

Trends in Global Protected Area Governance, 1992–2002

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ABSTRACT / Governance refers to the interactions among structures, processes, and traditions that determine direction, how power is exercised, and how the views of citizens or stakeholders are incorporated into decision-making. Governance is now recognized as a critical aspect of effective conservation and is a prominent part of the Convention on Biological Diversity's work program on protected areas. This study reports on a global survey to assess changes in governance of protected area systems between 1992 and 2002 based on responses from 41 countries. Re-

sults indicate that substantial changes have taken place with overall trends towards increased participation of more stakeholders, greater use of formal accountability mechanisms, and a wider range of participatory techniques. Many of these changes are supported by legislative and policy requirements and 75% of respondents reported changes in legislation over the past decade. Protected areas are becoming more influenced by global forces. A majority of respondents reported increased involvement of the private sector. Funding is coming from a broader range of sources, with a smaller proportion of income coming from government sources in 2002. Absolute funding amounts have increased, but almost two-thirds report that budgets fall short of requirements. Almost 90% of respondents felt that protected area governance had improved over the last decade; 67% felt that this had also led to improved management effectiveness. Respondents felt that secure funding, capacity building, and increased community involvement were the main governance needs for the future.

Introduction

The establishment of protected areas (PAs) is a cornerstone of global conservation strategies. However, PAs only contribute to conservation if they are managed effectively. The recognition of governance as a key factor in PA effectiveness is demonstrated by the Action Plan resulting from the Vth World Parks Congress in Durban in 2003 that identifies governance as “central to the conservation of protected areas throughout the world.” (WCPA 2003 p 33). Governance refers to the interactions among structures, processes, and traditions that determine direction, how that power is exercised, and how the views of citizens or stakeholders are considered by those making decisions (Graham and others 2003). Interest in governance has emerged on the coat-tails of other issues relating to sustainable development (UNDP 1997), and particu-

larly in association with the growth of interest in community-based input to PA management, rather than as an issue in and of itself. However interest in many different issues, such as funding, decision-making, accountability, decentralization, and others, throughout the past decade have coalesced into the realization that they all fundamentally deal with the broad issue of governance, and that governance is a major factor affecting the abilities of protected areas to achieve their goals. Governance features significantly in all four Program Elements resulting from the discussion on PAs at the Conference of the Parties to the Convention on Biological Diversity (CBD), held in Kuala Lumpur in February 2004, and one is entitled, “Governance, participation, equity and benefit sharing” (CBD 2004).

No comprehensive study has been undertaken to assess the status and trends of PA governance at the global level. How are PA agencies structured, how are decisions made and accountability established, what influences these decisions? How have these governance factors changed over time? What are the main challenges for governance in the future? The answers to many of these questions reflect changing national policies; they also reflect more informal international policies, such as those of the World Conservation Un-

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ion (IUCN) that have encouraged, for example, the inclusion of a broader range of stakeholders in decision-making (e.g., Beltran and Phillips 2000; Thomas and Middleton 2004). Many of these policies have now been adopted as part of the suggested activities for parties to the CBD.

In order to answer questions such as those posed above a survey was undertaken to assess global PA governance patterns and in particular to:

- establish a baseline of information against which future change can be assessed;
- ascertain the direction and strength of major changes in governance practices between the IVth (1992) and Vth (2003) World Parks Congresses;
- identify the perceived major needs for PA governance in the future;
- provide a benchmark against which individual agencies can measure their concordance with international practice; and
- inform further actions to improve PA governance at the global level.

As such it was hoped that the results would not only document change but also serve as a potential agent of change in national and international policies and actions influencing PA governance in the future.

This paper reports the results of the survey and discusses the implications for the future. Governance is a synthesizing theme that brings together many different topics ranging from agency structure to capacity building. Due to this highly fragmented nature, each aspect is discussed in a consolidated fashion providing a short background, the nature of the survey questions asked, and analysis and discussion of the results. Preceding this main section is an outline of methods. The paper ends with a synthesizing discussion and recommendations for the future.

Methods

A survey instrument was designed to assess PA agency structure, decision making, accountability mechanisms, sources of influence, governance capacity building, funding, and challenges to effective governance in IUCN category I–III protected areas (IUCN 1994). Although the nature of the questions varied depending on topic, a common format was to present two questions next to each other that assessed the same information for 1992 and 2002, respectively. A typical example would ask respondents to rate the involvement of various stakeholders (list provided with room for additions) in PA decision-making on a 5-point scale

in 1992 and then repeat the exercise for 2002. A postal, mail, pre-test was conducted with 10 national park agencies in July 2002, and an email pre-test was undertaken with an additional 10 agencies. Following the pre-test, the survey form was translated into French and Spanish in an effort to achieve the highest level of global comprehension with the most economical use of translation services.

The survey was distributed by email and postal mail to more than 110 national PA agencies throughout the world. All agencies reported as being in charge of national park systems were first identified from a database compiled by the World Conservation Monitoring Centre (WCMC) during their 1997 survey of global PAs. Additional contact information was obtained through Internet searches and by contacting embassies. A small number of surveys were also distributed at a meeting of national PA directors that took place in Australia in 2002. The goal was to achieve a census of all agencies in charge of national parks, not a sample. Previous studies (e.g., Paine and Green 1997) have obtained modest response rates from global surveys of PA agencies; any attempt to obtain a representative sample given low-response rates would be fraught with difficulty.

