

# our planet

The magazine of the United Nations Environment Programme — May 2010



SERETSE KHAMA IAN KHAMA  
OUR VERY ESSENCE

ELIZABETH MARUMA MREMA  
CONSERVING KINGS

JAMES P. LEAPE  
SPOTLIGHT ON SOLUTIONS

SIMON N. STUART  
TIME TO THINK BIG



## BIODIVERSITY

### Our Life



**Our Planet, the magazine of the United Nations Environment Programme (UNEP)**

PO Box 30552, Nairobi, Kenya  
Tel: (254 20) 762 1234  
Fax: (254 20) 762 3927  
e-mail: [unepub@unep.org](mailto:unepub@unep.org)

To view current and past issues of this publication online, please visit  
**[www.unep.org/ourplanet](http://www.unep.org/ourplanet)**

ISSN 101 — 7394

**Director of Publication** : Satinder Bindra

**Editor** : Geoffrey Lean

**Coordinator** : Geoff Thompson

**Editorial Assistance** : Susanne Morrell

**Special Contributors** : Nick Nuttall, Georgina Langdale

**Distribution Manager** : Manyahleshal Kebede

**Design** : Amina Darani

**Produced by** : UNEP Division of Communications and Public Information

**Printed by** : Progress Press

**Distributed by** : SMI Books

**Acknowledgement** : The charts and table on pages 18–19 are taken from  
The Economics of Ecosystems & Biodiversity for National and  
International Policy Makers – Summary: Responding to the Value of Nature (2009).

The contents of this magazine do not necessarily reflect the views or policies of UNEP or the editors, nor are they an official record. The designations employed and the presentation do not imply the expressions of any opinion whatsoever on the part of UNEP concerning the legal status of any country, territory or city or its authority or concerning the delimitation of its frontiers or boundaries.

\* All dollar (\$) amounts refer to US dollars.

Cover Photo: © Valerie Giles/thebiggerpicture

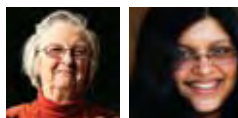
Shed scorpion skin. The exoskeleton of arthropods protects and supports the animal's internal organs and musculature. Periodically, arthropods must go through the process of ecdysis, molting their exoskeleton to accommodate growth of the body.

UNEP promotes  
environmentally sound practices  
globally and in its own activities.  
This magazine is printed on 100% recycled  
paper, using vegetable-based inks and other  
eco-friendly practices. Our distribution policy  
aims to reduce UNEP's carbon footprint.



**IAN KHAMA : Our very essence** PAGE 6

Biodiversity defines Botswana, and is fundamental to its economy, so the country takes care of it.



**ELINOR OSTROM AND HARINI NAGENDRA : Be diverse** PAGE 10

Institutional as well as biological diversity should be protected.



**ELIZABETH MARUMA MREMA : Conserving kings** PAGE 14

Shark populations are collapsing worldwide, but there is new hope for conserving them.



**GEORGINA LANGDALE : Nature of value** PAGE 18

Making natural capital economically visible is crucial in halting biodiversity loss.



**JAMES P. LEAPE : Spotlight on Solutions** PAGE 20

This year provides big opportunities for galvanising action on biodiversity.



**SIMON N. STUART : Time to think big** PAGE 22

What is needed to prevent the 2010 International Year of Biodiversity being just a publicity stunt.



**JANET RANGANATHAN and POLLY GHAZI : Shattering glass walls** PAGE 24

The environment and development communities should come together to protect ecosystems and combat poverty.



**DENNIS GARRITY : Hope is evergreen** PAGE 28

Farming with trees produces higher yields, better soils and greater biodiversity.



**DARRYL D'MONTE : Where's the story?** PAGE 32

Journalists should write more, and better, about biodiversity.

**ALSO**

- books PAGE 4
- reflections PAGE 5
- verbatim and numbers PAGE 9
- products PAGE 13
- awards and events PAGE 17
- people PAGE 26
- www PAGE 31
- star PAGE 34

# Be diverse



© Jim Zuckerman/Corbis



**ELINOR OSTROM**

Professor, Department of Political Science and Workshop in Political Theory and Policy Analysis at Indiana University and 2009 recipient of the Nobel Prize in Economic Sciences



**HARINI NAGENDRA**

Ramanujan Fellow, Ashoka Trust for Research in Ecology and the Environment, Bangalore, India

The loss of biodiversity has alarming implications for the persistence of humankind, indeed for the survival of life on Earth. Protected areas are the cornerstone of most policy proposals to maintain biodiversity, yet their effectiveness is intensely debated. Furthermore, when the variety of biological life is so rich, interconnected, and diverse, it seems peculiarly shortsighted and inflexible to adopt one single approach to conservation.

