

**CONSOLIDATED FINAL REPORT
FOR SEVEN PROTECTED AREAS
AND PROJECT TIGER OFFICE**

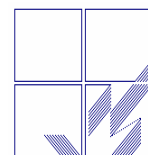
**INTENSIVE PROJECT PERFORMANCE
REVIEW-INDIA ECO-DEVELOPMENT
PROJECT (PHASE III)**



Submitted to:

**OFFICE OF DIRECTOR (PROJECT TIGER)
MINISTRY OF ENVIRONMENT & FORESTS
GOVERNMENT OF INDIA**

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Abbreviations Used

ACF	:	Assistant Conservator of Forests
AI	:	Artificial Insemination
APO	:	Annual Plan of Operations
BTR	:	Buxa Tiger Reserve
CDF	:	Community Development Fund
DCF	:	Deputy Conservator of Forests
DD	:	Deputy Director
DFD	:	Deputy Field Director
DFO	:	Divisional Forest Officer
DRDA	:	District Rural Development Agency
DRF	:	Deputy Range Forester
EC	:	Executive Committee
EDC	:	Eco Development Committee
EDO	:	Ecodevelopment Officer
EIA	:	Environmental Impact Assessment
EPT	:	Elephant Proof Trench
FD	:	Field Director
FPC	:	Forest Protection Committee
GB	:	General Body
GBM	:	General Body Meeting
GNP	:	Gir National Park
GO	:	Government Order
HH	:	Household
IEP	:	India Ecodevelopment Project
JFM	:	Joint Forest Management
KFRI	:	Kerala Forest Research Institute
KTDC	:	Kerala Tourism Development Corporation
LoC	:	Letter of Credit
LPG	:	Liquid Petroleum Gas
MLA	:	Member of Legislative Assembly
MPFD	:	Madhya Pradesh Forest Department
NABARD	:	National Agricultural Bank for Rural Development
NGI	:	Non Governmental Individual

NGO	:	Non-Governmental Organizations
NIC	:	Nature Interpretation Centre
NNP	:	Nagarhole National Park
NTFP	:	Non Timber Forest Produce
PA	:	Protected Area
PCCF	:	Principal Chief Conservator of Forests
PF	:	Project Fund
PRA	:	Participatory Rural Appraisal
PT	:	Project Tiger
PTO	:	Project Tiger Office
PTR	:	Palamau Tiger Reserve
PTR	:	Pench Tiger Reserve
PTR	:	Periyar Tiger Reserve
RFO	:	Range Forest Officer
RTR	:	Ranthambhore Tiger Reserve
SDO	:	Sub-Divisional Officer
SHG	:	Self Help Group
TOR	:	Terms of Reference
TOR	:	Terms of Reference
VDF	:	Village Development Fund
WDO	:	Women Development Officer

1. INTRODUCTION

1.1 Rationale

Human survival and biodiversity conservation are interdependent. This is now scientifically established and globally recognized. For example, India's rich and unique but increasingly endangered biodiversity, accounting for 60-70% of the world's biodiversity, is economically important both nationally and globally¹. Nearly 166 species of crop plants and 320 species of wild family of cultivated crops, and over 45,000 identified plant species, and 81,000 species of animals provide the life support system to the billion plus people in India. Further, natural resource development is dependent on natural ecosystems, which also significantly contribute to production of commercial crops like pharmaceuticals² and management of water resources. Thus, preservation and enhancement of biodiversity are critical for strengthening life support systems. This in turn requires measures for both minimizing the multifaceted pressures on biodiversity – fuel wood and timber demand, grazing, collection of non-timber forest produce, uncontrolled fires, industrial pollution and agro waste, weed infestation, siltation etc. - and effective management of biodiversity.

In India, increasing exploitation of natural resources by an increasing population is posing a severe threat to biodiversity conservation. There is an over dependence of population on forest resources, particularly, for firewood, fodder for cattle, timber for construction, NTFP for subsistence and land encroachment for agriculture. This has a direct negative impact on the habitat quality of forests thereby adversely affecting the wildlife populations.

The Protected Areas of the country also face the above threat. Over exploitation of forests and other natural resources arising from intensive dependence of population (mostly poor forest dwellers, local communities) on PAs for survival has distorted ecological cycles and related life support systems to such an extent that the in-built maintenance and renewal capacities of the PA ecosystems stand vastly reduced.

To minimize the above population and poverty-induced pressures, among others, on biodiversity, measures are clearly warranted to strike a balance between human pressure on natural resources and maintaining biodiversity at the critical mass required to retain the in-built maintenance and renewal capacities of ecosystems without distorting ecological cycles. For this, an enabling policy – national and international – and legal environment is a necessary condition. Though India's forest and environment policies³ along with related legal framework, and India's ratification of the Convention on Biological Diversity underscore India's commitment to conservation of biodiversity, regrettably, the impact of the current policy and legal framework appears to be inadequate to meet the growing challenges arising from the disconnect between supply (biodiversity) and demand (human pressures) pressures on life support systems

¹ India is one of the 12 megadiversity countries in the world.

² Ninety per cent of all medicines in India come from plant species.

³ For example, the 1988 National Forest Policy, the National Wildlife Action Plan (1983), and Environmental Action Plan, 1993, among others

brought about by high levels of population density and high incidence of poverty. Thus, despite the presence of various laws⁴, policies, schemes and approaches, conservation of biodiversity is challenged due to increasing pressure of people and poverty on natural resources. A large number of protected areas⁵ have been established to conserve biodiversity, however, many of these are also facing threats due to over exploitation. Most forest dwellers and other local communities, including surrounding villages, are dependent on these protected areas for their survival.

The inadequacies of the existing policy regime and related programmes/schemes in substantially reducing the population and poverty-based threat to biodiversity has prompted national policy makers to search for innovative and workable solutions for securing and maintaining a steady state vis-à-vis the impact of population pressure on biodiversity. The India Ecodevelopment Project (IEP) is one such attempt.

IEP is a novel experiment founded on the basic premise of reducing the pressure of people on protected areas and vice-versa through the active participation of local people in implementing schemes for biodiversity conservation. In particular, IEP seeks to enhance biodiversity conservation through reducing population pressure on PAs by implementing a two-legged strategy: (i) Improved PA Management, and (ii) Village Ecodevelopment. Thus, the strategy is to conserve biodiversity by addressing both the impact of local people on the protected areas and the impact of the protected areas on local people.

IEP strategy is based on three key premises. The first premise is that population pressure on natural resources including forests and Protected Areas (PA) is the key threat to biodiversity conservation. The second premise is that it is poverty that drives people to over exploit forest and natural resources for their survival. The third premise is that inadequate management of PAs impacts adversely on biodiversity. Ergo, solution to the biodiversity conservation problematique lies in (i) reducing the pressure of population and poverty on the PAs by, among others, socio-economic development of areas near the PAs' buffer zones and its immediate environs; and (ii) improving management of PAs. This provides the underpinnings of IEP's strategy.

The above premises governing the IEP strategy have validity. For example, there is increasing evidence that most of the Protected Areas that constitute 4% of India's total geographic area are threatened by over exploitation of forests and other natural resources on account of heavy dependence of population (mostly

⁴ The overarching framework for forest management in India is provided by the Indian Forest Act of 1927 (IFA) and its progeny in the various states. Other important constituents of the legal regime governing forests are: Forest Policy of 1952; Wildlife Protection Act 1972; the 42nd Amendment to the Constitution (1976), which transferred the forests from the State list to the Concurrent list thus re-emphasising the role of the Central Government in the management of forests; Forest Conservation Act 1980; National Forest Policy, 1988; Panchayat (Extension to Scheduled Areas) Act, 1996 which grants ownership rights of minor forest produce to the Gram Sabha; Wildlife Protection Act, 1972; the Forest Conservation Act, 1980; and Environment Protection Act, 1986

⁵ India has 75 parks and 421 sanctuaries covering around 14 million hectares i.e. 4.3% of the total land area. Most of these received protection status recently.

poor forest dwellers, local communities) on PAs for survival; a vast majority of the population in the PA environs is poor. The over exploitation of forest and other natural resources has greatly reduced the in-built maintenance and renewal capacities of the PA ecosystems by distorting ecological cycles and related life support systems.

1.2 Overview of IEP

Objectives, Structure, and Time Frame: IEP was designed and structured with a five-year life span – October 1996-September 2001 with the following objectives⁶:

1. Improve capacity of PA management to conserve biodiversity and increase opportunities for local participation in PPA management activities and decisions.
2. Reduce negative impacts of local people on biodiversity, reduce negative impacts of PAs on local people, and increase collaboration of local people in conservation efforts.
3. Develop more effective and extensive support for ecodevelopment.
4. Ensure effective management of this project
5. Prepare future biodiversity projects⁷.

