

# Revenue distribution pattern and park-people conflict in Chitwan National Park, Nepal

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This study has assessed patterns and consequences of park revenue sharing and implementation effectiveness to reduce park-people conflict in the Buffer Zone of Chitwan National Park. To explore programme implementation practice and consequences, two-thirds (n=14) of user committees were selected from the four management sectors. From the sampled committees, a questionnaire survey was randomly taken from user groups (n=100) to collect income and expenditure data. The revenue disbursement trends were favoured in community development works (roads, community buildings and schools) than conflict reduction issues. Forty-two per cent of the total budget was allocated to infrastructures development, which was followed by conservation and conflict management (35%) and education (9%). Only a small amount of the budget was allocated to alternative energy, construction of animal preventive infrastructures to control wild-animals entering farmland and settlement, and provisions for wildlife damage compensation schemes. A certain part of the revenue should be allocated to wildlife victims. Furthermore, the process of providing relief funds should be shortened and simplified.

**Key words:** Wildlife victims, infrastructures, compensation, Buffer Zone, Nepal

Chitwan National Park (CNP), Nepal's first protected area, conserves wide diversities of complex ecosystem of Churia Hills and flood plains. In recognition of its unique biological resources of outstanding universal value, UNESCO designated it as a World Heritage Site in 1984, and enlisted its Beeshazari Lake as Ramsar Site in 2003. It harbours the endangered species like top carnivores and mega-herbivores in their natural habitat of central low land Nepal (CNP Management Plan, 1975–1979). The large predators found in the area, are tiger (*Panthera tigris*), leopard (*Panthera pardus*), sloth bear (*Melursus ursinus*) and wild dog (*Cuon alpinus*) (Thapa *et al.*, 2013). Similarly, the herbivores include rhinoceros (*Rhinoceros unicornis*), elephant (*Elephas maximus*), spotted deer (*Axis axis*), hog deer (*Hyelaphus porcinus*), barking deer (*Muntiacus muntjac*), sambar (*Rusa unicolor*), gaur (*Bos gaurus*). Among them tiger, elephant, rhino, sloth bear and wild boar are more responsible for human casualties (CNP, 2011); elephant, rhino, wild boar and deer(s) are responsible for damaging crops; tiger, leopard are blamed to livestock depredation; and particularly elephant is responsible for damages of houses. On the other hands, establishment of protected areas

created direct conflict with local communities due to restrictions on traditional use rights on park's resources to meet their basic needs of grazing, fuel-wood, fishing and wild vegetables (HMG/N, 2002). Thus, human casualties, crop damage, livestock depredation and property damage as direct outcomes of wildlife moving out of parks are often referred to resentment by local people and retaliatory killing of wildlife, and ultimately the sources of park-people conflict (Silwal, 2003).

The Government of Nepal (GoN) has made a bold decision in the fourth amendment of National Park and Wildlife Conservation (NPWC) Act 1973 in 1996 by enacting legislation, which made provision to retain 30–50% revenue, generated by the respective park for community development and conservation purposes (HMG/N, 1996). A portion of the set-aside money should also be spent to compensate landowners for land loss on the park borders because of landslides and floods (HMG/N, 1973). Buffer Zone (BZ) programmes have shifted management approaches from resource controlled to revenue sharing to the local communities since 1996. The GoN has developed and implemented re-cycling 50% of park revenues for conservation and development activities, and

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disbursed approximately 42 million US\$ in CNP till 2010 (DNPWC, 2012). Illegal cases inside the park and wildlife damage compensation cases of communities are increasing annually (DNPWC, 2012).

Over the past one and half decades, very few researches have been conducted to assess contribution of allocated park revenue to minimize park-people conflict. Some of them stated that increasing number of wildlife seems to be a growing source of resentment of local people towards the park (Sharma, 1991). The loss of human life, livestock and crop from animal were main source of conflict in the vicinities of CNP. The Buffer Zone (BZ) legal aspect has granted local participation, but the managerial structure remains largely top down (Heinen and Mehta, 2000). According to Agrawal *et al.* (2000), resources were exploited by elite groups. However, the effectiveness of the programme in terms of policies in line with field practices of revenue distribution is still questionable, and has not been examined. This study has tried to address revenue distribution patterns as stated in the policy guidelines, priority activities of the communities within the budget categories and barriers in existing policy implication in programme planning and implementing activities. It also describes how revenue sharing mechanism can minimize park people conflict, and its

implication can be replicated in other protected areas of the country.

