



## Management Effectiveness in Forestry Sector in India

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### ABSTRACT

Assessing management effectiveness of protected areas has assumed importance in the face of accountability, transparency, and funding constraints. Prioritization of sites for bio diversity conservation, community conserved areas, recognition of forest rights have changed the way protected areas need to be managed. International organizations have come up with various tools for assessing management effectiveness. The paper discusses the framework for implementation of management effectiveness programmes in India.

**Keywords--** Protected Areas (PA), Marine Protected Areas (MPA), International Union for Conservation of nature and Natural Resources (IUCN), Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), World wide Fund for Nature (WWF), Global Environment Facility (GEF), Management effectiveness

India is one of the 17 mega diverse countries of the world. With only 2.4% of the world's land area, it contributes about 8% of the known global biodiversity. It supports 16.7% of the world's human population and 18% livestock which puts enormous pressure on our natural resources. India is home to world's largest wild tigers population and has an assemblage of globally important endangered species like Asiatic lion, Asian Elephant, One-horned Rhinoceros, Gangetic River Dolphin, Snow Leopard, Kashmir Stag, Dugong, Gharial, Great Indian Bustard, Lion Tailed Macaque etc.

A National Board for Wildlife (NBWL), chaired by the Prime Minister of India provides for policy framework for wildlife conservation in the country. The National Wildlife Action Plan (2002-2016) was adopted in 2002, emphasizing the need for people's participation and their support for wildlife conservation. India's conservation planning is based on the philosophy of identifying and protecting representative wild habitats across all the ecosystems. The Indian Constitution includes the subject of forests and wildlife in the Concurrent list.

The PAs in India are set up constituted and governed as per the provisions of the Wild Life (Protection) Act, 1972, amended from time to time, with the changing ground realities concerning wildlife crime control and PAs management. Implementation of this Act is further complemented by other Acts viz. Indian Forest Act, 1927, Forest (Conservation) Act, 1980, Environment (Protection) Act, 1986 and Biological Diversity Act, 2002 and the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006. The Wildlife Crime Control Bureau of the Central Government supplements the efforts of provincial governments in wildlife crime control through enforcement of CITES and control of wildlife crimes having cross-border, interstate and international ramifications. In order to strengthen and synergize global wildlife conservation efforts, India is a party to major international conventions viz. Convention on International Trade in Endangered Species of wild fauna and flora (CITES), International Union for Conservation of Nature (IUCN), International Convention

### I. INTRODUCTION

In a business, management effectiveness is the degree to which objectives are achieved and the extent to which targeted problems are solved. In contrast to effectiveness, efficiency is determined with reference to costs. Efficiency means "doing the thing right" whereas effectiveness means "doing the right thing."

Studying management effectiveness is not restricted to business organizations. The IUCN has been applying this concept to study the effectiveness of management of protected areas in different countries. Protected areas are vital for conservation of both floral and faunal biodiversity. Such areas provide invaluable ecosystem services besides being sites for in-situ conservation.

As per ENVIS Centre on Wildlife & Protected Areas, protected areas are those in which human occupation or at least the exploitation of resources is limited. India has a network of 733 Protected Areas which include National Parks, Wildlife Sanctuaries, Conservation Reserves and Community Reserves.

for the Regulation of Whaling, UNESCO-World Heritage Committee and Convention on Migratory Species (CMS).

## II. MAIN ISSUES CONCERNING THE MANAGEMENT OF PROTECTED AREAS

Managing protected areas in India is a huge task owing to complex nature of the challenges that is a mix of social and ecological issues. Issues such as habitat loss/fragmentation, over extraction of biomass resources due to biotic pressures, increasing human-wildlife conflicts, livelihood dependence on forests and wildily fere sources, poaching and illegal trade in wildlife parts and products, mining and other industrial and infrastructure projects, need for maintaining a broad base of public support for wildlife conservation exemplify and characterize the contemporary wildlife conservation scenario in India. Improved synergies and better coordination amongst the wide array of stakeholders are needed to meet the challenges of conserving India's fast disappearing wilderness resources.