The project was assigned a budget of US\$67 million, which was allocated as follows⁸ (percent of the base costs)⁹:

1. Improved PA Management:	22%
2. Village ecodevelopment:	55%
3. Education & awareness, and impact monitoring and research:	8%
4. Overall Project Management:	9%
5. Preparation of future biodiversity projects:	4%
6. Reimbursement of the Project Preparation Facility:	3%

It is clear from the above that Village Ecodevelopment was assigned the highest priority among all the IEP project components, followed by Improved PA Management

For several reasons, there was a delay of two years in launching the project. Accordingly, the World Bank and the Project Tiger Office (Ministry of Environment & Forests, Government of India) agreed to extend the project by two years ending June 2003. The World Bank and the Project Tiger Office granted a further one-year extension, ending June 2004. Thus, IEP was implemented in three phases:

Phase I:	October 1998 - September 2002
Phase II:	October 2002 - June 2003
Phase III:	July 2003 - June 2004

⁶ The World Bank, Staff Appraisal Report, Ecodevelopment Project, August 3, 1996, page 8

⁷ Second Ecodevelopment Project, Biodiversity Information Project, and Ex-situ Conservation project

⁸ The total adds up to 101% because of rounding to zero decimal point

⁹ The World Bank, Staff Appraisal Report, Ecodevelopment Project, August 3, 1996, pages 8&9

The extension of Phase I into Phase II was necessitated by the late start of Phase I activities in all the seven PAs that distorted the planned expenditure and benefit-flow schedule, particularly of the Village Ecodevelopment component of IEP, with benefits beginning to trickle only in the last two years of Phase I. While during Phase I, all the seven PAs incurred substantial expenditure in the initial years under the Improved PA Management component, expenditure under the Village Ecodevelopment component was much below the planned expenditure in all the seven PAs due to both (i) late start of the project and (ii) inadequate trust of villagers on forest officials that precluded villagers from participating in the programme. With substantially increased level of confidence and trust among the villagers and forest officials during the last two years of Phase I, Village Ecodevelopment activities began to grow. However, by this time the project was nearing its scheduled end-date and, thus, funds remained unutilized. The availability of funds prompted the extension (on a no cost basis) of the project into Phase III, primarily to continue the Village Ecodevelopment activities and consolidate the gains made during Phase I.

Project Areas: Seven locations were selected as listed below.

1. Buxa Tiger Reserve (West Bengal)
2. Gir National Park (Gujarat)
3. Nagarhole National Park (Karnataka)¹⁰
4. Palamau Tiger Reserve (Jharkhand)
5. Pench Tiger Reserve (Madhya Pradesh)
6. Periyar Tiger Reserve (Kerala)
7. Ranthambhore Tiger Reserve (Rajasthan)

Each of the location is biodiversity-rich and unique in terms of representing ecosystem types, and is facing threats in terms of increasing population and poverty pressure on park resources. The seven project areas included PAs as well as villages in areas peripheral to the PA – within a 2 km radius of the PAs' boundary. This translates into 427,000 villagers, 89,000 of whom live within the PAs¹¹. The number of participants was expected to range from 36,000 to 77,000 per PA.

The Ministry of Environment and Forests, Government of India selected the seven protected areas located in seven different states for IEP implementation, in consultation with NGOs and state governments. The selection criteria consisted of (i) biodiversity importance; (ii) biogeographic representation; and (iii) likelihood of success, that is, extent and intensity of human pressure, PA management capacity, existing infrastructure, accessibility, state and national government support and state government responsiveness to community and NGO involvement in forest management.

Key Features of Project PAs: The location and some key features of the seven PAs are presented below in Table 1.

¹⁰ Dropped in Phase III (2003-2004)

¹¹ About 39% of the participants were expected to be tribals.

Table 1 - Location and Key Features of Seven PAs under IEP

Name of the PA	Biodiversity Highlights	Location and Key Features
Buxa Tiger Reserve	<ul style="list-style-type: none"> • 68 species of mammals • 41 species of reptiles • 24 species of birds • 33 species of fishes • 4 species of amphibians • 500 species of insects (belonging to 65 families and 229 genera) 	<p>Buxa Tiger Reserve is located in the Jalpaiguri district in the state of West Bengal and covers an area of 391 sq km categorized as forest reserve. There are 37 forest villages inside the reserve boundaries, and 8 are within the PA itself. On the fringe of the PA boundary there are 44 revenue villages with a population of over 84000 comprising of 44% tribal population and 36% Scheduled Castes population. Presence of 25 tea estates with more than 1 lakh labour population, 279 recognized fire wood dealers, 26 saw mills, and 45 cane processing units pose severe management problems for the PA authorities.</p>
Gir National Park	<ul style="list-style-type: none"> • 32 species of mammals • 26 species of reptiles • 300 species of birds • 2000 species of insects 	<p>Gir National Park and Sanctuary is one of the largest compact tracts of dry deciduous forest and the only abode of the rare Asiatic Lion (<i>Panthera leo persica</i>). It lies between latitudes 20°50'N and longitudes 70°50'E. Located in Saurashtra in Gujarat, it extends over an area of 258.71 sq km. The National Park is surrounded by a Sanctuary, which covers an area of 1,153.41 sq km.</p>
Nagarhole National Park	<ul style="list-style-type: none"> • 32 species of mammals • 300 species of birds • 32 species of reptiles 	<p>Nagarhole National Park is spread over two districts (Kodagu and Mysore) of Karnataka state and covers an area of 643.4 sq km. The core zone is about 192 sq km and the tourism zone of 110 sq km (see map). The terrain ranges in altitude from 701 to 959 m and annual rainfall is about 177 cm. Within the PA boundary (0-5 km) there are about 66507 people confined to 96 revenue villages. There are 54 tribal Hadis (Hamlets) located inside the PA with an approximate population of 6254. The population inside the PA and its periphery, and the presence of a large number of coffee estates pose challenges to the PA authorities for conservation of the PA. The population is mainly dependent on PA resources for meeting the requirements of fuelwood, fodder etc.</p>
Palamau Tiger Reserve	<ul style="list-style-type: none"> • 47 species of mammals • 174 species of birds • 970 species of flora 	<p>Palamau Tiger Reserve is located in the district of Palamau, between latitude 23°25' and 23°55' North and longitude 83°50' and 85°36' East. It is situated in the newly created state of Jharkhand (erstwhile Bihar). The area</p>

Name of the PA	Biodiversity Highlights	Location and Key Features
		falls in what is known as the Chotanagpur plateau. The total area of the PA is 1306 sq km and there are two divisions, namely, the Project Tiger Division and the Daltonganj South Forest Division. Over 970 sq km area of PTR was declared as Palamau Wildlife sanctuary as early as 1979. Out of this an area of 226.32 sq km was notified as Betla National Park in 1996.
Pench Tiger Reserve	<ul style="list-style-type: none"> • 38 species of mammals • 15 species of reptiles • 14 species of Pisces • 168 species of birds • 3 species of amphibians 	Pench Tiger Reserve is located in the Seoni and Chhindwara districts of Madhya Pradesh and lies between latitudes 21°37'N and 21°50'30"N, and longitudes 79°07'45"E and 79°22'30"E (see map). It is located 12 km from Khawasa on National Highway No. 7 between Nagpur and Jabalpur. This tract belongs to the Central Highlands. PTR finds reference in some of the well-known works such as Highlands of Central India by Capt. J. Forysth, Camplife in Seoni by R.A. Sterndale, Dunbar Brander's Wild Animals of Central India, and perhaps the best-known Rudyard Kipling's Jungle Book. In 1977 an area of 449.39 sq km was notified as Pench Game Sanctuary. In 1983 the Government of Madhya Pradesh notified its intention to constitute an area of 292.85 sq km as Pench National Park, to be carved out of the pre existing Pench Sanctuary area. This area became the 19 th Tiger Reserve of India in 1992. The core area of the Park comprises approximately 293 sq km. Parts of the western boundary of the core are not protected by a buffer.
Periyar Tiger Reserve	<ul style="list-style-type: none"> • 38 species of fishes • 16, species of amphibians • 45 species of reptiles • 315 species of birds • 62 species of mammals 	The Periyar Tiger Reserve is located in the Idukki district of Kerala and covers an area of 777 sq km. About 350 sq km of this area constitutes the core zone. Besides the core zone there is a buffer zone (377 sq km) and a tourism zone (50 sq km). The PTR falls in the western ghats area, which is one of the 18 hotspots of biodiversity globally and hence is of very high biodiversity value.
Ranthambhore Tiger Reserve	<ul style="list-style-type: none"> • 300 bird species (resident & migratory) • 35 mammal species • 11 reptile species • 10 species of fish 	The Ranthambhore Tiger Reserve is situated between latitude 25°54'N and 27°24'N and longitude 76°23'E and 77°13'E in Sawai Madhopur and the newly formed Karauli district in southeastern Rajasthan. It covers 1,334.6 sq km, which consist the

Name of the PA	Biodiversity Highlights	Location and Key Features
		Ranthambore National Park, Sawai Mansingh Sanctuary, Keladevi Sanctuary, Kualji Game Reserve and some reserved and protected forests. In 1973, it was included as one of the first nine Tiger Reserves to be established under the Government of India's Project Tiger Scheme. RTR is of immense ecological and geomorphologic significance, as it is a typical representative of the dry, deciduous <i>Anogeisus pendula</i> forest sub-type.

