

THE CHALLENGES IN GALAPAGOS: A VIEW FROM UNESCO

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SUMMARY

We summarise the history of the recognition of the values of and threats to Galapagos, the challenges in charting a path to sustainable development of the islands, and the role of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) in these processes.

RESUMEN

Los retos en Galápagos: una visión desde la UNESCO. Una revisión breve a la historia del reconocimiento de los valores y amenazas de Galápagos, nos permite trazar un camino para el desarrollo sostenible de las islas y plantear el rol de la Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura (UNESCO) en estos procesos.

BACKGROUND

Galapagos is famous as a natural laboratory for studying evolutionary processes, for its biodiversity and as an example of the transformations that occur in a complex socio-cultural island setting, and the islands have received many recognitions and distinctions. Galapagos is a National Park, a Marine Reserve and perhaps the best conserved tropical oceanic archipelago on the planet. At the request of the government of Ecuador, in 1978 the United Nations Educational, Scientific and Cultural Organisation (UNESCO) declared the Galapagos Islands the first Natural World Heritage (WH) site. In 1984, the islands were declared a Biosphere Reserve. In December 2001 the World Heritage Committee included the Marine Reserve in the WH site.

However, this worldwide recognition has fostered rampant growth of tourism, which has caused exploding immigration and urbanism and the well-known socio-environmental impacts discussed elsewhere in this volume. In April 2007, responding to a request from the national authorities, UNESCO and IUCN conducted a joint mission to evaluate the state of conservation of the WH site and verified that it was seriously endangered by several factors, including the uncontrolled increase of tourism (annual rate of tourism growth between 1990 and 2005 of 14 %: CDF *et al.* 2008), increasing invasions by introduced animal and plant species (Tye *et al.* 2008), and increases in the human population and pollution. During the mission, the UNESCO-IUCN team held several meetings and workshops in Galapagos and Quito with key stakeholders.

The results of this mission were presented in the 31st session of the WH Committee in Christchurch, New Zealand, July 2007, where the Committee adopted Decision WHC-07/31 COM7B.35 inscribing the Galapagos Islands in the list of World Heritage in Danger. This decision was sustained by Executive Decree No. 270 issued by the

president of Ecuador, Rafael Correa, which declared the Galapagos Islands at risk and its conservation and environmental management a national priority. The decision of the WH Committee included a request to Ecuador to present a first report by 1 Nov 2007, on the measures implemented by the government after the inclusion of Galapagos in the list of WH in Danger. The government's report was submitted, with information on the advances made based on the new policies adopted.

THE ROLE OF UNESCO

The inclusion of Galapagos in the WH in Danger list alerts the national and international community to the serious threats the islands face and calls them to join efforts to respond to the conservation needs of this WH site. In this context, at the request of the Ecuadorian government, UNESCO has ratified its commitment to the conservation and the sustainable development of the natural heritage of Galapagos and its willingness to continue providing technical assistance for Galapagos to achieve the management conditions required for its removal from the WH in Danger list, in the shortest time possible.

UNESCO has set in motion several technical assistance and institutional support processes to assist in saving the site, among them technical support for the design and implementation of Integral Educational Reform in Galapagos, which will incorporate a vision of development and conservation of natural resources. UNESCO will sign a Cooperation Agreement with the Ministry of Education establishing the institutional responsibilities to fulfill this objective. Meetings and workshops have been held in Galapagos to take this forward.

UNESCO has also, in November 2007, granted a *Vocations Patrimoine* scholarship to an Ecuadorian student to undertake doctoral studies on conservation. The student will carry out a comparative study of the management procedures of the protected zones of Galapagos and

the California Channel Islands (U.S.A.), and hopefully contribute to developing improved management. The candidate was selected through the Ecuadorian National Commission for Cooperation with UNESCO.

THE NEXT 50 YEARS

The complexity of the social, political and environmental problems in Galapagos makes it difficult to formulate an outlook for the next 50 years, especially in the current global and national political context; however, we outline some of the main challenges for a common vision of the management and sustainable development of the islands.

Galapagos has attracted much international technical and economic assistance, and many studies have alerted the population, the government and the international community to the serious social, political, economical and environmental threats. However, the national authorities have not always used this information to guide the development, growth and conservation of the islands, while international assistance agencies have not always taken into consideration the conservation and development priorities of the islands, but have based their efforts more on their own priorities, which has limited their positive impacts.

The government of Ecuador, with international support, has started some processes to attend to the problems in the islands (among others: MAE Galapagos Initiative 2020; GEF-UNDP Invasive Species project; IADB Environmental Management Program; AECI Araucaria XXI Program; GMR Management — JICA and USAID; IADB-MIF Production Alternatives; Pro INGALA Italian Cooperation). But at the same time, some political and economic actions are increasing the pressures and threats to the archipelago.

It is thus essential that the national and international community reach a single approach for understanding the problems, and defining long-term tendencies and potential intervention strategies responding to an integral vision. It is also important to include external factors such as the effects of climatic change that could affect the islands in the near future. Plans for long-term sustainable management should have a scientific basis but should also take account of the development options demanded by the local population. Most observers agree that the challenge is to reach a consensus amongst the State institutions, civil society and international cooperation, on clear, concrete and effective policies for maintaining and conserving Galapagos. How to arrive at such a consensus? We present an outline for discussion which attempts to trace a critical route to manage effectively the processes of dialogue, negotiation and governance, through democratic processes.

