

Language: a toolkit for life on earth

Ehsan Masood, 22 March 2006

The intimate link between linguistic and biological diversity makes the struggle to defend both essential to a sustainable human and planetary future, says Ehsan Masood.

I am an occasional reader of *Global Science*, a mass-circulation monthly in [Urdu](#) published out of Karachi. It provides news and commentary on the world of science to a Pakistani readership, most of them college students – often from households where books and magazines are in short supply.

The current edition is devoted to developments in biotechnology. As with most issues of the magazine, just about every page is peppered with words written in English, or transliterated from English into Urdu.

There is good reason for this. The bulk of scientific research these days is reported in specialist journals published in Europe and the United States – and in the English language. Unless scientists in other parts of the world take more of a lead in innovation, languages such as Urdu will continue to need to "borrow" words such as "gene", "fertiliser", "biological", "pesticide" and "steroids".

When faced with this dilemma, many languages opt to devise their own words and phrases, in order to avoid using the English (or in some cases French) original. But I can see why *Global Science's* founder and editor-in-chief [Aleem Ahmed](#) is not going down that route. He expects that more of his readers will embark on research careers, for which they will need to be familiar with English-language scientific terminology. At the very least, he wants them to become better-informed and articulate citizens, who can contribute with confidence to global as well as national debates on issues such as evolution, or the ethics of gene technology.

But looking at the sheer density of transliterated words in *Global Science* also gives me cause to worry: that in borrowing more and more words from English, the language of international scientific discourse, minority languages outside the global top-ten (such as Bahasa, Swahili and Urdu) could one day morph into a much smaller number of global, meta-languages. The example of *Global Science* suggests that the semi-automatic use or transliteration of English

words may reflect a fraying of inner resources, of confidence, and - ultimately - of awareness that the very existence of a language makes an invaluable contribution to the world.

The world's garden

The issue of language depletion or (at the extreme) language loss is far from abstract. Unesco's [*Atlas of the World's Languages in Danger of Disappearing*](#), for example, tells us that half of the world's approximately 7,000 spoken languages are endangered to varying degrees. 5,000 of the total number of languages are spoken by groups comprising fewer than 100,000 people; 1,500 have fewer than 1,000 (mostly elderly) speakers.

Should that be a problem for science? There are, after all, many who argue that science is a universal way of understanding the world – and that the answers to questions such as "what is a gene?", "why is our climate changing?", and "is the universe expanding?" will not be any different if the person trying to answer the question speaks Swahili rather than English or French as a first language.

It may be true that the search for answers to asking some of life's big questions can in principle be conducted through the medium of any language. But there are many ways in which the existence of multiple languages (each one intrinsically rich and world-encompassing on its own terms) makes this search – and an exploration of its practical, social and scientific subsets – more enlightening.

Just one of these ways is the quest for environmentally-sustainable development.

From 20-31 March 2006, the world's ministers of science and environment are meeting in Curitiba, Brazil for the [eighth meeting](#) of the Conference of the Parties to the Convention on Biological Diversity (COP 8), a United Nations agreement that came into force in [December 1993](#)). Biological diversity (or biodiversity) means the totality and the variety of living things. In the present era of human history, we are losing this diversity at an unprecedented rate: more species have become extinct in the past 500 years than at any time since the last mass extinction some 65 million years ago.

Then, a meteor is believed to have rammed into the earth, leaving behind just a few species, from which we can trace the lineage of present-day life on earth. Today, industrialisation, fossil fuels and intensive farming are among the causes of what many believe to be a potential new mass extinction (the sixth in geological history).

A rich [diversity of species](#) has more than aesthetic value: it is needed for many of the ecological services that we take for granted, or which are provided to us free of cost: such as clean water from forests, pollination, and nutritious soils in which to grow our food.

The urgency over species loss has persuaded the signatories to the [convention](#) to set themselves a very ambitious target: slowing down the rate of species decline by 2010. Fulfilling this pledge will need Herculean efforts. At the minimum, it will require less use of polluting fuels, chemical-free agriculture, a slowing down of deforestation, and over-fishing – and all within four years from now.

The task is enormous enough in terms of policy, coordination and implementation. But to come even close to achieving it – in each particular case, and in the round - an additional problem must be faced. To save a species, you need knowledge of its existence: yet at present we don't even know [how many species](#) exist, and the working estimates are not even close to what the actual number might be. Scientists have been able to identify some 1.75 million species (the vast majority are invertebrates, i.e. animals without backbones). But the final total could be as high as 30 million.

There is access to information about the existence of some species that have not been recorded by biologists. Thanks to the stellar work of researchers such as [Catherine Potvin](#) of McGill University (Canada) and Fatima Nassif of the National Institute for Research in Agronomy (Morocco), we know that indigenous communities in Africa, Asia, Latin America and the Pacific possess often very detailed knowledge of their surrounding biodiversity, which has been passed from generation to generation across many centuries.

This is where the link with languages is so important. Knowledge of biological diversity exists – indeed, may be particularly rich - inside communities who speak languages that are facing extinction. A book published by Unesco, [Sharing a World of Difference: The Earth's Linguistic, Cultural and Biological Diversity](#) (2003), suggests that many areas of the world where biodiversity is richest are also places where many languages are spoken. A quarter of the world's spoken languages are in Papua New Guinea and Indonesia, for example; both are also on a list of twelve "[megadiverse](#)" countries.

At the [Curitiba](#) meeting, a consortium of conservation groups, governments, UN agencies and indigenous peoples' are unveiling a \$1.7 million project to conserve a network of ancient sacred sites - as a step towards protecting indigenous knowledge of biodiversity.

One of the groups involved is the [Rigoberta Menchú Tum Foundation](#), set up by Rigoberta Menchu, the human-rights activist from the Quiche (Maya) community in Guatemala who was

awarded the [Nobel peace prize](#) in 1992. "It may seem accidental, but it is not", she says. "Where indigenous peoples live is where the greatest biological diversity, the diversity of nature, exists. Our complex systems are founded on the values which indigenous peoples have built."

She is right. Every effort must be made to preserve, encourage and record the world's [threatened languages](#), and to cultivate diversity in the use of a wide range of languages in the world's conversation. If this is not done, the knowledge they embody, including life-sustaining resources that could be the key to our collective future, will die with them.

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http://www.opendemocracy.net/globalization/language_3380.jsp