Surveys were mailed out in the appropriate language, along with a letter of introduction, a pre-addressed return envelope, and instructions for return. Two weeks later, reminder postcards were sent. These postcards solicited the return of the postal mail survey, and also provided information on how to access the survey electronically. When contact information was available, non-respondents were also reminded using email. Restrictions on both finance and time prevented further mail reminders. Approximately one sixth of the surveys sent by postal mail were returned unopened because the contact information used was out of date, and it is not known how many of the remaining surveys actually arrived at the intended destination. The survey was also posted in English, French, and Spanish on a web site, and information on the website displayed prominently in an IUCN PA newsletter sent to global PA agencies and all members of the World Commission on Protected Areas. Web respondents were also given the option of receiving a paper copy of the survey, or receiving the survey as a Microsoft Word or PDF file.

Quantitative results from the completed surveys were entered into a database using the Statistical Package for the Social Sciences (SPSS) software, while the qualitative comments were analyzed using Excel. Following the initial descriptive analysis, countries were classified into High, Medium, and Low Human Devel-

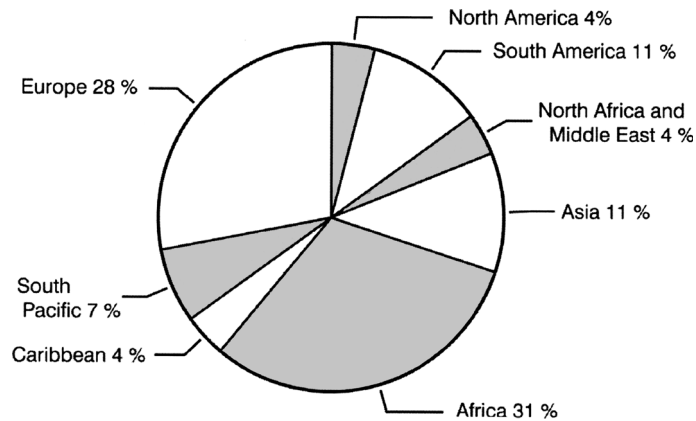


Figure 1. Regional breakdown of responses.

opment groups using the United Nations Development Programs (UNDP 2003) Human Development Index. (www.undp.org). The Index is derived by considering the life expectancy at birth, the adult literacy rate, the combined primary, secondary, and tertiary educational enrollment, and the GDP per capita.

Results

The survey resulted in 51 responses from 41 countries, almost a 50% response rate and very similar to the 47% return rate recorded by the WCMC for the 2003 UN List of Protected Areas (Chape and others 2003). The UN list now includes 103 countries with PA systems of some nature. Only 19 responses came by mail, the remainder was completed on the web site. Multiple responses were received from several countries in which PAs are managed at a state rather than a federal level. Africa had the largest overall response, followed by Europe (Figure 1). When classified by level of development, highly developed countries (HDCs) submitted 63% of responses, with 14% from MDCs and 23% from LDCs. This is in contrast to the distribution of surveys where, of the 110 countries contacted, 34% were HDCs, 46% MDCs, 16% LDCs, and 4% unclassified. Due to the low number of surveys from medium and low levels of development countries and initial exploration of the data indicating no significant differences in survey answers between the categories, they are treated as one category (MLDCs) for the analysis.

Agency Structure and Responsibilities

Very few studies have examined PA agency structure and the range of responsibilities covered by agencies in different jurisdictions, yet there is a wide degree of variation, and Lowry (1994) argues that agency structure can have considerable influence on decision-

making. One major question is in regard to the optimal degree of independence from government influence. The Institute on Governance (Graham and others 2003), for example, in their examination of the performance and accountability of PA agencies with differing degrees of autonomy from the government, suggests that, on-balance, a closer relationship to government might be more effective, largely due to improved accountability. Agency structure and responsibilities were assessed in the first section of the survey with questions related to the nature of the PA governance systems in each country and how this had changed since 1992.

Most agencies in the survey (81%) were part of a larger government ministry, mainly the Ministry of Environment with others associated with the Ministries of Agriculture, Tourism, Natural Resources, Forestry and Wildlife. Few studies have been undertaken on the efficacy of these different inter-organizational relations for PAs (see Lovelock 2001). Changes in structure have occurred since 1992, particularly for MLDCs; 65% of these countries reported changes over the past decade. Reasons for these changes included: government reorganization, politics, improved nature protection, increased efficiency of service delivery, and bringing all environment-related agencies together to provide improved coordination.

Many PA agencies also had broader responsibilities. Eighty percent of agencies were responsible for other categories of terrestrial PAs, and 73% were in charge of marine PAs and other facets of the environment, such as wildlife, endangered species, and forests. This was especially evident in HDCs.