A prime factor will be the government's willingness to ensure open debate when determining social, economic, environmental and development policies, to ensure the participation of civil society, central and local governments and non-governmental agencies in Galapagos, as well as

to establish their institutional responsibilities and roles in implementing an agreed strategy. The current political context of the National Constitutional Assembly presents an unparalleled opportunity to establish overarching principles for the future of Galapagos as world heritage. The current Ecuadorian administration has taken decisive action by recognizing that Galapagos is at risk and that its conservation is a national priority.

A second aspect is the need for specific action on priority issues, including education, health, quality of life of the local population, natural habitats, biodiversity conservation *etc.* In this respect, it is important from the standpoint of the objectives of the Biosphere Reserves and World Heritage programmes to pass on the lessons learned to a global audience.

A third concern is the urgent need to find a common language for communication between researchers, students, teachers, politicians, decision-makers, cooperation agencies and government authorities, to enable constructive exchange of ideas on the full range of key issues. It is necessary to communicate publicly and fully the findings of the natural and social sciences without sacrificing scientific rigour, so that the knowledge generated by research done in Galapagos can be used by civil society. The time is ripe to develop the communication and popularization of science and technology as instruments for the formulation of policies and for taking technical and opportune decisions.

A fourth requirement is the need for Integral Education Reform in Galapagos, so as to offer quality education that meets the special needs of the local environment and population. This process must include a thorough review of the islands' educational sector in order to define the policies, vision, strategies, content and structure, the educational processes and the administrative mechanisms for implementing the reform.

The final point concerns international cooperation. To make international support more effective, agencies should focus their assistance on responding to plans and proposals of the national government that aim to achieve sustainable development in the islands (*e.g.* the GNP management plan, executive decrees *etc.*) based on a common understanding of the islands' particular circumstances and outlook. It is essential that the national government and the cooperation agencies jointly analyze the socio-economic, political and cultural dynamics of a society that is growing daily and thus places greater demands on its natural resources (drinking water, energy, land and biodiversity). This requires investment in human capital to ensure the islands' survival, as they become increasingly vulnerable to pollution, waste and misuse of natural resources.

CONCLUSION

UNESCO recognizes the renewed efforts of the government of Ecuador and local authorities towards creating

circumstances favourable to the sustainable management of Galapagos, and is encouraged by the positive attitude on the part of international cooperation organizations. The openness shown provides a grand opportunity to discuss, determine and implement the fundamental changes required to ensure long-term sustainable development of the islands. The WH Committee decision to declare Galapagos as heritage in danger should be understood as Ecuador's opportunity to call on the national and international community to take up new challenges, based on

a shared understanding of the problems, opportunities and possibilities for the future of the islands.

LITERATURE CITED

- CDF, GNP & INGALA 2008. *Galapagos Report 2006–2007*. Charles Darwin Foundation, Puerto Ayora.
- Tye, A., Atkinson, R. & Carrión, V. 2008. Increase in the number of introduced plant species in Galapagos. Pp. 133–135, 153–154 in CDF, GNP & INGALA, *Galapagos Report 2006–2007*. Charles Darwin Foundation, Puerto Ayora.

THE RESTORATION OF GIANT TORTOISE AND LAND IGUANA POPULATIONS IN GALAPAGOS

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SUMMARY

The giant tortoise *Geochelone* spp. and land iguana *Conolophus subcristatus* programs of the Charles Darwin Foundation and the Galapagos National Park Service are two of the longest running and most successful conservation programs in the archipelago. Both involve a combination of captive breeding and rearing, repatriations, protection of nests in the field and introduced animal control. They have resulted in larger and healthier populations on several of the islands. This success was accomplished through the integration of scientific research and natural resource management.

RESUMEN

La restauración de las poblaciones de tortugas gigantes e iguanas terrestres en Galápagos. El programa para las tortugas gigantes *Geochelone* spp. e iguanas terrestres *Conolophus subcristatus* de la Fundación Charles Darwin y el Parque Nacional Galápagos son dos de los más largos y exitosos programas de conservación en el archipiélago. Ambos involucran una combinación de reproducción y crianza en cautiverio, repatriación, protección de nidos en el campo y control de animales introducidos. Poblaciones más grandes y sanas en varias de las islas han sido el resultado. Este éxito fue logrado por medio de la integración de la investigación científica con el manejo de los recursos naturales.

INTRODUCTION

The rearing and repatriation of giant tortoises *Geochelone* spp. began at the Charles Darwin Research Station (CDRS) in 1965 and is one of the longest running and most successful programs of the Charles Darwin Foundation (CDF) and the Galapagos National Park Service (GNPS). This program, as well as the land iguana *Conolophus subcristatus* program that began in the 1970s, exemplify many of the most important aspects of the missions and strategic lines of action of these two institutions, including:

- conservation and restoration of species and habitat;
- integration of research and management;
- collaboration with other institutions, including with each other;

- involvement of visiting scientists and consultants;
- education and training, via the volunteer and scholarship program;
- community involvement, such as with the tortoise programs in Isabela;
- tourism, with rearing facilities and corrals of adult tortoises attracting many visitors;
- international workshops and resulting plans of action, such as the 1988 Herpetology Workshop;
- threatened species work catalysing invasive species management programs.

A primary threat to the terrestrial fauna of Galapagos is introduced species, including competitors, predators, and disease, which impact the populations directly and also indirectly through habitat destruction. Growth in