

Engineering Conservation

Upstreaming landscape design and sustainable construction in linear infrastructure planning

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Synopsis

Regional corridors propelled by China's 2013 Belt and Road Initiative are set to connect Eurasian economic centers through some of the last frontiers of Central, South and Southeast Asia. These frontiers are typically the domain of multilateral development banks and international environmental NGOs. This talk argues that design-level considerations, from site-specific wildlife mitigation strategies to decisions on slope engineering technologies, should drive or at least have a major upfront role in sustainable infrastructure planning. Long isolated by ethnic conflict and their distance from the state, Myanmar's biodiverse border areas harbor some of the largest intact forest habitats left in the Greater Mekong Subregion (GMS). Since 2015, a team from HKU's Division of Landscape Architecture has promoted sustainable development of the cross-border Dawei-Kanchanaburi Road Link, which forms the western end of the GMS's Southern Economic Corridor. Through a series of design-advocacy efforts, including a species-specific road design manual, 3D-printed stakeholder engagement models, and wildlife mitigation informed by predictive wildlife movement modelling, I will showcase potential opportunities for landscape architecture to proactively engage infrastructure development and regional landscape planning. Critical to these efforts are the building of site-specific design scenarios and parametric modelling approaches that overcome the lack of development transparency and poor spatial data often prevalent in developing contexts. Supported by a multidisciplinary team of landscape designers connected to policy experts, biologists and scientists through the World Wide Fund for Nature (WWF), this work offers an urgently needed model of design collaboration. It has been disseminated to national and regional levels of the Myanmar government, the Thai road developer, Myanmar civil society, and agencies across Southeast Asia.

Ashley Scott Kelly is an educator and expert in landscape planning and geographic information systems at the University of Hong Kong. His research and practice focus on scenario-building and filling knowledge gaps for environmental conservation and sustainable development in data-poor regions. He applies landscape and architecture design methods to land change and landscape ecology, with wide expertise on the manipulation of geospatial data for the study, advocacy, design and delivery of projects in ecologically complex and contested landscapes. Recent works include design guidelines for tropical road infrastructure, corridor modelling for wildlife crossing design, and a Development and Conservation Awareness Map for southern Myanmar. Key professional works range widely in scale, from new town planning to the winning entry for New York City's 46,000-acre Gateway National Park. Ashley coordinated the Masters thesis in landscape architecture for three years and teaches design courses on regional landscape planning, infrastructure planning and design and rural development in China, South and Southeast Asia, and Latin America.
<http://www.designforconservation.org>

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