Respondents were asked whether new legislation related to PAs had been created since 1992, or whether existing legislation was changed during this period. Almost three-quarters of respondents reported

Table 1. Involvement of different groups in protected area (PA) decision-making in 1992 and 2002

	% Not involved		% Very involved	
	1992	2002	1992	2002
Volunteers	33	22	19	42
Youth	52	29	3	20
Traditional peoples	57	20	9	37
Communities	33	8	17	54
Other (such as hunters, farmers, and academic institutions).	60	8	12	33

Multiple answers are possible hence percentages do not total 100.

that new legislation had been enacted or existing legislation altered since 1992. In MLDCs, 82% of agencies indicated new/changed legislation, compared to 70% of HDCs. Biodiversity and nature conservation and protection, additions to the PA network and endangered/threatened species legislation were common topics for new/changed legislation during this period.

Government agencies have the main responsibility for PA systems. Over the past decade, many countries have encouraged greater attention to regional differences within their countries through the decentralization of these agencies. Survey respondents were asked to indicate whether their agency had become more or less centralized during the past decade. The results showed increasing decentralization, with 39% of HDCs and 30% of MLDCs indicating such a shift. As a result of these changes, respondents indicated that decision-making power was less centralized and more delegated now than it was in 1992, with more consultation and sharing of information with/among stakeholders and the various levels of government.

Several reasons were given for these changes in agency structure and responsibilities, including policy direction (61% of respondents), better management (58%), increased cost-effectiveness (42%), and legislative requirements (32%). The results suggest that legislative requirements were more influential in these changes over the past decade in MLDCs (56% of respondents vs. 21% of HDCs), while changes in policy direction were more significant for HDCs (71% vs. 44% of MLDCs).

Decision Making

Participatory management approaches, involving greater numbers of stakeholders in decision-making, have become a main focus of PA literature over the last decade (Beaumont 1997; Lane 2001; Stoll-Kleemann and O'Riordan 2002). The second section of the survey asked ten questions relating to changes in decision-making and their causes, the involvement of specific

groups, the mechanisms by which participation was achieved, and how these had changed over the period.

The results indicate that participatory management is now required by legislation (52%) and policy (59%) in many countries. Almost 70% of respondents indicated that these requirements had changed during the past decade, with more than 80% of respondents from MLDCs indicating such changes. A large majority (83%) of respondents indicated that the amount and strength of participation in decision-making have increased over the past decade. All MLDC respondents indicated that this is the case.

Respondents were asked to rate the involvement of various groups in the management of PAs for both 1992 and 2002. The 1992 results suggest minimal involvement of most groups. More than half of the respondents indicated that youth, traditional peoples, and other groups (such as hunters, farmers, and academic institutions) were not at all involved in PA management. Volunteers and community groups were completely uninvolved in one third of the countries surveyed. By 2002, however, changes were evident (Table 1) with communities now "very involved" in PA decision-making and management according to 54% of the respondents. Dramatic increases in involvement were also seen for volunteers, youth, and traditional peoples.

The results confirm that management has become more participatory during the past decade. Differences are evident between countries at different stages of development. For example, volunteers were more involved in PA decision making and management in HDCs (46%) than MLDCs (36%), while other groups such as hunters and farmers were more involved in MLDCs (46%) than HDCs (31%).

Many PA governance issues revolve around the balance of responsibility for management between agencies and other interests. A continuum exists ranging from full control by the official state agency to full control by other interests. Survey respondents were provided with a diagram (Figure 2) and asked to

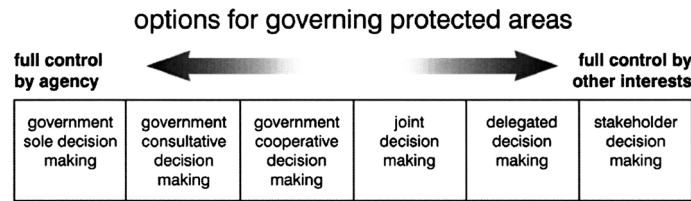


Figure 2. Options for governing protected areas.

indicate the overall involvement of stakeholders in their national park system for 1992 and 2002. The median responses for both years fall into the “Government Consultative Decision Making” category. However, the category of government as the sole decision-making authority showed a strong shift from 42% of agencies in 1992 to only 12% a decade later. Furthermore, by 2002 agencies involved with co-operative decision-making increased to over 30% from the 12% in 1992 and some agencies (15%) indicated that they now had a joint decision-making regime, whereas none had one a decade earlier. There were differences between HDCs and MLDCs. For HDCs, the median (50th percentile) response for both 1992 and 2002 fell into the “Government Consultative Decision Making” category. However, for MLDCs a more obvious shift along the continuum was evident. In 1992, the median response (50th percentile) fell into the “Government Sole Decision Making” category, while in 2002, the median response had shifted significantly into the “Government Cooperative Decision Making” category. The evidence suggests that the MLDCs have made more progress than HDCs in ensuring that PA management has become more inclusive since the 1992 World Parks Congress.

Respondents were asked to indicate the importance of various mechanisms for encouraging/soliciting public participation in 1992 and 2002. In 1992, many mechanisms for public participation were not used at all, whereas by 2002 a wider range of mechanisms was adopted by more agencies with provision of written information being the single most important mechanism (Table 2). Opinion surveys and the provision of written information appear to be more commonly used mechanisms in HDCs than MLDCs. In the latter category, joint advisory boards and public meetings were the most highly used mechanisms.

