

Local Responses to Participatory Conservation in Annapurna Conservation Area, Nepal

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Abstract Biodiversity conservation has undergone a profound change in philosophy, policies and management approaches over the last forty years. The traditional top-down approach to nature protection has been widely criticized for failing to include critical social elements in management practices, and is being gradually replaced by a slew of participatory strategies under the rubric of bottom-up conservation. The new approach recognizes local communities as key partners in wildlife management and seeks their participation in social development and biodiversity conservation. However, every social context is different in its structure and functions, and in the way social groups respond to calls for participation. In order to gain a better understanding of the approach and the barriers encountered in its implementation, a questionnaire survey of 188 households was employed in the communities of the Upper Mustang extension of Annapurna Conservation Area (ACA) in Nepal. The study provides a comparative analysis of community participation and its barriers between Non-Tourist (NT) and Tourist (TV) villages. The results revealed important differences between the two groups in terms of their participation in community programs, barriers to participation, and perception of benefits from participation. Owing to their distinct spatial, demographic and attitudinal differences, the two village groups have their own sets of needs, values and motivation factors which cannot be generalized and treated as such. The research

clearly identifies the need for the conservation agency to be creative in devising strategies and initiatives appropriate to specific social groups so as to optimize their input in participatory conservation.

Keywords Biodiversity conservation · Local participation · Community development · Annapurna Conservation Area · Nepal · Tourist villages · Distant villages

Introduction

Scientists believe the rapid and unabated loss of biological diversity around the world is just the beginning of the ‘sixth mass extinction’ and an ominous portent of a possible end of humanity itself on the planet (Terborgh and Peres 2002; Green and Paine 1999; Terborgh 1999; Schucking and Anderson 1991; Soule and Wilcox 1980). The caveat cautions against human activities that precipitate extinction of species. Protected areas have become the last refuges of the world’s extant biological wealth. However, many of these biological sanctuaries are currently beset by a series of social, political, industrial, and institutional challenges. If these challenges are not addressed through appropriate management approaches and strategies, the world may lose all that the parks seek to protect (Terborgh and Peres 2002; Terborg 1999, Calhoun 1991).

Strict nature protection as applied through the top-down management model, especially in national parks and wildlife reserves, seeks to protect wilderness by removing social elements from the context (Terborg 1999; Cronon 1995). Rooted as it is in the traditional view of nature and humans as mutually exclusive, the exclusionary or top-down approach to nature protection apparently dwells on

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the false premise that society and nature are separate (Brechin and others 2002; Bryant 1998). This perception influenced the creation and operation of the world's first protected areas in the European colonies of North America and Australia, which were subsequently emulated in the developing countries. Protected areas created by forcibly removing people from their ancestral lands resulted in grave social, cultural, economic, and ecological consequences, including the decline of many traditional communities and their unique cultures, loss of livelihoods, and impoverishment of communities dependent on forest resources (Dearden 2002; Raval 1992; Calhoun 1991).

The protectionist legacy of biodiversity conservation still afflicts many Third World parks and reserves that are locked in rivalry with local communities over access to and control of natural resources (Belsky 2002; Wells and Brandon 1992). The failure of the top-down “fences and fines” approach to incorporate critical social and cultural elements integral to nature conservation inspired a search for a more socially and culturally compatible approach to nature protection in the late 1950s (Belsky 2002; Brechin and others 2002; Bryant 1998; Wells and Brandon 1992). The paradigm shift in political philosophy in the 1960s and 1970s—which led to the demise of authoritarian rule, and the dawn of democracy, human rights and grassroots environmentalism in the developing world—greatly changed the theory and practice of nature protection: from exclusive to inclusive, and from top-down to bottom-up.

The bottom-up approach to conservation sees the environment not as an isolated entity but as an indivisible set of multiple and often complex social, political, cultural, and ecological realities, and seeks local involvement and initiatives in the planning and management of protected areas (Bryant and Wilson 1998; Wells and Brandon 1992). UNESCO's Man and Biosphere Programs (MABPs) made maiden attempts to link social development with nature protection by involving rural communities in conservation programs (Wells and Brandon 1992). However, collaboration with local communities under MABPs remained limited to consultations in biological research activities in the buffer zone management, largely because of the hierarchical top-down management structure in which conservation mandates were carried out. Nevertheless, MABPs paved the way for wider local involvement, leading to the formulation of Integrated Conservation and Development Projects (ICDP) in the 1980s, and Community-Based Conservation (CBC), Community-Based Natural Resource Management (CNRM) and other bottom-up strategies in the 1990s and after (Wells and Brandon 1992). Irrespective of the nomenclature and the different geographic, social and political contexts in which they are implemented, all local adaptations of the bottom-up conservation approach invariably comprise community participation in the

planning, implementation and management of local development and conservation programs in and around protected areas. These strategies are collectively referred to as participatory conservation in this article. As a management strategy, participatory conservation has gained significant popularity in biodiversity conservation in the developing countries. Annapurna Conservation Area (ACA) in Nepal, Administrative Management Design (ADAMDE) and Luangwa Integrated Resource Development Project (LIRI) in Zambia, Communal Areas Management Program for Indigenous Resources (CAMPFIRE) in Zimbabwe, La Amistad Biosphere Reserve (LABR) in Costa Rica, Mimarua Sustainable Development Reserve (MSDR) in Brazil, Michuri Mountain Conservation Area (MMCA) in Malawi are some of the examples of successful implementation of participatory conservation (Campbell and Mattila 2003; Child 1996; Wells and Brandon 1992).