Key Features of IEP: IEP has five integrated and synergistically linked components with specific objectives and deliverables. Each of the five project components are designed to contribute towards the conservation of biodiversity in each of the seven project PAs through addressing two key issues - strengthening and improving PA Management, and simultaneously reducing pressure on the PA exerted by the local communities.

The two main components of IEP that address these twin concerns are (i) Improved PA Management; and (ii) Village Ecodevelopment respectively. Besides these two components, the project also has a third component on Environmental Education and Awareness Programmes in recognition of the positive impact on the project of enhancing environmental education and awareness of the local communities regarding conservation. Project Management is the fourth component and is directed at ensuring effective management of the project at both PA and national levels. The fifth component is Preparation of Future Biodiversity Projects.

The Improved PA Management component of IEP was directed at achieving five key deliverables:

1. Improved PA planning processes and capacity building to implement PA plans.
2. Incorporation of PA concerns into regional planning and regulations
3. Ecosystem and habitat restoration
4. Improved fire, poaching and animal control
5. Upgraded amenities for PA staff.

For the Village Ecodevelopment component, the following investment criteria were adopted¹²:

1. Biodiversity conservation through reducing negative impact and increasing positive interactions between people and PAs.
2. Mitigation of the negative impacts of the previous establishment of the PAs on vulnerable groups and ensuring equitable distribution of benefits to people currently dependent on the PAs, especially tribals, women, and other disadvantaged groups.

¹² The World Bank, *ibid* page 12

3. Add supplemental resources, i.e., alternative sources of funding and support not available.
4. Technical feasibility.
5. Financially feasibility.
6. Social and institutional feasibility
7. Environmental sustainability.
8. Selected and owned by EDCs

On the above criteria, an indicative list of investment categories were identified. This included biomass substitution, biomass generation and forestry, ecotourism, agriculture including watershed management, small irrigation and livestock, agro-processing, and artisanary. In addition, special programmes were to be initiated outside the PA and sanctuary boundaries but within the 2 km periphery of the PA. These programmes were to comprise of (i) plantation activities under JFM; (ii) voluntary relocation; and (iii) supplemental investments through a discretionary reserve for PA managers to allocate to areas with special needs. All investments were to be done on the basis of microplans to be prepared using participatory processes, and with the help of NGOs and expert advise

The project provided support for microplanning – to be done within a participatory framework with the help of NGOs and expert advisors - and implementation.

Reciprocal commitment was an important feature of the village ecodevelopment component. The total costs of the ecodevelopment investments was pegged at Rs.10,000 base costs per family (subsequently revised to Rs.12,000 per family) plus Rs.500 per family during initial microplanning to establish credibility. Local people were expected to contribute at least 25% of the Rs.10,000 (Rs.12,000) per household village ecodevelopment investments in cash, kind, or labour.

Table 2 below highlights the five project components and their respective objectives.

Table 2 - Objectives, approaches and initiatives/actions envisaged under IEP

INDIA ECODEVELOPMENT PROJECT		
Objectives	Approaches	Initiatives/Actions
Component 1: Improved PA Management		
1. Improved capacity of PA authorities to conserve biodiversity. 2. Increased opportunities for local participation in PA management activities and decision making	1. Strengthening PA management plans and capacity to implement them. 2. Incorporating PA concerns into regional planning and regulation. 3. Protecting and managing ecosystems and habitats. 4. Upgrading PA amenities for field staff. 5. Whenever possible, locals to be encouraged to provide visitor	1. Finalization and approval of management plans. 2. Management plans to include information from stakeholders' workshops and other studies. 3. Awarding training contract on PA management planning. 4. Ecosystem manipulation (canopy opening, thinning, weed removal etc) to be carried out in small areas on a pilot basis. 5. Developing a monitoring plan to assess the impact of habitat manipulation.

INDIA ECODEVELOPMENT PROJECT		
Objectives	Approaches	Initiatives/Actions
	services.	
Component 2: Village Ecodevelopment		
<ol style="list-style-type: none"> 1. Reduce negative impacts of local people on biodiversity. 2. Reduce negative impact of PA on local people. 3. Increase collaboration of local people in conservation efforts. 	<ol style="list-style-type: none"> 1. Initiating microplanning and providing implementation support. 2. Make investments that foster alternative resource uses and livelihoods. 3. Identify reciprocal commitments of locals that are measurable actions to improve conservation. 4. Provide for special programs in JFM, voluntary relocation and discretionary funds for special needs. 	<ol style="list-style-type: none"> 1. Time bound microplan preparation. 2. EDCs to be prioritized based on: <ul style="list-style-type: none"> • Microplanning already started • Threat to PA • Special groups 3. Microplan investments to clearly focus on conservation; project not to become a typical rural development project. 4. Adequate training to be given to staff, NGOs and local committees. 5. Encourage EDCs to augment funds from various sources for the VDF. 6. PA authorities to arrange systematic annual public reviews/hearings of project expenditures at EDC and PA level. 7. Voluntary relocation to be undertaken only after an independent verification process.
Component 3: Education, Awareness, Impact Monitoring and Research		
<ol style="list-style-type: none"> 1. To develop (more) effective and extensive support for conservation and ecodevelopment. 	<ol style="list-style-type: none"> 1. Developing an environmental education and awareness strategy. 2. Developing an improved visitor management and eco tourism approach. 3. Conducting impact monitoring and research. 	<ol style="list-style-type: none"> 1. Developing an education and awareness strategy. 2. Prioritizing and selecting 5-6 short-term research topics. 3. Research should be management oriented and should help in PA management decisions. 4. Small research fund at each PA allocated under the discretion of the Field Director; local institutions to be encouraged. 5. Each PA to develop an impact monitoring plan.
Component 4: Project Management		
<ol style="list-style-type: none"> 1. To ensure effective management of the project at both PA-level and national-level management. 	<ol style="list-style-type: none"> 1. Full complement of the forest departmental staff to be posted. 2. Training of forest staff and EDC representatives. 3. Consultancies of various 	<ol style="list-style-type: none"> 1. Undertake visits of key staff and EDC representatives to other project sites. 2. Documentation of case studies and lessons learned and development of a dissemination strategy for each site.

INDIA ECODEVELOPMENT PROJECT		
Objectives	Approaches	Initiatives/Actions
	natures to be completed in a time-bound manner.	3. Preparation of a sustainability strategy for each PA to carry forward the ecodevelopment process. 4. Identification of additional needs for capacity building, training, support and staffing for ensuring sustainability after project period.
Component 5: Preparation of Future Biodiversity Projects		
1. To address a range of topics that is part of India's priority biodiversity concerns.	1. Provisions of NGO and consultant services, studies, workshops and training for assisting in preparation of future biodiversity projects in India.	1. MOEF to submit a proposal for continuation of the component, including implementing arrangements and measurable benchmarks.

1.3 Key Outcomes

Implementation of IEP has resulted in a number of benefits to the people as well as PA. The basic goal of the project was to achieve biodiversity conservation through four major project components under which funds were allocated. These were:

- Improved PA management
- Village ecodevelopment to reduce negative impact of population pressure on PA and of PA on population
- Research & impact monitoring
- Environmental education & awareness

To an extent the objective of biodiversity conservation has been met. The basic approach for achieving the project goal was through strengthening the capacity of PA managers in undertaking biodiversity conservation. Thus the project Strategy focused on areas of strengthening Capacity for undertaking biodiversity conservation, increasing local community participation in PA management and undertake village ecodevelopment to reduce dependence of people on PA. Besides, the emphasis was also to enhance management capacity for the following critical areas:

- Project Management
- Environmental Education
- Visitor Management
- Impact Monitoring
- Research to understand issues and solutions

The outcomes of implementing the project vis-à-vis the objectives that were set forth at the project start are given in Table 3 below:

Table 3: Outcomes versus Objectives

INDIA ECODEVELOPMENT PROJECT		
Overall Objectives	Specific Activities	Project-end Outcomes
Component 1: Improved PA Management		
<ol style="list-style-type: none"> 1. Improved capacity of PA authorities to conserve biodiversity. 2. Increased opportunities for local participation in PA management activities and decision making 	<ol style="list-style-type: none"> 1. Strengthening PA management plans and capacity to implement them. 2. Incorporating PA concerns into regional planning and regulation. 3. Protecting and managing ecosystems and habitats. 4. Upgrading PA amenities for field staff. 5. Whenever possible, locals to be encouraged to provide visitor services. 	<p>All PAs prepared new Management Plans with a clear focus on improving the PA Management. The new Management Plans speak about increasing stakeholder participation in PA management. In most PAs regional planning workshops were conducted and regional committees were set up. The Management Plan clearly outlines the requirements for improving PA habitats and ecosystems. The project also resulted in significant improvement in staff amenities that included construction of staff quarters and providing drinking water and electricity connections at staff locations. In some of the PAs, where tourism is increasing, the locals have been involved in providing visitor services to some extent.</p>
Component 2: Village Ecodevelopment		
<ol style="list-style-type: none"> 1. Reduce negative impacts of local people on biodiversity. 2. Reduce negative impact of PA on local people. 3. Increase collaboration of local people in conservation efforts. 	<ol style="list-style-type: none"> 1. Initiating microplanning and providing implementation support. 2. Make investments that foster alternative resource uses and livelihoods. 3. Identify reciprocal commitments of locals that are measurable actions to improve conservation. 4. Provide for special programs in JFM, voluntary relocation and discretionary funds for special needs. 	<p>Each village covered under IEP has its own microplan, which was prepared in consultation with the village community. The project allowed for continuous revision of the microplan thereby building an inherent flexibility to revise the investment opportunities, as desired by the local communities. Most microplans have led to establishment of community-assets, as well as encouraged the farm-sector by investing in activities such as land leveling, upgrading of irrigation facilities etc. Many families have also been supported by providing them with alternative fuel saving devices, which has resulted in substantial reduction in firewood extraction from the PA. This is a measurable action to estimate reduction in the dependence of the</p>

