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URBANSHIFT LABS

A Strategic Approach to Integrated Urban Planning

A MODEL FOR URBAN TRANSFORMATION

UrbanShift Labs are applied, city-specific workshops that support governments in designing and implementing sustainable, data-informed urban development strategies. Rather than one-size fits all solutions, these Labs offer structured engagements grounded in real needs, through which cities build capacity to tackle complex urban challenges using systems thinking, data, and participatory methods.

ABOUT URBANSHIFT LABS

In each city, Labs are co-designed with municipal teams to align with national and local development plans and are tailored to the city's most pressing needs. Over two days, stakeholders explore interdependencies across sectors such as land use, mobility, climate adaptation and biodiversity, revealing opportunities and trade-offs. The Labs inform tangible actions, from Climate Action Plans to land use and zoning plans, capital investment and development decisions and heat and urban resilience planning, depending on the city. This model supports actionable priorities and pathways that can be financed, scaled, and institutionalized. The process also catalyzes collaboration across departments, embedding systems thinking in city governance.

ABOUT URBANSHIFT

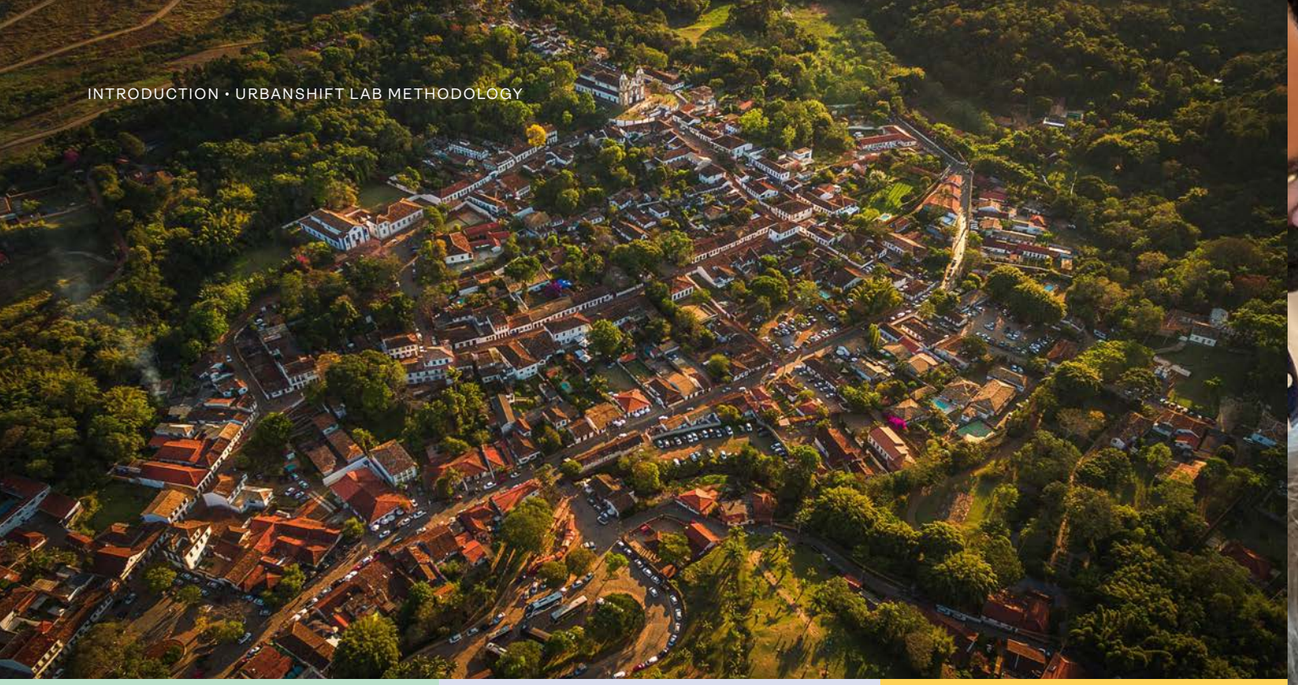
Funded by the Global Environment Facility, UrbanShift is a partnership between World Resources Institute, C40 Cities, ICLEI – Local Governments for Sustainability, and UN Environment Programme that works across nine countries and 23 cities to advance sustainable and integrated approaches to urban development. UrbanShift spans on-the-ground implementation and broad capacity-building support for city officials to pursue transformative urban development. UrbanShift Labs are a key element of the UrbanShift Global Platform's capacity-building offer.

THREE TYPES OF URBANSHIFT LABS

Best Practices Lab: Focused on peer learning, these Labs use real global case studies to stimulate thinking about planning and policy innovation. They are ideal for cities initiating new planning processes or designing policy instruments.

Planning Analysis Lab: These Labs engage participants in data-driven systems mapping to diagnose root causes, interdependencies, and systemic risks. They support strategic design of interventions that align with multiple city objectives.

Project Review Lab: Built around early-stage infrastructure or policy projects, these Labs help cities stress-test projects for co-benefits, risks, and trade-offs and integrate climate, nature, and equity concerns from the outset.



URBANSHIFT LAB METHODOLOGY

EACH LAB IS BUILT ON FIVE PRINCIPLES:

Systems Thinking: Diagnosing challenges across silos and identify leverage points

Evidence-Based Planning: Grounding decisions in spatial and socio-economic data

Climate and Equity Lens: Focusing on climate resilience and social inclusion

Local Ownership: Co-creating priorities with municipal staff and stakeholders infrastructure

