

# Resource Conservation and Economic Development : An Example of Royal Chitwan National Park

Komal Dhital\*

## INTRODUCTION

No one ever defied to recognize economics as the science of scarce resources and their proper uses. Much to our annoyance reflects the fact that natural resources such as land, forest, water, air, different species of flora and fauna have not only been scarce, but also been abused and endangered. The approach of the paper is to promote conservation as an integral part of economic development. Conservation and economic development are compatible and symbiotic. Ecological imbalance makes economic development impossible. "What good is an increased gross national product if we - in the process of producing it - chew up, destroy, desecrate so many of the values, so many of the enjoyments which really add up to the improvements in human well-being and in the quality of life that we seek?" (Adams 1964:4), *New Green View* has evolved. The key idea is that although long term relation between conservation and economic development is complementary-critical short term mitigable conflicts can exist.

## PROFILE OF ROYAL CHITWAN NATIONAL PARK

Royal Chitwan National Park, the first National Park of the country, officially established in 1973, is the outcome of this stress and awareness that Nepal's forest and the invaluable plants and wild life must be protected. This is the reality that beamed us the protection effort in national as well as international level. It is one of the extensive national parks of Nepal and most familiar in Asia. Today, it is a part of world heritage sites that UNESCO has identified in 1984. Royal Chitwan National Park lies in the Chitwan District of Narayani Zone in sub-tropical low land of southern terai plain bordering India. It is situated between 84° 20' E and 27° 30' N, with an area of 932 sq.km. Its boundaries are marked by Narayani and Rapti rivers in the west and north; and Reuriver and Sameshwor, a portion of Siwalik (Chure hill) in

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\* Mr. Dhital is Lecturer at the Central Department Of Economics, T.U., Kirtipur.

the south. A part of its southern border runs along the international border common to India. To the east it shares the boundary with Parsa Wild Life Reserve. There is unbroken forest coverage over these two protected sites. Hasta Khola, Dharan Khola and Sunachuri hill lie in the elevated to the full fledged National Park of Nepal. It is the vivarium of some important endangered animals (Shrestha 1994:38). Physiographically, it contains a low land valley and swamp lands with vegetation types which includes *Sal* dominated forest 70 percent, riverine forest 7 percent, *Sal* with *Chirpine* 3 percent, and grass land 20 percent. The riverine forest consist mainly of *khair*, *sisso* and *simal*. The grass lands form a diverse and complex community with 50 species. The *Saccharum* species, often called elephant grass can reach 8m. in height. The shorter grasses such as *Imperata* are useful for thatch roofs (DNPWC 1994). According to the official brochure data published, the park covers a pristine area with a unique ecosystem of significance value to the world. There are more than 43 species of mammals in the park. The park is especially renowned for the endangered one-horned rhinoceros, the tiger and the gharial crocodile along with many their common species of wild animals. It also harbors endangered species such as gaur, wild elephant, four-horned antelope, striped hyena, pangolin, Gangetic dolphin, monitor lizard and python. Other animals found in the park include the sambar, chital, hog deer, barking deer, sloth bear, palm civet, langur and rhesus monkey.

There are over 450 species of birds in the park. Among the endangered birds are the Bengal florican, giant hornbill, lesser florican, blackstork and white stork. Common birds seen in the park include the peafowl, red jungle fowl, and different species of egret, herons, kingfisher, flycatchers and woodpecker. The best time for bird watching is March to December. More than 45 species of amphibians and reptiles occur in the park, some of which are the marsh crocodile, cobra, green pit viper and various species of frogs and tortoises. The park is actively engaged in the scientific studies of several species of wild fauna and flora.

The park extends 85 km. east west and 10 to 25 km. north-south. There are altogether 25 small lakes and ponds inside the park, some of these are named as Devi, Lami, Majhura, Munda Nanda-Bhauju, Jamar. Following are the varieties of wildlife and species recorded inside the park.

<u>Particular</u>	<u>Number</u>	<u>Particular</u>	<u>Number</u>
Rhino	- 460	Birds	Species - 450
Tiger	- 100	Crocodiles	" - 2
Bear	- 200	Fish	" - 12
Gaurigai	400	Butterfly	" - 200
Wild Elephant	3		

Source: Gorkhapatra 2052 - 7 - 14 : 5

Upto now 45 rhino are translocated to Royal Bardia National Park. Count Rhino Programme 1994 confirmed that the population of the great one-horned rhinoceros increased from 60 to 80 in the late sixties to about 460 in June 1994 with an annual rate of 3.7 percent in Royal Chitwan National Park. The study pointed out the 109 rhino died of which 80 percent is accounted to natural deaths and 20 percent due to poaching during the last 20 years. Between 1988 to 1994 64 rhinos died, averaging to 11 rhinos death each year, 5 died from natural death, 4 from poaching and 2 from tiger predation (Uprety 1995:12).

