Editorial
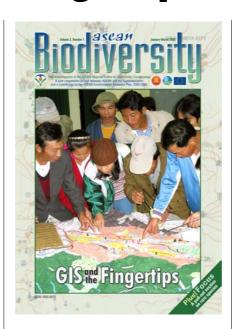
GIS and the Fingertips

▶ **By GIACOMO RAMBALDI**

There is little doubt that in a world where natural resources are getting progressively scarcer or qualitatively poorer, effective biodiversity conservation and protected area management are indissolubly linked to the willing and proactive participation of concerned stakeholders. Success or failure of natural resource management initiatives frequently boil down to whether a number of key issues have been adequately addressed at field level.

Participation is frequently advocated as the panacea of all problems, in the assumption that the mere fact of people getting together would generate consensus. On the contrary, enlarged participation surfaces an increased number of interests which may be conflicting. Therefore it is important that the process – like in some cases presented in this issue - be carefully prepared, well managed and embedded in a long-lasting, articulated intervention, in the position to deal with follow-up arrangements to accommodate new realities emerging from the process.

Resource distribution, tenure and access, and poverty with all its ramifications are focal issues when it comes to management of natural resources. What all these issues have in common is that they are spatially defined within a broader social, economic and environmental landscape. Interpretation of mere quantitative and qualitative data does not suffice for their understanding and use in social learning, negotiation and networking processes. Data have no meaning if a broader context is missing. Data on resource tenure and access and poverty have a lesser meaning if not visualized in terms of their distribution over a given

territory, if deprived of their inherent spatial dimension.

In this context the recent developments of Geographic Information Technologies (GIT) have gained increasing importance in terms of gathering, organizing and analysing geographical information, including spatial data handling. Concurrently, the development and conservation sectors have experienced a dramatic shift from an earlier prevailing top-down, to an advocated bottom-up approach in the attempt at giving voice to ordinary and marginalized people.

At the community level, spatial analytical tools, including sketch mapping, participatory aerial photo-interpretation and participatory 3-D modelling have gained a progressively more important role since increased attention has been paid to the relationships between the territory and its inhabitants, the resources and their users and/or customary custodians. Indeed these tools acquired additional relevance with the diffusion of Global Positioning Systems (GPS), the onset of Geographic Information Systems (GIS) and the associated attempts made

by many researchers, practitioners, negotiators and facilitators, to assimilate GPS and GIS into participatory research, negotiation and planning processes.

In order to translate cognitive maps into high quality geo-referenced information, several methods have been developed, some of which brought about reproducing people's knowledge in a cartographic and reproducible format accepted at the institutional level as part of a negotiation process. The concurrence of both technical and social-organisational elements (intensive NGO advocacy and the existence of an ad hoc policy environment), have been instrumental to improving the capacity of communities to interact with national and international institutions and to induce in some cases change and innovation in terms of resource allocation and management.

The articles featured in this issue of ASEAN Biodiversity recall experiences made in different continents addressing the root of existing conflicts on natural resource management and biodiversity conservation. All case studies describe attempts made to bridge the digital divide, the gap between islands of technological privilege and the real world of rural isolation.

The integration of GIT with intermediate community-based technologies, witnesses growing efforts aimed at eliciting the knowledge of a silent majority and at improving its capacity to interact and negotiate with government institutions and policy-makers.

Reading through the lines one could sense that the 'fingertips' – the ultimate sensors of community knowledge – are gaining their rightful recognition as conduit for learning and communication. ■