## III. MANAGEMENT EFFECTIVENESS EVALUATION

Just like in a business, management effectiveness evaluation is the assessment of how well the protected area is being managed and the extent to which it is protecting values and achieving goals and objectives. The term management effectiveness reflects three main themes:

- design issues relating to both individual sites and protected area systems;
- adequacy and appropriateness of management systems and processes; and
- delivery of protected area objectives including conservation of values.

## IV. WHY STUDY MANAGEMENT EFFECTIVENESS?

Protected areas are constituted for various purposes, the main being to maintain the ecological integrity of the area. The Government, the public at large, the funding agencies, and NGOs would like to know the effectiveness of the management in achieving the PA's objectives. In order to maximise the potential of protected areas, it is important to understand the strengths and weaknesses in their management and the threats and stresses that they face. There is increasing pressure on governments and other bodies responsible for protected areas to monitor effectiveness of PAs. Another reason for assessing management effectiveness include the desire by managers themselves to adapt and improve their management strategies,

improve planning and priority setting and the increasing demands for reporting and accountability.

In a country like India, funds for PAs are always a limiting factor. In such a case, it would be prudent to allocate funds by prioritizing PAs. This could be done on the basis of management effectiveness of different PAs.

The evaluation of management effectiveness is usually achieved by the assessment of series of criteria represented by carefully selected indicators against agreed objectives or standards. The following definitions refer specifically to the context of protected area management effectiveness.

**Assessment:** the measurement or estimation of an aspect of management.

**Evaluation:** the judgement of the status/condition or performance of some aspect of management again stre determined criteria (usually a set of standards or objectives); including the objectives for which the protected areas were established.

## V. IUCN-WCPA MANAGEMENT EFFECTIVENESS

**Evaluation Framework:** a system for designing protected area management effectiveness evaluations based around six elements: context, planning, inputs, processes, output sand outcomes. It is not a methodology, but is a guide to developing assessment systems.

**Element:** a major component of the evaluation. Framework defined by the aspect of management that is being assessed. The elements relate to the steps in a strategic planning and management cycle. Performance within each element is assessed by reference to a number of defined criteria.

**System:** a specific process for doing monitoring and evaluation, generally accompanied by steps or guidance(equivalent to an evaluation approach as defined by Stemet *al.*).

**Criterion:** a major category of conditions or processes –quantitative or qualitative – which together helps define the thing being measured. A criterion is characterized by a set of related indicators.

**Indicators:** quantitative or qualitative variables that provide useful information about a criterion and can be used to help compile a picture of the status and trends inprotected area effectiveness.

**Tool:** an instrument that aids in undertaking of evaluation– e.g. a questionnaire or scorecard (Stem *et al.* 2005).

**Monitoring:** collecting information on in dicators repeatedly over time to discover trends in the status of the protected area and the activities and processes of management.

**Tools for Measuring Management Effectiveness:** Usually the management effectiveness data is gathered in the form of questionnaires. Various tools

have been constructed in gathering the required information. The details of some of the tools are given below:

### 1. World Bank/WWF Tracking Tool (Stolton et al.2003)

Commonly referred to as the Tracking Tool, this rapid assessment is being used in all World Bank/WWF Alliance Protected area project sites to track changes in effectiveness of management. The system has also been adopted by the Global Environment Facility as the basis for tracking changes in management effectiveness in all GEF protected area project sites. A version of the Tracking Tool has been developed for Marine Protected Areas by the World Bank.

### 2. WWF/CATIE methodology (Cifuentes et al. 1999)

The WWF/CATIE evaluation methodology was developed as a structured, sequential and simple-to-use evaluation methodology, based on a scoring system which was developed to address the special needs of protected areas in Latin America. Together with the PROARCA-CAPAS methodology, the WWF-CATIE system has been widely applied across Central America.

### 3. RAPPAM (Ervin, J. 2003)

The WWF Rapid Assessment and Prioritization of Protected Area Management (RAPPAM) methodology provides a country-wide assessment of the effectiveness of protected area management, threats, vulnerabilities and degradation. The RAPPAM methodology is already available in the following languages: English, French, Spanish, Portuguese, Russian, Mongolian, Bulgarian, Georgian, Bahasa Indonesia, Khmer, and is being translated into many others.

