

Resilience in the Peruvian Amazon

Butterflies, Boundaries & Beginnings

Before Peru, I thought leadership showed itself most clearly through action. I associated it with decisiveness, with stepping forward quickly and offering solutions when situations felt uncertain. Leadership, to me, was visible and directional. My LiA experience in the Peruvian Amazon unsettled that understanding. In Madre de Dios, leadership was not loud or immediate. It was patient, relational, and deeply tied to survival. It lived in everyday decisions about land, restraint, and responsibility rather than in formal authority.

Madre de Dios is often described as the biodiversity capital of the world, a claim grounded in its extraordinary concentration of species across plants, insects, birds, and mammals (Forsyth and Miyata). Situated at the headwaters of the Amazon Basin, the region contains some of the most intact tropical forests remaining. At the same time, it is one of the most threatened landscapes in Peru, facing intense pressure from illegal gold mining, deforestation, and rapid fragmentation (Swenson et al.). This tension between abundance and vulnerability framed my entire LiA experience. Biodiversity here is not abstract. It is something that must be actively lived with, negotiated, and protected.

My primary LiA project focused on understanding biodiversity through butterflies, which are sensitive indicators of habitat change. Working



across primary forest, disturbed primary forest, and secondary forest sites, I observed how butterfly communities differed not only in abundance but in composition. Disturbed habitats often supported more individuals, while intact forests supported species that did not appear elsewhere. These patterns challenged my instinct to interpret disturbance through a single narrative of decline. Instead, they pointed toward differentiation and resilience. Over time, I realized that these ecological patterns mirrored social ones. Diversity persisted where systems were allowed to remain complex rather than simplified.

The physical demands of the work shaped my understanding of leadership as much as the data itself. Field days began early, often before sunrise. Waking at five in the morning became routine, not because it was motivating, but because it was necessary. Traps had to be prepared, bait had to be replaced consistently, and sites had to be reached before heat and rain altered conditions. This routine exposed the difference between enthusiasm and discipline. Leadership, I learned, depends less on motivation than on reliability. The work needed to be done whether I felt prepared or not.

The forest itself imposed challenges that could not be ignored. Bullet ants were a constant presence, and being bitten was both painful and grounding. The sting forced me to stop, reassess, and slow down, even when schedules were tight. These moments reinforced that leadership is not

about pushing through discomfort at all costs. It is about recognizing limits and responding thoughtfully. Ignoring pain, fatigue, or risk does not make one resilient. It makes one careless. In the field, as in leadership, long-term effectiveness depends on awareness and restraint.

There were also moments when things went wrong. Traps failed. Data points were lost. Weather shifted unexpectedly. Early on, I felt frustration at these disruptions, interpreting them as inefficiencies. Over time, I learned that unpredictability was not an obstacle to the work. It was part of the system. Leadership required adaptation rather than control, and the willingness to continue working carefully even when outcomes were uncertain.

One of my strongest leadership tendencies is my ability to see relationships between systems rather than focusing on isolated outcomes. In Madre de Dios, this meant recognizing that biodiversity could not be separated from people. Forests that remained standing did so not by chance, but because human livelihoods were aligned with long-term stewardship. The more time I spent in the field, the clearer it became that conservation was not simply a scientific challenge, but a social one. Leadership required understanding how ecological and human systems reinforced one another over time (Rath and Conchie).

This became especially clear through my interactions with *castañeros*, the Brazil nut harvesters whose livelihoods depend on intact forest ecosystems. The *castañeros* I spoke with described conservation not as ideology, but as practice. They spoke about harvest timing, regeneration cycles, and the consequences of disrupting forest structure too quickly (*Castañeros of Madre de Dios*, personal communication, July 2025). Their leadership was embedded in everyday restraint. Choosing not to overharvest and not to convert land for short-term gain was a form of leadership rooted in accountability to the future. These decisions were not symbolic. They involved real economic risk taken in service of continuity.

Their approach stood in sharp contrast to the impacts of illegal gold mining in the region. Mining has left visible scars across Madre de Dios, contaminating waterways with mercury, fragmenting forests, and destabilizing communities (Swenson et al.). Walking through mined areas made clear how quickly complexity can be erased. Soil structure collapses, water systems are poisoned, and recovery becomes uncertain at best. Against this backdrop, the leadership practiced by *castañeros* felt both fragile and powerful. It depended on patience rather than speed, and on protecting value that could not be immediately extracted.

As a temporary outsider, I had to confront the limits of my own role. I would leave. The people living and working in Madre de Dios would not. This reality shaped how I thought about leadership and impact. It forced me to ask not what I could accomplish while I was there, but what would remain useful after I left. Many of my Critical Moment Dialogues returned to this tension. Leadership, I learned, is not about maximizing short-term output. It is about minimizing long-term harm (Komives et al.).

This question of continuity led directly to an additional output of my LiA beyond my own research project: a butterfly identification guide written in Spanish. The guide emerged from a practical gap. Much of the ecological material used for identification existed only in English, limiting who could fully engage with the work. While my research focused on data collection and analysis, the guide was designed as a separate, complementary resource intended to support people, students, and locals working in and around the field station after my departure.

Creating the guide forced me to rethink my relationship to knowledge. I had to decide what information was essential, how to describe species clearly without unnecessary jargon, and how to prioritize usability over completeness. The process became collaborative. I shared drafts with people at the field station, asked for feedback on clarity and usefulness, and revised descriptions

based on how others interacted with the material. In this way, the guide became a shared object rather than a personal product. It linked research, language, and lived experience.

For those working at the field station, the guide offered a way to engage more directly with biodiversity on their own terms. For me, it clarified that leadership involves translation, not just discovery. Knowledge that cannot circulate does not endure. While modest in scope, the guide represented an intentional effort to leave behind something practical, accessible, and adaptable. It marked a shift in how I understood leadership from individual contribution to collective continuity.

Being immersed in Madre de Dios reshaped my internal leadership capacities. I became more adaptable, more comfortable with ambiguity, and more aware of my own assumptions about efficiency and control. The forest did not reward urgency. It rewarded attentiveness. Over time, I learned to measure progress differently. Success became less about volume and more about consistency and care (Komives et al.).

Externally, these internal shifts affected how I communicated and collaborated. I learned to slow my pace, adjust my language, and remain attentive to context. I became more comfortable asking questions rather than offering conclusions. This allowed me to work within existing systems rather than disrupting them. Leadership became less about directing and more about aligning with the rhythms of place and people (Rath and Conchie).

Looking forward, my experience in the Peruvian Amazon has shaped how I envision myself as a global change leader. The lessons I learned align closely with the United Nations Sustainable Development Goals, particularly SDG 15 (Life on Land), SDG 13 (Climate Action), and SDG 12 (Responsible Consumption and Production). Madre de Dios made clear that protecting

biodiversity requires more than conservation policy alone. It requires livelihoods that make protection viable and leadership that values long-term resilience over immediate returns. As for next steps, I wish to continue my work understanding the intricate connections between people and biodiversity – the web of life.

I am drawn to work that sits at the intersection of environmental science, conservation, and community engagement. Peru taught me that sustainable change cannot be imposed from above or achieved quickly. It must be built through trust, continuity, and shared responsibility. The castañeros showed me that resilience is practiced daily through restraint. Leadership emerged in the Amazon not through authority or speed, but through listening long enough for people and forest to endure together.



Bibliography

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