



COVER SHEET

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Environmental Change and Food Production: Improving the Effectiveness of the Science-Policy Interface Using a Collaborative, Integrated and Holistic Framework



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Introduction

In the face of climate and environmental change impacting on various regions differently, agricultural biotechnologies could play an increasingly important role for food security, human nutrition and quality of life. However, scientific knowledge is still evolving and significant uncertainties remain. In addition, societal attitudes, values, interests and capacities differ, making good policy development challenging. How, then, could one improve policy outcomes?

Improving the Science-Policy Interface

Outcomes could be improved by creating an interrelated and mutually supportive framework consisting of the following four elements:

1. A Code of Ethics¹ based on fundamental **principles² of practice** that promote high standards of conduct and build trust among stakeholders
2. An evidence-based, scientific risk assessment and risk management regime that remains cognisant of the principles of practice set out in the Code of Ethics
3. An ethical matrix (Mepham 2000³; Kaiser 2001⁴), based on the same principles that facilitates stakeholder deliberation on potential local, regional, national and global impacts
4. A multi-point integration of scientific and normative outcomes for specific corporate decision-making and public policy development

Principles of Practice

- Respecting persons and their communities and considering the living environment and biosphere on which life depends.
- Avoiding harm, being cautious and maximising benefits to persons, communities and the environment.
- Acting justly and equitably towards others, including other nations and future generations.
- Taking responsibility for getting informed about climate change and reducing activities that harm the biosphere and ecosystems. Taking actions that are sustainable
- Acting with integrity in research and development, declaring conflict of interest, and following relevant national and international guidelines and legislation designed to support climate change mitigation and adaptation.
- Supporting participatory engagement and decision making, including allowing for choice and effective self-determination.

Conclusion

An integrated, morally sound approach to policy development sets the scene for engaged and future-oriented governance, leading to strong policies where creative, innovative and sustainable solutions are more likely. It creates a practical and dynamic policy regime that remains socially embedded. This is especially important with regards to issues that address such questions as how to adapt agricultural practices to changing environmental circumstances or how to promote resilience in multiple actors, communities and agricultural environments.

References

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- [4] Kaiser M. and Forsberg EM. 2001. Assessing Fisheries – Using an ethical matrix in a participatory process, *Journal of Agricultural and Environmental Ethics*, 14: 191-200.



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