INDIA ECODEVELOPMENT PROJECT		
Overall Objectives	Specific Activities	Project-end Outcomes
		people on PA resources. Collaboration with local people has increased for management and protection of the PA. In all the PAs, relationship between the PA authorities and village communities has improved considerably.
Component 3: Education, Awareness, Impact Monitoring and Research		
1. To develop (more) effective and extensive support for conservation and ecodevelopment.	<ol style="list-style-type: none"> 1. Developing an environmental education and awareness strategy. 2. Developing an improved visitor management and eco tourism approach. 3. Conducting impact monitoring and research. 	All PAs developed an environmental education and awareness strategy and many launched extensive programmes to execute the developed strategy. Nature Interpretation Centers across the PAs have been upgraded (except in Ranthambhore Tiger Reserve). The PA authorities, in all the participating PAs, have promoted earning opportunities for the local people through increasing ecotourism. A large number of research projects and consultancies were awarded that has resulted in collection of useful scientific information for improving the PA management. Baseline maps for all the participating PAs have been prepared.
Component 4: Project Management		
1. To ensure effective management of the project at both PA-level and national-level management.	<ol style="list-style-type: none"> 1. Full complement of the forest departmental staff to be posted. 2. Training of forest staff and EDC representatives. 3. Consultancies of various natures to be completed in a time-bound manner. 	The Forest Department in all the participating PAs suffered due to inadequate staff. Since IEP was a new kind of project with novel approaches, it took the PA officers some time to fully understand it and implement it. Trained staff was required since project start. The implementation of IEP also resulted in increase of workload for the field staff. Capacity building of both the forest staff as well as EDC representatives, did not receive adequate attention and this may have some implications in EDC sustainability beyond the project period. A number of consultancies were awarded and most of which were completed in time.
Component 5: Preparation of Future Biodiversity Projects		
1. To address a range of topics that is part	1. Provisions of NGO and consultant services,	Not much headway made under this component. PA capacity for

INDIA ECODEVELOPMENT PROJECT		
Overall Objectives	Specific Activities	Project-end Outcomes
of India's priority biodiversity concerns.	studies, workshops and training for assisting in preparation of future biodiversity projects in India.	developing future biodiversity conservation plans needs further buildup.

2. TERMS OF REFERENCE

The TOR for the assignment Intensive Project Performance Review was as under:

- Undertake field visits comprising of at least two of the full time specialists to each projects site at least three times during the period of the consultancy, and provide guidance, and advice in matters relating to environmental, socioeconomic management, and technical issues.
- Provide feedback to change project components, increase institutional learning and build trust among project stakeholders. Provide advice and technical support for planning, coordinating and implementing project activities, when required.
- Provide advice and support in the preparation of project progress and completion of reports.
- Provide guidance and advice in review of project documents and plans including annual work plans.
- Recommend measures for strengthening environmental management and monitoring procedures and programs during implementation of the project, including recommendations for the cost-effective conduct of site specific assessments of project investments prior to executing. Provide oversight and specialist services required to facilitate the implementation of these measures. Use the environmental assessments framework to assess environmental impacts of ongoing implementation.
- Use the social assessment framework to (a) assess the social impacts of project activities on stakeholders and (b) the effectiveness of responses to the impact monitoring in mitigating negative impacts in ongoing implementation.
- Use Project design and preparation of work to assess effectiveness of project administration arrangement and suggest improvements, where needed.
- Participate in project technical workshops, review meetings and coordinating committees and provide resources personnel, when required.
- Participate in meetings, discussions, and supervision missions involving the Bank as and when required.
- Participate in meetings, discussions, and supervision missions involving the Bank (including joint site visits) as and when required.
- Compilation, documentation of information and processing the reports of the team.

- Assessment reports on special topics in response to requests from national level project committees.
- Within the approved cost structure, the work indicated in the ToR to be completed by June 30, 2003.
- Based on the Minutes of the Steering Committee of India Eco-Development Project held on July 16, 2002, the Consultants would maintain consistency of information across all PAs especially those relating to sustainability on account of ongoing activities under the project.

Workshops:

Under the transfer of knowledge programme, the consultant would organise one workshop for each PA. Thus, total number of site-specific workshops would be seven. The cost of holding these site-specific workshops would be borne by the consultants.

3. METHODOLOGY

To implement the Intensive Project Performance Review assignment, JPS Associates adopted a fully participatory, consultative and interactive approach. For this we undertook repeat visits to the project sites and engaged in discussions with all stakeholders including beneficiaries and project authorities. This provided us with deep insight into the IEP implementation and enabled us to understand and articulate the gains and shortcomings of IEP.

A number of activities were undertaken, as given in table 3 below, to carry out continuous monitoring and evaluation of project performance, and to adequately address the TOR:

Table 3 – Tasks Completed by Consultants under IEP (Phases I, II, and III)

Tasks TOR Addressed	PA-wise status						
	Buxa	Gir	Nagarhole	Palamau	Pench	Periyar	Ranthambhore
Number of field trips	11	11	8 ¹³	10 ¹⁴	11	11	11
Development of protocols for EIA, Threat Analysis, Beneficiary Survey, Institutional and Financial Review	Developed	Developed	Developed	Developed	Developed	Developed	Developed
Submission of all Field visit reports	Submitted	Submitted	Submitted	Submitted	Submitted	Submitted	Submitted
Four Semi-Annual reports submission	Submitted	Submitted	Submitted	Submitted	Submitted	Submitted	Submitted
Review of annual plans and guidelines for APO preparation for Phase I, II and III	Prepared and submitted	Prepared and submitted	Prepared and submitted	Prepared and submitted	Prepared and submitted	Prepared and submitted	Prepared and submitted
Transfer of Knowledge Workshops - three	Conducted	Conducted	Conducted	Conducted	Conducted	Conducted	Conducted
Workshop Proceedings – three	Submitted	Submitted	Submitted	Submitted	Submitted	Submitted	Submitted

¹³ Dropped in Phase III

¹⁴ First field visit during phase I was not undertaken on the advise of PA authorities

Tasks	PA-wise status						
TOR Addressed	Buxa	Gir	Nagarhole	Palamau	Pench	Periyar	Ranthambhore
EIA (one in each phase)	Completed	Completed	Completed	Completed	Completed	Completed	Completed
Identification of threat Sources to PA (for each phase)	Completed	Completed	Completed	Completed	Completed	Completed	Completed
PA Threat Analysis (for each phase)	Completed	Completed	Completed	Completed	Completed	Completed	Completed
Institutional/Financial review (one for each phase)	Completed	Completed	Completed	Completed	Completed	Completed	Completed
Beneficiary Survey (one for each phase)	Completed	Completed	Completed	Completed	Completed	Completed	Completed
Social Assessment	Completed	Completed	Completed	Completed	Completed	Completed	Completed
Presentation to Secretary (MOEF)	Five presentations made to the Project Steering Committee						

3.1 Development of monitoring indicators

A set of monitoring indicators, covering ecological, social, socio-economic, institutional and financial aspects, were developed prior to visiting the seven PAs. The monitoring indicators formulated by us are:

- Project Performance
 - Funds Utilization as a percentage of APO targets
- Improved PA Management
 - Management Plan
 - Management Capacity Building
 - Habitat Improvement
- Village Ecodevelopment
 - Reduction in Dependence of PA
 - Improvement in Economic Status
 - Microplan Implementation
 - Empowerment of people/women
- Research, Education and Awareness
 - Research Projects and Consultancies
 - External Support (Consultants/NGO etc)
 - Stakeholder Awareness

3.2 Periodicity and TOR of individual field visits

To implement the Intensive Project Performance Review assignment JPS Associates undertook periodic visits to the project sites. Five visits to each PA were undertaken during Phase I and three each were undertaken in Phases II and III for continuously monitoring the progress of IEP. During these visits, we interacted with a large number of project beneficiaries, stakeholders and project authorities. Table 4 gives the schedule of the visits to the seven PAs:

Table 4 - Periodicity of field visits to the seven PAs

PA	Number of field visit										
	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	9 th	10 th	11 th
Buxa	Dec 2000	Apr-May 2001	Sept 2001	Jan 2002	May 2002	Nov 2002	Jan 2003	April 2003	Dec 2003	Feb 2004	May 2004
Gir	Oct 2000	April 2001	Sept 2001	Jan 2002	April 2002	Dec 2002	Feb 2003	May 2003	Dec 2003	Feb 2004	April 2004
Nagarhole	Nov 2000	May 2001	Sept-Oct 2001	Jan-Feb 2002	May 2002	Nov 2002	Jan 2003	May 2003	-	-	-
Palamau	--	June 2001	Nov 2001	Mar 2002	May 2002	Dec 2002	Feb 2003	April 2003	Dec 2003	Feb 2004	May 2004
Pench	Oct 2000	Mar 2001	Oct 2001	Feb 2002	May 2002	Dec 2002	Jan 2003	April 2003	Dec 2003	Mar 2004	June 2004
Periyar	Nov 2000	May-June 2001	Nov 2001	Feb 2002	May 2002	Nov 2002	Jan 2003	May 2003	Dec 2003	Feb 2004	April-May 2004
Ranthambhore	Oct 2000	June 2001	Dec 2001	May 2002	June 2002	Dec 2002	Feb 2003	May 2003	Jan 2004	Mar 2004	May 2004

During each of these visits, interactions were held with a large number of project beneficiaries and other stakeholders, including small traders and businessmen who are dependent on the PA resources. Other stakeholders included the PA authorities and local NGOs. For each of the eleven field visits, individual TORs were developed. For the visits of Phases I and II, the TOR and the activities undertaken against each TOR have already been submitted in the respective final reports for Phases I and II. For each of the three field visits undertaken during Phase III, the TORs are given below in Table 5. These TORs were communicated to each PA prior to the visit.

Table 5 - TOR of the three field visits undertaken and overview of the activities carried out during each visit of Phase III

Visit Number	TOR	Activities
1	Undertake visits to EDC villages, as identified by PA authorities for assessing the performance of project investments and activities for village ecodevelopment.	EDC villages, which were identified and selected by the PA authorities, were visited to check the status of the implementation of village ecodevelopment works. During the field visits, we interacted with a large number of beneficiaries.
	Visit PA areas to observe habitat improvement works.	The PA authorities also identified the areas for reviewing the status of habitat improvement works within the PA, which were visited by us.
	Collect detailed financial expenditure statement for 2003 – 2004 (up to November 2003), APO for the current year and other relevant documents pertaining to India Ecodevelopment.	Data pertaining to financial progress and achievement up to October 2003 was collected and reviewed during the visit. APO (2003-2004) and other relevant documents were also collected.
	Collect year-wise information on microplan implementation (physical and financial for each EDC village)	Relevant information was made available during our visit.
2	Visit EDC villages to oversee the progress of village ecodevelopment and to interact with project beneficiaries and EDC executives.	EDC villages, which were identified and selected by the PA authorities, were visited to check the status of implementation of village ecodevelopment works. During the field visits, we interacted with a large number of beneficiaries, including EDC Chairpersons and Executive Committee Members.
	Undertake visits to sites in the PA where habitat improvement works have been carried out.	Habitat improvement works were visited for assessing their status.

Visit Number	TOR	Activities
	Conduct a workshop on Transfer of Knowledge.	A Transfer of Knowledge Workshop was conducted, which was targeted at EDC beneficiaries and Executive Committee members along with forest staff.
	To discuss various issues pertaining to institutional and financial aspects under the ecodevelopment project.	Various issues pertaining to Institutional and Financial aspects of project implementation were discussed with the PA authorities.
	Collect the latest detailed financial/expenditure statement for the period April 2003 - January 2004.	Data pertaining to financial progress and achievement up to January 2004 was collected and reviewed during the visit.
3	Undertake visit to EDC villages.	EDC villages were visited, which were identified by the PA authorities.
	Visit PA areas to observe habitat improvement works.	Areas inside the PA were visited to observe habitat improvement works.
	Conduct Environmental Impact Assessment and Threat Analysis of the project impact on the PA.	Formats were provided to PA authorities for obtaining information regarding EIA and Threat Analysis, which were duly filled by PA authorities and provided to us during the visit itself.
	Collect the following documents: <ol style="list-style-type: none"> 1. Detailed financial expenditure statement for 2003-2004 (up to March 2004). 2. Year-wise data on targets and achievements, both physical and financial, since project start till March 2004. 3. Category-wise and year-wise details of expenditure since project start up to March 2004. 4. Year-wise and EDC-wise expenditure statement since inception of the project till date along with the details of the assets given. 5. Details of offence cases for the year 2003-2004. 6. Information on the current status of wildlife based on the most recent Census. 	The PA authorities provided all the documents required by us during our visit.

During each of the visits to the individual PA sites, discussions were held with PA authorities at various levels (Field Director and below) besides interacting with a large number of project beneficiaries. Of the 572 EDC villages (75,600 families) under IEP, we visited 572 villages (includes some repeat villages). Table 6 gives the data regarding PA-wise number of visits and villages covered.

Table 6 – Number of villages covered during field visits

Name of the PA	No. of visits	No. of villages covered
Buxa	11	86
Gir	11	84
Nagarhole	8	65
Palamau	10	77
Pench	11	86
Periyar	11	85
Ranthambhore	11	89
Total	73	572

3.3 Final report

This final report for the Intensive Project Performance Review (Phase III) is based on the following:

- Submissions made by the PA authorities on the formats provided by JPS Associates:
 - Format for Environmental Impact Assessment.
 - Format for threat analysis.
 - Format for institutional and financial aspects.
- Annual Plan of Operations.
- Observations made and discussions held with PA authorities as well as project beneficiaries during the three field visits undertaken by JPS Associates.

This report presents the evaluation and assessment of project performance focusing on the following:

- Improved PA Management:
 - Critical management issues.
 - Analytical evaluation and assessment.
 - Management interventions and strategies.
 - Environmental Impact Assessment
 - Analysis of Threats to the PA
 - Wildlife Status
 - Offence Cases
- Village Ecodevelopment:
 - Critical issues.

- Analytical evaluation and assessment:
 - Microplanning.
 - Project Investment.
 - Community Participation.
 - Social Impact through Beneficiary Survey
- Transfer of Knowledge Workshop.
- Environmental Education and Awareness:
 - Critical issues.
 - Analysis of activities initiated by PA authorities.
- Impact Monitoring and Research
 - Critical issues.
 - Analysis of activities initiated by PA authorities.
- Project Progress Status
- Institutional and Financial Aspects:
 - Institutional Aspects.
 - Financial Aspects.

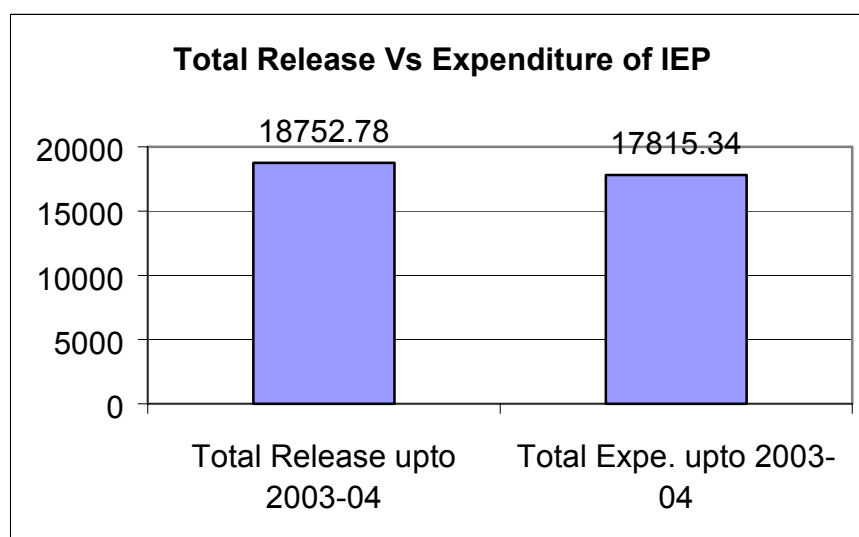
Based on these, we have presented our recommendations in reports addressing the various components of the project. Some of our recommendations were implemented and useful benefits accrued out of that. We have provided a list of such recommendations later in the report under the section Recommendations.

4. OVERALL PROJECT PERFORMANCE

Table 7 gives the year-wise funds released and funds utilized as a percentage of APO target/allocated budget. The details of funds released and utilized have also been presented graphically (Figure 1).

The overall funds utilization is high at 95% of the released amounts¹⁵, indicating a good performance. Figure gives the total release vs expenditure value for all the PAs during the entire project period.