### 4. PROARCA-CAPAS scorecard (Courrau, J.1999)

The PROARCA/CAPAS system is based on the 'scoring model' to evaluate protected area management developed by TNC in the early 1990's. The PROARCA/CAPAS methodology includes assessment of 43 indicators in five fields; natural and cultural resources, social, administrative, political/legal, and economic/financial.

### 5. The Nature Conservancy –Conservation Action Planning (Low, G. 2003)

TNC has developed an integrated process for planning, implementing and measuring conservation success for its conservation projects. This process is called the "Conservation Action Planning (CAP)" process.

### 6. Enhancing our Heritage: monitoring and managing for success in natural World Heritage sites (Hockings, et al. 2004)

Evaluation methodology developed for detailed site level assessment. The Workbook provides guidelines and assessment tools for each element of the WCPA Framework. These tools have been designed to allow specific needs and circumstances of the site to be taken into account and to provide a means for integration of existing monitoring data into the evaluation system. While designed specifically to meet the needs of natural World

Heritage sites, the methodology is applicable to any protected area.

### 7. IUCN/NOAA/WWF Guidebook (Pomeroy, et al.2004)

The guidebook provides a step-by-step process for planning and evaluating the management effectiveness of MPAs. It lists 42 MPA-specific indicators that MPA managers can choose to use for evaluating their site. The book draws on the work of the MPA Management Effectiveness Initiative, shaped by IUCN's World Commission on Protected Areas(WCPA) - Marine and World Wild Fund for Nature (WWF).

### 8. WWF report on management of forest protected areas (Dudley, et al. 2004)

Analysis and report on the results of application of the World Bank/WWF Alliance Tracking Tool in over 200 forest protected areas in 37 countries.

### 9. Enhancing our Heritage site

Reports from project sites (Ecuador: Sangay National Park; Honduras: Río Plátano Biosphere Reserve; India: Kaziranga National Park; India: Keoladeo National Park; Nepal: Royal Chit wan National Park; Seychelles: Aldabra Atoll; South Africa: Greater St Lucia Wetland Park; Uganda:

Bwindi Impenetrable National Park; United Republic of Tanzania: Serengeti National Park; Venezuela: Canaima National Park) included in the Enhancing our Heritage project.

The Tracking Tool has been extensively used in 37 countries in Europe, Asia, Africa and Latin America. The World Bank has time series data for project sites in several countries, including India. The Global Environment Facility (GEF) has adopted the Tracking Tool as a simple impact monitoring indicator, and India has adopted the tool as part of its national protected area monitoring systems. The key findings of protected area management effectiveness using a consistent methodology include:

1. In general, legal issues ,biodiversity assessment, boundary demarcation, design and objective setting seem to be satisfactorily addressed in the protected areas sampled, while activities relating to people (both local communities and visitors) are less effective, as are management planning, monitoring and evaluation, budget and education and awareness.
2. Staff numbers correlate well with good bio diversity condition and with overall management effectiveness. Lack of adequate training coupled with low staffing seriously affects the staff capacity building.
3. The highest correlation coefficient seems to be between the success of a protected area in education and awareness-raising and its overall effectiveness. This is very significant for future interventions because education was one of the issues in which many parks scored lowest. The analysis suggests that good monitoring and evaluation system also correlated to those protected areas where biodiversity is best being conserved. Unfortunately, few

protected areas reported having comprehensive monitoring and evaluation programmes.

4. Protected areas face many threats. The most severe threats to forest protected areas were poaching, encroachment and logging, with collection of non-timber forest products also being a common problem.

Enforcement shows one of the strongest relationships to management effectiveness. The analysis also assessed the significance of the overall score. WWF and the World Bank have been cautious about the use of the overall score generated by filling in the various questions in the Tracking Tool. There were several reasons for this:

- Concern that the assessment be seen by protected area staff as a judgement rather than a management tool.
- Recognition of the difficulty in comparing between protected areas when reporting is done by different people.
- Caution about the accuracy of the tracking tool as anything more than a quick assessment of strengths and weaknesses.