Scalable Outputs: Generating clear priorities for investment and action

CITY HIGHLIGHTS

SAN JOSÉ, COSTA RICA

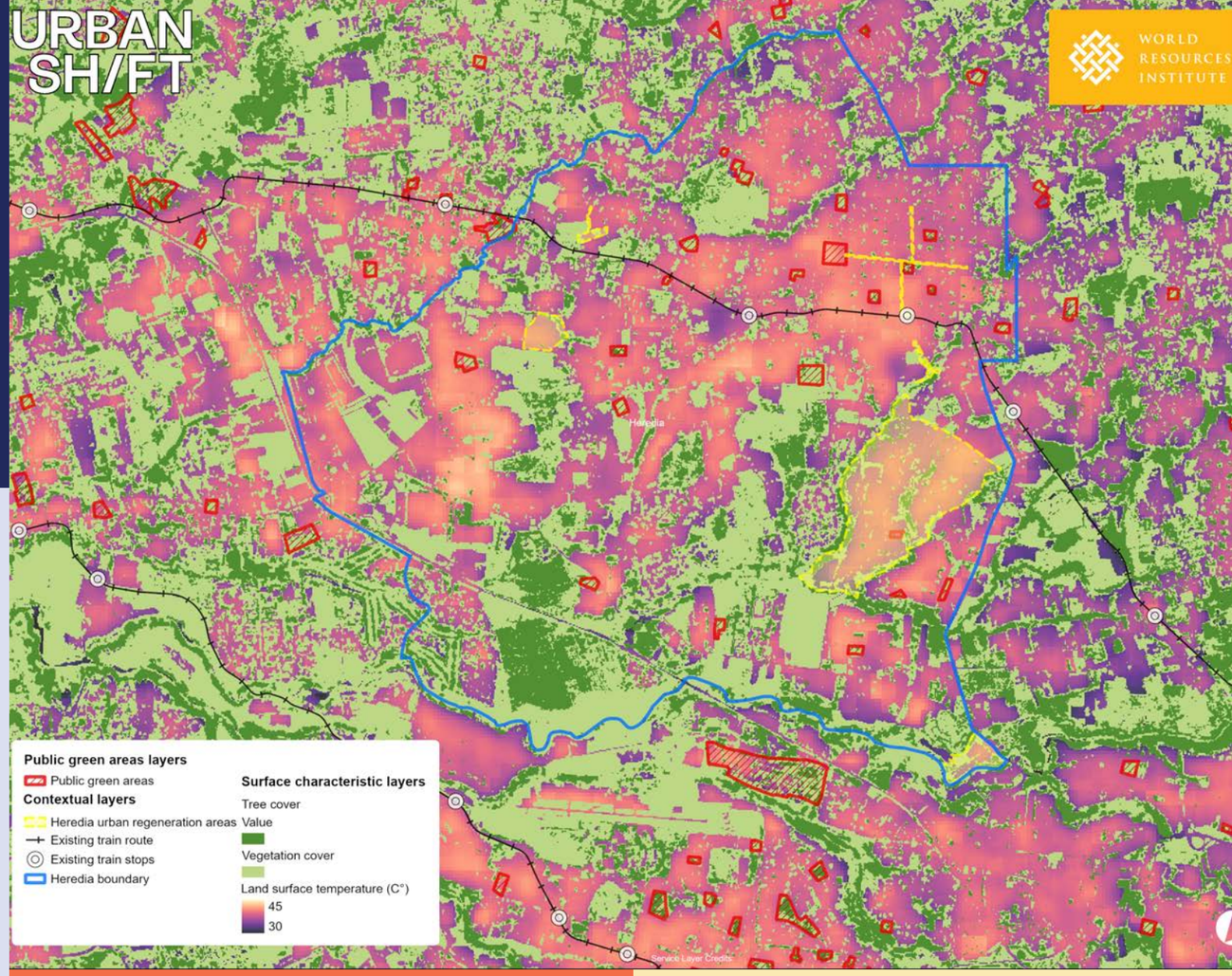
Costa Rica is one of the planet's biodiversity hotspots and a global leader in environmental protection.
Across the Metropolitan Area of San José (GAM), UrbanShift works with the Transitioning to a Green Urban Economy (TEVU) project to decarbonize the GAM through fiscal and policy reform, financing circular business models and low-emission mobility projects, restoring green areas and supporting integrated planning efforts.

ABOUT THE SAN JOSÉ LAB

San José's Lab supported efforts to integrate sustainability and equity into the Greater Metropolitan Area's plan for an electric train corridor. The Lab used geospatial data to assess accessibility, exposure to heat, and social vulnerability. Through group discussions and data overlays, the team identified Heredia as a pilot site for green regeneration anchored in transit-oriented development (TOD). A cross-sector coalition of planners, transport officials, and community representatives co-developed a roadmap linking mobility upgrades, green infrastructure, and local economic development.

Lab Type
Best Practices Lab

Theme
Transit-oriented development and green regeneration



> The workshop will provide us with new tools to plan our city.

URBAN PLANNER
MUNICIPALITY OF ALAJUELITA, COSTA RICA

> UrbanShift helps me expand my vision for what is possible in this city.

MÓNICA HOFFMAISTER
URBAN DEVELOPMENT DIRECTOR, MUNICIPALITY OF FLORES, COSTA RICA

This map identifies opportunities for green regeneration in Heredia, a priority area along the proposed electric train corridor. By layering data on vegetation cover, heat exposure, and public green spaces, the analysis can help planners target urban regeneration zones where climate adaptation and equity benefits could be maximized.

FREETOWN, SIERRA LEONE

While Sierra Leone is one of the smallest countries in Africa by size, it's facing disproportionate impacts from climate change and deforestation.

To mitigate these challenges, UrbanShift is working with Freetown through the Resilient Urban Sierra Leone Project (RUSLP)to improve integrated urban planning and service delivery, while also addressing climate risks through nature-based solutions.

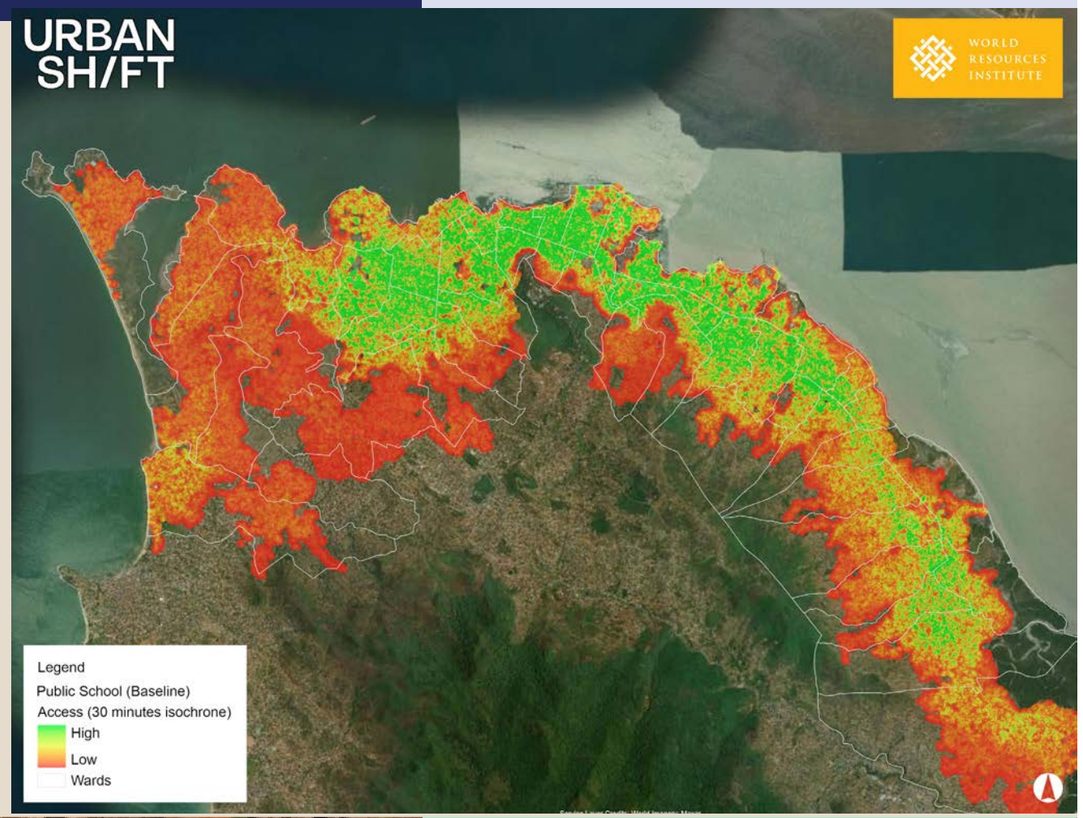
Lab Type
Project Review Lab

Theme
Planning for resilience in informal settlements

> The site visit gave us a clear picture of the risk involved in living in an unplanned environment.
>
> **FREETOWN CITY COUNCIL FOREIGN RELATIONS OFFICER**

This map illustrates accessibility to essential urban services in Moyiba (in this case schools) under two scenarios: current conditions and a road improvement scenario. Using walking isochrones, the UrbanShift Lab combined global, local, and community-generated data to identify where infrastructure upgrades could most improve access to schools, while also highlighting areas where even improved roads wouldn't solve access gaps.