## Materials and methods

The study was conducted in the BZ of CNP in 2010. The revenue collection and disbursement trend was considered for the period of the Fiscal Year 2061/062 (2004/05) to 2066/067 (2009/10). The CNP is located in the central southern lowland of Nepal, and covers parts of Parsa, Makawanpur, Chitwan and Nawalparasi Districts with an area of 932 km<sup>2</sup> in tropical and sub-tropical part of the country (Fig. 1).

The CNP and its BZ has been divided into four management sectors (Fig. 2). In order to have representative samples of reasonable size, prior information regarding the degree of heterogeneity, in terms of socio-economic and biophysical characteristics are desirable (Silwal, 2003). This information was obtained from the records of the CNP and the Department of National Parks and Wildlife Conservation (DNPWC), followed by the purposive sampling technique for the selection of user committees from the lists of all four sectors (Fig. 2).

Sectorwise list of user committees were taken from the official list of the park. The sectorwise respective user committees are: i) Sauraha Sector:

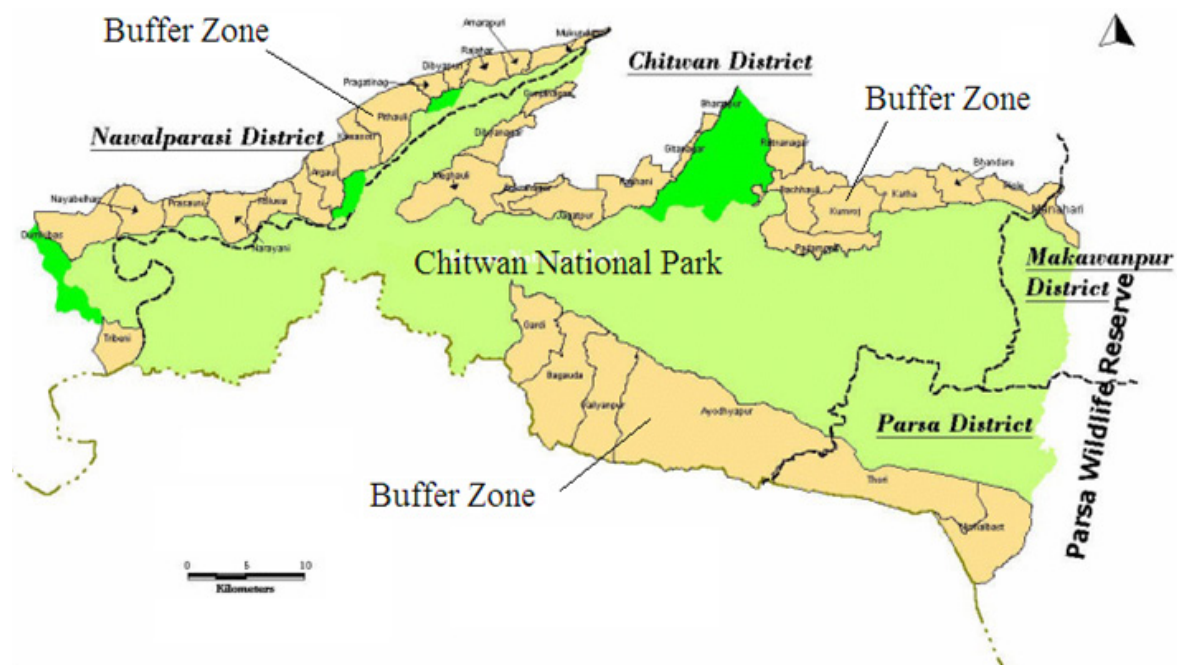
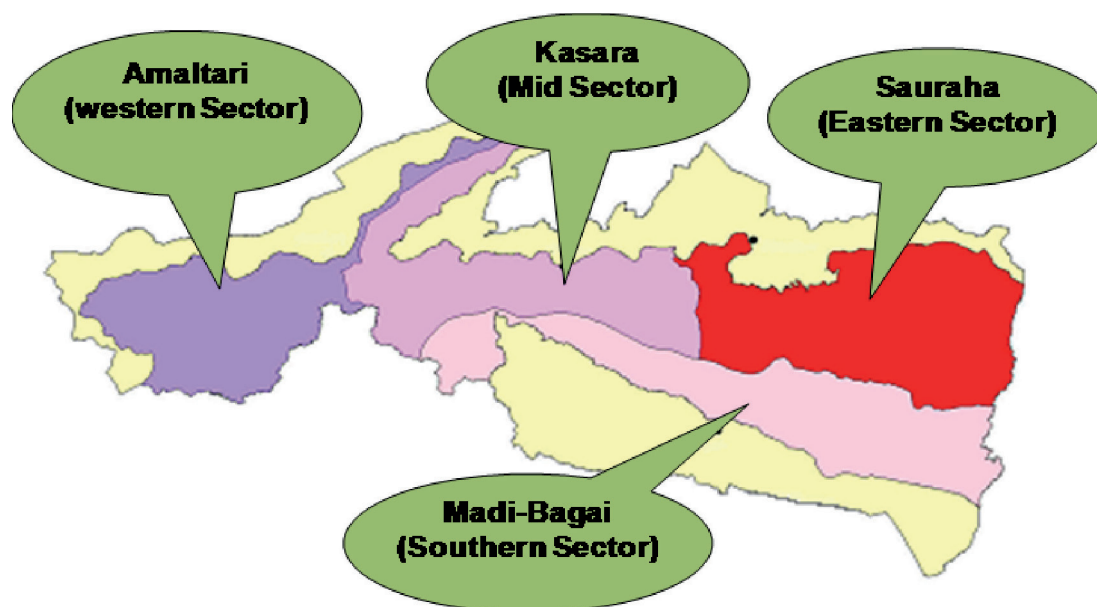


