

# Identifying the Bottleneck in the Adoption of Biodiversity Offsets in EIA Systems of Japan

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## 1. Background

While large-scale development projects are decreasing in Japan due to changes in social conditions such as population decline and infrastructure sufficiency, development remains a major threat to biodiversity (Nakagawa & Morimoto, 2014). EIAs offer a powerful regulatory instrument for balancing economic benefits and ecological damages of development projects. However, a pitfall of EIAs is that they often do not address impacts on biodiversity of itself in quantitative terms (Bigard et al., 2017). Biodiversity offsets (BO) are useful tools in this regard as they require the quantification of losses and gains in biodiversity with the aim of No Net Loss or Net Gain (NNL/NG) by definition.

As of 2017, 108 out of 198 countries in the world already had or were developing an offsets scheme and 99.7% of the offset projects were triggered by policy requirements in 37 countries where offsets were legally required as prerequisites to project permission (Bull and Strange, 2018). Experience of various offset schemes in Europe and overseas also unanimously suggest the necessity of binding legal provisions to boost offset activities (NNLWG, 2013). In Japan, however, the legal provisions on mitigation hierarchy and quantification of impacts have relied on the goodwill of businesses instead of calling for strict liability. Meanwhile, OECD (2012) expected Japan to undergo 36% decline in mean species abundance between 2010 and 2050, which is over three times higher than the projected global terrestrial biodiversity degradation. The adoption of BO will be a deciding factor for conservation activities in Japan, a biodiversity hotspot marked by a high share of endemic species.

## 2. Hypotheses for the non-adoption of biodiversity offsets in Japan

Literature review and the Proposal for the Implementation of BO in EIA published by the Ministry of the Environment Japan (2014) shows that there are economic, ethical, and technical dimensions of arguments

against BO. These three dimensions about the challenges are inherent to the concept of biodiversity offsetting itself, and yet those that can be overcome with proper planning and monitoring. When coupled with a proper banking system, offsets can offer net social benefits. Furthermore, despite all defects, offsets can at least ensure ‘less loss’ than in business-as-usual scenario. Thus, it can be concluded that “offsetting could and should be part of our conservation toolkit in the Anthropocene” (Takacs, 2020).

This gives a rise to an alternative explanation to the non-adoption of offsetting policy, which is external to the concept and practice of offsetting itself, but present in the society’s policy making system. Culture, a core element of the societal decision-making process, has not received any attention from academia when it comes to the issue of BO adoption. Academic literature on the characteristics of environmental policy making culture in Japan, I identified the cultural bottleneck in mandatory BO adoption: 1) Disconnection between public interests and policy response; 2) Reactive approach over precautionary approach; 3) Burden sharing over the Polluter-Pays-Principle (PPP). This study will demonstrate how these factors played a role in the non-adoption of BO in Japan through a case study on Aichi prefecture. This paper reframes the non-adoption of offsets as the lack of political will to achieve biodiversity conservation and hypothesizes that the bottleneck of offsets adoption in Japan is its preference towards a voluntary regulation approach to environmental governance.

## 3. Case Study on Aichi Biodiversity Strategy 2020

From the review of thirty-seven regional biodiversity strategies and the biodiversity conservation section of seven regional environment plans, Aichi was identified as the only prefecture with specific guidelines and a working quantification tool for the promotion of offsets. The Aichi Biodiversity Strategy 2020 was implemented through the Aichi Method, whose main components are the Ecosystem Network and the Aichi Mitigation. The three tools of the Aichi Mitigation were: 1) Biodiversity potential map

showing the suggested offset sites; 2) Aichi Mitigation Quantitative Evaluation Method allowing developers to quantify the quality and quantity of ecosystems before and after development; and 3) Ecosystem network checklist on which the results of the quantitative evaluation can be recorded. Nine Aichi ecosystem network councils, consisted of landowners, developers, governments, researchers, and NPOs, were created to assist the implementation of the Aichi Mitigation.

### *3.1. Lack of political will and commitment*

Various elements in the Strategy design signify the lack of political will to deliver the claimed policy goal. First, Brinkerhoff (2010) report that political will can be questioned when the source of impetus lies totally in external actors. And the sole direct reason for the adoption of the Aichi Method was its designation as the host of CBD COP10. A year and a half before hosting COP, the prefectural government created a new group under the Environment Bureau, with a specific mission to devise a policy that can be presentable at COP10.

