ACADEMIA EUROPAEA

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FROM KNOWLEDGE TO ACTION APPLICATION

Title: Cultural Landscape Community AI Hub

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Category: From Science to Society

Problem (max. 50 words): The lack of accessible tools that integrate scientific knowledge with traditional understandings of cultural landscape formation and transformation limits inclusive decision-making. This undermines anticipatory territorial governance approaches that connect past, present, and future, and reduces the capacity of communities to respond to accelerated sociocultural and environmental transformations.

Unmet Need (max. 50 words): There is a lack of models integrating AI, the humanities, historical ecology, and local knowledge to support cultural and territorial decision-making. Existing tools often fail to engage communities or reflect co-produced science, making it difficult to translate complex data into participatory and scalable solutions.

Project Description (max. 200 words): The Cultural Landscape Community AI Hub applied research is focused on developing innovative, community-centered solutions for the adaptive governance of cultural landscapes. It integrates structured data curation and generative AI to support inclusive decision-making and long-term sustainability, systematizing scientific knowledge relevant to each territory while incorporating local knowledge, practices and values.

Grounded in over two decades of transdisciplinary research in archaeology, historical ecology and social anthropology, the initiative is based on the learning organization model. It fosters intercultural collaboration through a network of Makerspaces, Fab Labs, and Living Labs, operating both in-person and virtually. Integration among communities will also be supported by vertical AI agents specialized in scientific topics, co-defined with local stakeholders.

The project will be developed with three pilot communities: a rural territory in Portugal's Middle Tagus Valley, an Indigenous community in the Brazilian Amazon and an Afro-descendant urban community in Rio de Janeiro. Facilitating exchanges among these communities will strengthen mutual learning and enhance model adaptability.

The AI Hub will be a hybrid platform for dialogue and territorial simulation, enabling communities to explore policy scenarios and co-create locally relevant solutions. It promotes ethical AI and generates scalable models for cultural heritage policy, environmental planning, and social innovation.

Hypothesis (25 words): AI grounded in knowledge co-production improves territorial decision-making and the recognition of cultural landscapes as key vectors for inclusive and sustainable development.

Implication for Practice (50 words): The project incorporates humanities and traditional knowledge into landscape foresight. It develops intelligent participatory tools—e.g. territorial simulators, visual narratives, cultural heritage digital twins—tailored to local sociocultural contexts. These outputs will strengthen community engagement with future planning and enhance their application in Creative Economy, Social Innovation and Cultural Flourishing.

Implication for Research (50 words): The initiative advances methods for integrating AI and the humanities, generating data-driven, replicable models for cultural governance. It strengthens participatory foresight, AI ethics, and social innovation research, while contributing to the evolution of Smart Heritage Territories and Smart Communities as applied, interdisciplinary frameworks with pan-European relevance.