Fig. 1: Chitwan National Park and its Buffer Zone (DNPWC, 2006)



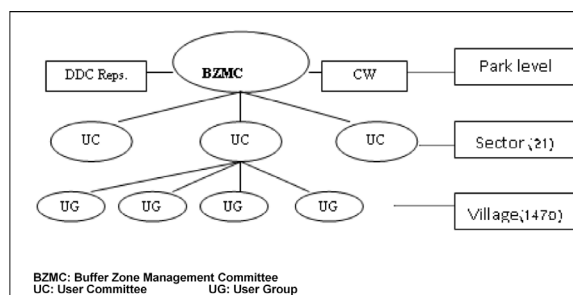
**Fig. 2: Management Sectors of Chitwan National Park and its Buffer Zone (CNP, 2010)**

Lothar, Khagendramalli, Budhi Rapti, Mrigakunj and Barandabhar; ii) Kashara Sector: Meghauri, Kerunga, Patihani and Kalabanzar; iii) Madi-Bagai Sector: Panchpandav, Ayodhyapuri and Nirmal-Thori; iv) Amaltari Sector: Sikhrauli, Lamichaur, Sisawar, Amaltari, Nanda-Bhauju, Daunne, Gosaibaba and Triveni. From the official list of 21 User Committees (UCs), 14 were randomly selected for sample committees for the questionnaire survey. The selected committees were Siswar, Amaltari, Nandabhauju, Kagendramalli, Lothar, Budhirapti, Mrigakunj, Barandabhar, Kerunga, Patihani, Panchpandav, Ayodhyapuri, Nirmal-Thori and Rewa.

Finally, 100 user groups were randomly selected from those 14 (66%) sample committees for questionnaire survey. The organizational set-up has been designated for programme planning and resource disbursement as shown in figure 3. More or less, bottom-up programme planning and top-down resource mobilization approaches have been adopted in the practices.

Executive members of the UCs and User Groups, Park and Buffer Zone Management Committee (BZMC) staff, the key informants were asked about the implementation of practices and policies. PRA tools (key informant interviews, time lines, group-discussions) were conducted for obtaining information of programme planning and resource distribution practices. Semi-structured questionnaire was administered to

collect particular data relevant to fund allocation and performed activities at community-level. The study was focused to capture needs and concerns of the key stakeholders like park authority, Community-based Organizations (CBOs), BZMC, local leaders and planners.



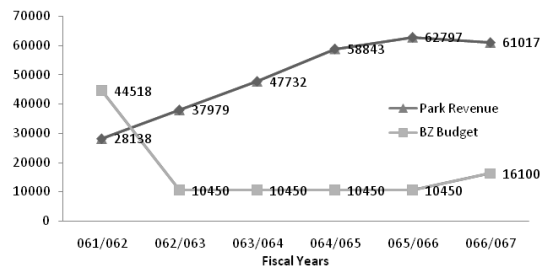
**Fig. 3: Organizational structure for BZMC (adopted from HMG/N, 1999)**

