**Eco-accommodation Policy:   
Recommendations for Singapore**

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Processes of Environmental Policy Making

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**Abstract**

In many situations throughout the world, tensions have risen between the need to promote the value of inclusivity in developing a plot of land, and that of conserving the natural history found there. One proposed solution to this conflict is eco-tourism, which permits the preservation of nature while concurrently allowing development within it. Since the success and profitability of such developments depend on its surrounding environment, property developers have incentive to develop in such a way that is environmentally sensitive and sustainable. However, some have taken advantage of the eco-tourism brand for profit, or have misconstrued the idea of what it means to be “eco-friendly” in the context of the immediate environment, failing to take the precautions necessary to truly protect the biodiversity of the area. Such problems can arise when there is lack of formal definitions for what constitutes “green hotels” and “eco-lodges” in policy, where a green hotel is one that uses recognized “green measures” such as recycling and composting to offset its impact on the global environment, and an eco-lodge is one that also compensates for more local impacts such as soil compression and water pollution. These unclear definitions can increase the tensions between the values being promoted by those who have interests in inclusive development and those who have interests in the conservation of natural spaces, if the latter party accuses the former of using the term “eco-lodge” when they only suit the definition of a “green hotel”. This problem has arisen in Singapore in talks of the development of the Mandai Project in the Central Catchment Nature Reserve. Although Singapore does have an environmental minimum standard and certification program for non-commercial buildings like hotels through the Building and Construction Authority (BCA)’s Green Mark Assessment[[1]](#footnote-1), it does not have one for eco-lodges. This paper will recommend that, to help clarify the issue, the Singapore government should create a multi-level ecolodge certification program which defines what constitutes an eco-lodge, along clear, measurable and scientific parameters. This program should then be supplemented with a framework for determining how it can be applied to different biological and economic contexts, in accordance with Singapore’s overarching nationwide land-use plans.

**Introduction to Conservation Land Use Policy in Singapore**

Before going into the specifics of the eco-lodge policy, however, it is important to understand the context of Singapore’s historical attitude towards conservation in governance. Although most of primeval Singapore was covered by primary forest, by 1900, over 90% of it had been cleared for agriculture and development under British colonial rule[[2]](#footnote-2). While this trend of deforestation continued in Singapore’s quest for rapid urbanization post-independence, Lee Kuan Yew, considered by many to be the founding father of modern Singapore, affirmed the value of nature within urban spaces when he introduced his strategical vision of Singapore as a “garden city” in 1967[[3]](#footnote-3) . Under this overarching garden city vision, many green initiatives were adopted, not least of all of which was the establishment of the 1996 National Parks Act, designating select pieces of land covered by what remained of Singapore’s primary lowland dipterocarp forest to become Nature Reserves. Officially acknowledging the necessity of environmental considerations and incorporating it into governmental objectives allowed concern for the preservation of natural spaces to become a much more prominent consideration for policy makers in a quickly developing city state, and nature activists were quick to hold the government to these standards.

Today, Singapore’s greening policy has evolved from the guiding vision of “garden city” to “city in a garden”[[4]](#footnote-4), a symbolic shift that represents a new policy focus to both create a “biophilic city” that fully integrates nature into the city scape, as well as instill a ‘green consciousness’ in Singaporean citizens. As such, many groups have emerged as nature activists within Singapore, working not against the government, but often, in collaboration with the institution, through “biodiversity roundtables”[[5]](#footnote-5) and other arenas for discussions on urban planning discussions.

Besides engagement with stakeholders, Singapore has also made significant effort to facilitate cross-organization collaboration within the government itself. In 2014, Prime Minister Lee Hsien Loong launched the Smart Nation Initiative, a project that aimed to further centralize and transform the country into one where technology and communities became better integrated to improve the living standards and well-being of Singaporeans. To support this initiative, a Smart Nation Program office was set up within the Prime Minister’s Office, which would “take in perspectives and ideas from many sources, make sure that we take a whole-of-Government, whole-of-nation approach to building a Smart Nation”, to bring together the work of different government departments[[6]](#footnote-6).