Substantial differences were also reported in private sector involvement. More than half of respondents indicated that the private sector was more involved in PA management in 2002 than in 1992, particularly in the development of tourism opportunities. Services, such as cleaning, park maintenance, and gardening, were also being increasingly contracted out to the pri-

ate sector. The private sector was included in park management boards more in 2002 than in 1992.

Respondents were asked to indicate whether their agency had any governance mechanisms in place to coordinate cooperation with other agencies or stakeholders. Almost three-quarters of respondents indicated that such governance mechanisms were in place in 2002, and over half indicated that both the number and type of these mechanisms has changed since 1992. Such mechanisms have incorporated more groups in the PA management process in 2002 than previously, and included buffer zone advisory committees, regional and local planning committees, and national park presence on external committees not related to PAs. Differences between HDCs and MLDCs are evident, with the latter indicating greater presence of cooperative governance mechanisms (82%) than HDCs (68%). MLDCs also reported increases in the range of such mechanisms used over the past decade. Overall, it appears that PA agencies in MLDCs have made more progress in this area than have agencies in HDCs since 1992.

Clearly, public participation mechanisms are more commonly used at present than in 1992. The results suggest that PA managers increasingly recognize that stakeholder support is a requirement of good governance, and are directing more attention to communicating with outside groups.

Accountability

An important aspect of effective PA governance is the accountability of decision makers to the public they represent. Accountability mechanisms ensure that tasks and objectives are completed on time and funds spent appropriately (Graham and others 2003). There is little analysis in the PA literature on accountability mechanisms and more attention needs to be paid to this area. Survey respondents were asked to indicate the use of various accountability mechanisms (see Table 3) used in both 1992 and 2002, as well as the reasons behind the changes. Specific questions were asked about PA management plans as they are considered by many to be a key focus for public accountability (Thomas and Middleton 2004).

Table 2. Changes in use of public participation mechanisms, 1992–2002

	Unused mechanisms (%)		Main mechanisms (%)	
	1992	2002	1992	2002
Provision of written information	31	8	31	52
Opinion surveys	64	18	6	18
Public meetings	32	11	19	37
Focus groups	46	14	17	34
Joint advisory boards	50	6	8	37

Table 3. Accountability mechanisms used 1992–2002 in HDCs and MLDCs

	Accountability mechanisms used in HDCs (%)		Accountability mechanisms used in MLDCs (%)	
	1992	2002	1992	2002
State of the parks reports	56	76	82	87
Annual department reports	75	88	81	100
External audit	40	52	67	94
National advisory committee	30	56	36	53
Stakeholder roundtables	44	68	31	71
Parliamentary debate	52	62	33	64
Other	33	60	33	100

The results showed increased use of all accountability mechanisms over the last decade (Table 3). Annual reports were the main accountability mechanism in both years. Differences are evident between HDCs and MLDCs with the latter showing greater use of virtually all accountability mechanisms in both 1992 and 2002. The difference was particularly noticeable in the use of external audits used by 94% of MLDCs but barely half of HDCs. This may reflect the greater inputs of donor agencies into MLDCs and the resulting requirements for external audits. Another interesting comparison was in the use of parliamentary debate, which more than doubled in use in MLDCs between 1992 and 2002 as did the use of stakeholder roundtables. Large increases were marked by both HDCs and MLDCs in the “other” category. Explanatory notes mentioned public reports, internal audits, and the use of public “watchdogs” as being important.

Respondents were asked to indicate the reasons behind the changes in accountability mechanisms that took place between 1992 and 2002. The main reasons given were to increase community involvement, improve communication with stakeholders, and, ultimately, to improve management by increasing stakeholder inputs. More than two thirds of respondents perceived that the changes in accountability measures have helped to achieve more effective PA management overall.

PA management plans play an important role in effective governance by holding decision makers accountable to the public. However, in many countries plans have no legal basis. Even if they exist, PA managers can ignore them due to the lack of any legislative or even policy directive that they must be followed. More than two thirds of respondents indicated that both the preparation (72%) and implementation (66%) of management plans were required by law. These requirements had changed over the past decade for about a third of the agencies. HDCs and MLDCs differed in terms of the requirement for management plan preparation with MLDCs having a higher proportion that were legally required to complete plans. There is a legal requirement for public participation in the formulation of plans by less than half of the agencies (45%). Over a third of the agencies (38%) reported that this requirement to include the public was made in the last decade.

Influence

A variety of “players” are involved in the decision-making process for PAs (e.g., see O’Neill 1996, Heydrenrych and others 1999; Sabatini and Iglesia 2001; White and other 2002). Since decision-making ultimately drives management, a variety of sources exerts influence on the management of PAs. Survey respondents were asked to estimate the influence of various forces (Table 4) on decision-making in 1992 and 2002.

Table 4. Changes in influence on PA decision-making 1992–2002

	1992		2002	
	No influence (%)	Large influence (%)	No influence (%)	Large influence (%)
Global forces	34	29	13	35
National forces	3	70	0	75
Local communities	41	8	2	39
Private sector	47	0	23	8
NGOs	18	26	5	39
Other stakeholders	34	9	17	17
Customs and traditions	23	13	15	13

The results show that the sphere of influence surrounding the management of PAs has increased during this time period. In 1992, more than one third of respondents perceived that global forces, local communities, the private sector, and various stakeholders had no influence on PA decision-making. By 2002, dramatic changes were evident. For example, while 41% of respondents judged that local communities had no influence on protected area decision-making in 1992, by 2002 this number had dropped to 2% (Table 4).