The image below shows a quarry in the center of Moyiba, illustrating the impact of extractive industries on the community.



> The site visit gave us a clear picture of the risk involved in living in an unplanned environment.
>
> **YAYU MATILDA MINAH**
> *GENDER OFFICER, MAKENI CITY COUNCIL*

ABOUT THE FREETOWN LAB

In Freetown, the UrbanShift Lab supported the City Council in aligning its updated Structure Plan with a climate resilience agenda, addressing the twin challenges of rapid urban growth and environmental risk in informal settlements. Using spatial risk data and walking-time isochrones (map that shows all the places you can walk to from a specific starting point within a given amount of time), participants identified high-risk zones—such as flood- and landslide-prone areas—and assessed access to essential services like schools, water, and health facilities in the vulnerable neighborhood of Moyiba. The Lab combined geospatial analysis with community-generated data and a field visit to Moyiba, which deepened understanding of local vulnerabilities including erosion and quarrying impacts. Stakeholders co-developed a spatial framework for risk-sensitive urban expansion and proposed actionable strategies such as improved drainage, targeted infrastructure upgrades, green infrastructure, and relocation from high-risk areas, illustrating how data-driven, inclusive planning can

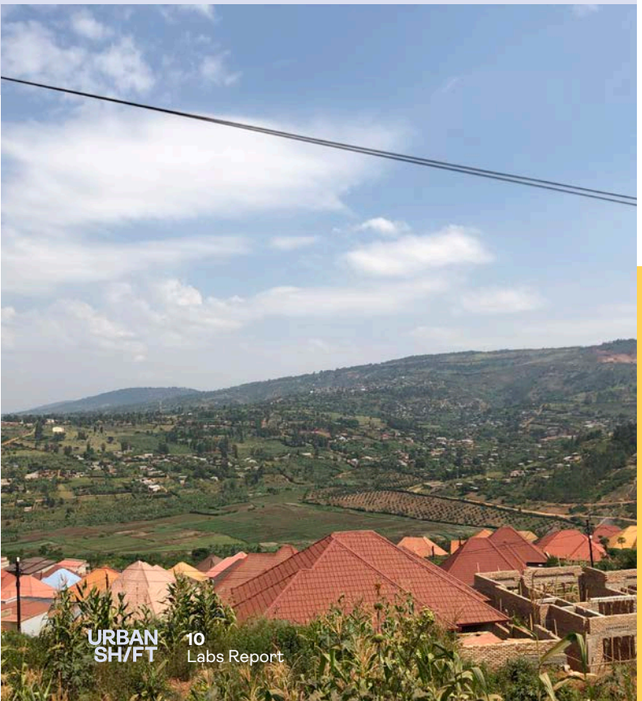
KIGALI, RWANDA

Rwanda is home to rich biodiversity and swiftly expanding urban areas that are facing accelerating risks, from flooding to landslides, due to climate change.

As Kigali expands rapidly, UrbanShift is working with the city to ensure that new developments are resilient and accessible. UrbanShift is supporting Kigali to assess the connectivity and resilience of new neighborhood sites to ensure that supportive infrastructure is in place for residents prior to development.

Lab Type
Project Review Lab

Theme
Neighborhood planning and risk mitigation



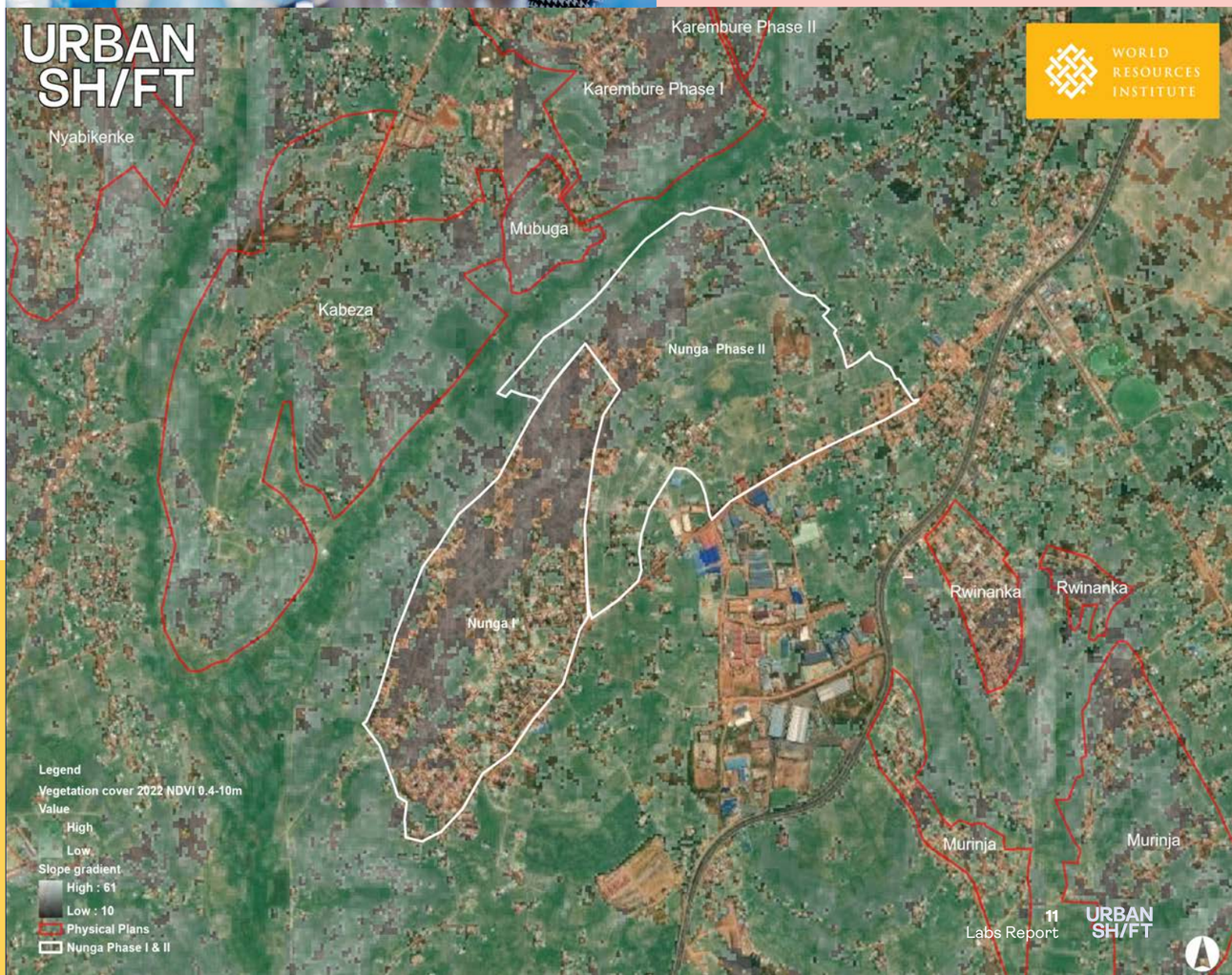
ABOUT THE KIGALI LAB

In Kigali, the Lab focused on Nunga, a newly planned neighborhood on the outskirts of Kigali near the Nyabarongo River wetland. The Lab enabled technical and planning teams to analyze slope risks, access to public transport services and public amenities such as hospitals, schools, grocery stores and economic livelihood opportunities. Participants identified which planned development areas (already gazetted by national government) were at high risk of climate hazards, and developed a zoning proposal that integrates medium-density housing, transit access, wetland restoration, and open space buffers to mitigate climate and disaster risks. The Lab also helped build consensus on a phased implementation strategy for this proposal.

