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Incorporating Socioeconomic Factors into Restoration: Implications from Industrially Harvested Peatlands

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Key words: socio-economics, rehabilitation, industrial landscapes, peatlands, social capital

Abstract

In establishing effective restoration goals one of the four key issues of increased attention that Hobbs (2007) calls for is in the area of incorporating socio-economic investigations and theories into restoration practice in a synergistic manner. While often commented upon by restoration practitioners, this is an area of research that is poorly developed, and since it relies on an uneasy combination of empirical and interpretative research methodologies a multidisciplinary alignment may be problematic in practice. This opinion piece is drawn from experiences in examining the after-use of industrially mined peatland landscapes, and synthesizes ideas that have emerged from socio-economic research over several years in order to offer an opinion on how Hobbs' call may be addressed. Because socio-economic concerns are at the root of all restoration projects, sociological methods may be useful as tools in stakeholder engagement in research and planning for landscape rehabilitation as a mechanism for reducing the potential for conflict and for facilitating participative or collaborative restoration.

Introduction

Social-ecological drivers for the restoration of damaged landscapes, such as how collaborative governance has contributed to watershed restoration programmes (Porter & Salvesen, 1995), are more appreciated by current practitioners. However as the global economy rapidly shifts in opinion and resources, and environmental policies evolve in a timescale that is outside the realm of ecological reality, these drivers are now embedded in the socio-economic and governance policy arena. Thus, how we define a restoration project (using terms such as community projects, technical challenges, altruistic endeavours or visual improvement) has strong links to wider policy debates, shaped and driven by individuals as well as communities, from normative to value-laden (Ridder, 2007). Rehabilitation can be a defining process and

not just a specific act, a world view not a science. It has been argued that the drivers for ecological restoration projects derive from assigned values: from restoring ecosystem services or natural capital to the rehabilitation of heavily impacted community (societal) or global resources (Edwards & Abivardi, 1998). It can equally be argued that restoration projects are socio-cultural endeavours, stakeholder driven, socially derived and politically motivated; partially aimed at influencing decision-makers at differing policy hierarchical levels (international, national, regional and local). Thus, socio-economic drivers are already incorporated within restoration research, field trials and working projects, since their results are often intended to be used to address their funding arrangements, influence policy prescriptions for similar landscapes and to create an argument for further (funded) research.

With the drive to build first ecological, and now social, resilience into managed landscapes, policy-makers, planners and managers are seeking potential broad spectrum solutions in order to incorporate sustainability practices with the planning and restoring of future landscapes (Ostrom, 2010). It will therefore take more than the integration of socio-economic data into the restoration equation; stakeholders and communities will need to be central to it, and this may give rise to additional conflict over goals and management priorities. Hobbs (2007) warns that the goals of restoration are “often determined by preconceptions or misconceptions” (p. 356). This paper challenges this and proposes the exploration of a mechanism that may address this, by drawing on experiences over several years in engaging with stakeholders at different levels in planning for the after-use of a severely mined landscape, in this case industrially harvested peatlands. My aim is to underscore the necessity, as previous contributors have done, of collaboration and to contribute by illustrating from experience how stakeholder engagement, without prior prescriptive plans, brought stakeholders to similar rehabilitation conclusions and a desire for multiple use landscapes.

Policy development

At its heart, socio-economic research seeks to establish perceived values through communicative interaction and data interpretation. In recent years, discourses on the potential for integrating sociological and ecological knowledges have been discussed in many environmental and planning disciplines such as conservation biology (Pretty & Smith, 2004), landscape ecology (e.g. Palang et al., 2000), land use planning (e.g. Selman, 2004) and, of course, restoration ecology (e.g. Aronson et al., 2010). These arguments generally propose the development of flexible, holistic and multidisciplinary paradigms, yet significant barriers remain. These barriers include, among other things, a lack of conjoined lexicon,

differing research methodologies and theoretical backgrounds, possible bias in data gathering and analysis, and fluidity of the stake of local community members, academics, politicians, planners and industry. While the scientists have been debating these complex issues, international environmental policies have embraced this paradigmatic approach by focusing attention on governance. With the proposal by the Convention on Biological Diversity of an ‘ecosystem approach’ (CBD (Convention on Biological Diversity), 1995), and the signing of the European Landscape Convention (Council of Europe, 2000), we see two key examples of an emerging recognition of the central role of human values in devising integrated approaches to the conservation and restoration within managed landscapes. Recent debates have turned towards integrated landscape (or spatial) planning and how to combine ecosystem functions and restoration targets in a holistic, utilitarian and meaningful manner (de Groot et al., 2010). In response, practitioners see that ‘multi-functional’ land use as a positive framework for expression, and this is now at the forefront of research in severely managed landscapes, such as farmland (Wilson, 2009) and forests (Slee, 2007). Multi-functional land use may be seen as an attempt to address the challenges of integrating the sometimes conflicting demands of ecosystem services, ecological trajectories, societal expectations and the growing demand for collaborative processes and governance at varying spatial scales. But with such diverse demands and values the various debates on how to plan and manage landscapes may lead to a reciprocal ‘blindness’ between the different points of view (ESF 2010). In addition, while there are continual calls for stakeholder ‘inclusion’ there are also considerable differences among researchers and practitioners as to what this may imply (Pretty, 2002), and considerable levels of misunderstanding of what a participative process can imply (Healey, 1997) as well as issues over stakeholder definitions (Selman, 2004; Swyngedouw, 2005; Keulartz, 2009). These issues were drivers of research into the rehabilitation of industrially mined peatland landscapes in Ireland, where in recent years there has been a move towards stakeholder governance in after-use planning but little knowledge of how the process may operate.