## Results and discussion

### Policies and processes

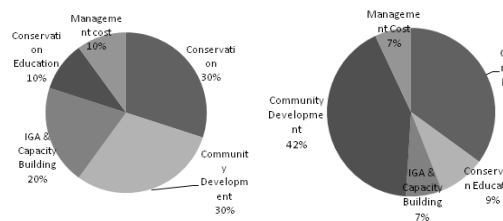
Under the BZ provision, respective user committees have been allocating BZ budget as per their community requirements and the programme’s norms. After the declaration of the buffer-zone, the communities have been receiving funds since 1996. The Park has been generating about 70 million rupees per annum. Out of the total budget generated by the Park, BZ programmes has received 50 per cent since 1997. Figure 4 illustrates park revenue and budget released from the Ministry of Finance for

the Fiscal Years 2061/062 (2004/05) to 2066/067 (2009/10).



**Fig. 4: Park revenue vs. BZ-released budget (NRs ‘000) (1USD = NRs. 70.00)**

The main source of the park revenue is visitors’ fee. During the insurgency period, the number of visitors decreased, and the revenue from the park also decreased till the Fiscal Year 2063/64 (2006/07). Afterwards, it has gradually increased. It is obvious that the major conflicting issues from the park establishment are restriction on traditional use rights for forest resources and wildlife damages. After 50% budget allocation to the communities, it is also expected to address those conflicting issues. Figure 5 illustrates comparisons between Government’s criteria for investing received budget based on five major headings (HMG/N, 1999) and resource allocation by activities at field-level.



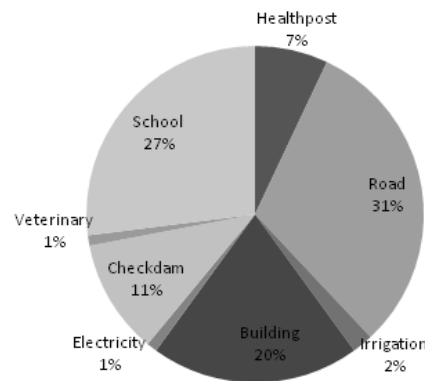
**Fig. 5: Guideline’s provision vs. budget disbursements by activities**

There are differences among the criteria to investment in community development works among different user groups. Ninety per cent of the committees had used their 42% investments in public infrastructures (village roads, community houses, and schools) instead of 30% as provisioned by BZ Rule. These are popular development activities rather than directly related with wildlife issues. Such development activities neither provide individual relief to the wildlife victims nor reduce conflicting issues. Nevertheless, 35% of the budget was allocated for wildlife damage compensation, conservation and anti-poaching programmes. Similarly, budget was not allocated for income generating activities (IGAs) and capacity building programmes as provisioned

by BZ guidelines, giving less priority to the poor households who are directly dependent on the park resources for subsistence daily livelihoods. This is one of the most conflicting issues between park and forest dwellers. The budget allocation was only 7% for this sector. Thus, the activities should be focused on conflicting issues rather than popular development works.

**Community development activities**

The BZ programme has supported to develop common and household level physical capitals. From the group discussion and questionnaire survey with CBOs, it was reported that 42% budget of the total expenditure had been allocated for community development activities. Within



**Fig. 6: Community development activities**

community development activities, highest investment (31%) was in roads followed by schools, community buildings, checkdams, health posts, irrigation and electricity (Fig. 6). BZ Guideline has the provision of allocating 30% of the total budget for productive community development works. The expenditure ceiling has exceeded by 12% and only 2% for productive irrigation works in practice. Similar study conducted by Pokharel (2008) in Community Forestry (CF) reported that most of the income from CF were found to have gone to community developments while the beneficiaries were found to be non-poor. Another similar study in CF conducted by Chhetri *et al.* (2011) shows 75.1% of all public services and infrastructures have been financed by the high-income quartile user groups. Out of those activities, poors are getting benefits from public services like roads, schools and health posts. Silwal (2003) reported that there were no representation of poor, women and marginal communities to raise their voices at

higher-level of resource distribution committees. This could be a reason to allocate small portion of the budget for victim's choice. The continuing exclusion of women and disadvantage groups from governance and mainstream development is reflected in their low-level of achievements (UNDP, 2002). The effectiveness of the programme in terms of policies is in line with field practices of revenue distribution leaving enough space for improvements.

### Wildlife damages and relief fund

The cases filed in the Park Office for compensation seems to be regular process for each year. There were 17 human deaths and 40 severely injured registered cases in a single year of 2009 (Table 1). Rhino was found to be responsible for highest casualties (10 deaths and 17 injures) followed by tiger and leopard.

