day you are late. After two days past the deadline assignments will not be accepted anymore. Assignments will be handed back to students after a one-week grading period. All grade revisions should be in writing explaining the issues at hand within the 24 hours after receiving the grade in any activity, be this an exam or field related work.

Participation – Since we offer a program that is likely more intensive than you might be used to at your home institution, missing even one lecture can have a proportionally greater effect on your final grade simply because there is little room to make up for lost time. Participation in all components of the course is mandatory, it is important that you are prompt for all activities, bring the necessary equipment for field exercises and class activities, and simply get involved.

Course Content

Type- L: Lecture, **FL:** Field Lecture, **GL:** Field Lecture, **FEX:** Field Exercise, **D:** Discussion, **Lab:** Classroom lab/workshop

***Required readings are in bold**

No	*Title and outline*	*Type*	*Time (hrs)*	*Readings*
1	**General Orientation and Introduction**	L	1.0	
2	**Introduction to Environmental Justice in Costa Rica** - Justice framework to access natural resources in the context of equitable development. - Costa Rican history and national development, policy & environmental justice.	L	1.5	**Carruthers, D. V. (2008).**
3	**Water and Waste Management in Costa Rica** Three of the greatest challenges for NRM in CR: - Waste and water management - Ecological and socioeconomic impacts - Integrated Water Resources Management	D	1.5	**Bower, K.M. (2014).** **Blomquist, W. A., et al. (2005).**
4	**Introduction to Sustainability Contract**	D	1.0	
5	**Food Justice** - How dominant food systems disadvantage certain groups - Impacts of food insecurity - Connection between food systems, seed saving and EJ.	L	1.5	**Sylvester, O., & Little, M. (2021).**
6	**Intro to the Natural History of Bats**	Lab	1.0	
7	**Field Trip: Finca Orgánica San Luis** Organic agriculture and seed sovereignty	FL; FEX	4.0	
8	**Food Justice and Tourism in Costa Rica** - Types of tourism - Economic and conservation importance of tourism - Tourism and EJ	L	1.5	**Higgins-Desbiolles, F. (2018).**
9	**Field Trip: Quitirrisí**	FL	2.0	
10	**Indigenous Communities in Environmental Justice Action**	GL	1.5	**Todd, H. (2014).**
11	**Introduction to Water Management in Atenas** - General context on the conflict for water in Atenas between 2010 and 2019	L	1.0	Optional (Spanish): Valenciano, 2021
12	**Community Action and EJ Movements**	FL	1.5	
13	**Environmental Impacts of Tourism**	L	1.5	
14	**Field Trip: Los Chorros** Visit to the springs of Los Chorros, which provide water to about 60% of the population of Atenas.	FL; FEX	2.0	
15	**Field Trip: Monteverde**	FL; FEX	3.0	
16	**Urban Ecology and Ecosystem Services** Understanding theory related to urban ecology and environmental services received by people. Study cases from Costa Rica.	L	1.5	**Souza, F. L., et al. (2021).**

No	*Title and outline*	*Type*	*Time (hrs)*	*Readings*
17	**FEX 1 Writing and Data Analysis** Environmental Justice Mapping	Lab	3.0	
18	**Field Trip: Campus Tour in San José** Explore the urban nature of UCR Campus with local guides from Oropopo Experience.	Lab	2.0	
19	**Field Trip: Alto del Roble** We will visit Alto del Roble with the Montane Forest Conservation Foundation, but also green spaces and parks in Heredia Province to assess and interview people about ecosystem services.	Lab	4.0	
20	**Visit to ASADA** Community initiatives to manage local protected areas. Study case of an ASADA (Administrative Associations for Water Supply and Sewage Systems)	FL	1.0	
21	**FEX 2 Writing and Data Analysis** Analyze surveys and interviews to understand social participation in decision-making regarding water management in Atenas	Lab	3.0	
22	**FEX 3 Writing and Data Analysis** Analyze data from interviews, surveys, and direct documentation from the sites visited in GAM.	Lab	3.0	
23	**Field trip: Sarapiquí** We will explore how environmental injustice, food sovereignty, ecotourism, ecosystem services, and water are interrelated and impact the environment and local communities.	Lab	4.0	
24	**Integrated Discussion** We will analyze various perspectives and propose improvements for securing ecosystem services, food sovereignty, water supply, and other environmental services while balancing human needs with conservation. Students will consider trade-offs and potential solutions for sustainable and equitable development.	D	2.0	
25	**Integrated Essay** Students will write a short essay based on questions provided by the professors related to the approaches to environmental issues covered in the class and in field trips. This assignment will encourage critical thinking about the complexities of environmental problems and potential solutions.		3.0	
	Total		**52**	
	UMN Instructional Hours*		**62.4**	