Through the Smart Nation initiative, Singapore’s head agency of nationwide land use planning, the Urban Redevelopment Authority (URA), has been able to integrate other important statuary boards into supporting its “Master plans”, such as the National Parks Board (NParks), which is in charge of streetscape greenery, and the BCA, which is in charge of building standards. URA has mainly focused its sustainability policy on increasing greenery in residential spaces, aiming to create a “new paradigm of urban living” by creating a “clean and green environment with sensitively-designed green spaces and sustainable design features to minimize our impact on the surrounding environment”[[7]](#footnote-7) among other community- and health- based goals. Thus, the BCA established the blanket code for the minimum environmental sustainability standard for new buildings, supplemented by the voluntary Green Mark rating system in Singapore. Both of these programs assign “Green Mark Scores” totaled from five environmental impact categories: Energy efficiency, water efficiency, environmental protection, indoor environmental quality, and other green features[[8]](#footnote-8), based on building type, including hotels[[9]](#footnote-9). However, because this is a blanket code for Singapore, it is best suited to guide the sustainability of urban areas. Thus, the BCA’s environmentally standard can serve as a reference for green hotels, but not for eco-lodges.

**Policy Impetus**

The Singaporean government was able to work once again with prominent Singaporean nature activists during policy discussions from 2015 to 2017, after Mandai Park Holdings, a subsidiary of state-owned Temasek Holdings Private Limited, announced the Mandai Project proposal[[10]](#footnote-10). The Mandai Project was a response to a call by the Singapore Tourism Board (in collaboration with the Ministry of Trade and Industry) to explore concepts for development of the Mandai precinct, located within the Central Catchment Nature Reserve. The project aimed to create an “integrated nature and wildlife destination for Singaporeans” at the site, featuring a 400-room Eco-Lodge and Rainforest Park which were to be constructed next to the currently existing Singapore Zoo, Night Safari, River Safari and relocated Bird Park. The proposed Eco-Lodge was also slated to be equipped fully with a banquet hall and other such facilities.

Although the Parks and Trees Act of 2005 which outlined the protections for national parks and nature reserves in Singapore allowed for “recreational and educational use” of the Central Catchment Nature Reserve by the public, the Act also stated that use which required land to be dug up and trees cut was subject to the approval of the National Parks Board, with fines set out for violators[[11]](#footnote-11). Therefore, before Mandai Park Holdings could confirm their plans to move forward with the development, they were required to engage in discussions about the effects the Mandai Project on the surrounding environment the National Parks Board (NParks). Other public and non-profit stakeholders, such as Public Utilities Board (PUB), and wildlife experts from Nature Society (Singapore) and Animal Concerns Research & Education Society (ACRES)[[12]](#footnote-12) were also involved in the discussions.

Many members of these groups environmental activists raised their unhappiness with the “greenwashing” and “Disneyfication” performed by Mandai Park Holdings in using the term “Eco-lodge” in an overly loose manner. They felt the negative impact of such a project would be too large to be able to justify its development. Mr. Tony O’Dempsey, for instance, speaking on behalf of the Nature Society (Singapore), said that the group was concerned about “the effects of the development on the native fauna that have been using the [Mandai] site as a linkage between two fragmented sections of the Central Catchment Nature Reserve,”[[13]](#footnote-13) and that better use of the area, if development was necessary, would encompass its use as a nature park, allowing “the continued usage of the area by the native fauna.” Despite the fact that Mandai Park Holdings conducted a joint Environmental Impact Assessment (EIA) with the National University of Singapore[[14]](#footnote-14) addressing the necessary mitigation measures to minimize these negative effects, the environmental activists continued to argue that as long as the Eco-Lodge aimed to attract such a high volume of visitors to the area, there would always be an unnecessarily large detrimental impact on the surrounding habitat, due to factors such as increases in noise and light pollution and the necessity of the construction of transport and service roads to support the accommodation facility. To them, the proposed accommodation facility could satisfy the title of a “green hotel”, but not an “eco-lodge”. Some, like Mr. Joseph Koh, Honorary Research Affiliate at the Lee Kong Chian Natural History Museum, suggested that a better solution to promote the value of conservation would entail upmarketing the eco-lodge to more affluent customers, increasing the overall price of each room to decrease the overall number of rooms and still remain profitable. Mr. Koh also discouraged the construction of banquet halls and swimming pools, which he argued would require too many transport and service roads to be built to support the accommodation facility. In addition, some of the proposed mitigation efforts also did not meet the standards of the environmental activists. For example, to help solve the fragmentation issue, the EIA suggested an “eco-link bridge” be built between the central and northern reaches of the Central Catchment Nature Reserve. However, these were noted to be “too narrow” and positioned at an “awkward spot” by members of the Nature Society (Singapore)[[15]](#footnote-15).

