All sectors of society must work together to save biodiversity

Sir — Conservation International (CI) is an organization that "protects the Earth's biologically richest areas and helps the people who live there improve their quality of life"[1]. Globally, we focus on those areas richest in irreplaceable biodiversity: hotspots[2] and tropical wilderness areas[3].

A recent survey[4] of 31 expatriate and 74 Indonesian environmental professionals found that most of them were more concerned with sustainable development and land-use planning than with species and wilderness protection.

The conclusion was that "conserving species and tropical wilderness areas will require that policy-makers in targeted regions give CI's ecological goals higher priority than is currently the case in Indonesia"[4].

We fully agree with the paper's findings and conclusions. However, we should point out that it is important not to confuse geographic global conservation priorities with strategies for conservation implementation within these priorities. The broad-scale focus of CI, and of the Critical Ecosystem Partnership Fund with the World Bank and Global Environment Facility[5], on hotspots and tropical wildernesses, concerns the former. In contrast, the Indonesia survey[4] concerns the latter.

Our primary focus at this fine scale is on strengthening direct protection of biodiversity. The greatest current concern is that Indonesian internal conflicts and economic crisis might deteriorate so far that biodiversity conservation becomes a low priority. However, the current political crisis and forest management decentralization process has created an atmosphere in which significant shifts in conservation strategy are being seriously considered. Innovative ideas are welcome, such as the payment of local opportunity costs[6] via the 'conservation concessions' concept[7]. Nevertheless, we would argue that there is no single strategy for conservation implementation — rather, the appropriate actions must be determined by local knowledge of the situation.

The current CI–Indonesia programme, for example, is involved in activities that support sustainable development programmes and help integrated land-use and biodiversity planning in Irian Jaya, the easternmost province in Indonesia. In central Sulawesi, we are creating economic alternatives to deforestation and other habitat loss by developing ecologically sustainable enterprises such as ecotourism in the Togean proposed marine park, and we are supporting Non-Timber Forest Product development in Sumatra.

To sum up, now is the time for conservation organizations such as CI to secure environmental stewardship and biodiversity conservation goals in partnership with the Indonesian government, NGOs, the university community, business and civil society. The fate of one of the planet's richest 'megadiversity'[8] countries is at stake.

Jatna Supriatna

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High rate of inbreeding in Spanish universities

Sir — Over the past couple of years *Nature* has hosted an intense debate on the state of Spanish science (see, for example, refs 1–3). Two issues are repeatedly raised: the lack of sufficient funding and the existence of social networks that, regardless of the candidates' scientific merit, systematically award positions to one of their members. While the former is *a priori* easily quantified[1–3], allegations of "blatant endogamic practices"[2] have thus far remained untested.

An indication of inbreeding can be obtained by determining whether the address of a scientist's first publication coincides with their current address as a faculty member. Using this measure, we compared possible inbreeding in Spanish universities with the situation in three other countries: the United States, the United Kingdom and France.

We collected data from the Web of Science (ISI, WoS version 4.3, http://wos.mimas.ac.uk) last October on 160 randomly sampled researchers — 40 from each country — holding permanent faculty positions in science departments. In Spain they held the position of 'profesor titular', in the UK 'lecturer', in the United States 'assistant professor' and in France 'maître de conference'.

In order to determine that the first publication to appear in WoS (which spans 1981–2001) was indeed the first paper published by the researcher, we only included individuals whose first recorded publication was in 1984 or later. To avoid biases caused by recently created universities, where all the faculty are necessarily external, we only considered faculty working in universities that had existed for more than 50 years.

The percentage of external candidates that obtained a permanent faculty position in each country is revealing: 93% of candidates to posts in the United States were external, as were 83% in the UK and 50% in France. In Spain, by contrast, only 5% of lectureships were given to individuals who had published their first paper while working in another institution. Differences are very significant (Kruskal-Wallis, $p<0.0001$), the percentage registered in Spain being at least ten times lower than in the other countries.

These observations are consistent with allegations that lectureships at Spanish universities are almost exclusively awarded to individuals who started their scientific careers in the same institution. Alternative explanations, such as a reluctance among Spanish researchers to move from a geographic region, are unlikely as, in such a scenario, some degree of exchange of scientists between institutions within the same region would have been expected. Spain's Ministry of Education currently lists more than 60 universities (http://www.mec.es) and the Spanish Research Council (http://www.csic.es) lists more than 90 science-related research institutes spread across the country.

Our observations thus suggest that Spanish universities are almost completely impermeable to external candidates, effectively preventing the movement of researchers and thus the exchange of ideas and expertise which is one of the keystones of scientific progress.

Attempts to revitalize the state of Spanish science are being made by both Spanish scientists and institutions. These include such welcome initiatives as the Manifesto for a Social Pact for Science and Technology[4], and innovative plans by the Catalan government to create research contracts with periodical evaluations of scientific performance. But these efforts will be wasted if researchers are employed on grounds other than their scientific merit.

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