Research Project:

TITLE: Policies and policy instruments to address urban vacant land (UVL) as an opportunity for climate change adaptation/mitigation and biodiversity gain via implementation of nature-based solutions (NBS) in Ecuador.

The project aims to develop guidelines for policy and policy instruments that effectively address UVL as an opportunity for climate change adaptation/mitigation and biodiversity gain through NBS implementation in Ecuador. The results have a potential to be transferable to other Latin American Cities (LAC).

LAC are facing the effects of climate change in a context of increasing social inequality and disparity conditions, which altogether, makes LAC hot-spots of vulnerability. Alongside these challenges the phenomenon of UVL is present in most of these cities where it accounts an important portion of land. For example, In Portoviejo, Ecuador, UVL ranges from 30% in expansion areas to 3% in informal settlements. In the city of Cuenca, Ecuador, UVL sum up to 25,5% of all urban lots, of whom 21.63% is in high risk of flooding or landslide. UVL accounts as unused or abandoned urban land and urban wild green spaces regardless of its ownership with exemption of protective land and green infrastructure and it is usually related with deficiencies in urban planning, and often carries a negative connotation. Nevertheless, UVL, if repurposed correctly can potentially improve cities capacity to address climate and social related challenges altogether. Studies have shown that repurposed UVL around the world can provide climate change mitigation through enhancing green infrastructure and ecosystem services, climate change adaptation and resilience through heat island effect control and storm-water attenuation, conserving and improving biodiversity in ecosystems by providing new habitat, promote reconnection of citizens to nature and serve community needs and contribute to community development. In that sense, nature-based solutions (NBS) measures like riverbanks parks, coastline parks, urban canopies, retention ponds or bioswales, among many others might be implemented in LA cities' UVL to tackle some of the challenges they are facing.

PROPOSED METHODS: Literature Review, Surveys and Interviews, case study analysis, spatial analysis, policy analysis, focus Group discussions, among others.

EXPECTED RESULTS: A Guidance Document for NBS in Vacant Land (GD) that will contain a set of guidelines for urban planners, policymakers, and local stakeholders to effectively repurpose UVL with NBS for climate Action, biodiversity and/or social related urban challenges in Ecuadorian cities. It will suggest a series of steps, each of which will include objectives, expected outcomes, guidelines, and relevant case studies. Preliminary content:

- Appropriately define, identify, characterize, and categorize UVL.
- Identify UVL appropriate for NBS implementation.
- Evaluate possible existing policies related to UVL.
- Determine urban needs that can be satisfied by NBS in UVL.
- Plan NBS implementation in UVL through a prospective view.
- Prioritize NBS implementation in UVL.
- Identify financing strategies for NBS in UVL.
- Develop policies and policy instruments to effectively implement NBS in UVL.
- Evaluate impact and results.

Carlos Calzadilla Guerra (2025)