Earth System Governance

A New Global Research Programme

In 2001, the four global change research programmes declared in their joint Amsterdam Declaration an 'urgent need' to develop 'strategies for Earth System management'. Yet what such strategies might be, how they could be developed, and how effective, efficient and equitable they would be, remained unspecified. The International Human Dimensions Programme on Global Environmental Change (IHDP) took up this challenge in October 2008 by establishing a new long-term international research programme on these questions: the **Earth System Governance Project.** This new project is expected to last from 2009 through 2018.

People, Places, and the Planet

The Project understands earth system governance first of all phenomenological: as a description of an emerging social phenomenon that is expressed in hundreds of international regimes, national policies, international and national agencies, local and transnational activists groups, and local community initiatives. At the same time, earth system governance can be seen as a political project that engages more and more actors who seek to strengthen the current architecture of institutions and networks at local and global levels. In both meanings, earth system governance is a demanding and vital subject of research for the social sciences.

Yet such research is no easy undertaking. It must bring together a variety of disciplines—including political science, sociology, economics, policy studies, geography, and law. It must span the entire globe because only integrated global solutions can ensure a sustainable co-evolution of natural and socio-economic systems. But it must also draw on local experiences and insights and offer solutions to local governance problems. In other words, research on institutions and governance in times of earth system transformation must be about **people** who are drivers of global environmental change and at the same time part of any solution. It must be about **places** in all their variety and diversity, yet seek to integrate place-based research in a global understanding of the overall challenge to steer human interaction vis-à-vis earth system transformation. Eventually, this research will thus need to be about our **planet**. It is the task of developing integrated systems of governance, from the local to the global level, that ensure the sustainable development of the coupled socio-ecological system that the Earth has become.

Analytical Problems of Earth System Governance

The development of theories to understand, and of strategies to advance, earth system governance has become one of the most important but possibly also most difficult tasks for the social sciences. It involves questions of the emergence, design and effectiveness of governance systems as well as the overall integration of global, regional, national and local governance—that is, the quest for effective **architectures** of earth system governance. It also requires understanding the actors that drive earth system governance and that need to be involved—that is, the question of **agency** in earth system governance. Third, earth system governance must respond to the inherent uncertainties in human and natural systems; it must combine stability to ensure long-term governance solutions, with flexibility to react quickly to new findings and developments, and to learn. In other words, we must understand and further develop the **adaptiveness** of systems of earth system governance. Fourth, the more we confer regulatory competence and authority upon formal and informal institutions and systems of governance—especially at the global level—the more will we be confronted with questions of how to ensure the **accountability** and legitimacy of the governance systems that are created and made more effective. Simply put, we are faced with the need to understand the democratic quality of earth system governance. Fifth and finally, earth system governance is, as is any political activity, about the distribution of material and immaterial values. It is, in essence, a conflict about the **access** to goods and about their **allocation**—it is about justice, fairness, and equity. The novel character of earth system transformation and of the new governance solutions that are being developed, puts questions of access and allocation, debated for millennia, in a new light. It might require new answers to old questions.

The Earth System Governance Project advances these five A's—the problems of architecture; agency; adaptiveness; accountability and legitimacy; and access and allocation—as the key questions of a new long-term research effort in this field. The core research interest of this programme is how integrated systems of governance can support a co-evolution of nature and human societies that leads towards sustainable development. The five A's are the central analytical problems of this research programme.

Earth System Governance as Crosscutting Research Programme

A research programme on earth system governance, in all its complexity, requires the interaction and collaboration of many colleagues in the social sciences all over the world. On the one hand, it will need to build on the achievement of the individual researcher or of small teams that succeed in shedding new light on one aspect of the theory and practice of earth system governance. On the other hand, cumulative progress can only occur when individual research efforts draw on a common set of questions, concepts, and methods. The Science and Implementation Plan of the Earth System Governance Project is meant to provide such an overarching outline, as an outline of a common set of questions that stand at the centre of earth system governance research.

In developing this science plan, the Earth System Governance Project could rely on the results from a related earlier research programme, the IHDP core project Institutional Dimensions of Global Environmental Change. This programme—headed for most of its duration by the political scientist Oran Young—ended in 2006 in a major Synthesis Conference in Bali, Indonesia, and its core findings are recently published or in press. The Earth System Governance Project builds upon, and further develops, the legacy of this successful predecessor programme.

In addition, the Earth System Governance Project is designed to cut across the Earth System Science Partnership community. Many IHDP and ESSP projects touch upon questions of governance and institutions. Many projects have therefore been consulted in the development of the Earth System Governance Project, and the Plan itself seeks to strengthen the knowledge base on governance issues in other global change research programmes.

Although the Earth System Governance Project is social science-oriented, it is also relevant for natural scientists and the entire global change research community. The Project contributes to methodological progress in integrated assessments through investigating methods for the integration of governance mechanisms—institutions, partnerships or legal agreements—in modelling and scenario exercises. The Earth System Governance Project will strengthen also the critical role of the social sciences in the global change research community, for example in making science itself an object of study.

The Earth System Governance Project thus supports direct collaboration with colleagues from other global change programmes in the joint projects of the Earth System Science Partnership. It is in these issue-specific research networks where practical interaction between different disciplines is most likely to bear fruit, hopefully leading back to general methodological progress in interdisciplinary research.

Towards a Global Research Network

For all its activities, the Earth System Governance Project needs to rely on a large network that reflects the interdisciplinary, international, and multi-scale challenge that lies ahead. To this end, the Project will spend substantial resources on building a global network that is as open as possible. A global alliance of Earth System Governance Research Centres will range from Amsterdam to Beijing, Chiang Mai, Colorado, Oldenburg and Tokyo, with each centre taking on lead responsibility for research on particular analytical problems or flagship activities of the Project. In addition, a global series of conferences will seek to focus research on particular aspects of the Science Plan, thus expanding the global community of scholars on earth system governance. Last but not least, the Project will rely on an emerging network of Affiliated Faculty, Research Fellows, and practitioners that is currently being developed. A major conference in Amsterdam, held in November 2009, will serve as the launch event for the Earth System Governance Project.

Scientific Steering Committee

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Three additional members are currently confirmed.

The executive officer of the Earth System Governance Project is **Ruben Zondervan**, IHDP Secretariat, Germany.

Any comments, suggestions and ideas on the Earth System Governance Project are more than welcome. They can be addressed to Ruben Zondervan at ipo@earthsystemgovernance.org.