Figure 1



However, during the initial period of project implementation the financial achievement remained considerably low, for example, during 1997-98 about 50% funds were utilized mostly for creating infrastructure and improving PA management capacity. This is indicative of low absorptive capacity of PAs for incurring expenditure in the initial phase on specialized projects. Once the PAs had upgraded their infrastructure as well as capacity for undertaking implementation of specialized projects, the investment levels in subsequent years increased to satisfactory levels; after 1998-99 investment levels were over 80% of allocated funds, indicating an upsurge in project activity.

It was during 1998-99 and later that substantial investments were made under the village ecodevelopment component across most of the PAs. This component suffered in the initial years, due to lack of trust between PA officers and beneficiary families, which was primarily a result of earlier confrontational relationship arising out of the command and control mechanisms used by PA officials for PA protection and biodiversity conservation. However, with time a participatory approach for PA management started taking shape and this increased villagers' confidence to participate in project activities and also give their 25% contribution. The year 2000-01 saw expenditure overshooting released

¹⁵ Central funds; IDA, GEF and GOI

funds. In the extension phases (2002-2003 and 2003-2004), the utilization of project funds remained high.

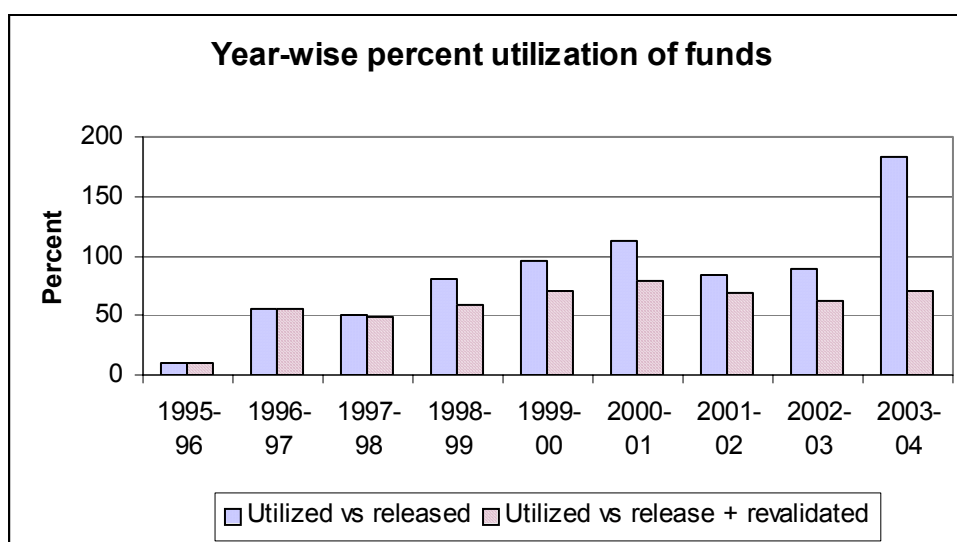
Year-wise released and utilized amounts and percent utilization of the released amounts (including with revalidation) is given below in Table 7.

Table 7 - Year-wise release and utilization of fund

Year	Released (Rs Lakh)	Utilized (Rs Lakh)	% Utilization against released amount	% Utilization against released + revalidated amount
1995-96	190.00	20.24	10.65	10.65
1996-97	0.00	94.99	55.96	55.96
1997-98	1386.50	700.95	50.56	47.97
1998-99	2043.51	1664.65	81.46	59.37
1999-00	3327.44	3159.72	94.96	70.74
2000-01	3085	3489.08	113.10	79.44
2001-02	4000	3367.00	84.17	68.67
2002-03	3521.81	3131.85	88.93	61.92
2003-04	1198.52	2187.2	182.49	70.00
Total	18752.78	17815.34	95.00	95.00

For the final year of project implementation, the percent utilization is high at 182.49% because the revalidated amount has not been added to the released figures for the year 2003-2004. However, on adding the revalidated amount, the percent utilization drops down to 70%. Figure below gives the percent utilization of funds against released amounts with and with out the revalidated amounts.

Figure 2



Component-wise and phase-wise (Phase I, II and III) performance of IEP for all PAs together is given below in Figures 3 to 13 Improved PA Management did quite well in all the three phases, whereas, Village Ecodevelopment showed a progressively increasing utilization of funds from phase I to III. It was easier to spend funds under Improved PA Management, as initially the PA authorities focused on infrastructure development and procurement. This did not require stakeholder participation and the PA authorities could take fast decisions pushing the utilization percentage of the available funds. The investments under Village Ecodevelopment picked up gradually, as it involved convincing the beneficiaries to come forward and participate in the project. It involved establishing of EDCs, making of microplans, building consensus on activities and required the EDC members to contribute 25% share of the total budget. People took time in understanding the project in its true spirit and that is why an increase in investment levels is seen as the project implementation progressed over the years. The other two components of Environmental Education and Awareness and Impact Monitoring and Research performed on an average basis. Many PAs could not launch awareness campaigns on a large-scale and take advantage of developing infrastructure under the Environmental Education and Awareness component leading to reduced expenditure. For the component of Impact Monitoring and Research, initially there was a time lag in awarding research studies to competent agencies, which limited the expenditure.

Figure 3

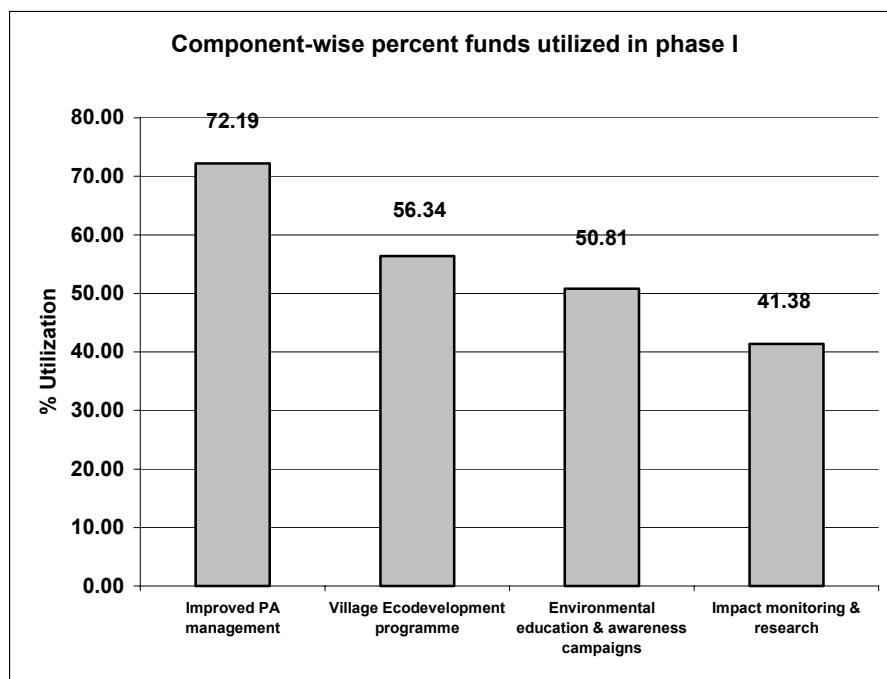


Figure 4 – Component-wise percent funds utilized in phase II

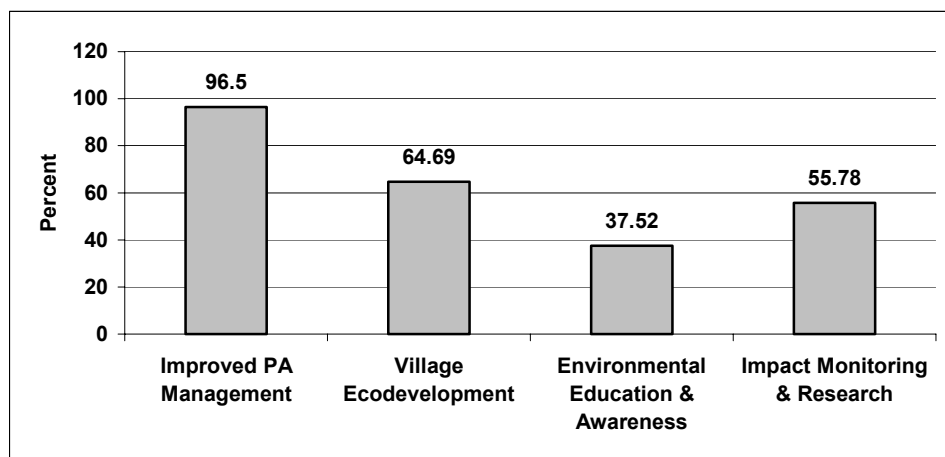
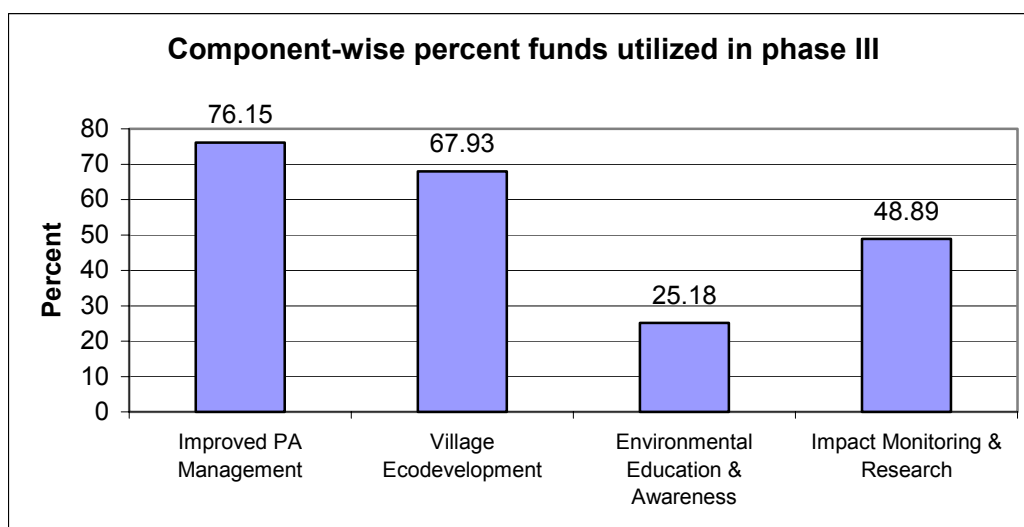