Differences exist between HDCs and MLDCs. Global forces and the private sector exerted a larger degree of influence on the latter (62.5, 19.2%, respectively) than on HDCs (31.3, 0.0%, respectively). Customs and traditions, while significantly more influential in LDCs in 1992 (29%) than HDCs, were reduced in importance to 6% by 2002. Conversely, HDCs saw a rise in the importance of customs and traditions from 4% in 1992 to 21% in 2002. It would appear that the developed world is becoming more sensitive to customs and traditions, while the opposite is occurring in lesser-developed countries.

Capacity Building

Capacity building involves increasing awareness and skills among PA managers, staff members, and stakeholders so that they are able to fulfill PA objectives effectively on an ongoing basis. The role that capacity building can play in improving PA management is increasingly recognized at a variety of scales (Reading and others 1999; Thibault and Blaney 2001; Courtney and others, 2002). Respondents were asked to indicate whether they had any programs in place to assist in governance capacity building, the nature and effectiveness of those programs, the availability of training opportunities for those outside the agency, and their main needs in this regard.

Almost three quarters of PA agencies had programs to improve the capacity of their staff members. Such programs included staff training workshops and semi-

nars, collaboration with scientific organizations, and community involvement programs. Many agencies suggested that capacity building programs and opportunities were dictated by the level of funding received, and, therefore, not guaranteed from year to year. However, it is clear that capacity-building programs within PA agencies are becoming increasingly recognized as important aspects of effective PA governance.

Capacity-building programs were also increasingly common in other government agencies (53%) and among stakeholder groups (66%) closely related to the management of PAs. Again, the prevalence of such programs was funding dependent. Differences between HDCs and MLDCs were evident, with the latter indicating greater presence of capacity-building programs within the agency (82%) than HDCs (69%). MLDCs were also more likely to indicate a larger number of capacity-building programs in other government agencies related to PAs (69%) than HDCs (44%).

Despite the overall trend towards increasing governance capacity-building opportunities, respondents recognized significant gaps in training opportunities. The question asked specifically for training needs related to governance, although it is clear from the responses that respondents thought more broadly than this. Park staff training suggestions included (in descending order of mention): environmental education, community involvement, park planning and administration, enforcement and conflict management, and detailed training in the technical fields of remote sensing and geographical information systems (GIS).

Funding

Funding is a critical component of effective PA governance, as adequate funding provides managers with the opportunity to fulfill PA objectives by meeting their operating, research, and staff salary requirements (McNeely 1994; Wells and Williams 1998; James 1999, Wilkie and others 2001). Thus, the degree and strength of financial support that a PA agency receives

Table 5. Percent of protected area funding provided by various sources

	Highly developed countries (%)		Medium/less developed countries (%)	
	1992	2002	1992	2002
Government	83	78	61	52
NGO's	.3	1	2	2
User fees	8	9	8	15
Private donors	.6	1	7	3
Other	9	10	14	25

Totals do not equal 100% due to rounding.

both strongly influences, and is strongly influenced by, governance. The survey asked questions regarding the sources of funding, how the funds were held and dispensed, and how these factors had changed over the past decade.

The results highlighted several trends. Agencies were increasingly receiving funds from a wider array of sources. Overall, the proportion of total funds provided by both government agencies and private donors decreased during the last decade, while NGOs and user fees provided an increased amount of funding. Differences between HDCs and MLDCs were evident (Table 5), with government currently providing less funding in MLDCs (52%) than HDCs (78%), while user fees provided significantly more funding (15% in MLDCs vs. 9% in HDCs). The second most important source of funds for MLDCs fell into the "other" category and included funding agencies such as the World Bank, international programs and projects, funds from foreign governments, donations and concessions paid by the private sector.

Significant changes in PA agency budgets also occurred between 1992 and 2002. Overall, 26% of respondents indicated that the PA budget had decreased during the past decade, 14% reported that it had remained the same, while 60% noted budget increases. Respondents also indicated that the number, size, and complexity of PAs had increased during this period, the use of the PAs had increased, and the responsibilities of the agencies increased as well. Overall, almost two thirds of respondents felt that budgets had not kept pace with the growth and additional use of the system, and stressed that additional funding was required. Differences were evident between HDCs and MLDCs, with the latter more likely to indicate that the budget did keep pace with demands (53%) than HDCs (36%). This may indicate some redress to the bias detected by an earlier study by the WCMC where developed countries accounted for 90% of PA expenditure but only 41% of the area protected

(James and others 1999). It probably also reflects investments made through the Global Environment Facility (GEF). A recent review (GEF 2003) of 1991–2001 reported that the Facility funded projects in almost nine hundred PAs, covering 162 million hectares and costing some US\$960 million. The GEF projected that increased funding would continue with about US\$1 billion over the next four years going to biodiversity projects in MLDCs (GEF 2002).