Case study: industrially harvested peatlands

Let us look at an example of a severely damaged landscape and the context that it has in society. Peatlands cover much of the north western European landscape and in all of the countries where they are located the mining of these landscapes has been common for, in some cases, centuries. In the UK and Ireland peat was historically hand-harvested for domestic heating and in recent decades mechanically harvested for electrical production. Mechanization was a boon to remote areas. In the 1930s the Irish Free State sought to develop indigenous industries and generate electricity using peat whilst also improving the living

conditions of small communities located in marginal, impoverished areas. To achieve this it was necessary to develop infrastructures which, in turn, supported the growth and modernization of remote communities – a case of building social capital networks at the expense of natural capital, where social capital networks are “...networks, together with shared norms, values and understandings which facilitate cooperation within or among groups” (OECD, 2001). Today while the human community has flourished much of the peat landscape has become exhausted and abandoned, with the remainder due to become spent over the next decade. We now see a scattering of interconnected ‘cutaway’ peatland complexes nationwide, situated within a wider agrarian landscape, many revegetating or reflooding unassisted. These nascent landscapes cover between 80,000ha to 100,000ha, a considerable size for a small country. In the last 50 years there have been numerous attempts to find productive ‘uses’ for these landscapes – most resulting in failure for a variety of reasons (Renou et al., 2006). In the meantime, these nascent landscapes are also embedded within rural communities, and until now there had been no studies on human interconnectedness with these landscapes, or what this may mean for the rehabilitation process after extraction ceases.

To redress this, a series of socio-economic investigations were designed to examine: if stakeholders can become fundamental elements in restoration practice, how to bridge governance gaps, how to map values and how to create strong relationships to the restoring landscape over time, as originally suggested earlier by Healey (1997) and later specified by Keulartz (2009). This could only be done by adopting an approach that derives from sociological research – direct engagement and data interpretation – where extensive stakeholder engagement was carried out over several years. Initially, quantitative methods (in the form of randomized questionnaire sampling among the wider population) provided a useful ‘snapshot’ of opinion and revealed that stakeholders desire some productive / industrial re-use of these landscapes and the option of rehabilitation did not feature prominently. In the majority opinion any future industrial uses ought to be ‘green’ industries such as biomass production and wind farming; industries that are somewhat compatible with landscape recovery and natural processes, at least more than other, more extractive or intensive industries. Large group sampling has its limits (Bryman, 2001), for example it can be too reductionist and over simplify a complex relationship. Therefore, researchers used qualitative engagement and a variety of action research techniques. This took the form of face-to-face, recurrent interviewing and small groups research among communities in peatland landscapes over a longer time frame (Collier & Scott, 2008; 2010). Action research involves the researcher participating in the process of data collection, actively, and interpreting social interactions in as unbiased manner as possible (Lewin, 1948) and has the benefit of being adaptive and flexible in the field (somewhat similar to adaptive co-management processes

in other disciplines). The interpretation of the data revealed that local communities greatly value non-productive landscapes, with diverse functions such as unmanaged and ‘re-wilding’ landscapes, semi-managed landscapes, recreational landscapes, and so on. It was not envisaged that communities, when engaged with while mining continued, would regard these landscapes as having what is best described as social-ecological potential, nor that they would value landscape consumption (non use) over industrial, i.e. productive, after-uses. Community level stakeholders also keenly expressed their intent to participate in rehabilitation projects and demonstrated that they had some ecological knowledge of natural processes (re-wetting and succession, for example). Community members often had the ability to envisage what the landscape would ultimately become, and that by participating in after-use planning they would draw upon their historical associations with the landscape and the wider community (i.e. social capital networks). Direct engagement also revealed that many were unlikely to protest against rehabilitation programmes as long as the community was embedded in the process from the outset and given parity of voice. Unlike other examples (Marsh & Lallas, 1995), this does not seem to conflict with other stakeholder opinions (e.g. ecological practitioners, academics or NGOs) and the goals of the restoration practitioners appear to match community expectations and even desires. During the research process, it was noted that a high degree of social learning occurred between researchers, practitioners and their subjects. The process of engagement facilitated the two-way conveying of accurate information enabling stakeholders to address potentially conflicting ideas, change opinions positively and feel empowered to participate *if* their opinions are treated in an egalitarian manner (Leys & Vanclay, 2011). This is somewhat similar to what Higgs refers to as ‘focality’ (2003) and what social psychologists call ‘performativity’, a term Austin (1962) used to explain the way social science research can influence reality. In this case, by discussing the after-use issue the researcher introduces the concept to the stakeholder and this can bring about a perceptual change within the stakeholder. While all this enabled the gathering of data, and thus assist in the planning for these ‘futurescapes’ (Choi, 2007), it also points to potential mechanisms that the practitioner can utilise to correct misconceptions or soften preconceptions, which central to Hobbs’ concerns. It appears that local stakeholders were aware of ecosystem functions (though not necessarily explicitly), and when engaged with over a period of time the majority see these mined landscapes as ideal locations for establishing critical ecosystem services such as flood mitigation and control, carbon capture and successional biodiversity as the landscape recovers.

