10. Win-Win or Trade-Offs?: The Study of Conservation and Development at Local, National and Global Scales

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Questions related to environment, population and development at all scales from the local to the global and over short and long time frames have always engrossed researchers and challenged society (Brown, Gardner, Halweil, & Institute, 1999; Malthus, 1798; Meadows, Meadows, Randers, & Behrens III, 1973). The academic field of conservation and development focuses on these issues as it pertains to species, habitat and biodiversity management, restoration and preservation initiatives. Conservation and development research asks whether and under what conditions a) development enables or undermines conservation outcomes, b) conservation supports beneficial development outcomes, c) win-win conservation and development outcomes are possible and d) trade-offs between conservation and development are required. This interdisciplinary field of study draws primarily on development studies, geography, anthropology, sociology, economics, political science, as well as ecology and conservation biology.

The academic field of conservation and development emerged during the 1980s and has grown steadily since. This was driven in part by early critiques of anthropologists and others of the negative impacts and inequitable distribution of costs and benefits of conservation for local communities (Wells, 1992; West & Brechin, 1991; West, Igoe, & Brockington, 2006). The field also emerged alongside a number of significant international events, movements and policy instruments that caused conservation and development considerations to converge in practice. The World Parks Summit in 1982 and the World Parks Congress in 1992 both brought equity and local development considerations to the forefront in conservation policy and practice (Bushell & Eagles, 2007; McNeely & Miller, 1985). During this same time period, the indigenous environmental rights movement was surfacing (Kemf, 1993) and these rights were increasingly being recognized in international policy documents of conservation organizations (Borrini-Feyerabend, Kothari, & Oviedo, 2004; WWF, 2008). The Convention on Biological Diversity also materialized emphasizing the importance of equity, benefit sharing and sustainable use alongside the protection of biodiversity (CBD, 2010). Over the same period of time, the World Commission on Environment and Development and the resulting Brundtland Report (WCED, 1987), the United Nations Conference on Environment and Development in Rio in 1992, and the World Summit on Sustainable Development in 2002 all sought to mainstream sustainable development and environmental concerns in development practice (see Fisher et al., 2008). More recently, the Millennium Ecosystem Assessment recognized that, if unaddressed, the degradation of ecosystem services would undermine the development mandate (Millennium Ecosystem Assessment, 2005) and the Millennium Development Goals committed world leaders to ensure environmental sustainability (Goal 7) as part of a broader poverty reduction mandate (Roe, 2004; UN, 2005). These converging themes have lead to global concern with and programs of work by multilateral agencies, governments and ENGOs that have attempted to balance conservation and development in communities near protected areas - e.g.,

Community-Based Conservation (CBC), Community-Based Natural Resource Management (CBNRM), Integrated Conservation and Development Projects (ICDPs), Payments for Ecosystem Services (PES) and Eco-Tourism Development (Brosius, Tsing, & Zerner, 2005; McShane & Wells, 2004; Pagiola, Bishop, & Landell-Mills, 2002; Russell & Harshbarger, 2003; Spenceley, 2008). Like the practice of conservation and development, the field of study is based on a normative commitment to the ideals of sustainable development and a belief that conservation should not lead to inequitable outcomes for local people. This is often coupled with instrumental rationales that beneficial local development will lead to successful conservation through creating positive incentives and thus support for conservation of nature or that environmental conservation will lead to benefits for local communities.

Research on conservation and development is concerned with the relationship between environmental management, restoration and preservation initiatives and social and economic development outcomes in different contexts and at different scales, with the factors – e.g., institutions, processes, livelihoods, ecologies, context - that mediate that relationship, and with the processes and outcomes of conservation and development projects. Common topics of study are poverty, well-being, equity, socio-economic development, sustainable livelihoods, tourism, PES and REDD projects, ICDPs, vulnerability, governance, CBC, CBNRM, and human-wildlife interactions. Focal questions asked by researchers in this field are:

- Do traditional (fisheries, agriculture, hunting) and market-based (e.g., tourism, PES) livelihoods support or undermine ecological and conservation outcomes?
- Does poverty or wealth support or undermine environmental outcomes and conservation initiatives? (Cinner et al., 2009)
- How do biodiversity conservation initiatives impact the socio-economic development of local communities? Does biodiversity conservation lead to poverty? (Roe, Elliott, Sandbrook, & Walpole, 2012; Walpole & Wilder, 2008; West et al., 2006)
- What types of conservation initiatives and development interventions are required in different socio-economic and environmental contexts? What is the appropriate scale to address conservation and development problems? (Fisher et al., 2008)
- What lessons can be learned about the effective design of conservation and development initiatives? (Blom, Sunderland, & Murdiyarso, 2010; Wunder, 2007)
- How can win-win conservation and development outcomes be achieved? When are trade-offs required and how can difficult decisions be made? (Gjertsen, 2005; McShane et al., 2011)
- How can we adequately conserve biodiversity to maintain human well-being and not undermine the development agenda? (Sachs et al., 2009)

Macro-scale issues, particularly climate change and global environmental change, have also led conservation and development researchers to engage more with questions related to vulnerability and adaptive capacity. For example, recent research is exploring how communities adapt to climate change in such a way that it reduces social vulnerability and maintains the provisioning of environmental services (Bennett, Dearden, Murray, & Kadfak, 2014; Marshall et al., 2010).

The aforementioned topics and questions are explored using qualitative (interviews, narratives, perceptions), quantitative (surveys, economic analyses, cost-benefit and trade-off

approaches), and participatory methods (PAR, focus group discussions) as well as spatial analyses that draw on social, economic and environmental data sets (Andam, Ferraro, Sims, Healy, & Holland, 2010; Fisher & Christopher, 2007). Research and analysis can range in scale from single sites or communities, to broad meta-analyses or quantitative studies that bring together multiple case studies or communities (Leisher, van Beukering, & Scherl, 2007; Mascia, Claus, & Naidoo, 2010), to studies at national and international scales. At each of these scales, local people and nature are treated and analyzed in distinctly different ways. At the local scale, qualitative methods and perception-based studies are dominant. This means that "support for conservation" or "perceptions" are often used as proxies for ecological outcomes. Some authors argue that these perceptual studies provide little more than anecdotal evidence and that more rigorous methods (e.g., longitudinal and controlled studies) and improved indicators are needed for ecological and socio-economic outcomes to demonstrate relationships, causality and generalizable conclusions (Agrawal & Redford, 2006; Ferraro, 2008). Macro-scale studies use available data sets for social (humans) and ecological (nature) information.

Research on conservation and development is often used to identify solutions that are local in scale - i.e., interventions that can be applied by conservation or development organizations or practitioners. It can also provide insights into necessary improvements in national governance and international conservation and/or development policies and programs. In the past, this field has made several important contributions to conservation policy and practice. First, it has required a re-orientation of international conservation policy to take local needs and aspirations into account both for ethical reasons and for the success of conservation initiatives. Second, it has challenged many commonly held ideological positions about the relationship between conservation and development – e.g., either poverty or wealth lead to environmental degradation, resource dependency leads either to destruction of natural resources or to the creation of local systems of environmental management, or conservation either leads to poverty or improves the quality of life of local inhabitants. The important lesson here is that each context leads to different conservation and development outcomes and thus that interventions need to be place-based. Third, it has offered many important insights into previous failures and lessons or "best practices" for how to create more successful conservation and development programs (Bennett, 2010). Finally, it can contribute to previous and emerging attempts to incorporate social and economic considerations into the planning of environmental conservation at broader scales (Fisher & Christopher, 2007).

Future research in this area could be significantly improved if it builds on previous research and conceptual frameworks rather than continually re-inventing the wheel. Meta-analyses and systematic reviews would allow for the development of diagnostic frameworks. Researchers need to be clear in articulating methodological limitations and the level of generalizability of their results. Research on conservation and development needs to better address macro-scale factors and complexity and could draw useful lessons from the fields of political ecology, social-ecological resilience, adaptive capacity, adaptive management and governance. Further methodological insights are needed in the following areas: more efficient and effective participation and stakeholder engagement strategies; socially acceptable processes for making trade-offs between conservation and development; tools to make decisions about the appropriate scale and fit of interventions; and; means to effectively link local conservation and development projects with broader scale initiatives.

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