

Co-Creating Futures: Learning to Inhabit the Earth in Merzouga, Morocco

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Urban Living Lab

Timeframe: 2022 - ongoing



Spain

Universidad Europea de Madrid, Spain
Association AMIDDUNAS NGO

Morocco

Ecole d'Architecture et de Paysage de Casablanca –
Honoris United Universities, Morocco
Local Government of Merzouga

Urban Challenges Tackled

Climate-adaptive housing and design
Ecological public-realm strategies
Collaborative knowledge integration

Funding

Universidad Europea de Madrid

"Building with earth" workshop.



Students during the workshop.

The central objective of SAHALAB is to integrate ancestral Amazigh knowledge with contemporary architectural and design research, creating a space where students, artists, artisans, and local communities co-produce knowledge. The project combines earth construction workshops, ecological design, and intercultural exchange, reconnecting Amazigh ancestral practices with contemporary research.

The initiative promotes regenerative architecture, climate adaptation, and cultural innovation, empowering participants to co-create sustainable solutions and fostering a translocal network for ecological resilience.

The knowledge exchange process is built around “learning by doing” methodologies that emphasize techno-craftsmanship. Participants engage in collaborative workshops where

local participants to integrate ecological design principles into their own professional and community contexts.

By engaging students in collaborative projects, the workshops enhance cultural appreciation, challenge stereotypes, and provide the Amazigh with modern tools, fostering empowerment and social equity in a region.

artisans and artists from the region share traditional skills, such as adobe, rammed earth, and cob construction, while architecture and design students contribute contemporary perspectives on sustainability, prototyping, and ecological innovation. This dialogue creates hybrid forms of practice that merge manual craft with design experimentation.

Outcomes also include strengthened networks between academia, artisans, and local governance, alongside the creation of a translocal platform for artistic, cultural, and ecological exchange. At a societal level, SAHALAB contributes to preserving cultural identity while promoting ecological resilience in fragile desert regions. At a personal level, it enhances participants’ ecological consciousness and professional competences, showing that architecture and design can evolve into practices of deep transformation.

This initiative in the Moroccan Sahara village of Merzouga, empowers the Amazigh by valuing their traditional knowledge while introducing contemporary architectural practices. It promotes mutual learning, bridging cultural gaps and highlighting Amazigh contributions.

The results include the development of context-sensitive, sustainable building techniques rooted in Berber craftsmanship but reinterpreted for contemporary challenges. The workshops empower students and



The Trans-Disciplinary Dimension

Technical competences include sustainable construction techniques, ecological design, and circular economy principles, complemented by artistic skills contributed by local artists and artisans.

Co-production process

The process was co-designed by AMID-DUNAS together with academic partners (European University of Madrid, Ecole d'Architecture et de Paysage de Casablanca) and local stakeholders in Merzouga. The initial design phases involved joint planning sessions online, aligning academic objectives with community priorities.

The workshops brought together architecture and design students, Amazigh artisans, and local artists, ensuring mutual learning and creativity. Local artisans and community members actively participated, sharing ancestral practices and guiding experimentation with materials and prototypes.

cultural platforms, and establishing ongoing partnerships between universities and local associations. Concrete implementations included small-scale prototypes of sustainable structures and cultural events integrating design, craft, and ecological awareness.

Competences and Skills

The project is guided by coordinators from Spain and Morocco using a facilitative leadership approach that balances academic frameworks with community knowledge. Multilingual communication in Arabic, Amazigh, Spanish, and English ensures inclusivity and intercultural exchange. Workshops and storytelling circles foster democratic participation and collaborative learning, while structured project phases enable clear management and measurable outcomes. Through mediation between academic research and indigenous knowledge, the project achieves collaborative implementation of prototypes and eco-cultural installations, translating shared learning into tangible results.

The continuation was ensured by documenting results, disseminating them through academic and

Workshop in Merzouga, Morocco.

The Open Science Dimension

Inclusivity
Inclusivity is achieved through total integration of Amazigh locals and architecture students in all workshops. Workshops occur in local schools, co-led by indigenous elders and students, incorporating traditional Berber building techniques alongside modern design. Citizen science elements are developed via collaborative mapping of sustainable Sahara resources, empowering Amazigh voices and mutual knowledge exchange for equitable community development.

Equity

SAHALAB workshops promote equity by prioritizing youth, particularly teenage girls and children, through inclusive activities like organizing local women's soccer matches with a local team and a girl with disability in it, fostering gender equity. Intergenerational equity is achieved by involving young Amazigh in co-designing projects, ensuring their voices shape outcomes. While disability inclusion is less documented, workshops in local schools engage diverse

children, promoting equal participation. These efforts empower marginalized groups, blending traditional and contemporary knowledge to create equitable opportunities for all participants.

Sustainability

Sustainability in the Merzouga workshops is multifaceted. Environmentally, local earth is used for construction alongside biomaterial textiles derived from tea waste, with experimentation on new material recipes using local pigments and spices.

Socially and culturally, the initiatives preserve Amazigh traditions while empowering communities through knowledge sharing. Economically, the use of low-cost local materials supports livelihoods. Intergenerationally, youth involvement ensures long-term continuity. Institutionally, collaborations with schools promote ongoing education, contributing to equitable and eco-friendly development.

Participation of approximately 600 students across 22 editions of the SAHALAB programme since 2022.

The Knowledge Valorisation Dimension

- **Social and economic value:** Community-based workshops and sustainable building practices support local livelihoods through eco-tourism and crafts, while fostering social cohesion, participation, and inclusive development. The continuity of the programme across multiple editions reinforces stable community engagement.
- **Institutional and capacity-building value:** Long-term academic–community partnerships strengthen local and academic capacities, enable knowledge transfer, and create opportunities for future collaborative projects teaching innovation initiatives, and funding applications.

Outputs & Impacts

Outputs

The project disseminates its outcomes through a combination of academic, professional, and public-facing formats.

Research results are shared through peer-reviewed articles published in *Ecohabitar* journal and presentations at international conferences on architecture, sustainability, and intercultural dialogue. Public dissemination is strengthened through exhibitions, multimedia storytelling, and active social media engagement via @amiddunas. Project continuity is supported through submitted proposals for further collaboration and funding, with resources and outcomes shared [online](#).

Impacts

Research & Education: The initiative has been recognized as an Educational Innovation Project validated by Universidad Europea de Madrid (UEM) and fosters research projects related to the initiative.

Practice: Construction and testing of small-scale prototypes and material experiments using adobe, rammed earth, cob, and tadelakt, adapted to Saharan climatic conditions. Interventions were co-developed with local Amazigh artisans and included the refurbishment of existing structures and experimental applications. A student-led intervention focused on the modification of palm grove soil to improve local water management and retention, addressing water scarcity in the oasis context through low-tech, context-based strategies.

AI-generated image of a possible artificial oasis in the dunes with solidified sand by bacteria MICP.



Learning-by-doing methodologies that combine Amazigh indigenous knowledge with contemporary architectural research enhance ecological awareness, intercultural understanding, and context-sensitive design skills among students and local participants.

Transdisciplinary, community-embedded practices translate shared knowledge into small-scale sustainable prototypes and cultural events, strengthening social equity, and ensuring the long-term continuation of the project.



Student-led intervention to improve local water management and retention.