Discussion

The above case study is used as an illustration of how restoration researchers and practitioners may be able to elicit stakeholder support and thus shape the outcome of a consultation process by allowing stakeholders to collaborate. When it comes to engaging with the public (which is now embedded in current land use and marine policy) it is necessary to ascertain how ecological damage and the resulting restoration project is valued and perceived at a level and timeframe that is compatible with truly collaborative participation. Some restoration practitioners may wish to avoid incorporating socio-economic concerns into their projects in order to set the restoration agenda and focus on the natural capital side of the issue. This is a choice that values ecological knowledge over other knowledges; something that biological conservationists have found to be problematic in some cases. While no-one wishes for a restoration project to be socially or economically destructive – a case of restoring natural capital at the expense of social capital – the case study above indicates that there are opportunities for drawing on established social capital networks to empower participation and to stimulate the desire for the restoration or rehabilitation of natural capital and ecosystem services. Ling et al (2007) argue that the re-use of landscapes has been dominated by socio-economic concerns and values and that multi-functionality in post-industrial sites ought to be a stated aim within land use policy. This paper argues that it should be a stated aim in restoration research and practice as well, particularly in severely damaged landscapes that have no realistic likelihood of returning to anything approaching their original geo-morphological, hydrological or ecological status. In doing so, multi-functionality in restoration practice may incorporate socio-economic concerns as a *de facto*. Multiple value restoration targets may be generally seen as a win-win scenario in theory, but there is also a need for creativity and meaningful engagement with communities as well as an appreciation of the opportunities that knowledges from differing backgrounds can offer. Drawing on socio-economic methodologies, where the researcher draws out stakeholder values over time, offers an opportunity for restoration experts and researchers to gather additional data that may affect the long term viability of a project. However, since the analysis of such data is inductive or interpretative it is often criticised for being open to bias and often incomparable with other research or unrepeatable. While one solution is to triangulate opinion (establish recurring themes and discourses until no new ones are identified), integrating such qualitative information into quantitatively acquired datasets may prove functionally difficult and will always be a challenge.

There are other challenges. Foremost is the contested issue of primacy of knowledge. Differing community, institutional and academic stakeholders often reveal conflicts or power asymmetries, particularly in the area of which kind of knowledge should prevail (scientific, traditional, etc.) in the planning and management of rehabilitation projects. In some landscapes, traditional ecological knowledge

reveals management prescriptions that enable the ecosystem-based collaboration to be realized (Turner et al., 2000), but in severely altered, highly managed landscapes local knowledge may be less obvious and more difficult to complement or compete with academic or institutional / experiential knowledges. Practitioners often encounter this in the form of conflict of interest and the misconceptions that Hobbs (2007) mentions. Stakeholder engagement at a fundamental level will reveal this knowledge and thus the practitioner can ascertain the community capacity for participation.

By incorporating socio-economic research methods such as small group analysis, ethnographic research (where the researcher is embedded within the community), semi-structured interviews and face to face debates, the researcher becomes a reciprocal information gatherer and provider. This, in turn, facilitates stakeholder learning. At the same time, the researcher / practitioner is can measure the level and reach of social capital in the study area, and use this to inform any adaptive processes necessary when collaborating with communities, particularly in highly managed, ‘cultural’ landscapes. This is a longer process than some are comfortable with, it can be costly and it requires a skill set that is not necessarily intuitive, particularly where there are language or cultural barriers to communication. In the case of industrial peatlands, there was a significant level of interviewing and discussions with stakeholders at all ‘trophic’ levels and as a result the Irish government and the State agency responsible for the mined-out peatlands have recently abandoned the quest for commercial or productive after-use of these landscapes and accepted into planning policy the nationwide rehabilitation goals of re-wilding some areas for biodiversity, natural design for amenity in others and low impact, complimentary ‘green industrial’ sites where suitable – true multi-functional landscapes. This could be viewed as an elevated level of social learning or an illustrative example of what is often referred to as ‘bottom-up’ planning.

Implications for practice

- Snapshot questionnaire surveys may not reveal the actual situation within a community, or may even conflict with reality on the ground
- Restoration policy is driven by public interest (both political and financial) and as such engagement is a prerequisite for effective long term planning
- Sociological research methods may be adapted by practitioners to elicit willingness to participate
- Practitioners are responsible for stimulating social learning

- Knowledges derived from differing backgrounds are valid, and often point towards potential solution areas
- Stakeholders can become active participants at all stages of restoration practice, and restoration practitioners need to up-skill themselves to be able to engage meaningfully with them.

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