This map illustrates areas in the Nunga neighborhood where steep slopes lack vegetation, significantly increasing the risk of landslides. These insights guided discussions during the Lab on where to prioritize green infrastructure, erosion control, and safer site planning as part of Nunga's future development.

> The use of geospatial data will help us to improve how we plan and implement policies, particularly in informal areas like Nunga that are vulnerable to climate risks.

DR. MERARD MPABWANAMAGURU
VICE MAYOR, URBANIZATION AND INFRASTRUCTURE, CITY OF KIGALI



USHUAIA, ARGENTINA

Argentina is one of the most urbanized regions in Latin America, and as its cities expand, development is threatening its unique natural ecosystems.

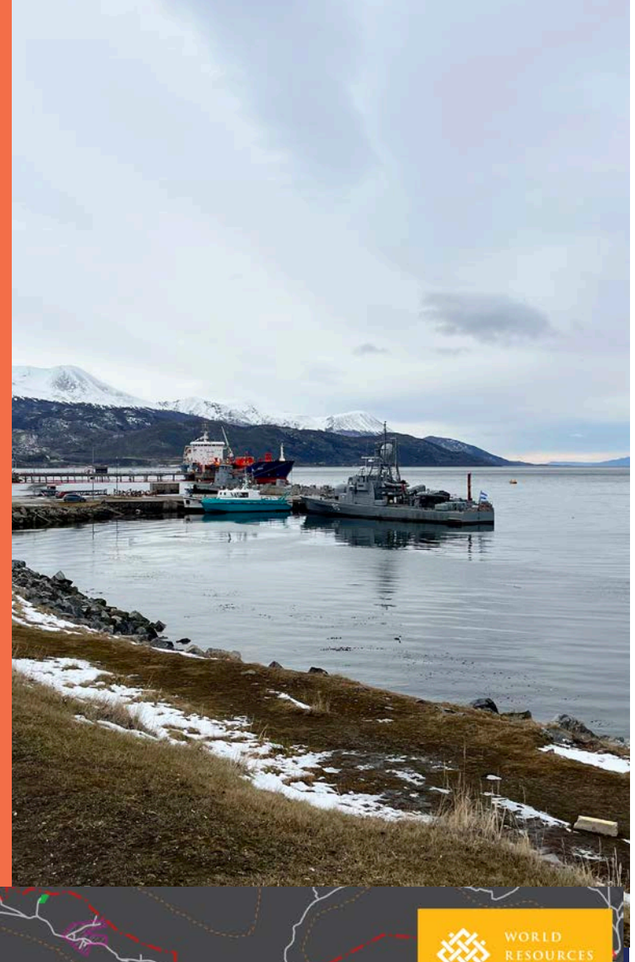
In Ushuaia, the southernmost city in the world, tourism and population growth are straining this small city's existing infrastructure and encroaching on the surrounding habitat. UrbanShift is working with the city on a Sustaianble Ushuaia 2050 plan to address the need for sustainable growth and put the city on a path to resilience over the next several decades.

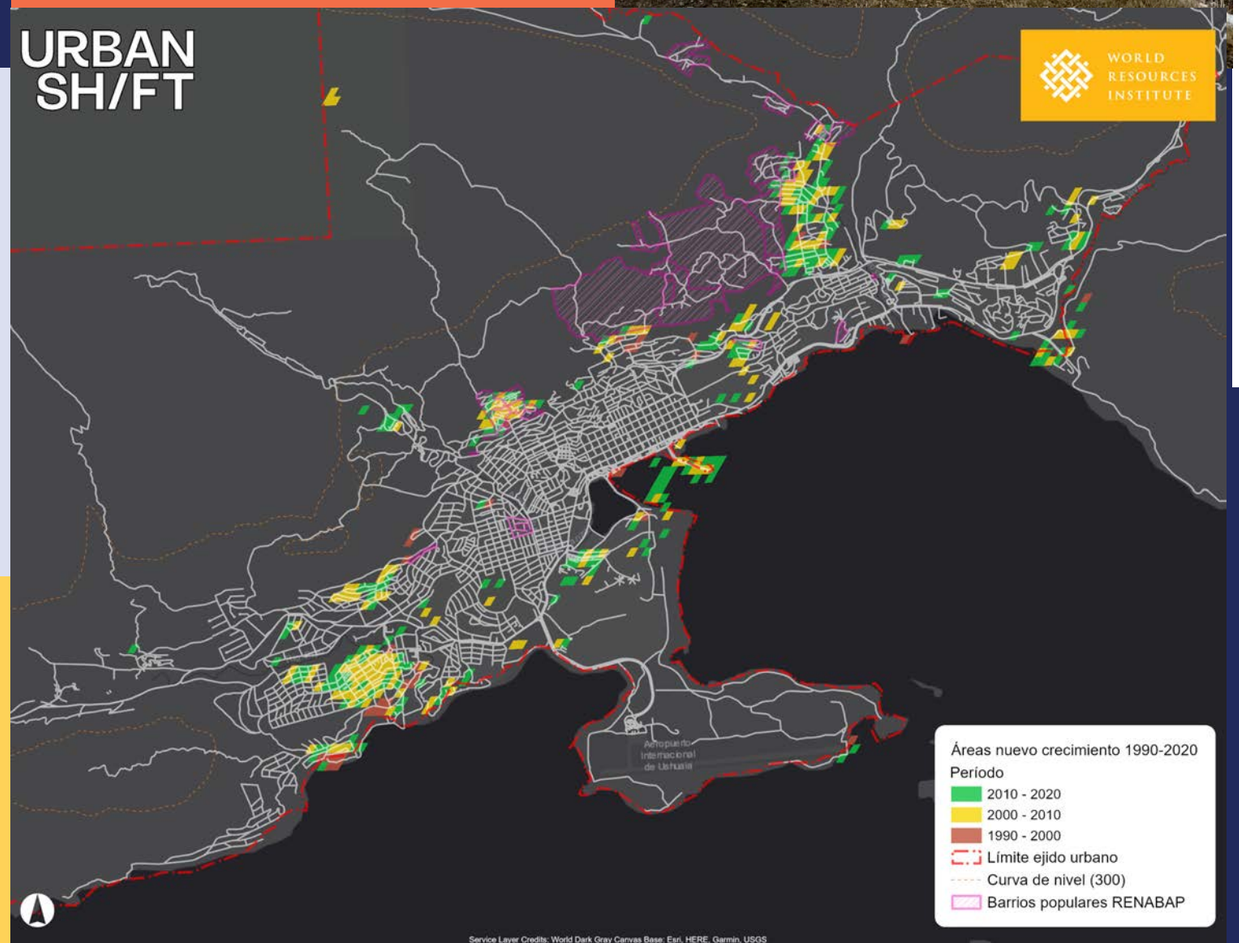
Lab Type
Planning Analysis Lab

Theme
Climate-compatible growth in extreme environments

> The data and maps we worked with during the Lab are now tools we're using in our own practice.
>
> **PARTICIPANT FROM USHUAIA ENVIRONMENTAL DEPARTMENT**

This map shows Ushuaia's urban growth from 1990 to 2020, highlighting how the city's footprint has expanded into environmentally sensitive areas like native forests and watersheds. The most significant growth is along the northeast corridor, including the Andorra Valley, where informal settlements are replacing productive and conservation lands. This spatial analysis helped Lab participants visualize the speed and pattern of urban sprawl, evaluate its effects on ecosystems and infrastructure, and identify areas for regulatory action and ecological restoration.