Figure 5



Since the IEP was extended for two consecutive years (2002-2003 and 2003-2004) after its original phase of up to June 2002, we have considered these extensions and the original project period as three phases. The period up to June 2002 is referred to as Phase I and 2002-2003 and 2003-2004 are referred to as Phase II and Phase III respectively in this report.

A phase-wise expenditure pattern for all the PAs put together and for each of the PA individually is illustrated in Figures 6 to 13. The utilization percentages are against the financial targets that includes the revalidation amount along with the released amounts.

Figure 6

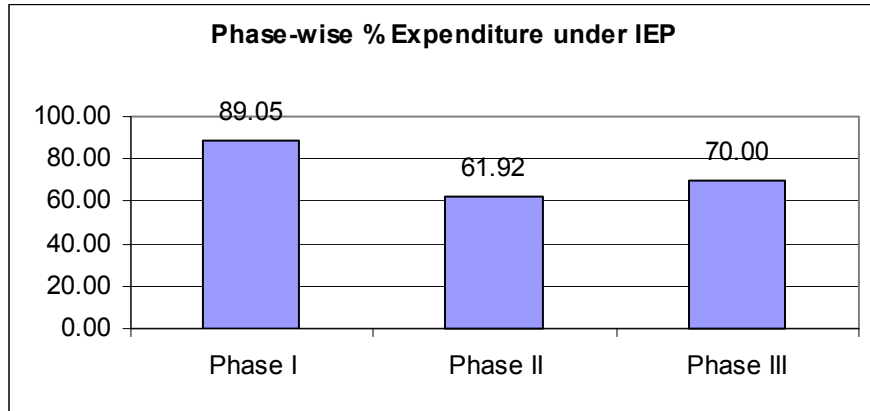


Figure 7

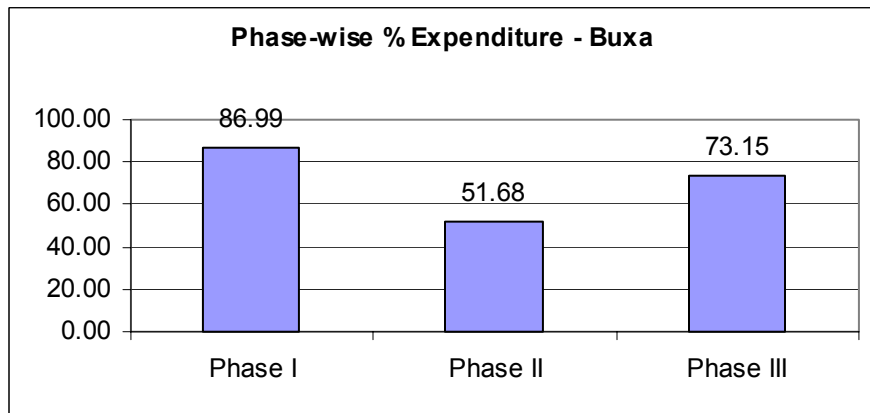


Figure 8

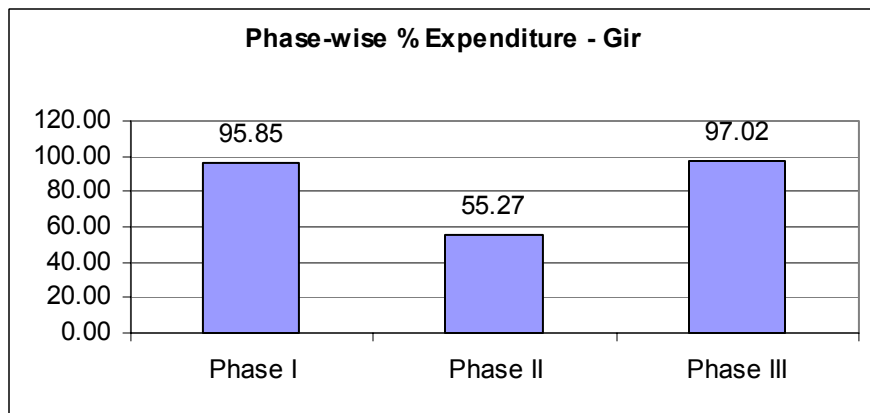


Figure 9

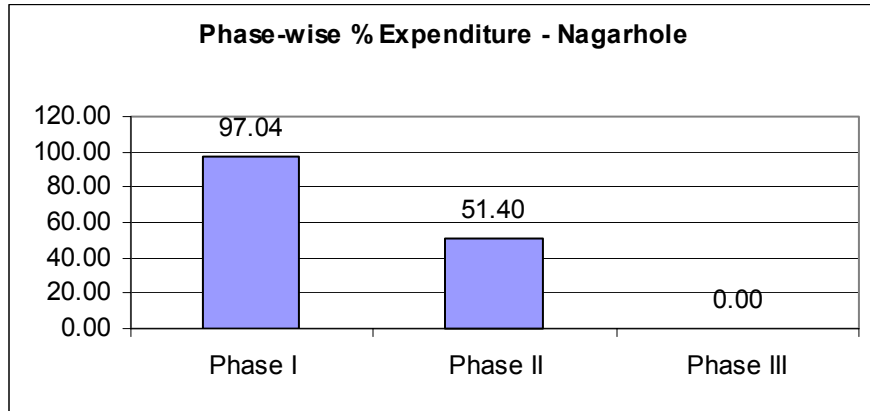


Figure 10

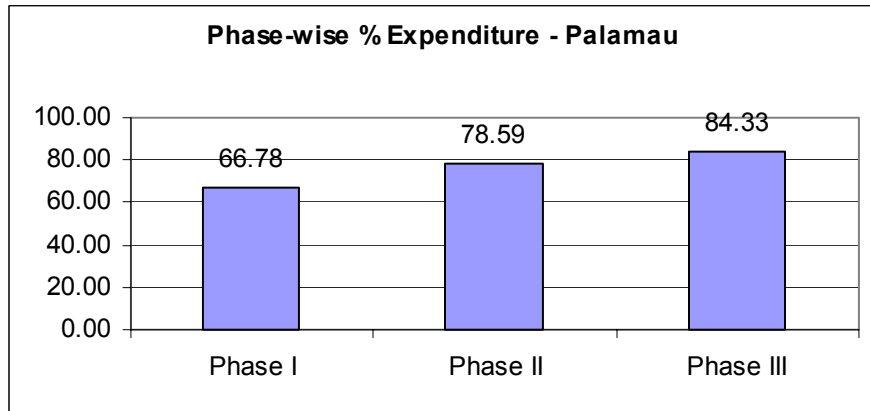


Figure 11

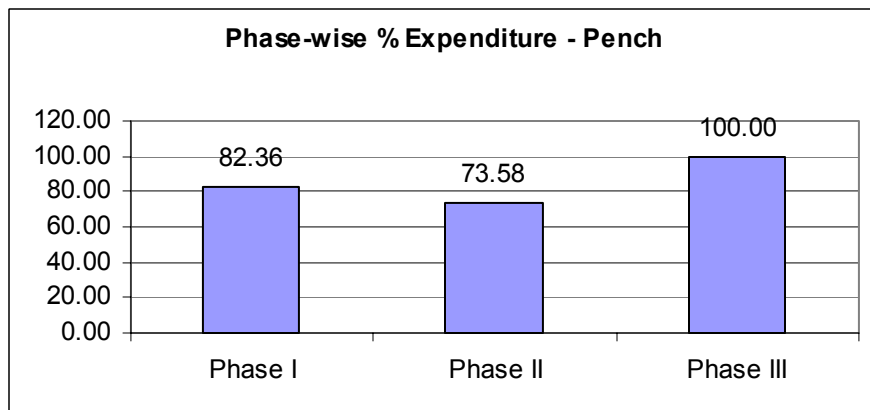


Figure 12

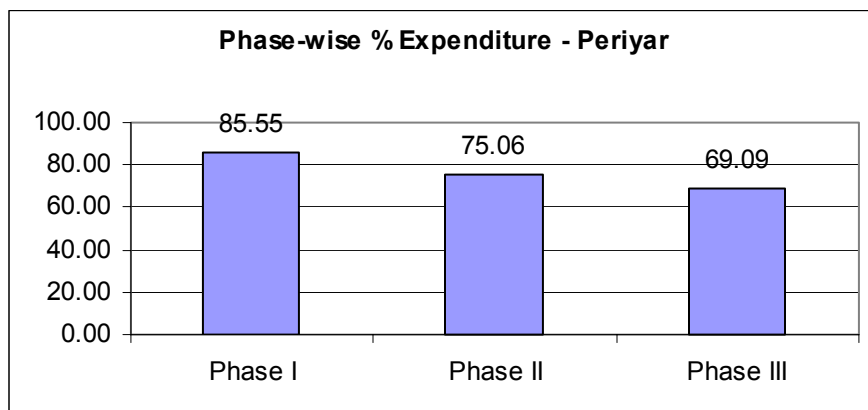
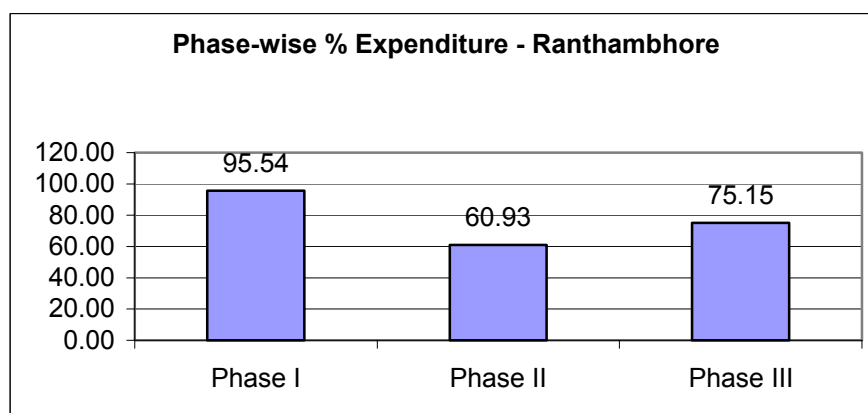


Figure 13



Investments were made during all the phases on improving PA infrastructure as well as in EDC villages. Cumulative achievement of some of the noteworthy activities are presented below in Table 8.

Table 8: PA-wise physical achievements under IEP

S. No.	Item	Unit	Achievement
	Buxa Tiger Reserve		
	Improved PA Management		
1.	New management plan	Number	1
2.	Glade improvement	Hectare	100
3.	Canopy Opening	Hectare	100
4.	Weed removal	Hectare	100
5.	Boundary line demarcation	Km.	194
6.	Road/Track path improvement	Km.	257
7.	Staff quarters	Number	52
8.	Wireless towers	Number	19
9.	Watch Towers	Number	2
10.	Wireless sets	Number	51

S. No.	Item	Unit	Achievement
	Village Ecodevelopment		
11.	Microplans	Number	59
12.	Number of families covered	Number	9000
13.	LPG/Biogas/Smokeless Chullah installed	Number	300
14.	Technical Workshops	Number	22
15.	Number of research projects awarded	Number	17
16.	Study Tours	Number	10
	Gir National Park		
	Improved PA Management		
1.	New management plan	Number	1
2.	Weed removal	Hectare	5018
3.	Boundary line demarcation	Km	92
4.	Boundary pillars erection	Number	823
5.	Protection wall	Km	41
6.	Road/Track path improvement	Km	196.5
7.	Staff quarters	Number	44
8.	Patrol camps	Number	32
9.	Check dams	Number	36
10.	Causeways	Number	28
11.	Wireless towers	Number	9
12.	Wireless sets	Number	--
13.	Pollarding Plot	Hectare	50
	Village Ecodevelopment		
14.	Microplans	Number	109
15.	Number of families covered	Number	15599
16.	LPG/Biogas installed	Number	8874
17.	Number of research projects awarded	Number	17
	Nagarhole National Park		
	Improved PA Management		
1.	New management plan	Number	1
2.	Weed removal	Hectare	1966.50 ¹⁶
3.	Road/Track path improvement	Km.	633
4.	Staff quarters	Number	41
5.	Check dams	Number	50
6.	Wireless towers	Number	5
7.	Wireless sets	Number	97
	Village Ecodevelopment		
8.	Microplans	Number	108
9.	Number of families covered	Number	15500
10.	LPG/Biogas installed	Number	7000
11.	Number of research projects awarded	Number	35
	Palamau Tiger Reserve		
	Improved PA Management		
1.	New management plan	Number	1
2.	Weed removal	Sq km	21.85
3.	Boundary line demarcation	Km.	240

¹⁶ In km; weeds cleared on both sides of roads and teak plantations

S. No.	Item	Unit	Achievement
4.	Road/Track path improvement	Km.	266.50
5.	Staff quarters	Number	8
6.	Check dams	Number	8
7.	Check dams (including in villages)	Number	256
	Village Ecodevelopment		
8.	Microplans	Number	65
9.	Number of families covered	Number	5321
10.	LPG/Biogas installed	Number	1110
11.	Pressure cooker	Number	1605