Respondents were asked what happens to the funds generated by park use, such as entrance fees. Historically, these have tended to be returned to the central treasury and the agency received an unrelated budgetary allocation for their operating expenses. This was still the system reported by a third of the respondents, with almost a half being able to keep their income and the rest indicating other alternatives (e.g., paid into an independent trust fund, or paid to the central treasury and immediately re-routed to the protected area agency). Most literature in this area (e.g., see James and others 1999) suggests that enabling agencies to keep their own revenues promotes greater independence and provides an incentive for better service provision.

Current and Future Challenges

More than 90% of respondents felt that, as a result of the aforementioned changes, the governance of their PA system had improved between 1992 and 2002. Respondents were asked about the main challenges for governance both throughout the past decade and expected in the future, and asked to identify the strategies required to address these challenges. PA managers perceived the most critical challenges that faced effective governance during the past decade to include obtaining adequate funding, the structure of the PA agency, and enforcement within the PAs. Managers suggested that the main challenges facing the effective governance of PAs over the next decade will include (in descending order of frequency of mention):

- involving and cooperating with stakeholder groups;
- obtaining adequate funding;
- achieving institutional transformation within protected area agencies and improving relationships between government bodies;
- ensuring adequate and effective training of park management and personnel (capacity building); and,
- enforcing protected area rules, policies, regulations, and mandates.

The main strategies required to address these challenges included (in descending order of frequency of mention):

- securing funds on an ongoing basis;
- increasing the capacity building and training opportunities for park staff and managers at all levels;
- increasing the involvement of local communities and providing adequate education opportunities for stakeholder groups;
- promoting collaborative efforts between protected area agencies and various government agencies related to protected areas; and
- improving accountability and providing transparent decision making for protected areas.

Discussion

Global surveys involving PAs are always challenging due to the great variability from country to country and the large numbers of PAs involved. Generalizations under such conditions should be applied with caution, as highlighted below. However, the survey highlighted on a global basis many of the key changes that had been reported from individual countries previously (e.g., Sabatini and Iglesia 2001). As such, it contained few surprises, but rather re-enforced many of the suspected trends. Perhaps what was most revealing was the scale and speed of change. Highlights included:

- 90% felt that governance had improved over the period;
- 75% reported new/changed legislation;
- 65% of MLDCs experienced changes in agency structure;
- 37% reported increased decentralization;
- 83% reported an increase in amount and strength of stakeholder participation;
- 42% of agencies were sole decision-making powers in 1992 compared with 12% in 2002;
- 54% reported increased private sector involvement;
- 67% felt that management effectiveness had im-

proved as a result of greater use of accountability measures;

- 41% reported that communities had no influence on management in 1992 compared with 2% in 2002;
- 60% reported budget increases;
- 60% reported that budgets had not kept pace with requirements.

Interesting differences between HDCs and MLDCs also came to light, with an overall greater speed of change and more progressive governance measures being apparent in the latter. It could be argued that this is because the MLDCs were further behind and, hence, had more latitude for improvement. Even so, it appears that MLDCs are taking more progressive initiatives overall. This is perhaps because of the relative youth of many PA agencies in MLDCs with less agency inertia to inhibit change. It could also be that the cutting edge of PA policy and practice is mainly in MLDCs because that is where the main challenges lie in terms of protecting global biodiversity values.

It would, however, be erroneous to assume that the greater number of changes and apparently more progressive governance mechanisms in place in MLDCs necessarily imply that PA management is more effective in achieving the stated objectives of IUCN PA categories I–III than in HDCs. Fox and others (1996), for example, outline the highly participatory management of Lantang National Park in Nepal that was established primarily to protect the red panda. Over 60% of the panda habitat in the park is heavily grazed under collective agreements managed by local villagers. These disturbances have resulted in unacceptably high mortality rates of 44% among adults red pandas and 86% among cubs. From a governance perspective, the park would achieve high marks for its participatory approach, yet it is failing to meet key biodiversity objectives.

It is also very difficult to assess the different weightings that might be ascribed to different elements of governance. Parr (2002), for example, compared PA legislation in SE and South Asia with that of seven HDCs and was able to identify consistent strengths in the latter that were not found in the Asian countries. Legislation forms a critical part of the formal environment for decision-making. However, an informal environment of agency culture, politicians' viewpoints, social customs, corruption, and a myriad of other factors can be more influential than the formal environment. These are important (e.g., see Hough 1994, Dilsaver and Wykoff 1999, Smith and others 2003) and yet difficult elements to measure even at the country level, let alone on a global survey.

Change may also not always be for the better. For example, decentralization is often looked at as a move towards more effective management. However, this may not always be so, and certain elements of PA planning and management may well be accomplished more effectively at the central level (Dearden 2002). Indeed, as the rather extreme case study of Russia by Wells and Williams (1998) illustrates, decentralization without capacity building can be disastrous (also see Courtney and others 2002). The survey did identify a growth in capacity building both in PA agencies and also among related agencies and other stakeholders over the last decade.

Terminology also offers some challenges. Decentralization, for example, is easily confused with deconcentration and delegation. Co-management can mean different things to different people. A table of definitions was provided in the survey to aid in standardization of use of some definitions, but even so there was ample opportunity for confusion.