ABOUT THE USHUAIA LAB

In Ushuaia, the southernmost city in the world, the UrbanShift Lab tackled the challenge of balancing rapid urban growth with environmental protection and climate resilience. The Lab focused on integrated planning for three critical themes: urban growth management, energy efficiency in buildings, and sustainable tourism. Using geospatial analysis, participants identified pressure zones such as forested hillsides and water-stressed valleys, highlighting where informal expansion, poor infrastructure, and biodiversity loss intersect. A special emphasis was placed on the San Martín Urbanization, a pilot neighborhood integrating low-carbon technologies and green design. Through site visits and data-driven workshops, local stakeholders co-developed strategies for land use regulation, nature-based solutions, and building retrofits, setting the foundation for a more sustainable and climate-adaptive Ushuaia.

> Having local plans, national policies, and geospatial evidence in the same room helped us find real synergies.
>
> **BRUNO COLOMBARI**
> *GEF-7 LOCAL PROJECT MANAGER*

FLORIANÓPOLIS, BRAZIL

In the largest and most biodiverse country in Latin America, climate risks, from extreme heat to sea-level rise, are posing challenges to urbanized areas.

In coastal Florianópolis, informal settlements are expanding into areas that are increasingly coping with flooding and coastal erosion. As the city works to shore up its resilience, UrbanShift has been supporting Florianópolis on comprehensive planning approaches to sustainable development.

Lab Type
Planning Analysis Lab

Theme
Flood and heat adaptation

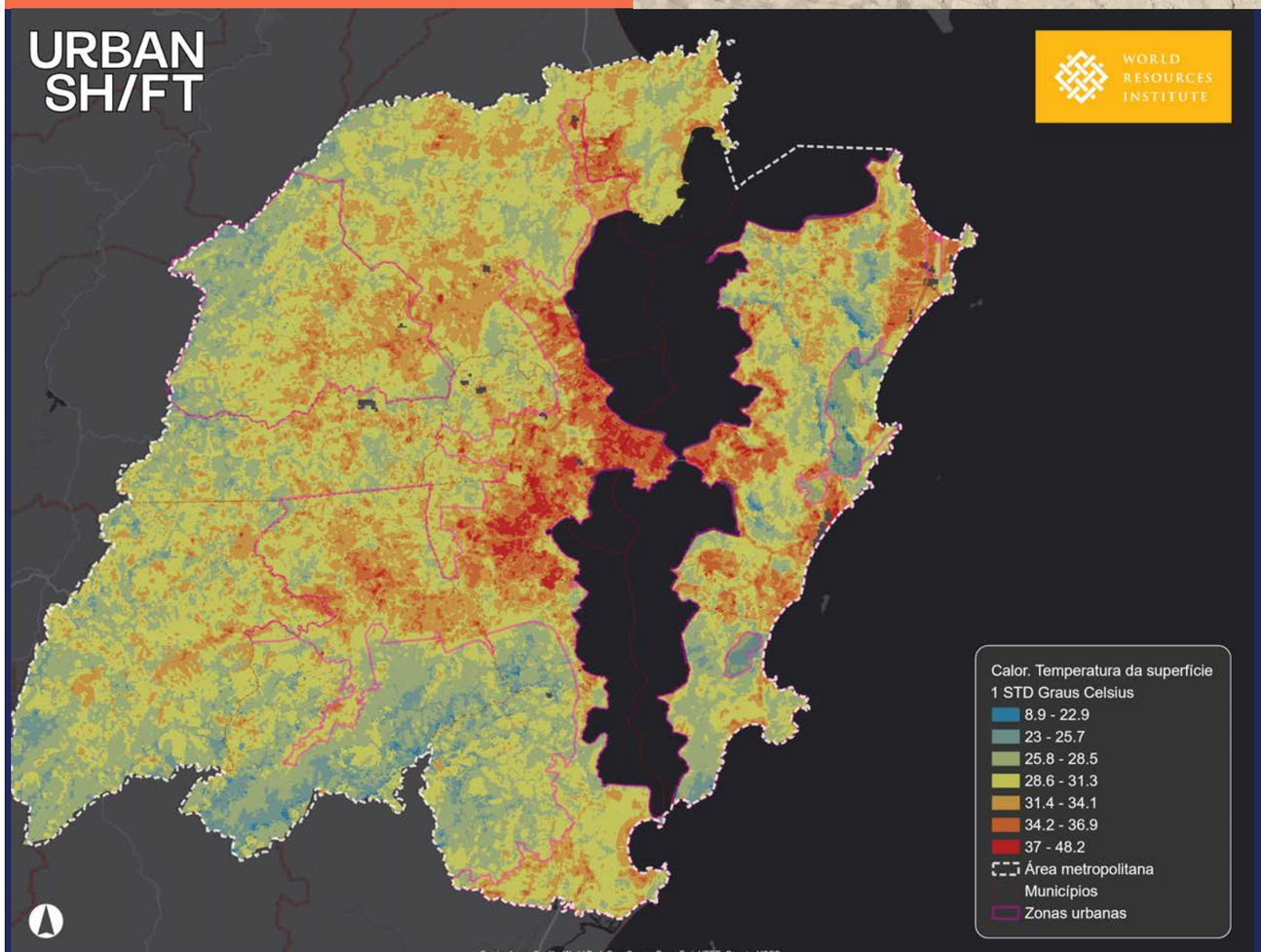
> "The presentations were very important to support the work of our teams, and especially valuable in identifying problems and solutions related to climate risks, land use, and mobility in the Metropolitan Region of Florianópolis.
>
> **LAB PARTICIPANT**
> *POST-EVENT EVALUATION*

ABOUT THE FLORIANÓPOLIS LAB

The Florianópolis UrbanShift Lab focused on integrating climate action into metropolitan planning and governance in one of Brazil's fastest-growing and most climate-vulnerable coastal regions. With more than 40 participants from municipal, state, and federal institutions, the Lab addressed the region's exposure to flooding, erosion, landslides, and sea-level rise. Geospatial analyses highlighted how urban expansion and informal settlements overlap with high-risk areas, while field visits to Vila Aparecida and Campeche provided first-hand insight into coastal erosion and community vulnerabilities. Through collaborative design sessions, participants prioritized measures such as macrozoning (big-picture planning for how a large area should be organized and used), nature-based solutions, and metropolitan governance frameworks to strengthen resilience and ensure that urban growth aligns with climate adaptation and sustainability goals.