12.	Improved stove including Nutan stove	Number	302
13.	Pond construction	Number	137
14.	Well digging	Number	254
15.	Hand pumps	Number	274
16.	Land leveling	Sq Ft	68, 19,404
17.	Number of research projects awarded	Number	8
	Pench Tiger Reserve		
	Improved PA Management		
1.	New management plan	Number	1
2.	Weed removal	Hectare	9897
3.	Road/Track path improvement	Km.	859
4.	Erection of boundary pillars	Number	26
5.	Staff quarters	Number	28
6.	Check dams	Cmt	19481
7.	Wireless towers	Number	14
8.	Wireless sets	Number	51
9.	Construction of game proof walls	Km	50
	Village Ecodevelopment		
10.	Microplans	Number	99
11.	Number of families covered	Number	10298
12.	Pastureland development	Hectares	103
13.	Approach roads	Run. M	88,000
14.	LPG/Biogas installed	Number	3011
15.	Kerosene stove	Number	1185
16.	Farm bunding	Cmt	1,94,371
17.	Pond development	Number	167
18.	Well digging	Number	282
19.	Check dams in and near villages	Number	5384
20.	Pressure cooker	Number	7299
21.	Number of research projects awarded	Number	10
	Periyar Tiger Reserve		
	Improved PA Management		
1.	New management plan	Number	1
2.	Vayal maintenance	Hectare	573
3.	Road/Track path improvement	Km.	218
4.	Staff quarters	Number	39
5.	Rock Check dams	Number	7919
6.	Wireless towers	Number	27
7.	Wireless sets	Number	58

S. No.	Item	Unit	Achievement
	Village Ecodevelopment		
8.	Microplans	Number	72
9.	Number of families covered	Number	5540
10.	LPG/Biogas installed	Number	2000
11.	Improved Chullah	Number	50
12.	Barbed wire for crop protection	Meters	8874
13.	Bore wells	Number	2
14.	Number of research projects awarded	Number	36
	Ranthambhore Tiger Reserve		
	Improved PA Management		
1.	New management plan	Number	1
2.	Weed removal	Hectare	167
3.	Road/Trek path improvement	Km	57
4.	Boundary line demarcation (pillars)	Number	455
5.	Staff quarters	Number	49
6.	Check dams	Number	5
7.	Wireless towers	Number	4
8.	Wireless sets	Number	91
	Village Ecodevelopment		
9.	Microplans	Number	62
10.	Number of families covered	Number	14459
11.	LPG/Biogas installed	Number	13582
12.	Pond construction	Number	34
13.	Check dams	Number	12
14.	Well digging	Number	4
15.	Crop protection wall	Km	30
16.	Approach road	Km	22.75
17.	Number of research projects awarded	Number	1

5. LESSONS LEARNT

- Microplans should have budgetary provisions for all the families of the village and not just those who join EDC initially
- Inclusion of all villages falling in impact zone
- For increased community participation there should be uniform rates of villagers contribution across schemes
 - 25% in IEP but in some central schemes 10% in adjacent villages
- Microplan budget utilisation is, in general, inversely related to population size in the initial years (Phase I)
- For sustainability of EDC
 - Optimal utilization of VDF is required
 - Use as revolving fund
 - Invest in income generating activities for EDC
 - Part of VDF to be fixed for interest earning for maintaining assets generated through IEP
 - EDC linkages with micro-enterprises
 - Formation of SHGs are good vehicles for empowering women
- For effective project implementation, following pre-requisites must be met
 - Adequate field level staff
 - Smooth & timely fund flow
 - Adequate mechanisms for integrating PA plans & related strategies with financial planning
 - Availability of microplans (local language) from the start of th project
 - Meeting/resolution registers, account details with village EDCs
 - Staff capacity building/skill development trainings should be completed in first year
 - Capacity of EDC chairman needs enhancement w.r.t. accounting & records management