Next, the participation in the Aichi Mitigation is voluntary, and the Strategy lacks credible sanctions. The annual Aichi Biodiversity Strategy Promotion Council meeting logs recorded between 2013 and 2019 did not show any discussions on imposing strict liability on the private sector or polluter-pays-principle. Instead, the Council discussed various positive incentives such as eco-mark and corporate tax benefits. The meeting logs also revealed that the private sector avoided the expression "compensation/offset" and preferred to promote biodiversity conservation activities as part of self-regulated CSR initiatives. In the consultation between companies and the prefectural government, companies demanded the government to avoid the term "recommendation" of offsets, as offsets increase the costs of development. During a closed meeting, the former head of the Natural Environment Division at the prefectural government addressed the opposition against mandatory offsets from the major corporation in Aichi as a significant barrier in advancing a binding offsets policy.

Another indicator of political will is the allocation of resources. In Aichi mitigation, there was no fixed prefectural budget allocated for the network councils. Each Council had to apply for Aichi Forest and Greening Project

Fund every year. The source of this fund is Aichi Forest and Greening Tax, which requires each resident of the prefecture to pay 500 yen per year, and up to 40,000 yen per year for businesses. As the shortage of funds had been pointed out during the Council meetings several times, the introduction of a biodiversity banking system had been discussed since 2014, but related initiatives were not launched.

Overall, the Strategy showed minimal achievements. There was no single case of avoidance or offsets conducted under the Aichi Mitigation between 2013 and 2018. Moreover, less than one-third of checklists were submitted from the developers, and the rest were used for regular conservation activities that do not meet the definition of 'mitigation.' The Aichi Mitigation led to the creation of 13 ha of forest areas while 185 ha of forest areas were destroyed, which clearly falls short of the NNL/NG.

### *3.2. Results from the survey on the participants of conservation activities*

During June 1 ~ July 11, a survey was conducted on the 233 member organizations of network councils and 38 non-member environmental NPOs in Aichi prefecture. 65 responses from 55 council member organizations and 10 non-member organizations were received (response rate: 24%)

Q1 intended to assess the relative salience of biodiversity conservation issues in comparison with other environmental issues. The average level of satisfaction in overall environmental conditions was 2.92. On the other hand, the respondents were the least satisfied with the ecosystem conservation issues: 2.72 for the conservation of Satoyama and other ecosystems and 2.65 for that of endangered habitats.

As the major obstacle to the progress of their activities in Q12-1, the largest number of respondents chose the shortage of funds (49.2%), followed by the lack of public interests (42.9%) and shortage of human resources (41.3%). In Q18, however, 43.1% of the residents replied that they want to maintain the current amount of the Aichi Forest and Greening tax. 38.5% said that the tax has to be increased, among which 7.7% was in favor of a significant increase in the amount.

Ideological conflicts or ethical arguments were not in the center of concern. In Q15, 52.3% considered that

ecosystem valuation and quantification is necessary to meet the conservation goals, while 9.2% of the respondents stated that it is ethically wrong.

In Q16, around 71% agreed with the necessity of mandating strict application of the mitigation hierarchy. In Q18, 69.2% of the respondents answered that the developers should bear the cost of offsets for development projects. Furthermore, in Q21-1, a vast majority of the respondents regarded Aichi mitigation to be unrelated or helpful for the competitiveness of companies. Only 6.1% of the respondents responded that Aichi mitigation is harmful to the companies.

On the other hand, in Q14, a much higher proportion of the respondents expressed that voluntary commitments rather than coercive regulation would be more effective in achieving conservation goals. Also, regarding the introduction of NNL as a legal requirement in Q17-1, 40.0% of respondents answered that NNL should be legally required in all development projects, 41.5% replied that the current voluntary approach to NNL is enough, although 14.3% acknowledged that the guidelines and support measures would need some improvement.

#### **4. Discussion**

The survey respondents largely supported the application of PPP on offset activities and expressed difficulties with the shortage of funding and human resources. Also, they were not against the offsets on the ethical ground and wanted to ensure strict adherence to the mitigation hierarchy. The adoption of mandatory offsets provides a rational solution for this situation, as it would free up citizen volunteers and the Aichi Forest and Greening Fund to be utilized on non-offset conservation activities. Then, the respondent's preference towards a voluntary approach to offsets and NNL, can be interpreted as the result of an ungrounded gut rejection of mandatory regulation. In the case of the yellow vests movement in France against increases in fuel tax, the gut rejection was suggested to be based on incorrect perceptions about the economic impacts of the policy (Douenne & Fabre, 2020). However, in Aichi's case, the survey shows that this rejection from the public is not based on the fear for the economic impacts of the policy.