During Rana regime Chitwan, including the current National Park area, was famous for hunting reserve. From time to time big game shooting were held during the cool, mosquito-free winter months, from December to February. The Ranas invited royalty from Europe and the princely state of India to take part in these grand maneuver. Distinguished visitors to Chitwan were King George V. of England (1911), H.R.H. the Prince of Wales (1921) and during 1938-39 in which Lord Linlithgow, the Viceroy of India took part, broke all previous records with a bag of 120 tigers, 38 rhinos, 27 leopards and 15 bears from Chitwan Valley and the surrounding areas (Gurung 1983:2-3). Later in 1961, Queen Elizabeth of the U.K. also visited Chitwan. In 1950, with the end of arbitrary Rana regime such big hunts stopped. Due to the deteriorating economic situation in the hills, farmers began to venture down into the plains, gradually and interacted with the *tharus*, the *semi-aboriginal*, some of the writers addressed *tharus* as aboriginal but Smythies (1942:10), has used the word *semi-aboriginal*. The new government opened Chitwan valley for resettlement. A malaria eradication programme was launched by HMG Nepal and USAID in 1954 and by 1960, the area was relatively malaria free. The entire valley was settled by 1959.

Gradually, people began to encroach the forest land and poaching became rampant and main target was the rhino and its precious horn. A force of armed guards called *Gaida Gasti* or *Rhino Patrol* was established in 1961. At present the park has its head quarters at Kasara Darbar, 25 km.south from Bharatpur, the district head quarter. Kasara Darbar was established in 1939, by Joodha Samsher. It is a two apartment building with RCC, lies 500m. south of Rapti river, an interesting aspect of this building is that you will be unable to listen even radio in some of its corners. There are lot of temples and holy places inside park – Bikram Baba, Pancha-Pandava, Balmiki Asram, Chitra Shari, Goddak.The park is funded by His Majesty Government of Nepal , supported by many overseas organizations, such as UNDP, FAO, the fauna and flora preservation society, such as IUCN, WWF. Most of the authors, game shooters, researchers and visitors have been delighted with the majestic expression of nature in this area. K.K. Gurung in his book have, *Heart of the Jungle : The wildlife of Chitwan Nepal*, argued that the literal translation of the two Nepali word that make it up *Chit* or *Chita* (heart) and *wan* or *ban* (jungle); Chitwan is thus the *Heart of the Jungle*. Some opined that Chitwan was originally *chita ban*, the tharu name for their home land. Here Smythies quotation has relevency:

"Glorious Chitwan .....famous big game reserve of Nepal.... most beautiful place in the world ...an area of mystery and romance...but seen by so few ..an undulating transverse valley " (Smythies 1942:80)

Inspite of the park-people resource conflict, Royal Chitwan National Park stands for an outstanding success in preserving the natural heritage of Nepal, succeeded in restoring important wildlife species that had been nearly extinct, does not have any area that exclusively designated as a buffer zone. A strip of forest immediately outside the park boundary extends towards Mahabharat range known as Baranda Bhar, has an area of 5927 hactre and functions as a habitat linkage and dispersal corridor for the migratory wildlife of the park (Nepal 1993: 90-91)

## SUSTAINABILITY AND BIODIVERSITY

Brundtland Commission (1987) had put forward the definition of sustainability as meeting the present needs without compromising the ability of future generations to meet their own needs. National Parks are symbolic to sustainability.They preserve the valuable resources and different genetic species for the future. But, however, present

consumption has been restricted and controlled, the question of how to meet the present needs, maintaining intergenerational equity requires a wide range of interaction. The obvious solution is to establish a buffer zone from where present demand for forest products can be partly fulfilled. To that end, HMG introduced the concept of buffer zone in 1993, through the amendment in the National Park and Wildlife Conservation Act 1973. In case of Chitwan, *Baranda Bhar* jungle is virtually functioning as the buffer zone, although it is not officially declared.

The Act has also introduced a concept of revenue sharing generated from Parks and Reserves. Thirty to fifty percent of total revenue collected will be used for community development activities of social priorities to encourage local people's participation in the form of user group. The ministry is empowered the task. To that end, UNDP funded park-people project has been started in October 1994 for people's effective participation and for benefit sharing mechanism (Upreti 1995:14). The time will show to what extent, the joint venture of management of National Park comes up. This is not inconsistent with Dr. Sharma's (1991) urge and recent study for long term viable strategies to protect the ecological integrity of the park and suggestion for the recognition of *buffer zone* to offset fuelwood and fodder pressure of 320 villages with 261,300 people of the adjacent area (DNPWC 1994).

### TRIANGULAR DYNAMICS OF PRESERVATION FRAME

Three different institutions with different characteristics are equally responsible for utilization, preservation and protection of the park and its objectives:

- Management System.
- Visitors.
- General people of the *support zone* around the Park.