Protected areas are now very extensive: more than 220,000 parks cover over 13 per cent of Earth's land. Studies have shown that most have been generally successful at ensuring that large-scale clearings of habitats do not occur within their boundaries. Yet considerable human threats still exist for many of them, particularly those in vulnerable locations with dense human settlements. Park managers face continuing challenges of poaching, illegal harvesting of forest products, and encroachment. Government-managed parks have also been criticized for being costly, inefficient, and exclusivist in their approach, tending to view indigenous tribes and local communities with suspicion and distrust, and ignoring and discounting the traditional institutions and approaches that they may have developed to coexist with nature.

It is also problematic to expect that government preserves will work for all species and habitats, across all environments, geographies and cultures, and across multiple, interconnected scales of space and time. So carefully examining

*“We  
strongly propose  
that  
we need  
a diversity of  
institutions  
to cope with  
the diversity of  
biological entities  
and niches.”*

different institutional approaches developed by groups at diverse scales to manage their natural resources can suggest policies for future conservation management.

Garrett Hardin, author of the seminal article on the “tragedy of the commons” in the late 1960s, held that all forms of commonly managed property would inevitably be degraded over time. But we have found, on the contrary, that under appropriate conditions many people do organize effectively to protect natural environments. Some institutions, such as in Switzerland, have recorded histories of persistence over centuries. Others, such as in Nepal, have been successful at maintaining forests even in conditions of extreme conflict and armed violence. Developing shared norms and rules that are considered legitimate and fair is crucial for achieving effective management of common property. Local groups in different environments and cultures have developed an incredible variety



*Forests teem with plant and animal life*

© Stephen Maren / Aurora Photos/Corbis



*Monitoring biodiversity is central to understanding and protecting it*

of ways to do this using their considerable indigenous knowledge. Yet, many analysts tend to discount this variety.

We strongly propose that we need a diversity of institutions to cope with the diversity of biological entities and niches.

By institutions, we mean the rules used by participants in a variety of settings as they pursue diverse goals. In a field hockey game, for example, diverse institutions are involved. One is the set of rules that the teams use for their game: in a professional match, these will be different from those used by a group of teenagers playing on a neighbourhood field. There will also be referees to observe the play and enforce the rules. Then the rules of a hockey league relate to how many referees are assigned, the signals they should use and the penalties they can impose. The observers sitting in the stadium must follow yet another set of rules, related to who pays for which kind of ticket and how young a person must be to get in for free. So even something as simple as a hockey

game has a set of nested institutions related to what happens on the field, in the locker room, in the stadium, and even in the traffic lanes leading to it.

When policy analysts recommend that the “best solution” for preserving biodiversity is the creation of a government agency, they usually expect that such a unit will develop one set of rules even if its jurisdiction is very large and contains diverse ecologies. The challenge is to enable small, medium and larger organizations to develop rules specific to particular ecological settings rather than trying to impose one set for a large domain.

Many policymakers still presume that local users of a resource are incapable of making responsible decisions related to its use. When people do not have long-term stakes in the ecological outcomes for a particular region, it is indeed more likely that they will pursue maximum-harvesting strategies for economic returns rather than the sustainability of a local ecology. Taking away local authority to make

some of the rules for the uses of an ecological resource actually reduces the likelihood that individuals will perceive a long-term interest and so may exacerbate the problem of overuse. Careful studies have shown that a core factor affecting the sustainability of forests is whether local users monitor who uses the forest and report illegal harvesting: this is a surprise to many policy analysts and scholars schooled in the Garrett Hardin presumption that users are always trapped in tragic overuse.

Finding ways of dealing with specific mixes of organisms in a particular biophysical realm is extremely important, and so is establishing mechanisms for oversight. Nesting smaller units in larger ones can increase the probability of long-term protection. Small to medium-scale institutions may be fitted to a specific biological niche, while agencies operating at larger scales can gather scientific information and provide back-up for areas where local participants do not take on the responsibility for protecting biodiversity.

Ecologists have learned that the existence of a diversity of interconnections among a multiplicity of animals and plants does not indicate disorder, but instead points to the flexibility and adaptive resilience of ecosystems. It is important to develop a similarly widespread appreciation of institutional diversity, rather than presuming it is always disorganized and ineffective. Given the variety of life, we must appreciate that no panaceas exist. Multiple and flexible approaches need to exist that can fit local circumstances and adapt to changes in resource conditions and threats to them over time, if long-term sustainability of biodiversity is to be achieved.