> "The exchange of experiences and ideas was extremely valuable, especially learning from the expertise of the Metropolitan Agency of Belo Horizonte and Guadalajara.
>
> **LAB PARTICIPANT**
> *POST-EVENT EVALUATION*

This map illustrates surface temperature variations across the metropolitan region of Florianópolis, with red areas showing urban heat hotspots linked to dense construction and limited vegetation. Cooler zones in blue and green align with forests, wetlands, and coastal ecosystems, underscoring their role in regulating climate. These insights informed the Lab's prioritization of nature-based solutions such as green corridors and urban forestry to reduce heat risks and strengthen resilience.



MARRAKECH, MOROCCO

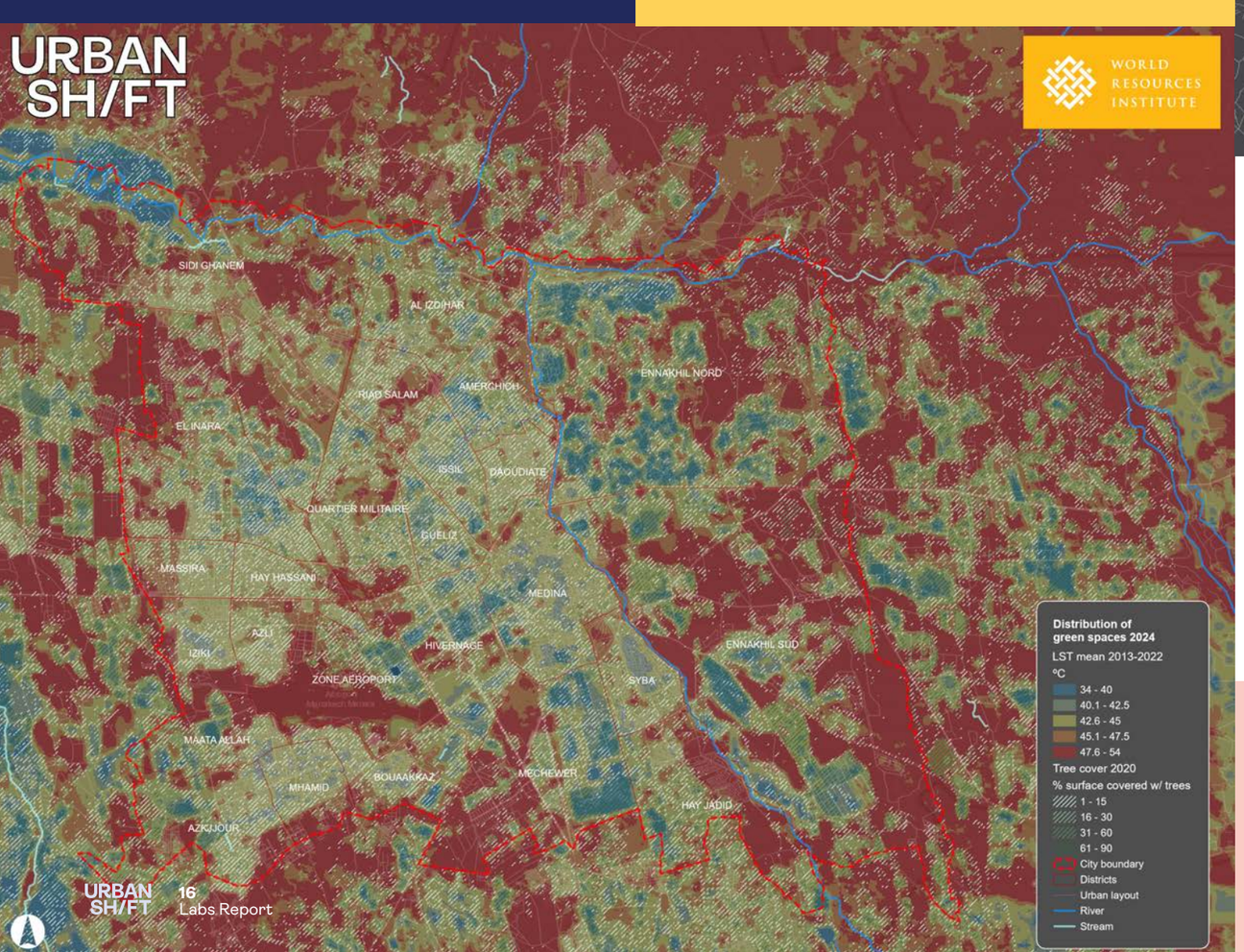
As extreme heat and water stress intensify in Morocco, residents and infrastructure are under strain.

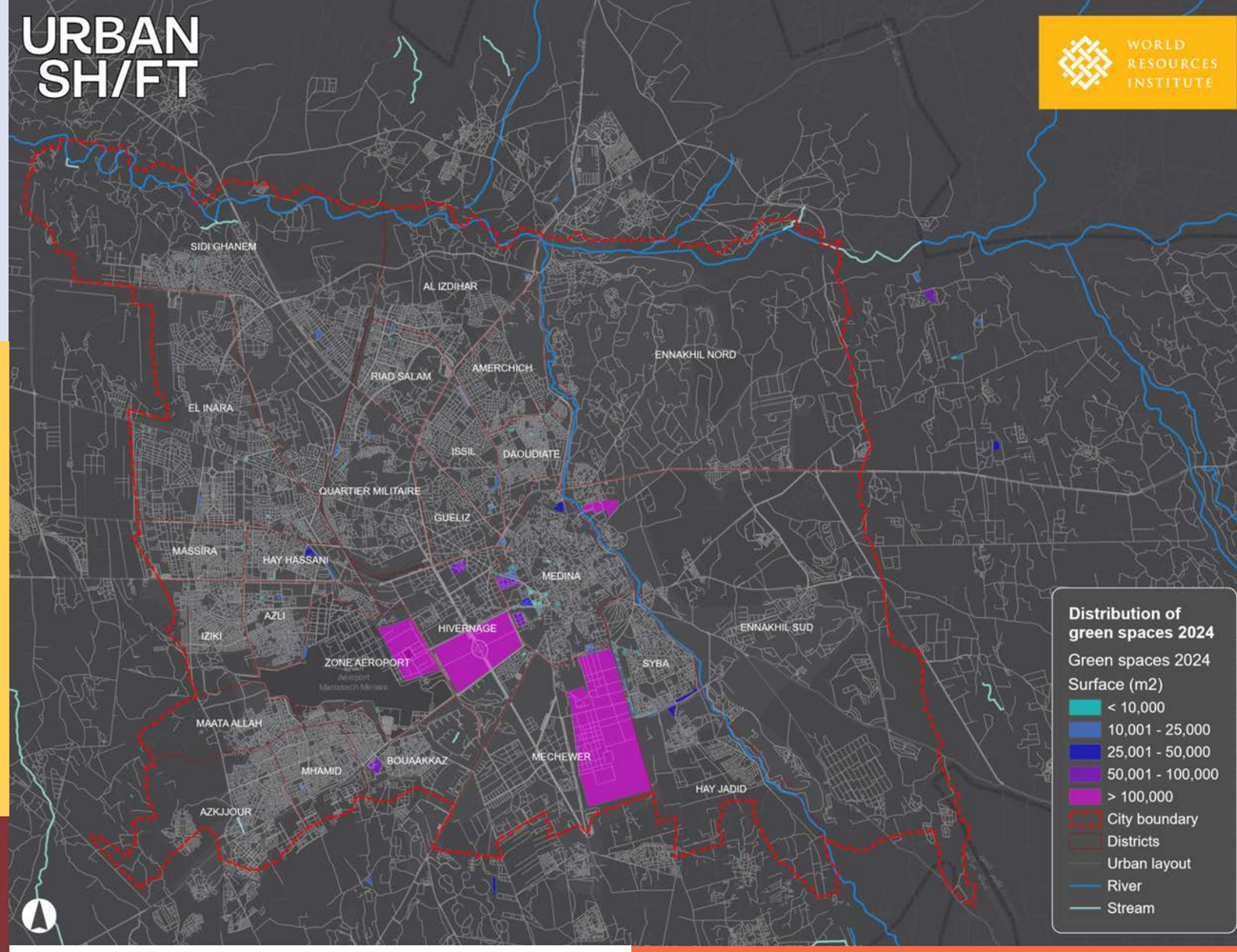
In Marrakech, Morocco's largest city, UrbanShift is supporting development and implementation of Marrakech Ville Durable (Marrakech Resilient City), a comprehensive initiative that lays out strategies for enhancing sustainability, lowering carbon emissions and expanding the city's available green space.