Private sector involvement is also a complex topic where it is difficult to encompass the full range of variability on a global scale. Some countries, such as Jordan, have delegated their entire PA administration to the private sector (Schneider and Burnett 2000). Elsewhere, such as in Natal Province in South Africa, more conservation lands may be under private than government control (McNeely 1999). In other areas, complex lease arrangements between governments and the private sector for conservation management might be in force (e.g., see The Nature Conservancy initiative at Komodo Island <http://www.komodonationalpark.org>). In many other areas, private sector involvement is restricted to the contracting out of certain services, such as garbage collection. The increasing private sector involvement in global PA management is important, but the nature of that involvement remains only partially known.

The overall results should not be allowed to obscure important variability among countries. For example, although funding has apparently increased overall, some countries with globally important biodiversity values are still in desperate need of greater funding (Wilkie and others 2001). Also, rising overall funding levels does not necessarily mean that the funding is being applied effectively. Donor agencies, for example, have a tendency to prefer the short term and the glamorous, rather than the longer term and the mundane. This can lead to ongoing building of infrastructure but leave insufficient resources in the future to maintain that infrastructure.

Finally, questions must be raised regarding how valid the survey is in terms of representing global PA

governance. Although every effort was made to contact all national-level PA agencies in the world, the data base current at that time, the one maintained by the WCMC from their 1997 survey, was inadequate. Agencies appear to change names, merge into new political entities, and change addresses rapidly. The issue of non-response is a serious one with surveys of this nature and future surveys must account for differences in non-response bias between this survey and a subsequent one. In particular, the survey response was low from countries classified as MDCs who received 46% of the questionnaires but returned only 14% of the responses. Although the analysis showed little difference between the responses of MDCs and LDCs, a higher response rate might reveal some interesting differences. The overall responses included 41 countries (compared with the 110 finally contacted) with a good representation from all regions. This compares favorably with the 35% response rate reported by Paine and Green (1997) in a global survey undertaken by the WCMC. However, there is substantial room for improvement and it may be more effective to undertake a future survey in person at one or more international PA meetings.

Furthermore, even from agencies from which responses were received it is not known who within the agency answered the survey, the accuracy of their memory and their knowledge of agency practices and history. However, most questionnaire surveys similarly cannot vouch that their respondents have an equal knowledge level on which to base their responses. It is also possible that some answers were self-serving, in that respondents rated changes rather more positively than an outsider might have done. This danger was behind the original plan to also survey national-level NGOs in each country. However, the latter was abandoned as the challenges of just contacting and obtaining responses from national PA agencies became more obvious.

Conclusion

The survey results and discussion above suggest three points to guide future action at the international level on global PA governance.

1. *Governance and management effectiveness:* Governance is a critical aspect influencing the ability of PAs to provide the values for which society establishes them. It is not sufficient to have the right numbers of PAs in the right places; it is also necessary to ensure that their governance is able to manage them in an effective manner and produce the de-

sired outcomes. The survey reported some understanding of global governance trends. Efforts are also underway to measure management effectiveness (Hockings 2000), and these two elements need bringing together to gain a more detailed understanding of the relationship between the two. Biological scientists need to become more involved in evaluating this relationship.

2. *Change and consolidation:* The survey results suggest that enormous changes have taken place over the past decade in the field of PA governance. Change will always occur, but learning from change requires time to monitor the effects of the change. Following a decade of rapid change, a period of consolidation and learning and effort should be devoted to making the changed systems work. It would be useful to undertake a repeat survey in another five years to gain some comparative perspective on the data collected in this survey, assess future directions, and include additional dimensions, such as the emergence of larger-scale regional governance mechanisms, that were not addressed in the survey. This survey also only included IUCN PA categories I–III. Clearly, categories IV–VI have potential to add to the conservation estate, but also much greater variability in governance processes. It would be useful to implement a governance survey on these categories in the near future to build understanding of their challenges.
3. *Context:* Global PA governance has no “one best way.” Improved governance can follow multiple pathways. The challenge is to understand the particular context of the PA systems, globally, nationally, and locally and the various pathways and their advantages and disadvantages. Every situation is unique yet has commonalities that can be better understood through a structured series of case studies at the national and regional levels.

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Literature Cited

- Beaumont, J. 1997. Community participation in the establishment and management of marine protected areas: A

review of selected international experience. *South African Journal of Marine Science* 18:333–340.

