

Chapter 9

Summary and Conclusions

Successful biodiversity policies improve welfare overall by correcting the fundamental externalities of managing biologically diverse habitats and ecosystems. Within the overall improvements, however, biodiversity policies can create winners and losers. OECD policy guidelines call explicitly for a consideration of these distributive effects on the absolute and relative well-being of different groups of people. This book has presented an analysis of the distributive impacts of biodiversity policies across different groups, across different spatial scales and across time. We have offered methods for measuring the impacts and explained the relationship between policy objectives, instrument choice and distributive outcomes. We have also considered arguments from the economic literature for addressing distributive issues within biodiversity policy choice, and offered different methods for integrating distributional concerns into policy-making and for managing conflicts induced by biodiversity policies. Finally, we have presented a wealth of case studies to document both the complex chains leading to distributive outcomes, and best practice in merging efficiency and equity considerations in policy design, implementation and ongoing management.

Our main conclusions are as follows.

I. Paying attention to distributional impacts matters

- Paying attention to distributive outcomes in biodiversity policies will often maximise efficiency by permitting the policy to succeed. Policies built on excessively narrow definitions of efficiency can often lead to wasteful conflict and be ultimately self-defeating.
- There are a number of fundamental and practical reasons why biodiversity policies should include redistributive objectives. This goes against a key doctrine of welfare economics, which states that gains should be redistributed using separate policies after the biodiversity policy has been implemented. However, such separation is not always possible for biodiversity policies. One reason is the economics of market failure (i.e. the presence of public goods); another is the absence of property rights that *ex ante* give claims to those who are likely to be affected by policy.
- Pursuing biodiversity policies without considering their distributive consequences may involve serious net efficiency losses. This is because a policy that creates conflict may not only forego the potential gains from

the policy itself, but may also then cause other policies to start off in a confrontational mode that reduces the possibility of successful negotiation.

II. There are many ways to measure the impacts of biodiversity on welfare

- For all areas of social policy, the decision to implement a policy should be determined by the balance of benefits and costs. But when we are concerned about well-being, benefits and costs cannot be limited to monetary terms, but must include any impact that results from policy implementation.
- Impacts include the direct and indirect effects of both the concrete and abstract aspects of biodiversity. Those impacts need to be methodically accounted for across many economic, social, spatial and temporal groupings.
- The method chosen depends on the policy measure, the geographical scale, and on the data availability. Each of the methods has particular strengths for capturing distributive effects and weaknesses in capturing important dimensions or enabling different levels of data aggregation.
- Methods to help the policy-maker identify the main groups affected by the policy and the important distributive effects in monetary and social terms can be grouped into: a) income-equivalent measures (summary measures of equality such as the Lorenz curve, extended versions of CBA, social accounting matrix, distributive weights and Atkinson inequality index); b) alternative measures (employment or child health-based analysis); and c) multidimensional measures (stochastic dominance analysis, multi-criteria analysis and social impact assessment). The latter two groups combine quantitative and qualitative data to capture some of the complexity of distributive impacts beyond their economic dimension.
- The different methods have different data requirements. Therefore, while it may be desirable in an exhaustive analysis of distributive effects to use several measures, extending the number of measures and dimensions assessed requires additional time and resources.

III. Biodiversity policies have both primary and secondary distributional effects

- The impacts of biodiversity policies can be divided into primary (the direct impact of the policy) and secondary effects (the indirect impacts of the instruments chosen to implement the policy).
- As a rule, the greater the change brought about by the policy, the greater the primary effects. Primary effects usually imply net costs to the less well-off segments of a population. These primary impacts, however, do not represent the ultimate distributive outcomes. This is because

biodiversity policies need to be implemented and in the process of implementation, instruments need to be chosen.

- Secondary effects occur as a result of the policy instrument chosen to implement the policy. The more coercive and less reward-based the instrument, the more accentuated the secondary effects of the policy. Historically there has been considerable use of instruments which put a significant amount of the burden of conservation policies on poorer households.
- The trend towards market-based instruments in biodiversity policies is likely to reduce the progressive effects generally associated with traditional instruments. However, there is evidence that while market-based instruments do not hurt lower income households, higher income households tend to profit relatively more.
- There is a spatial mismatch between costs and benefits of biodiversity policies because benefits tend to be diffuse, while costs are locally concentrated.
- Protecting biodiversity today can also have uneven impacts over time and affect future generations differently. These problems of intergenerational equity can be addressed through hyperbolic discounting of costs and benefits arising at different points in time. At the same time, consistency between inter- and intragenerational equity is required.
- At the international level, there are still difficulties in translating developed country populations' willingness to pay for biodiversity conservation into sustainable funds to areas of high conservation importance (usually in developing countries). An additional factor is that the internationally-agreed rules for sharing global gains from biodiversity conservation do not distribute these gains fairly.

IV. Policies and instruments can reduce the distributive effects of biodiversity

Instrument choice is an important modifier of the primary impacts of biodiversity policies because it can channel gains and losses in particular directions.

A wide variety of instruments and approaches is available for mitigating and potentially reversing distributive effects. These can be divided into four categories:

- *Methodological*: use the measures listed in point II above to compute the potential aggregate welfare improvement of policies and choose instruments. This means that the policy-making process is now augmented by a consideration of distributive impacts. At the same time, the policy-maker still retains full control over information gathering, policy evaluation and choice, and instrument choice.

- *Procedural*: enrich the policy-making process by involving those individuals who will be directly affected by biodiversity policies. While diluting the policy-maker's influence, this approach allows for buy-in and ownership by affected individuals, groups, and households, thus reducing the likelihood of conflicts during policy implementation.
- *Institutional*: accompany biodiversity policies with explicit changes to the institutional structure under which individuals and groups take decisions that affect the target habitats and ecosystems. These may include creating property rights and entitlements as well as novel markets and contract schemes in order to manage distributive impacts. The institutional changes can be either voluntary, involuntary, or a mixture of the two.
- *Combined procedural and institutional approaches*: to bring about institutional changes to allow affected individuals, households and groups to become involved in policy decision-making on an ongoing or even permanent basis. This is the most profound way of addressing distributive issues as it allows various players to actively shape the design and implementation of biodiversity measures. Different forms of involvement are possible (community-based management, joint management and broader stakeholder involvement). They can be tailored to the specific circumstances of the policy context and to achieve the desired trade-off between involvement of stakeholders and control by policy-makers.

These different integration strategies are mutually compatible, but pose challenges, require resources, and need to have political support.

A key message is that there is a general shift away from recommending "one-size fits all" solutions. There is a wide and growing base of documented policy experience available in merging efficiency and equity objectives and best-practice examples for a wide variety of institutional and ecological settings. The knowledge base for policy-makers, and hence the foundation for well-informed policies in the future, is continuously expanding.

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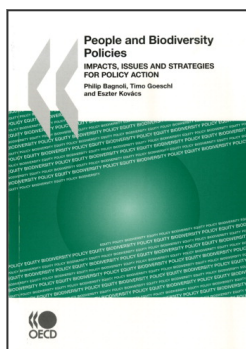
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