Lab Type
Project Review Lab

Theme
Urban biodiversity and extreme heat

The **below** map of Marrakech shows land surface temperatures and tree cover distribution, highlighting how heat hotspots (red areas) overlap with neighborhoods that lack vegetation. Cooler zones with higher tree cover (green) underscore the importance of urban greenery in reducing heat stress. These findings informed the UrbanShift Lab's recommendations to expand tree canopy, protect biodiversity corridors and embed nature-based solutions into local urban plans.





ABOUT THE MARRAKECH LAB

The Marrakech Lab worked with city agencies to embed greening and biodiversity goals into urban planning. The Lab introduced a geospatial method to assess urban heat islands and green space distribution, generating practical recommendations to expand tree canopy and protect biodiversity corridors. Outputs from the Lab fed directly into revisions of local urban plans, which the city is actively pursuing.

> "UrbanShift has strengthened our commitment to sustainability.
>
> **KARAM AMZIL**
> *PROJECT COORDINATOR, UNDP MOROCCO*

The **above** map shows the distribution of green spaces in Marrakech (2024), with the largest areas concentrated in central neighborhoods like Hivernage and the airport zone. Many districts, especially in the north and periphery, remain underserved, with limited or no sizeable green spaces. When viewed together with the land surface temperature map, the spatial mismatch becomes clear: heat hotspots often coincide with areas that lack tree cover or access to green spaces. This underscores the UrbanShift Lab's recommendation to expand the urban tree canopy and create equitable green corridors, ensuring that the cooling and biodiversity benefits of urban nature reach all neighborhoods, particularly the most heat-exposed.

CITY HIGHLIGHTS

PUDUCHERRY, INDIA

In India, rapid economic growth and urban expansion are playing out against a backdrop of increasing climate risk due to extreme heat and flooding.

In India, UrbanShift is supporting climate resilience projects and sustainable, accessible public transport in the participating cities. To help manage flood risk, UrbanShift is supporting nature-based solutions and ecosystem restoration projects, while also encouraging low-emission transit-oriented development (TOD) through the creation of green corridors, bike sharing facilities and electric vehicle (EV) charging stations.

Lab Type
Planning Analysis Lab

Theme
Coastal resilience and flood risk management

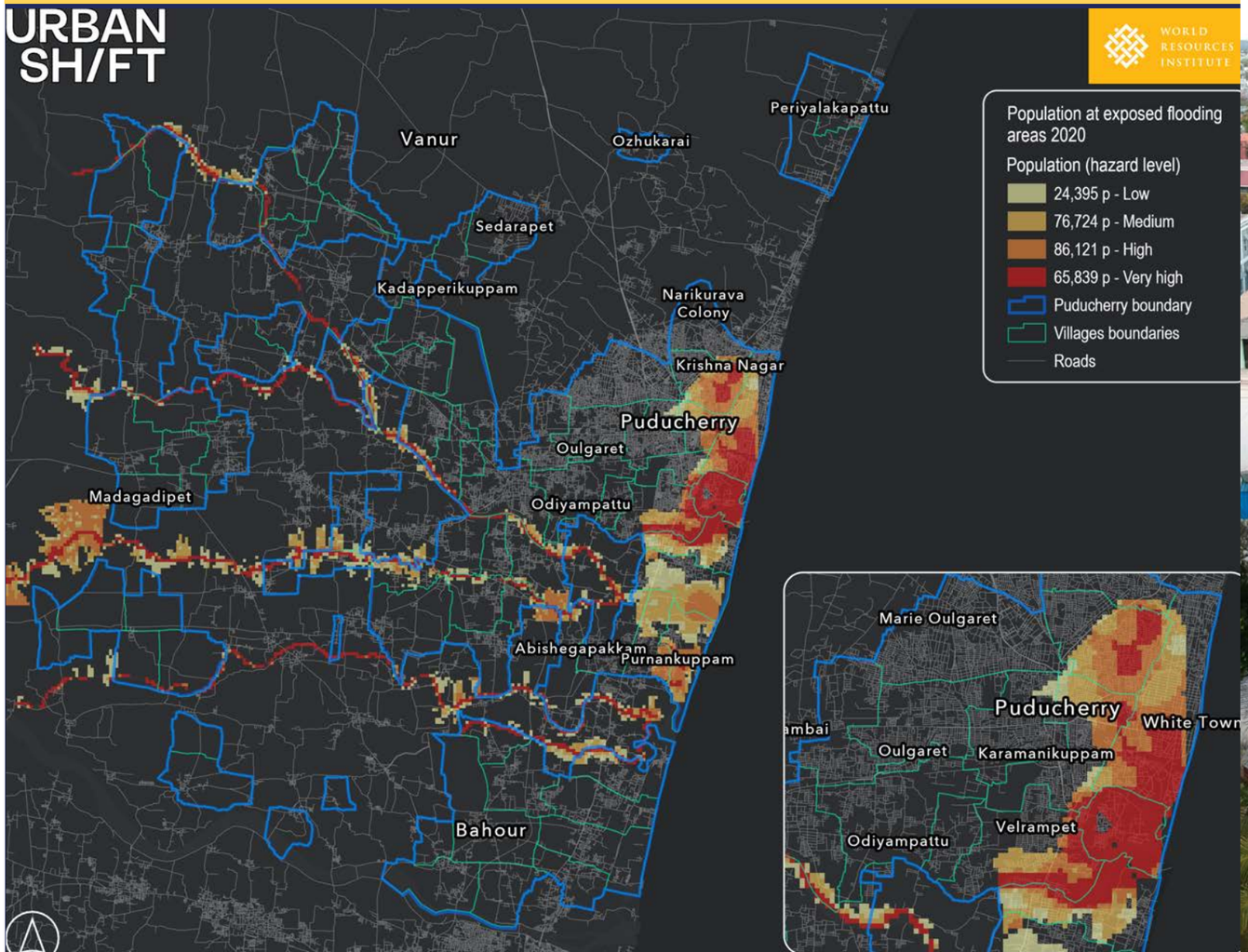
> The Lab gave us the evidence and tools to plan more effectively for floods and coastal risks. It showed the value of integrating local knowledge with geospatial data for real solutions.