These institutions establish an unity in diversity for the common cause of meeting the present better off without making the future worse off. They should try to reflect the dialectical unity for their co-existence on the same canvas with different frame of reference.

Management system consists of two tiers; HMG and related agencies in the upper policy level and profit motive business enterprises at the local level. No strong coordination has been realized between government agency and local entrepreneur in and around the park. Local entrepreneurs are guided by their own perceptions. There are 7 big lodges

inside and 50 small catering and accommodating hotels and lodges outside the park area. A number of people have been employed in those lodges. There are altogether 108 personnel working in the park office. KMINC has also employed about 110 people as the local guide. Royal Nepal Army is empowered for the protection of the park. For the fiscal year 2051/52 B.S. regular annual budget sanctioned was NRs. 86,58,000/- and annual expenditure was NRs. 82, 06,668/66. NRs. 364480/- was raised as the revenue from selling thatch grass to the local people. By and large, officially declared annual progress of the park is 94.44 percent ( Rastriya Nikiunj 2051/2052). Park entry fee is NRs. 650/- for foreigners and Rs. 10/- for Nepalese and Indians. No doubt, park has been the flourishing business in terms of tourist attraction and foreign currency earnings. Last year's statistics show that NRs. 4,15,27,367/36 was raised as the government revenue from total 64749 visitors to the park. (Gorkha Patra 2052-7-14-:5). But, the question of exotic influence, however, the *third world* communities are economically and culturally subordinated to the culture and wealth of the *first world*, should also be taken into account so that our fundamental way of cultural and social life should not be disturbed. Tourism has grown to become the part of a social environment. The influence is diverse and complex.

Tourism in the park began in the late 1960's with the establishment of two exclusive lodges, Tiger Tops Jungle Lodge and Gaida Wildlife Camp. However, tourism enables tourists to enjoy a way of life which Nepali People have enjoyed, but tourist business in Sauraha is not still secured and potentially not sustainable ( Towell 1991:91).

Shaha has noted, " John Coapman, an enterprising American has put up a tourist lodge called tiger top along the lines of tree top in Kenya from where tourist are able to watch in comfort the animals in their natural habitat.... He also organized Nepal's first professional hunting in 1959 but now confines his interest to the conservation of wild life.... tiger tops were formally opened in the autumn of 1965. This has been source of additional revenue to the government and has yielded pleasure and entertainment to tourists and game lovers from all over the world (Shaha, 1970:5). Although there has been a steady growth in the industry and around the park, the economic benefits have not been tricked down to those who suffered from the establishment of the park.

The park is surrounded by 36 VDC including two zones, Narayani and Lumbini, and 4 districts, Makawanpur, Parsa, Nawal Parasi and Chitwan. People's support is an essential prerequisite for the proper

utilization, wise use of resources, their preservation and protection. Thus, *park-people relation, not conflict but co-ordination* should be the main theme of protection dynamics. Though, lot of conflicts have come up from time to time due to the fact that people of *support zone* still depend on forest products such as fuel wood, fodder,thatch grass, timber, poles.They suffered from crops and livestock depredation by protected animal.Some people think their traditional right over the forest products. There exists no any provision for the legal compensation for their losses. There are no other proper places for the livestock grazing and watering. These are some of the main issues of conflicts. The mitigative measure by the sharing of the responsibility in management - going to be adopted in compliance with the Act - will pave a way for the meaningful co-ordination, let us hope. Till now,the substantial direct benefit on the part of the people of support-zone is in the opportunity of the thatch grass collection for 15 days annually provided by the Park on a particular season.

Now the time has come to come-up with the shared responsibility to sustain ourselves and our efforts to intact spatial and intertemporal resource potential. Either the Herald of spring from the foot hill of 'Sagarmatha', the worlds highest Himalaya or the melodious notes of thrush, the cock of the rock from around 'Angel Falls', the world's highest waterfall of Carcas, Venezuela- almost similar pitch of anticipation have been echoed:

"Beyond the calculus of social and economic gain and loss, what we are searching for, is a new, all embracing ethic. We need this ethic to guide us to a wider and fuller set of values. To-morrow's conflicts will be even more difficult than today's as resource scarcity, economic imbalance and continuing use of inappropriate technology present formidable challenges to protected areas. and to sustainable use of the environment as a whole" ( MC 1985:16,1993: 12).

## CONCLUSION

We have been privileged to be among the people of *support - area* of this world famous park. We have our own particular varieties of flora and fauna which are palatable to our style of living . Generally National Parks and Reserves are an integral aspect of intelligent use of natural resources. It is the course of wisdom to preserve our outstanding natural assets and resources in the form of National Parks and Reserves, thus,

inheriting the remnants to the posterity within our warm affection. The intrinsic economic value of National Park as measured in monetary term is difficult to determine; however, National Parks and Reserves are not only *sound social investments but the sound use of public funds as well*. It is our obligation to share responsibility for the protection of our national property provided that it should not be abused and pillaged. We are searching and researching for the collective wisdom and security for the preservation and protection of this world heritage. Let us endure. Time is the best solution. And the solution lies not in the storm, but in the gentle breeze.