The analysis found that most individual questions correlate fairly highly with the total score, the exceptions being those relating to legal status, protected area design, local communities and Indigenous people.

The adoption of the Tracking Tool by the GEF, World Bank and WWF, three of the largest international donors for protected areas and biodiversity in developing countries, means that there is now a simple global monitoring system in place for management effectiveness.

Now that tools have been developed, it is imperative to encourage their use not just as an occasional /donor-driven exercise but as an integral part of management. This is likely to become easier as the CBD identified management effectiveness as a key part of its recommended Programme of Work on Protected Areas. It requires members to implement management effectiveness evaluations of at least 30 percent of each Party's protected areas.

As compared to terrestrial ecosystems, marine protected areas are facing a serious challenge. Global fisheries are undergoing a crisis. Major fish catches are showing a severe decline. It is estimated that the world's fish stocks are either fully exploited, overexploited or have collapsed. Many initiatives have sought to improve the management of marine fisheries, hoping to reduce the ecological and socioeconomic consequence of the crisis. A survey of 1,188 fisheries experts from every coastal country in the world shows that the management of fisheries worldwide is lagging far behind international guidelines recommended to minimize the effects of overexploitation. Only a handful of countries have a robust scientific basis for management and transparent and participatory processes. The study also showed that the conversion of scientific advice into policy, through a participatory and transparent process, is at the core of

achieving fisheries sustainability, regardless of other attributes of the fisheries. Special tools are also available to assess management effectiveness of marine protected area.

## VI. CONCLUSION

Effective communication of the results to different stakeholders is critical. Public reporting of results needs to be undertaken with some care, since agencies need to balance the desire for increased transparency with political sensitivities. At local, regional and global level, results will immensely help to adapt plans and practices, adjust resource allocation, and revise policies wherever necessary. The attempt should be to make evaluation an integral part of PA management.

In India, after the passing of the Forest Rights Act, it would be immensely helpful to find out if conferring rights has improved management effectiveness. Community conserved areas have gained immense acceptance as a management tool. Joint forest management, community involvement in wild life conservation and biodiversity management have shown the utility of assessing management effectiveness. There is growing realization that involving local communities in conservation is a far improved method of achieving sustainable forest management.

## REFERENCES

- [1] Amend, S. and Amend, T. (1995). Inhabitants in national parks: an unsolvable contradiction? In: Amend, S. and Amend, T. (Eds). *National parks without people? The South American experience*. IUCN, Quito, Ecuador
- [2] Balmford, A., Bruner, A., Cooper, P., Costanza, R., Farber, S., Green, R.E., Jenkins, M., Jefferiss, P., Jessamy, V., Madden, J., Munro, K., Myers, N., Naeem, S., Paavola, J., Rayment, M., Rosendo, S., Roughgarden, J., Trumper, K. and Turner, R.K. (2002); Economic Reasons for Conserving Wild Nature. *Science* **297**: 950–53.
- [3] Barber, C.V., Miller, K.R. and Boness, M. [Eds] (2004). *Securing Protected Areas in the Face of Global Change: Issues and Strategies*. IUCN, Gland, Switzerland and Cambridge, UK.
- [4] Braun, D.P. (2005). It's not fair: understanding the viability rating framework. Prepared for the conservation measures and conservation action planning groups, The Nature Conservancy.
- [5] Carabias, J., Boness, M., de la Maza, J. and Cadena, R. (2004). Building capacity to manage protected areas in an era of global change. In: Barber, C.V., Miller, K.R. and Boness, M. (Eds) *Securing Protected Areas in the Face of Global Change. Issues and Strategies*. IUCN, Gland, Switzerland and Cambridge, UK