**UMN defines* *an instructional hour as a 50-minute block. SFS syllabi are written in full 60-minute hours for programming purposes. Therefore 50 full hours = 60 UMN instructional hours (for four credit courses) and 25 full hours = 30 UMN instructional hours (for two credit courses).*

Reading List

***Required readings are in bold**

1. Agyeman, J. (2013). Introducing just sustainabilities: Policy, planning, and practice. Zed Books Ltd.
2. Alvarado, J. J., Cortés, J., Esquivel, M. F., & Salas, E. (2012). Costa Rica's marine protected areas: status and perspectives. Revista de Biología Tropical 60(1): 129-142.
3. Avalos, G. (2019). Still searching the rich coast: Biodiversity of Costa Rica, numbers, processes, patterns, and challenges. In Global Biodiversity (pp. 101-135). Apple Academic Press.
4. **Blomquist, W. A., Ballestero, M., Bhat, A., & Kemper, K. (2005).** Institutional and policy analysis of river basin management: The Tárcoles River basin, Costa Rica. https://scholarworks.iupui.edu/bitstream/handle/1805/25600/Blomquist2005Institutional.pdf?sequence=1&isAllowed=y
5. **Bower, K.M. (2014).** Water supply and sanitation in CR. Environmental Earth Sciences 71: 107-123.
6. Brown, J.H. 2014. Why are there so many species in the tropics? J. Biogeogr 41, 8-22.
7. **Carruthers, D. V. (2008).** Environmental justice in Latin America: Problems, promise, and practice. MIT Press.
8. Furumo, P. R., & Lambin, E. F. (2021). Policy sequencing to reduce tropical deforestation. Global Sustainability 4: 1-12.
9. **Higgins-Desbiolles, F. (2018).** The potential for justice through tourism. Via. Tourism Review, (13).
10. Higgins-Desbiolles, Freya, Kyle P. Whyte, and D. J. Tedmanson. (2013). Tourism and environmental justice. Diss. Sagamore.
11. Holifield, R., Chakraborty, J., & Walker, G. (Eds.). (2017). *The Routledge handbook of environmental justice*. Routledge.
12. IPBES (2019). "Global Assessment Report on Biodiversity and Ecosystem Services." Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), United Nations report online: https://ipbes.net/ipbesglobal-assessment-report-biodiversity-ecosystem-services
13. Kappelle, M. (Ed.). (2016). Costa Rican Ecosystems. University of Chicago Press.
14. Kuzdas, C., Wiek, A., Warner, B., Vignola, R., & Morataya, R. (2014). Sustainability appraisal of water governance regimes: the case of Guanacaste, Costa Rica. Environmental management, 54(2), 205-222.
15. Little, M. (2022). Enhanced food security through localised community crypto-currency: experiences of a Costa Rica tourism town. In F. Higgins Desbiolles and B. Biggby (Ed.) Reorienting Tourism. London: Channel View Press.
16. Mora, L. M. (2017). Programa país carbono neutralidad 2.0. Dirección de Cambio Climático. Retrieved from: http://extwprlegs1.fao.org/docs/pdf/cos178009anx.pdf
17. Peschard, K., & Randeria, S. (2020). 'Keeping seeds in our hands': the rise of seed activism. The Journal of Peasant Studies, 47(4), 613-647.
18. Schlosberg, D. (2009). Defining environmental justice: Theories, movements, and nature. Oxford University Press.
19. Schlosberg, D. (2013). Theorising environmental justice: the expanding sphere of a discourse. Environmental politics, 22(1), 37-55.
20. Stan, K., & Sanchez-Azofeifa, A. (2019). Deforestation and secondary growth in Costa Rica along the path of development. Regional Environmental Change 19(2): 587-597.

21. **Sylvester, O., & Little, M. (2021).** "I came all this way to receive training, am I really going to be taught by a woman?" Factors that support and hinder women's participation in agroecology in Costa Rica. Agroecology and Sustainable Food Systems, 45(7), 957-980.

22. **Todd, H. (2014).** Conflict Assessment of the El Diquís Hydroelectric Project: When Renewable Energy Poses Environmental Threats & Human Rights Violations. Peace and Conflict Review, 8(1), 43–58.

23. Valenciano, M. S. (2020). ¿Agua para quién? Movilización comunitaria y negociación en el conflicto socioambiental del Parque Los Chorros, Costa Rica. Íconos - Revista de Ciencias Sociales, 69, 35–51. https://doi.org/10.17141/iconos.69.2021.4504

24. Walker, G. (2012). Environmental justice: Concepts, evidence, and politics. Routledge.