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## BOOK REVIEW

Chaubey, R.K. (1995) *Poverty Measurement : Issues, Approaches and Indices*. New Age International Publishers, New Delhi, India. Pages: xii+138 (including appendices, bibliography and indexes). Price: Not quoted

Poverty is mostly concentrated in developing countries. People of poor countries are not only poor in wealth, income and consumption, but the more unequal distribution of these economic variables has added insult to their injury. Therefore, the governments and policy makers of poor countries are working towards reducing the poverty of their country. Poverty alleviation has been the prime objective of the poverty stricken countries.

In any study of poverty, there are two choices to be made. The first one is about the distribution on the basis of which poverty estimates are made. For example, whether one has to use the distribution of the income or that of wealth or that of consumption has to be already decided for the estimation of poverty. The second choice is about whether poverty has to be measured with reference to a poverty line or without it. Poverty measured without reference to poverty line is often known as relative poverty also known as inequality, and poverty measured with reference to a poverty line is known as absolute poverty, or simply poverty. Various indices to measure poverty have been developed and are in use. The book under review is intended to deal with the issues, approaches and indices of poverty measurement. By the indices, not relative ones which are colloquially known as inequality indices.

The main body of the book is divided into four parts and thirteen chapters therein. There is a resume at the end of each chapter. Besides, the book contains three appendices, bibliography and two indexes to make it complete.

Part one that is concerned with poverty line has two chapters. Chapter 1 discusses five approaches to the construction of poverty line and chapter 2 includes the methods through which the distributions and the poverty line are brought at the same level and structure of prices. Part two deals with traditional poverty measures. There are three chapters in this part. Three ratio methods - poverty incidence ratio, arithmetic gap ratios, and logarithmic gap ratios - have been discussed in chapters 3, 4 and 5 respectively.

Part three is devoted to what the author calls the mechanics of index making, and this part contains three chapters. Chapter 6 deals with the aggregation of individual deprivations and discusses four major approaches to the construction of poverty indices. Chapter 7 is devoted to the orders in which incomes of the poor, or of all persons, and gaps of the poor, or of all persons, can be arranged. It also discusses the weighing systems for which, most indices, is ordinal although there is scope for other weighing systems as well. Chapter 8 postulates and discusses some test axioms for poverty indices.

Part four which focuses on modern poverty indices has five chapters. The first four chapters, chapters 9-12, deal with major contributions in the axiomatic framework starting with the pioneering contributions of Sen, followed by the those of Thon and Takayama, and ending with that of Kakwani's. Chapter 13, the last chapter, discusses the indices of poverty developed in the ethical frame work. They have been into two categories-one pursuing the aggregation of individual welfares and using the concept of representatives income, and the other doing the aggregation of individual deprivations and using the concept of representative income gap.

The book is written in a compact form so that much has been mentioned in a few pages. The body of the book contains only 124 pages including the pages that are deliberately left blank. The chapters of the book are relatively short. The average pages per chapter is only eight. Chapter 2 is the shortest chapter with only three pages, and chapter 9 is the longest chapter with only fifteen pages. Concepts and use of linear programming, vectors, graphs, calculus, set theory and geometry have been employed to explain and elaborate the points discussed in the book. Therefore, readers who have little or no mathematical background may find the book difficult to understand. The bibliography is quite exhaustive and up-to-date. It contains some 72 listings and covers the year beginning this century to the year prior to the publication of the book (1901-1994).

Much care has been taken to minimize the errors; but there exist some typos and inaccuracies in the indexes. Gini index of the equality, for example, is said to be in page 24; but that page is found to be deliberately left blank. Similarly some typos and errors are found in the book. It is claimed that the book raises certain issues both theoretical and empirical; but the book focuses the discussion only on the theoretical aspects, and the discussion on empirical aspects is minimal. A list of

mathematical notations and their definitions prior to the beginning of the main text would have been very helpful to the readers to understand the chapters independently.

To sum up, the book deals with measurement of poverty and raises some theoretical issues, delineates approaches to construction and revision of poverty lines as well as the construction of indices of poverty extant in a society. The author has explained traditional and modern poverty indices in simple language. Many of the indices are alternatively derived, modified and corrected for mistakes. The book, therefore, is expected to prove very useful to all those concerned with the question of poverty, particularly those interested in its measurement aspects.

Central Department of Economics,  
Tribhuvan University,  
Kirtipur, Kathmandu, Nepal.

Dr. Nav R. Kanel  
Lecturer