Stakeholder perceptions and governance challenges in urban protected area management: The case of the Las Piñas – Parañaque Critical Habitat and Ecotourism Area, Philippines

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A B S T R A C T

The conservation and management of protected areas in urban settings has become increasingly challenging with dynamics over land use change in adjacent urban areas being highly relevant to, but at times conflicting with, the protected area. This study seeks to better understand the implications of land use change processes to urban protected area management through the case study of the Las Piñas – Parañaque Critical Habitat and Ecotourism Area (LPPCHEA) in Metro Manila, Philippines. Factors and processes influencing land use change and protected area management and the impact of stakeholders’ perceptions on protected area were analyzed. The urban protected area in itself has limited influence on its surrounding urban areas, as land use change in these areas is shaped more by social, economic and policy/institutional factors occurring within the context of urban-regional development. The study also found that land use conflict is evident in an urban protected area due to the competing ecosystem services derived by various stakeholders. This discord is deepened by the lack of coordination between land use planning and protected area management. Integrating protected area management with land use planning through legally binding instruments, specific timeframes and clear internal procedures can help resolve land use conflict for an urban protected area at the strategic or policy level.

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1. Introduction

Urbanization as a complex process has been increasing in rate, scale and geography (Seto et al., 2013). As urbanization is becoming a key driver for global and local ecological change, cities can no longer be detached from a full understanding of their ecological foundations (Seto et al., 2013). One such case is the so-called ‘urban protected areas’.

Urban protected areas are “protected areas in or at the edge of larger population centers” (Trzyna, 2014, p. 4). As there is no global consensus on urban protected areas as a distinct category, they are currently classified, and accordingly managed, under designations or criteria applicable to other protected areas. However, it has been argued that considering their location, urban protected areas are distinct from the more rural or wilder protected areas, and thus demand special attention in both research and management practices (Trzyna, 2014; Borgström, 2011; Conner, 2005; Niemelä, 1999). In the urban context, urban protected areas can be considered as urban green spaces that, on the one hand, provide ecosystem services and other benefits to urban areas (Chiesura, 2004; Conner, 2005; De Oliveira et al., 2011; Trzyna, 2014) and, on the other hand, are inevitably subject to urban processes and byproducts, including land use change occurring in towns or cities (Antos et al., 2007; Borgström, 2011; Hardy and Koontz, 2010; Trzyna, 2014).

The said urban land use phenomenon is value-laden, with social, market and ecological land values and functions all trying to manifest in the limited urban space (Kaiser et al., 1995). Consequently, urban areas become either a political market that succumbs to urban land development (Lubell et al., 2005) or a pluralistic entity that tries to balance competing land interests (Lewis and Neiman, 2002). Ultimately, different forms of land use change occur and a new landscape emerges where urban protected areas are immediately surrounded by dense built up areas. Since what is conserved are habitats of a rich diversity of wildlife instead of individual species, biodiversity conservation through protected areas becomes a land use issue (Panayotou, 1994).

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An urban protected area can thus be viewed as an urban social-ecological system. This concept is based on the modern approaches to urban ecology, such as the ecology of the city (Alberti et al., 2003; Grimm et al., 2008; Grimm et al., 2000; Pickett et al., 2001), the social-ecological approach of the Stockholm School (Andersson et al., 2014; Borgström et al., 2006), and land change science (Turner et al., 2007). Under these approaches, cities are viewed as an open, dynamic and integrated system (Pickett et al., 2001), as well as characterized by spatial non-linearities, thresholds, and multiple scales (Andersson et al., 2014; Borgström et al., 2006). Such views recognize the interaction between and among the social, economic, and ecological dimensions of urban areas (Pickett et al., 2001). Therefore, the urban social-ecological system also emphasizes the role of people and land use planning and management in generating urban ecosystem services (Andersson et al., 2014). It is also argued that the land use change phenomenon should be understood as a coupled system, with a human sub-system on one end and a biophysical sub-system on the other.

In the context of urban protected areas, the urban social-ecological system is composed of a built-up or urban sub-system, which is expanding due to various needs in land uses and a protected area sub-system, which is maintained for its ecological functions or services. These two systems are associated with various factors that ultimately influence land use change patterns in areas adjacent to an urban protected area. Land use change patterns in the urban areas adjacent to a protected area in turn also have implications for the protected area sub-system. Given this integrated framework, the urban social-ecological system becomes a compelling concept for consideration in integrated planning and urban environmental management.

