

Editorial

Land — A Multidisciplinary Journal Addressing Issues at the Land Use and Sustainability Nexus

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Some authorities argue that land is the most fundamental of natural resources. If their arguments fail to convince, we certainly have to cede that land is a limited natural resource. Aside from a few thousand Moken living on the Andaman Sea, humans are tied to the land. Most of us live, eat and sleep on land, even oil rig workers in the Gulf of Mexico, Filipino merchant seamen, Japanese fishermen and British naval ratings divide their lives between sea and land. As the world's population has grown we have not, with the exception of the industrious Dutch, created land at the expense of the sea. The 29% of the world's surface that is land, has for many millennia been vitally important in terms of how societies have evolved. Land resources have fed and clothed us, enabled us to build things, and spawned conflicts.

To get a true picture of the importance of land, this Malthusian balance sheet has to be analyzed by drawing on the ways we inhabit the land surface; what we extract from it; how we value and utilize the natural assets and services it provides; how we continue to change land cover; how human-modified land surfaces interact with climate, hydrology and biogeochemical cycles, and how they impact biodiversity; and the human and environmental costs and benefits of land-use change.

These broad themes are the main foci of *Land*. Its aim is to be comprehensive and inclusive of the ways to research land-related issues; for example, using historical archives, remote sensing, spatial modeling, land valuation, environmental economics, and a wide range of other techniques from agricultural science and forestry, environmental science, soil science, geography, planning and economics. The list is probably as long as the number of disciplines we recognize. *Land* is open to all approaches, though we recognize that most interest in land comes from the disciplines listed above. Our mantra will be the high quality of the research and scholarship we publish, rather than peering into a narrow range of disciplinary silos.

The currency of research topics and approaches fluctuates, but at any one time there are hot button and emerging issues. We want to encourage people to cover these in the next few issues of *Land*.

Urbanization is one such issue. The 2008 headline metric that more than half the world's population was living in cities for the first time in human history (UNFPA [1]) underpins many land issues. In

terms of the cities themselves, there are differences in the form and growth dynamics of the world's mega-cities compared to small- to medium-size cities: most future growth is predicted to take place in the latter category. The peri-urban fringes of these cities are contested areas where the urban butts up against the rural. In highly urbanized countries, like Australia with limited amounts of highly productive land, peri-urban land issues are increasingly viewed through the lens of food production and food security [2,3]: yet peri-urban land issues lend themselves to a number of research approaches globally.

The footprint of the world's urban areas falls heavily on rural areas that are often continents apart. Rapidly expanding East Asian cities draw on land resources from around the globe. Important commodity value chains are drawing distant and formerly economically-isolated areas into global trade, witness the rapid loss of high-conservation value woodlands inhabited by indigenous groups in eastern Bolivia because of the global demand for soy beans and other oilseeds [4]. Research on the ecological footprints of cities (e.g., [5]) is being advanced through concepts such as 'food miles', the environmental costs of commodity supply chains, and whole life cycle analysis in other urban areas.

Research carried out over the last three decades on land-use and land-cover changes has led to important theoretical developments in how multiple-scale political and socio-economic drivers of land-use and land-cover are telecoupled globally, regionally and locally (e.g. [6]). Research carried out in this area under the umbrella of the IGBP-LUCC and Global Land Projects has also led to advances in how remotely-sensed data are analyzed in the contexts of land-use and land-cover change (e.g., [4,7]), and how land change can be modeled spatially (e.g., [8,9]). However, many research avenues remain to be investigated: avenues such as the incorporation of new sensor data; further advances in image processing and spatial modeling; the affects of drivers such as the ongoing global financial crisis; and holistic studies which link land-change drivers to the impacts of land change, particularly impacts on ecosystem services.

The importance of ecosystem services provides one of many contexts in which we can consider land changes [10], and it provides an alternative approach to land evaluation based on agricultural production, mining returns, or land values for housing developments. Most ecosystem service research has been conducted in rural agricultural and forest environments, and around marine resources. There are similarities here to the status of land-change science at the end of the IGBP-LUCC project in the mid-2000s where a lot of knowledge had been gained from a few biomes, but detailed understanding of land change in others still eluded us [11]. More research on the links between land change and ecosystem services is a major global research agenda for land change scientists.

The global financial crisis has compounded global food security issues [12], and this has led to significant acquisitions of foreign land by state and private investors to secure food supplies through the establishment of parallel commodity value chains. Most affected has been Africa, where farmland totaling the area of western Europe has come under foreign ownership, mainly from investors based in Europe, the Middle East and Asia [13]. Many significant land issues remain to be researched concerning the so-called 'global land grab'.

The land impacts of urbanization, theoretical and methodological advances in land-change science, research on land grabs, and understanding the impacts of land change on ecosystems services are examples of some contemporary issues we hope to publish in the near future. Yet other issues are

emerging such as the impact of increased foreign direct investment on mineral resources and its implications for agricultural and rural land uses—the underground land grab—and the emerging tensions between farming for biofuels and farming for food.

This introductory editorial is not the place to expand on these issues, let alone those not mentioned. I leave that for future papers in *Land* which I am enthused about introducing in this editorial. It is a scholarly, open-access journal addressing issues such as those revealed above. We aim to publish in various formats—high-quality reviews, research papers, communications and short notes. There is no restriction on the length of articles enabling us to publish your theoretical or experimental research in the highest level of detail required. The lack of length restrictions also allows in-depth reviews to be published. All papers will be subject to rigorous peer review. Our aim is to provide quick peer review and publication, usually four to eight weeks after submission, provided no major revisions are required. Accepted articles will be published immediately and will be freely available to readers on the Internet without subscription, or price barriers. Authors retain copyright and the right of reuse, subject to proper attribution. The editorial board and I are enthusiastic about establishing *Land* as a major outlet and a journal of choice for all aspects of land-related research.

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