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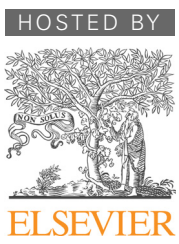

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Islander innovation: A research and action agenda on local responses to global issues

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Abstract Local economies and livelihoods, cultures, and sustainability around the world are being challenged by wide ranging social and environmental changes. Despite many negative impacts, these changes also bring opportunities to initiate and implement innovations. Island communities are experiencing the forefront of much such action, particularly since they are often highly local and localised societies. Yet in many cases, global changes are being imposed without adequate support to the communities for dealing with those changes. The key question investigated by this paper is: How can local responses to global issues be improved for island communities? Examples of successes and problematic approaches, as well as those exhibiting both, are described in this paper. A research and action agenda on islander innovation is presented for researchers, policy-makers, and practitioners to highlight local responses to global issues.

Why focus on islands?

Island communities encapsulate many of the sustainable development challenges facing humanity today (Connell, 2013; Lewis, 1999). From the densely populated, 100% urban island of Malé, the capital of Maldives, situated at sea level, through to the poor and corruption-ridden Hispaniola experiencing severe resource overexploitation—with strong differences nonetheless seen between Haiti and the Dominican Republic—islands emerge in numerous sizes and with varying characteristics. In many instances, global changes are imposed on island communities without adequate support forthcoming to address those challenges. Through the question "How can local responses to global issues be improved for island communities?", this paper provides and explores examples of successes and problematic approaches, as well as those

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exhibiting both, in order to propose a research and action agenda on islander innovation for researchers, policy-makers, and practitioners with island interests or who might wish to learn from island experiences.

Islands used to be perceived as being isolated, perhaps pristine, laboratories which are perfect for academic studies because external influences were assumed to be minimised (Weatherly, 1923). This view has since been heavily critiqued (e.g. Baldacchino, 2007; Greenhough, 2006) and is now rarely raised as an academic justification for studying islands, yet it can nonetheless still be explored and critiqued constructively for understanding particularities and key dimensions of island societies (Fitzhugh and Hunt, 1997; Greenhough, 2006). The ocean, for instance, is seen as much as a connector of island peoples as a separator from the rest of the world (D'Arcy, 2006). Studying islands and island communities evolved into a case for 'island studies' (Dommen and Hein, 1985; McCall, 1994, 1996) which is now a fully accepted field (Baldacchino, 2004, 2007).

Islands and islanders are yielding important insights into sustainable development, providing advice and recommendations that are as diverse as maintaining community trust during disaster (Haynes et al., 2008) and supporting tourism livelihoods (Graci and Dodds, 2010). Insights are also gleaned from cases where islanders adopt unsustainable practices; for instance, many Pacific islanders' preference for imported, unhealthy foods over traditional, subsistence fare, leading to high energy costs for the imports and health problems from non-communicable diseases such as obesity and diabetes (Swinburn et al., 2011). Meanwhile, external forces add to the challenges. Climate change is altering the environment so rapidly that traditional and local knowledge is becoming somewhat obsolete in many island communities while nevertheless being retained as a needed anchor for trying to deal with the witnessed changes (CICERO and UNEP/GRID-Arendal, 2008; Kelman, 2010).

Consequently, for islands and environmental change in particular (e.g. Connell, 2013; Lewis, 1999), the 'island laboratory' viewpoint holds limited traction considering that many environmental problems severely influence islands, islanders, and island communities, yet were not caused by islanders (see also Walker and Bellingham, 2011). In particular, climate change has minimal contribution from islanders, yet their future in some locations might be determined by climate change's outcomes (Kelman, 2010; Roper, 2004). Similarly, almost no persistent organic pollutants were released by Arctic peoples on islands such as Baffin Island, Greenland, and the Aleutians, but their ecosystems and cultures have been severely affected by those chemicals (Downie and Fenge, 2003).

Given such examples, island communities and contexts provide case studies and learning for innovative local actions for sustainable development, including for paradigms such as livelihoods and resilience informing and comparing with non-island locations (for illustrations in particular sectors, see Briguglio et al., 2008; Streeten, 1993). Irrespective of external influences and constraints on local or external interests and resources, islanders need to address the challenges by using their own skills, ideas, and approaches. That might sometimes be with external support if and when needed and requested, but the reality is that no guarantee exists that external support would be forthcoming, or, if forthcoming, would be effective. This applies for single-community studies, such as Tarawa in the Pacific (Gaillard, 2012) as well as for comparative studies of island communities, such as Antigua, Isle of Portland (UK), Sri Lanka, and Tonga (Lewis, 1999).

A strong motivation for focusing on island communities, singly and in comparative analysis, is that their relatively small land size and relatively small human population numbers can make it easier to encompass many data forms, many knowledge forms, and many disciplines within the same study (Mercer et al., 2010). All are required for local, innovative responses to the challenges faced, which is why island case studies have had such a large impact on participatory processes for sustainable development (Kelman et al., 2011). That includes the recognition and acceptance of the limitations and challenges of participatory processes, such as the participatory process itself perpetuating the same power imbalances it seeks to overcome (Cooke and Kothari, 2001). Incorporating different data, knowledge, and disciplines for understanding and effecting innovation on islanders' terms is detailed in the next section to answer this paper's overarching question about improving local responses to global issues for island communities.

Island innovation

Theorising innovation

Many tend to view 'innovation' mainly in technological and economic terms, seeking new products based on the latest technological development or private sector entrepreneurship that creates and fills a market niche. Such innovations must continue to be recognised, embraced, and investigated, while going beyond by stressing innovation for governance and culture as well (Baumgartner and Burns, 1984; Carson et al., 2009; Fagerberg et al., 2005; Hage and Hollingsworth, 2000; Kranzberg et al., 1989; Mowery and Rosenberg, 1998; Nelson, 1993; Woodward et al., 1994). Governance innovations concern new public, private, and hybrid regulatory regimes and related institutional arrangements. Cultural innovations cover the formation and development of new conceptions, paradigms, and value systems; for example, to deal with global challenges. Technological and economic innovations can rarely be successful without governance and cultural adaptations and innovations.

Three types of innovation are highlighted here to be applied to islander action on local responses to global issues. First, entrepreneurship and business innovation in private and public (as well as joint) ventures. Because islands tend to have comparatively small human populations, it is important to highlight innovation through small- and medium-sized enterprises (e.g. Lévy and Powell, 2005; Stonehouse and Pemberton, 2002) and from the grassroots, such as community members trying to make their own homes and lifestyles more sustainable (e.g. Midttun, 2009). Second, innovation in public, private, and public–private governance and regulation, i.e. new regulatory regimes and standards. Third, innovation in culture. That includes formal education processes as well as more informal or spontaneous efforts to initiate campaigns and programmes for stimulating concerns, consciousness, value reorientation, and development of new practices. The focus is on identifying public and private agents, along with hybrids and coalitions,