- Beltran J., and A. Phillips (eds.). 2000. Indigenous and Traditional Peoples and Protected Areas. IUCN, World Commission on Protected Areas. Gland.
- Chape, S., S. Blyth, L. Fish, P. Fox, and M. Spalding. 2003. 2003 UN List of Protected Areas. IUCN-UNEP, World Conservation Monitoring Centre, Cambridge.
- Convention on Biological Diversity (CBD) 2004. Protected Areas (Articles 8 (A) to (E)), Kuala Lumpur.
- Courtney, C. A., A. T. White, and E. Deguit. 2002. Building Philippine local government capacity for coastal resource management. *Coastal Management* 30:27–45.
- Dearden, P. 2002. Dern Sai Klang: Walking the middle path to biodiversity conservation in Thailand. Pages 125–141 in P. Dearden (ed.), Environmental protection and rural development in Thailand. White Lotus, Bangkok.
- Dilsaver, L. M., and W. Wyckoff. 1999. Agency culture, cumulative causation and development in Glacier National Park, Montana. *Journal of Historical Geography* 25: 75–92.
- Fox, J., P. Yonzon, and N. Podger. 1996. Mapping conflicts between biodiversity and human needs in Langtang national park. *Conservation Biology* 10:562–569.
- Global Environment Facility (GEF). 2002. Donor Countries Agree to the Highest Replenishment Ever for the Global Environment Facility. Washington DC, News Release.
- Global Environment Facility (GEF). 2003. Strategic Business Planning: Directions and Targets. Document prepared for meeting of the GEF Council May 14–16, 2003.
- Graham, J., B. Amos, and T. Plumptre. 2003. Governance Principles for Protected Areas in the 21st Century, A Discussion Paper. Institute on Governance in collaboration with Parks Canada and the Canadian International Development Agency. Ottawa.
- Heydenrych, B. J., R. M. Cowling, and A. T. Lombard. 1999. Strategic conservation interventions in a region of high biodiversity and high vulnerability: A case study from the Agul. *ORYX* 33:256–269.
- Hockings, M. 2000. Evaluating Effectiveness: A Framework for Assessing the Management of Protected Areas. World Commission on Protected Areas, IUCN. Gland, Switzerland.
- Hough, J. L. 1994. Institutional constraints to the integration of conservation and development: A case study from Madagascar. *Society and Natural Resources* 7:119–124.
- IUCN. 1994. Guidelines for Protected Areas Management Categories. World Commission on Protected Areas. IUCN. Gland, Switzerland.
- James, A. N. 1999. Institutional constraints to protected area funding. *Parks* 9:15–26.
- James, A. N., M. J. B. Green, and J. Paine. 1999. A Global Review of Protected Area Budgets and Staffing. World Conservation Monitoring Centre, Cambridge UK.
- Lane, M. B. 2001. Affirming new directions in planning theory: Co-management of protected areas. *Society and Natural Resources* 14:657–671.

- Lovelock, B. 2001. Interorganisational relations in the protected area - tourism policy domain: The Influence of Macro-Economic Policy. *Current Issues in Tourism* 4:253–273.
- Lowry, W. R. 1994. Paved with political intentions: the impact of structure on the National Park Services of Canada and the United States. *Policy Studies Journal* 22:44–58.
- McNeely, J. A. 1994. Protected areas for the twenty-first century: Working to provide benefits for society. *Unasylva*, 176(45), www.fao.org/forestry/foda/unasylva/unasyl-e.stm.
- McNeely, J. A. 1999. Protected Area Institutions. In S. Stolton, and Dudley (eds.), *Partnerships for protection: New strategies for planning and management for protected areas*. Earthscan Publications Ltd., London, UK pp 195–204.
- O'Neill, K. M. 1996. The international politics of national parks. *Human Ecology* 24:521–539.
- Paine, J. and M. J. B. Green. 1997. State of the World's PAs at the end of the twentieth century. Paper presented at IUCN WCPA Symposium "Protected Areas in the Twenty First Century: From Islands to Networks." Albany, Australia, November 24–29th.
- Parr, J. 2002. Protected area legislation in Asia: Lessons on strengthening management from around the world. *Tigerpaper* 29:20–23.
- Reading, R. P., M. D. Johnstad, Z. Batjargal, S. Amgalanbaatar, and H.M. Mix. 1999. Expanding Mongolia's system of protected areas. *Natural Areas Journal* 19:211–222.
- Sabatini D., M. C., and R. M. M. Iglesia. 2001. A global context for the evolution and current status of protected areas in Argentina. *Natural Areas Journal* 21:274–281.
- Schneider, I. E., and G. W. Burnett. 2000. Protected area management in Jordan. *Environmental Management* 25:241–246.
- Smith R. J., R. D. J. Muir, M. J. Walpole, A. Balmford, and N. Leader-Williams. 2003. Governance and the loss of biodiversity., 426:67–70.
- Stoll-Kleemann, S., and T. O'Riordan. 2002. From participation to partnership in biodiversity protection: Experience from Germany and South Africa. *Society and Natural Resources* 15:161–177.
- Thibault, M., and S. Blaney. 2001. Sustainable human resources in a protected area in Southwestern Gabon. *Conservation Biology* 15:591–595.
- Thomas, L., and J. Middleton. 2004. Guidelines for Management Planning for Protected Areas. IUCN, World Commission on Protected Areas. Gland.
- United Nations Development Program (UNDP). 1997. Governance and Sustainable Human Development. UNDP, Nairobi.
- United Nations Development Program (UNDP). 2003. Human Development Index [Web Page]. URL www.undp.org.
- Wells, M. P., and M. D. Williams. 1998. Russia's protected areas in transition: The impacts of Perestroika, economic reform and the move towards democracy. *Ambio* 27:198–120.
- White, A. T., C. A. Courtney, and A. Salamanca. 2002. Experience with marine protected area planning and management in the Philippines. *Coastal Management* 30:1–26.
- Wilkie, D. S., J. F. Carpenter, and Q. Zhang. 2001. The underfinancing of protected areas in the Congo Basin: So many parks and so little willingness to pay. *Biodiversity and Conservation* 10:691–709.
- World Commission on Protected Areas (WCPA). 2003. Durban Action Plan. IUCN, Gland, Switzerland.