Nonetheless, Mandai Park Holdings continued to emphasize the need for the Mandai Project to be carried through to meet the demand for wildlife attractions. CEO Mike Barclay stated that “there has generally been "very robust growth" in visitation to zoological parks around the world”, and that Mandai Park Holdings wanted to create a “cutting edge” wildlife park[[16]](#footnote-16). Additionally, in direct response to critics who felt that there should not be any development into the space at all, he said, “the decision has now been made and we are starting work. We want to continue our very constructive discussion about how do we develop in the right way, and how do we do it in a sensitive way.”[[17]](#footnote-17) Because Mandai Park Holdings also invoked the value of inclusion as one of three guiding principle of the project (aligning with government objectives[[18]](#footnote-18)), they felt that they could not politically justify marketing the eco-lodge only to more affluent Singaporeans and tourists.

Thus, after much debate and discussion with NParks and the various nature groups, Mandai Park Holdings made the final decision to contract Banyan Tree Holdings to build the “full-service” 400-room resort of standard and family rooms, as well as elevated cabins or treehouses, capped at four stories high. They promised to design, construct and operate the eco-lodge in an environmental friendly manner[[19]](#footnote-19). Interestingly, although they kept the proposed number of rooms at 400, the Banyan Tree Holdings group has typically marketed to higher-end consumers. Perhaps the Banyan Tree brand represented the lower boundary of “luxury” pricing, but the decision was not well received by the public, if social media forums are indicative of public reception. Many of the top-rated comments on the announcement on the TODAY Newspaper Facebook page, for instance, concerned the affordability of the accommodation to all Singaporeans, “and not just a sector with dough”, and that they hoped the target consumer circle included Singaporeans and not just tourists. Some comments also brought up concerns for conservation of the environment around Mandai.

The final decision appears to be a poor management of the different values being promoted by parties with different interests; those who wanted to protect the environment promoted the values of preservation and conservation by reducing the number of rooms, while those who wanted to keep the accommodation affordable for all Singaporeans promoted the value of inclusivity by keeping room prices low; yet, neither of these were achieved through the final decision. To better meet the demands and interests of different parties in the country, there needs to be an improvement in the land-use policy making process in Singapore.

**Policy Alternatives and Recommendations**

One possible solution to the problem of not satisfying the value of conservation would be to implement an eco-lodge certification program which gives a clear, set definition of what constitutes an eco-lodge, and then subsequently using this program to regulate development within Singapore’s nature reserves via command-and-control; that is, that, by law, only accommodations that meet strict eco-lodge standards may be built within nature reserves.

However, using command-and-control regulation to implement a sustainability certification program risks inflexibility in meeting the demands of those who value inclusivity over conservation, and may not fit well into Singapore’s pre-existing land-use policy approach. Historically, Singapore has demonstrated a preference for adaptive policy management as opposed to “universal” standards unless strictly necessary. For example, in another conflict between development and nature, then executive director of the Mass Rapid Transport (MRT) system, Lim Leong Geok, proposed for the first time that a train line be constructed underneath the Central Catchment Nature Reserve in the 1980s. At the time, the proposal was rejected, citing the large and unnecessary impact it would have on the environment there via the soil investigation works. In spite of this precedent, however, in 2015, due to improvements in non-intrusive soil sensing technology and collaboration with nature stakeholders, as well as changing demands from increases in population size and productivity objectives, the government allowed for development of the Cross-Island Rail Line under the nature reserve[[20]](#footnote-20).

Therefore, better land policy would allow for adaptation to different and changing contexts, and a more appropriate alternative would be firstly, for NParks and the BCA to jointly create a multi-level eco-lodge certification program, and then secondly, develop a supplementary framework for its use that satisfies both the values of conservation and inclusivity.

To create the certification, NParks and the BCA should work with the Singapore Tourism Board to gather intelligence about (1) the possible impacts of services and amenities, (2) existing eco-lodge design practices, and (3) international eco-accommodation certification standards, such as the voluntary Certification for Sustainable Tourism Program (CST) in Costa Rica. These programs and eco-lodges are important resources for Singapore to create its own ecotourism certification programs, as they can not only inform the “best practices” of sustainable development practiced worldwide, but also provide benchmarks for the extent to which different levels of development impact the environment. In other words, intelligence about existing facilities and programs can be gathered as references for deciding the final prescription of eco-lodge standards, rather than simply arbitrarily assigning figures to factors such as optimal room capacity. NParks and the BCA will then have a better understanding and some estimate of the degree to which each certification level will affect potential development sites. These tasks have been elaborated on in Table 1.



