

INTRODUCTION

Olivier Dangles and Marie-Lise Sabrié
IRD, Science Division

We have entered the era of “polycrisis”. A civilisational tipping point, a period of major transition that is upending our certainties and calling on us to work together to find alternative paths to a better world. While a large part of the academic world has long kept its distance from the world’s vicissitudes and society’s most pressing needs, today the ever-increasing intrusion of global crises – health, environmental and political – into laboratory life is blurring the boundary between the researcher and the citizen. Manifestos, open letters to politicians, acts of civil disobedience: the list of committed and even militant initiatives is growing by the day. The introduction of energy-saving measures in laboratories is also part of this mobilisation of the research community.

Alongside these bottom-up actions by individuals or groups, research institutions such as IRD are looking at how their scientific policy, organisation and operations need to evolve if they are to produce science that is useful for improving the living conditions of the biosphere, particularly in the poorest countries. This kind of research is generally classified as engineering or applied science and is often “disparaged” by the academic world. But over the last twenty years or so, the production of knowledge in direct response to societal problems has given rise to a new field of interdisciplinary research, highly prized by leading international universities and the younger generation: sustainability science. A field at the interface of the sciences and the humanities, it is developing its own theories, concepts and methodologies, with one major objective: to identify sustainable solutions to major planetary upheavals. It is a science that responds to emergencies, at a time of intellectual, technical and technological effervescence, with a commitment that begs the questions “how far can we go in terms of commitment?” and “how do we protect the essential independence of research?” – and it encourages researchers to reflect on this.

It was against this backdrop that IRD launched this collaborative editorial project on sustainability science last year. In this second volume, researchers, engineers, technicians and diplomats continue to revisit their knowledge and practices and examine their subjects of

study, their expertise, know-how and interpersonal skills. As in the first volume published last year, this booklet is organised around the three major challenges of sustainability science: understanding the complexity of the world, co-constructing across disciplines and with society, and transforming our lifestyles and institutions. This three-part format encourages readers to explore the various texts without worrying about disciplinary boundaries, because it is primarily their specific subjects that provide a wealth of learning opportunities. Understanding the dilemmas linked to agricultural and food policies, gender and education, recognising that our attitudes transcend our abilities, transdisciplinary co-construction methods, and knowledge of the foundations of the theory of change are all cross-cutting issues in projects linked to sustainability science. These fundamental reflections are accompanied by examples of practical applications in the field (water management on the Bolivian Altiplano, the conservation of East African deltas, air pollution in South-East Asian cities, etc.) or in institutions (working differently at IRD headquarters, university training programmes, etc.). These wide-ranging viewpoints weave together the threads of an integrated approach to “doing science differently”.

More than just words and ideas, this booklet is also a call to action for the world of research, a call for a paradigm shift in the way we engage with the issues facing humanity and the planet. Though largely ignored by the scientific community since their launch in 2015, the 17 Sustainable Development Goals (SDGs) are even more relevant today as a means of directing sustainability research towards clear targets that will help build a more sustainable world. Admittedly, this agenda needs to be analysed, criticised and improved, but for the time being it remains the best tool we have for bridging the gap between political decision-making and the knowledge generated by academic research. Time is running out. We need to move fast.

SUSTAINABILITY SCIENCE

UNDERSTAND, CO-CONSTRUCT, TRANSFORM

Volume 2

Collective thinking coordinated
by Olivier Dangles and Marie-Lise Sabrié

IRD Éditions

**French National Research Institute for Sustainable Development
Marseille, 2023**

D2S follow-up of the articles: Claire Fréour and Magali Laigne
Editorial coordination: Marie-Laure Portal-Cabanel
Cover: Charlotte Devanz
Design and layout: Aline Lugand

Cover photo: Rock painting, Cueva de las Manos, Argentina.
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PDF version ISBN: 978-2-7099-3003-1