R. KESAVAN
SECRETARY, TOWN AND COUNTRY PLANNING DEPARTMENT, GOVERNMENT OF PUDUCHERRY

ABOUT THE PUDUCHERRY LAB

In Puducherry, the UrbanShift Lab convened more than 50 participants from local government, technical agencies, and civil society to co-develop strategies for managing climate risks in this coastal union territory. Using geospatial analyses, participants examined urban expansion into low-lying floodplains, recurrent drainage failures, and shoreline erosion accelerated since the construction of Puducherry's harbor. Hands-on exercises and site visits to Ranga Nagar and N.R. Nagar helped illustrate how flooding, storm surges, and heat risks intersect with rapid growth and inadequate infrastructure. Participants identified nature-based solutions—such as mangrove and dune restoration, geotubes for coastal protection, and urban forestry—alongside drainage upgrades and stricter land-use enforcement. The Lab highlighted how resilience planning must combine technical evidence with community knowledge and inter-departmental collaboration, offering a pathway to integrate hazard maps and NBS into Puducherry's Comprehensive Development Plan.

This map highlights population exposure to flood-prone areas in Puducherry (2020), with red zones indicating very high levels of risk affecting over 65,000 people. The most vulnerable areas are concentrated along low-lying coastal and river-adjacent neighborhoods, including central Puducherry and White Town. These insights guided the UrbanShift Lab's focus on drainage upgrades, floodplain restoration and nature-based solutions to protect both residents and critical infrastructure.

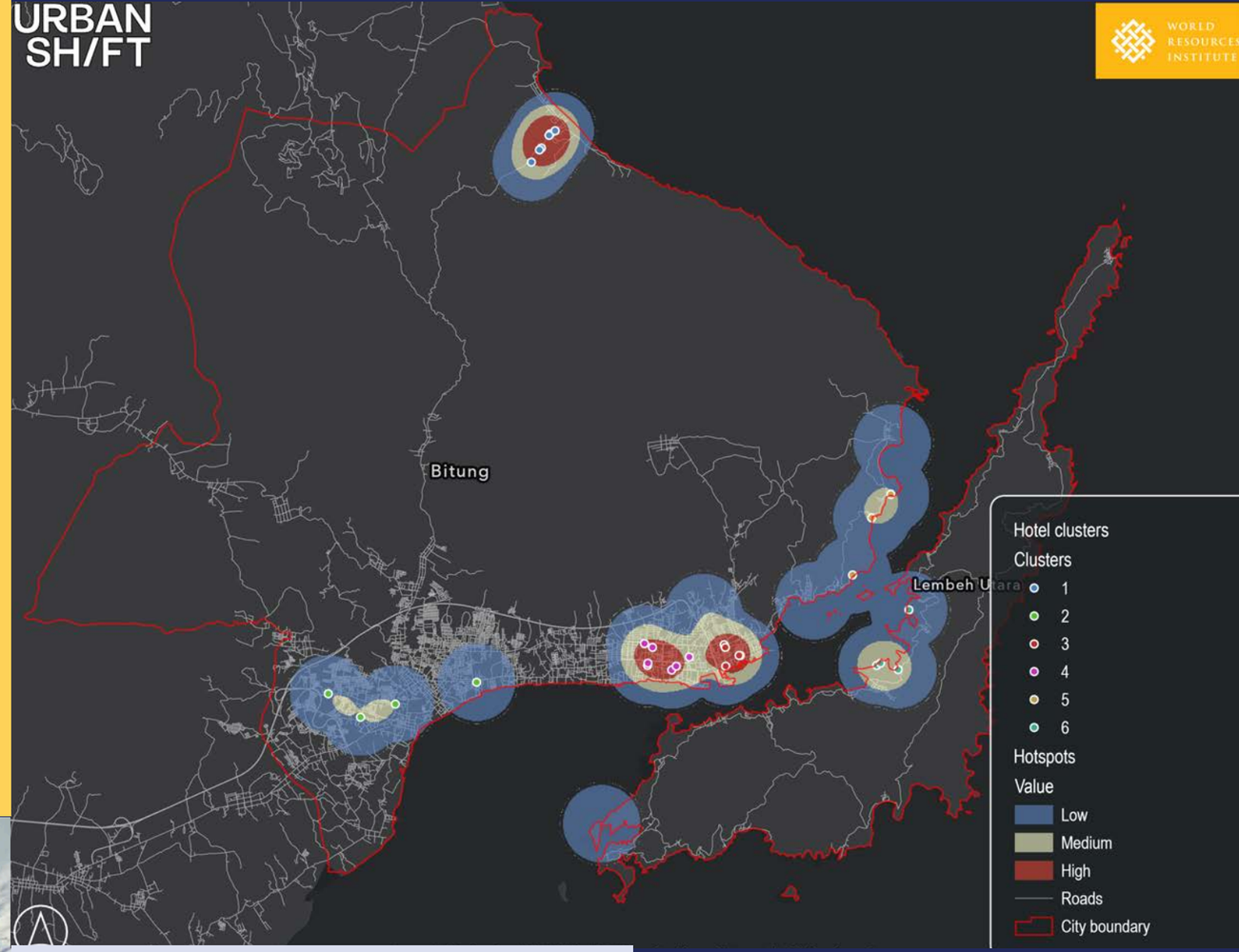


BITUNG, INDONESIA

Indonesia, home to the largest economy in Southeast Asia, is facing urgent climate threats, from poor air quality to sea-level rise.

UrbanShift is supporting the city of Bitung to balance its fishing and agriculture-intensive economy with its delicate and important natural ecosystems and burgeoning eco-tourism. Through thoughtful and integrated approaches to planning and development, UrbanShift is helping the city foreground future resilience as it grows.

This map illustrates hotel clusters and tourism hotspots, concentrated along the coast and around Lembeh Island. The overlap of tourism development with sensitive natural areas underscores the need for biodiversity-sensitive planning to balance economic growth with ecosystem conservation.



Lab Type
Best Practices Lab

Theme
Biodiversity-sensitive urban planning and coastal resilience

> "We need to ensure that Bitung's growth strengthens—not undermines—our natural assets. The Lab showed us how biodiversity can be at the center of our city's development strategy."

SIFRI MANDAK
HEAD OF REGIONAL DEVELOPMENT PLANNING AGENCY, BITUNG CITY

ABOUT THE BITUNG LAB

The Bitung UrbanShift Lab brought together local government, planners, and civil society to reconcile rapid economic growth with biodiversity conservation and sustainable tourism. Geospatial analyses revealed patterns of urban expansion, deforestation, and tourism clustering, highlighting pressures on protected areas and coastal ecosystems. Through group exercises and site visits, participants identified priority actions such as regulating urban expansion, improving waste management, restoring tree canopy to reduce landslide and flood risks, and creating buffer zones for ecotourism development. Drawing on peer learning from other Indonesian cities, the Lab emphasized the importance of participatory, data-driven planning to balance local economic development with ecosystem protection.

SCALING WHAT WORKS

Across eight cities, UrbanShift Labs have:

- Supported 249 planners, policymakers, and stakeholders
- Produced systems maps and data products for planning processes in eight cities
- Strengthened multi-sector coordination and project pipelines
- Informed city and metropolitan-level climate strategies

UrbanShift Labs offer a flexible, replicable approach for cities that need to act on climate and development goals simultaneously. By embedding data, systems thinking, and inclusive planning, the Labs help cities design transformative investments—and the governance structures to sustain them.

ACKNOWLEDGMENTS

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