This study uses the case of Las Piñas – Parañaque Critical Habitat and Ecotourism Area (LPPCHEA) in Metro Manila, Philippines to understand the factors and dynamics over land use change in the cities adjacent to the protected area and to explore the implications of land use change for the urban protected area, including perceived ecosystem services and protected area management. Specifically it seeks to answer the following questions: (1) What are the factors that influence land use change in the proximity of urban protected area?, (2) What are the perceived benefits of the urban protected area for the stakeholders in the urban sub-system?, and (3) In what ways is city land-use planning coordinated with urban protected area management?

2. Literature review on urban protected area management

Urban protected areas are increasingly important in cities and towns because of the functions they perform in the said setting. In addition to their role in protecting and conserving biodiversity in urban landscapes, which are noted to have high species richness (Niemelä, 1999), urban protected areas provide multiple benefits to urban individuals, businesses and communities. These benefits include social benefits, such as improved physiological and psychological health, promotion of social cohesion, and a sense of place to urban residents; environmental benefits, such as micro-climate/air pollution regulation, waste assimilation, flood/fire regulation, and resilience to climate change impacts; and economic benefits, such as revenues from ecotourism, and increased values of nearby or surrounding real estates (Chiesura, 2004; Conner, 2005; De Oliveira et al., 2011; Piwowarczyk et al., 2013; Trzyna, 2014).

Land use change in and around protected areas has been researched under different spatial and temporal scales, in both quantitative and qualitative approaches. However, there has been much less research reported on the urban protected areas. While findings across spatial scales are less consistent, the temporal aspect of land use showed a trend of increasing urban land uses, and this is expected to continue in the future (Hamilton et al., 2013; Thorne et al., 2013; Wade and Theobald, 2010). In addition, urban land use change in and around protected areas impacts such as decreasing protected area size (Borgström et al., 2012; Hamilton et al., 2013; Wade and Theobald, 2010), encroachment (Antos et al., 2007), degradation and fragmentation of habitats (Hamilton et al., 2013; Wade and Theobald, 2010), alteration in wildlife mobility and behavior (Leroux and Kerr, 2012), and decreased ecosystem service values (Estoque and Murayaya, 2012).

Land use change has been attributed to factors such as biophysical attributes of protected areas (Leroux and Kerr, 2012; Mcdonald et al., 2009; Wade and Theobald, 2010), socio-economic conditions in surrounding areas (Antos et al., 2007; DeFries et al., 2007; Warren et al., 2011), and institutional and/or policy environments related to urban growth and conservation (Helmer, 2004; Leroux and Kerr, 2012; Thorne et al., 2013). However, as recent studies have mainly focused on quantitative associations, an in-depth understanding of the factors identified is still lacking.

In addition, research on implications of the above land dynamics for the subsequent management of protected area is still lacking. While land use planning and protected area management appear to be separate systems, the two converge, as “managing any protected area engages different actors, instruments and powers and is embedded in multiple levels of rules and decision-making... from regional land use plans to day-to-day decisions affecting the livelihoods of people resident in and near the protected areas” (Borrini-Feyerabend et al., 2013, p. 10). More specifically, urban areas are more ethnically and economically diverse. With high population densities, thicker institutions and higher resource levels (Hardy and Koontz, 2010), land use is more dynamic in urban areas. Therefore, the consequence of such land use change to the adjacent urban protected area becomes more complex as it is relevant. This becomes a unique challenge that urban protected area management faces.

3. Research method

3.1. The study area

The Las Piñas – Parañaque Critical Habitat and Ecotourism Area (LPPCHEA) is a 175-ha coastal wetland and bird sanctuary situated at the southwestern fringe of Metro Manila, Philippines (Fig. 1). It is also located within the East Asian-Australasian Flyway Network (EAAFN) and as such serves as a natural stop for local and migratory wildbirds, including the Chinese Egret (Egretta eulophotes), Pied Avocet (Recurvirostra avosetta) and Siberian Rubythroat (Luscinia calliope). To protect these species, the Philippine government issued Proclamation 1412 in 2007, declaring LPPCHEA as a critical habitat and ecotourism area. In 2013, LPPCHEA was included in the list of Wetlands of International Importance, also known as Ramsar Site, under Article 2.1 of Convention on Wetlands.

In an amendment to Proclamation 1412 in 2008 (Proclamation 1412–A), it is specified that biodiversity conservation through preservation and maintenance of existing mangrove, mudflats, and ecosystems is an imperative for the use and management of LPPCHEA (PP 1412–A, 2008). This is in accordance with the concept of wise use of wetlands, applicable to all declared Ramsar sites, and adopted in Ramsar 10th Conference of the Parties (COP10) Resolution X.3 otherwise known as the Changwon Declaration. The wise use of wetlands is defined as “the maintenance of their ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development” (Ramsar Convention Secretariat, 2010, p. 16). However, as a recently designated Ramsar site, the wise use of LPPCHEA as a Ramsar site is yet to be governed by formally established set of rules or
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