Similarly, 13 persons were killed and 20 persons sustained injured from wild animals in and around the CNP in 2012 (CNP, 2012). Out of the 13 killed persons, 6 were killed by tiger, 3 by rhino, 2 by elephant, 1 by bear and 1 by wild boar. Likewise, 10 persons and 2 persons were killed by elephant and rhino respectively in 2011 (CNP, 2011). Hence, the human casualties from rhino have reduced in later years, only 2 of 13 (CNP, 2011) whereas, the human casualties from elephant have increased by 80% in 2067/68 (2010/11) (CNP, 2012). According to Paudel (2012), there were 3 to 10 human casualties and 213 livestock (including 113 goats) predated by tiger during the period of January 2008 to October 2012.

Since 2066 (2009/10), the government has been providing relief amount only for human casualties; maximum of NRs. 50,000 for injury and NRs. 150,000 for death. The relief practices were adopted from BZ programmes including livestock damages whereas livestock compensation scheme was stopped after promulgation of the Relief Guideline 2066 [GoN, 2066 (2009/10)]. The wildlife victims have bitter experience for getting relief fund even though there is a provision in the Relief Guideline 2066 (2009/10). The procedure for obtaining relief fund is lengthy and requires more paper works. The compensation amount provided for human death should be consistent with other compensation policies of the Government (Poudel, 2012). In the case of livestock damages, compensation should be placed as per market value. So, there is a need to revise the provision of certain percentage of park revenue for wildlife victims at field-level. This provision could be helpful to provide immediate rescue/relief to the victims and build better relationship between park and people than the existing situation.

Sharma (1991) stressed that the park laws should be specific regarding the compensation for wildlife damages. During the fieldwork, it was observed that the Relief Guideline 2066 (2009/10) has addressed loss of human life and injuries, livestock, crops and property damages whereas there was no regular source of funds addressed in the government policy and programmes. The wildlife victims are more victimized physically, mentally and financially for getting nominal relief amounts. The allocated relief amount is also

**Table 1. Human casualties, livestock, loss of livestock and property damages in the CNP in 2009**

Responsible animals	Human deaths	Human injuries
Tiger	6	4
Rhino	10	17
Leopard	—	7
Wild boar	—	5
Bear	—	6
Elephant	1	1
<b>Total</b>	<b>17</b>	<b>40</b>
<b>Loss of livestock and properties</b>		
Cattle 24	Buffalo 7	Goats 152
Pig 14	Ducks/chicken 15	House damage 34

Source: Park Office, 2010.

**Box 1: Salient features of recently Revised Wildlife Damage Relief Guideline 2069**

- The relief fund provision for incidents from only eight species (tiger, elephant, rhino, snow leopard, common leopard, wild buffalo, wild boar and bear) should be widened to all wildlife species.
- The Revised Guideline also recognises for relief fund only to the Nepalese citizens. It may not be rational since Indians have ties with Nepalese citizen by religious and social customs, they frequently come to Nepal to meet their relatives in Terai region of Nepal. Both Indian coming to meet their relatives and other third-nation tourist could not be considered for relief fund.
- The revised compensation amount to the victims is (NRs 10,000 to 300,000 for human casualties). However, the community expected that it should be equivalent to other compensation schemes of the country.
- The Park Office has been authorised for providing immediate relief amount of NRs. 10,000 and NRs. 50,000 in the cases of human injuries and death respectively.
- The lengthy process of receiving relief fund is revised and placed at Office of the Regional Directorate instead of Ministry of Finance.

nominal, and at the same time is not clearly stated for crop and property damages. Meanwhile, the Government has recently promulgated the Revised Guideline 2069 (2012/13) which tries to make more clear for some issues (Box 1). The Revised Relief Guideline 2069 (2012/13) has made a provision of a fund, at the Park, where immediate relief could be provided and reimbursed from the Ministry of Finance through DNPWC.

**Conclusion**

The BZ programmes have been promoting community developments at local-level. Most of the budget allocation trends are favourable for infrastructures (roads, community buildings and schools) followed by conservation and education. The study showed that the small amount of budget had been allocated to introduce alternative energy, animal preventive infrastructures and provisions for wildlife damage compensation schemes. The provision of the wildlife damage relief is not applied except to human casualties. The Revised Guideline 2069 (2012/13) is on implementation process for shortening earlier practical difficulties. The BZ related Act, Regulation, and Guideline need to be revised in consultation with the stakeholders in line with priority given to address conflicting issues (wildlife damages) rather than development works.

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