Next, a supplementary framework should be created to evaluate the biological value of potential construction site and thus, how stringently each space should be protected. In this manner, since each level of the certification program corresponds to a certain degree of predicted environmental impact, URA and NParks can set a specific certification level as the minimum requirement for developing, according to the amount of impact that was deemed acceptable. Biological value must be distinguished here from economic valuation of biological systems; that is, the strength of protection for each “nature-filled” space should not be evaluated based on its potential for generating revenue, but based on what some have defined as “survival value”[[21]](#footnote-21), the state of living organisms which lends to the optimal conditions for the continuation of life. Since having healthy ecosystems in our environments are arguably important for the continuation of human life on Earth, measurable variables such as biodiversity and water cleanliness can be used as proxies for biological value. Presumably, with higher biological value, one can also assume higher abstract values such as aesthetic value. The tasks necessary for evaluating the biological value of potential construction sites and determining how the certification program should be applied are summarized in Table 2.



Thus far, these policies have addressed the value of conservation, but not of inclusivity. To ensure inclusivity in establishing price brackets, Mandai Park Holdings (or other revelant developers) should concurrently gather intelligence about trends such as the price ranges of eco-lodges around the world, and income distribution of Singaporeans, both indicators for consumers’ “willingness to pay” and of what constitutes affordable pricing respectively. To fully engage with relevant stakeholders, developers can also hold discussions with focus groups and identity affinity groups like the Nature Society (Singapore) and *Yayasan Mendaki* (theCouncil for the Development of Singapore Malay/Muslim Community). Using this information, Mandai can better determine what appropriate price brackets the rooms should be priced at, and then finally, use these figures in conjunction with the number of rooms allowable according to the certification at the site to determine if the project can be economically sustainable. In the event that it is not, the developer can consider if constructing at a less biologically valuable site that is still viable as an eco-lodge location may be a better alternative. The tasks necessary to establish price brackets and ensure inclusivity are summarized in Table 3.



Lastly, after eco-lodges have been established using these standards, their success of promoting both the values of conservation and inclusivity should be continuously appraised by NParks. If not, NParks, BCA and the property owner may choose to relook and update the standards accordingly. This process is captured in Table 4.



Thus, in this model, deciding how and where to build and operate an eco-lodge utilizes the certification program through a two-pronged approach from the perspectives of both conservation and inclusivity. The overview of these processes are visualized in Figure 1, where the left section represents the formulation of the eco-lodge certification, the middle section represents the prescription of certification required according to the biological value of the site, and the right section represents the establishment of inclusive price brackets. The middle and right section feed into the final decision of building the eco-lodge at the given site, because they establish whether or not conservation and inclusivity are compatible for the proposed project. If not so, there may be a need to reselect a site for development until the site can be both economically and environmentally sustainable. It is important to note that for the sake of clarity, in this visualization, functions which may be carried out concurrently have been depicted as chronological. For example, in the middle section, determining the possibility of and need for alternate sites may be carried out through negotiations with stakeholders, instead of before negotiations.



**Figure 1**

**Examination of possible negative effects**

Evidently, a negative feature of the recommended policy is that its highly comprehensive nature may not only make the process slow and dragged out, impeding the progress of the development. Furthermore, not all the data required in the process may be easily obtainable, making the use of the framework difficult and even slower. Although comprehensiveness is an important factor in the policy making process, it must be balanced carefully with timeliness. Therefore, it is important for the different overseeing agencies to exercise their discretion in using the framework. Although this flexibility has the potential to lead to bureaucratic politics, the Singaporean culture of governance is highly entrenched in a collaborative tendency which can help different agencies keep each other in check, through negotiations within an established timeline. In this case, because of Singapore’s small size, centralization does not lead to the classic problem of inefficiency, but may rather lend to more holistic and timely policy. Furthermore, the system of continuous appraisal after the ecolodge has been constructed provides a second round of checks, and is highly feasible because of Singapore’s small size. The data from the biological surveys and Environmental Impact Assessments (EIAs) conducted during the appraisal should also be freely available to the public so that they can hold the government agencies accountable to the achievements of the given objectives.

**Conclusion**

Policy makers must delicately balance the values of conservation and inclusivity when making land-use decisions, and take both ecological and economic needs into account, involving non-governmental stakeholders in the process. The certification program created for the Mandai Project can be used for other potential development sites in nature reserves in Singapore, such as Sisters Island and *Pulau Ubin*, and Singapore’s small size makes it a useful precedent and model for other cities internationally.

In conclusion, this paper recommends that the Singaporean government should create a multi-level ecolodge certification program with determined impact levels, apply this program appropriately to the measured biological value of the area, and determine if the proposal is economically viable at inclusive price brackets.

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