In fact, there has not been any comprehensive study on the economic impacts of offsets adoption in Japan. In the

absence of any economic analysis on the actual impacts of offsets, the government's decision of non-adoption cannot be an informed one. Then, the acceptability or perception of offsets on their economic implications depends on whether the focus is put on the private costs borne by developers, or the net public benefits. Thus, the current non-adoption of offsets suggests the pro-business orientation of the government. In Aichi, the government actively sought and accepted the opinions of the private sector for Strategy development. Various anecdotal evidence and vote mobilization analysis strongly suggest the presence of clientelism in Aichi prefecture, particularly in the company towns of Toyota Motors, which could have played a role in shaping the prefecture's biodiversity governance strategy (Inoue, 2011).

The emphasis on the costs borne by developers and the ignorance of potentially greater public benefits from biodiversity conservation indicates that the valuation of ecosystem services has not been mainstreamed in the political discourse in Japan. And the problems of pro-business attitude, clientelism, and the gut rejection of regulation on the private sector are likely to affect environmental issues beyond biodiversity governance since they constitute the culture of environmental policymaking in general, deeply embedded in the political economy and history of development in the country.

#### **5. Conclusion**

This paper sheds light on the impacts of cultural and sociopolitical contexts to explain the non-adoption of BO in Japan. The framing of offsets policy adoption as technical, ethical, or economic challenges effectively depoliticize the issue and shift away attention from institutional failure pertinent to the broader social contexts of environmental governance in Japan. To elucidate the validity of arguments against offsets and to initiate changes in sociopolitical discourse, case studies on countries with similar political economy and ecological conditions, nationwide public consultation, and quantitative research on the economic impacts of introducing mandatory offsets scheme and biodiversity banking in Japan will be required.

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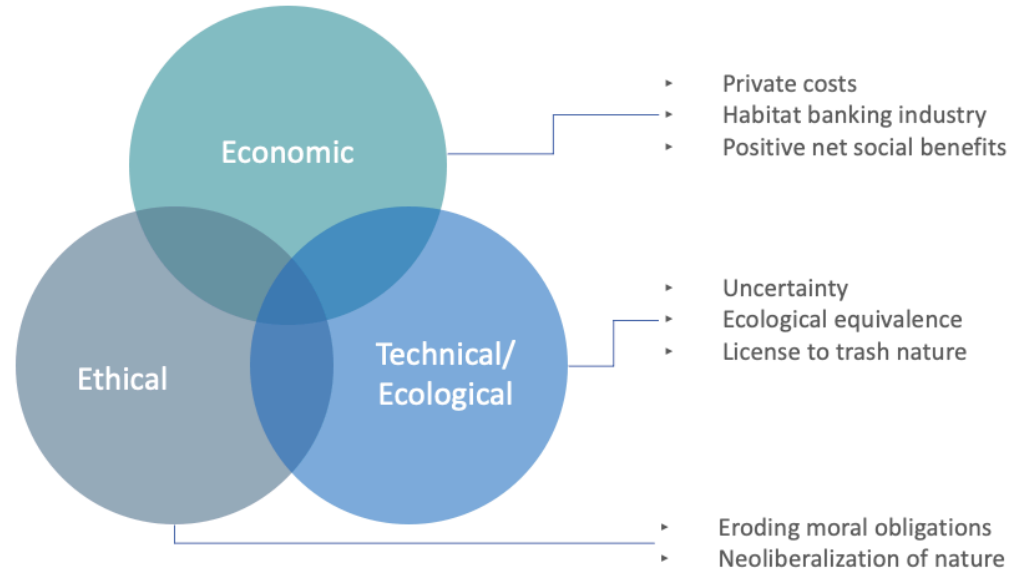
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## Barriers in policy adoption



- ▶ Disconnection between public interests and policy response
- ▶ Reactive approach over precautionary approach
- ▶ Burden sharing over the Polluter-Pays-Principle (PPP)

## Arguments against BO



Appendix I. Four dimensions of the non-adoption of biodiversity offsetting