- [6] Cifuentes, M.A, Izurieta, A. and De Faria, H.H. (1999). *Medición de la Efectividad del Manejo de Areas Protegidas*. Forest Innovations Project, WWF, IUCN and GTZ, Turrialba, Costa Rica
- [7] Cusworth, J. and Franks, T (1993). *Managing projects in developing countries*. Longman Scientific & Technical, Harlow, UK and J. Wiley & Sons, New York, USA
- [8] Davey, A.G. (1998). *National System Planning for Protected Areas*. Best Practice Protected Area Guidelines Series No. 1. IUCN, Gland, Switzerland and Cambridge, UK
- [9] Dudley, N., Belukurov, A., Borodin, O., Higgins-Zogib, L., Hockings, M., Lacerda, L. and Stolton, S. (2004). *Are protected areas working: An analysis of forest protected areas by WWF*. WWF, Gland, Switzerland
- [10] Dudley, N. and Parrish, J. [Eds] (2006). *Closing the Gap: Creating ecologically representative protected area systems*. Convention on Biological Diversity, Montreal, Canada
- [11] ENVIS Centre on Wildlife & Protected Areas Hosted by Wildlife Institute of India, Dehradun. Sponsored by Ministry of Environment, Forests & Climate Change, Govt. of India.
- [12] Ervin, J. (2003). *WWF: Rapid Assessment and Prioritization of Protected Area Management (RAPPAM) Methodology*. WWF, Gland, Switzerland.
- [13] Hockings, M, Stolton, S., Courrau, J., Dudley, N. and Parrish, J (2004) *The World Heritage Management Effectiveness Workbook: How to build monitoring, assessment and reporting systems to improve the management effectiveness of natural World Heritage sites. Revised Edition*, University of Queensland, Australia.
- [14] Hockings, M., Stolton, S. and Dudley, N. (2000). *Evaluating Effectiveness: A Framework for Assessing the Management of Protected Areas*. Best Practice Protected Area Guidelines Series No. 6. IUCN, Gland, Switzerland and Cambridge, UK.
- [15] Kenchington, R. (1990). *Managing Marine Environments*. Taylor and Francis, New York, USA.
- Leverington, F. and Hockings, M. (2004). Evaluating the effectiveness of protected area management: The challenge of change. In: Barber, C.V., Miller, K.R. and Boness, M. (Eds). *Securing Protected Areas in the Face of Global Change Issues and Strategies*. IUCN, Gland, Switzerland and Cambridge, UK.
- [16] Low, G. (2003). *Landscape-scale Conservation: A Practitioner's Guide*. The Nature Conservancy, USA.
- [17] MacKinnon, J., MacKinnon, K., Child, G. and Thorsell, J. (1986). *Protected Areas in the Tropics: A Manager's Handbook*. IUCN Gland, Switzerland and Cambridge, UK.
- [18] McNeely, J., Harrison, J. and Dingwall, P. [Eds]. (1994). *Protecting Nature – Regional Reviews of Protected Areas*. IUCN, Gland, Switzerland.
- [19] Pomeroy, R.S., Parks, J.E. and Watson, L.M. (2004). *How is your MPA doing? A Guidebook of Natural and Social Indicators for Evaluating Marine Protected Area Management Effectiveness*. IUCN, Gland, Switzerland and Cambridge, UK.
- [20] Salafsky, N., Margoluis, R. and Redford, K. (2001). *Adaptive Management: A Tool for Conservation Practitioners*. Biodiversity Support Program, Washington, DC, USA.
- [21] Stem, C., Margoluis, R., Salafsky, N. and Brown, M. (2005). Monitoring and evaluation in conservation: a review of trends and approaches. *Conservation Biology* **19**(2): 295–309.
- [22] Stolton, S., Hockings, M., Dudley, N., Mackinnon, K. and Whitten, T. (2003). *Reporting Progress at Protected Area Sites. A simple site-level tracking tool developed for the World Bank and WWF*. Prepared for the World Bank/WWF Forest Alliance.
- [23] Wells, S.M (2004). *Assessment of management effectiveness in selected marine protected areas in the Western Indian Ocean*. IUCN Eastern Africa Regional Programme, Nairobi, Kenya.
- [24] Wells, S. and Mangubhai, S. (2005). *Assessing Management Effectiveness of Marine Protected Areas: a workbook for the Western Indian Ocean*. IUCN Eastern African Regional Programme, Nairobi, Kenya.