Participatory conservation has often been considered a social movement (Zimmerer 2007), based on morality and pragmatic grounds (James and Blamey 1999; Bryant and Wilson 1998; Ghimire and Pimbert 1997). Moral justification comes from the argument that local communities have intrinsic rights to be part of the decision making process that affects their lives (Bryant and Wilson 1998; Ghimire and Pimbert 1997). The pragmatic ground for community involvement is that as biodiversity conservation happens in a socio-political theatre, non-participation of a key stakeholder such as local communities will lead to failures of conservation initiatives, or at least diminish their chances for success (Brechin and others 2002; James and Blamey 1999; Pimbert and Pretty 1997). Irrespective of their objectives and mandates, protected areas under different categories and institutional frameworks have implemented participatory social development and conservation programs and projects in their respective jurisdictions to expand partnership with local communities (Lusigi 1995; McNeely 1995; IUCN 1994). Participatory conservation has its moral and strategic merits over the authoritarian conservation model, but it may not necessarily be a more successful approach strictly in terms of species protection within a defined boundary. Participatory conservation as a strategy in protected area management is relatively new and its successes have yet to be rigorously examined. The experience so far in its implementation in and around protected areas and community resource management indicate challenges across social, economic and ecological ambits (Brown 2003; Gupte 2003; Kellert and others 2000; Songorwa 1999). Macro social-economic and political realities in much of the Third World are less than ideal for participatory conservation to take roots. Many countries have embraced the ideals of working with rural communities but have not yet reciprocated by making necessary legislative and policy revisions in empowering community institutions

through decentralizations and devolution of decision-making authorities (Baral and Heinen 2007; Belsky 2002; Agrawal and Gibson 1999; Heinen and Mehta 1999; Ghimire and Pimbert 1997). Many protected area authorities still operate within the traditional top-down, bureaucratic structure and are unwilling to relinquish control to local communities (Mahanty and Russell 2002; Pimbert and Pretty 1997). The main conservation paradox in these countries is that on the one hand protected area authorities acknowledge the need for wider local participation, and on the other they restrain scope and level of public participation (Pimbert and Pretty 1997; Little 1994).

Participatory conservation also runs the risk of misplaced priorities and confusion between means and ends, especially with regard to local expectations in return of their commitments of time and effort. By focusing more on social development, some participatory initiatives may have unreasonably fueled public expectations and veered off the main objective of species and habitat protection (Kellert and others 2000). Another major constraint arises from the confusing interpretation of community itself (Little 1994). The term “community” is often loosely and falsely used and interpreted to denote a homogenous group of people living within a geographically defined area sharing common values, needs, aspirations and goals. However, this understanding of community as a homogenous, monolithic, and predictable group of people ignores the diversity of interest groups, conflicts and multiple values within the society (Spiteri and Nepal 2006; Heckel 1998; Lusigi 1995; Little 1994). Experience with various participatory conservation projects show that many constraints arise right at the planning and implementation stages. Appropriate identification and inclusion of specific target groups for development and conservation programs has remained a major flaw in successful implementation of participatory conservation (Mehta and Heinen 2001, Songorwa 1999; Mehta and Kellert 1998). Participatory conservation programs implemented without adequate understanding of social hierarchy, gender bias and cultural differences that exist in traditional rural societies have been found to exacerbate rather than resolve existing social and economic inequities and class conflicts (Gupte 2003; Mehta and Heinen 2001).

The flaws and challenges encountered in planning and implementing participatory conservation initiatives provide excellent learning opportunities. As this conservation approach is fairly new, it has yet to go through rigorous scientific assessment and evaluation. Each instance of its implementation happens in unique geo-political and cultural settings with a blend of opportunities and constraints. The success of participatory conservation mainly dwells on how well it represents the unique needs and values of a given social group or subgroup. This article explores these and other issues pertinent to community participation by

using Annapurna Conservation Area (ACA) in Nepal as a case study. Specifically, the article focuses on three main areas: the level and scope of local participation, barriers that prevent people from participation, and local perception of benefits from their participation in community programs. These aspects are compared between villages along the main hiking trail (or tourist villages) and those further away from the main trail (or distant villages).

Study Area

The study was conducted in the northern extension of Annapurna Conservation Area (ACA) (Fig. 1). Nepal's largest protected area, ACA is located in the mid-west Himalaya and covers 7,629 km² of land area in 55 Village Development Committees (VDCs) of Kaski, Lamjung, Myagdi, Manang and Mustang districts. The conservation area was created in 1986 and was extended to Mustang and Manang in 1992 to protect the area's unique geophysical and cultural treasures. The biogeographical diversity found in ACA is globally outstanding, representing four broadly defined climatic regions: alpine, mountain desert, temperate and sub-tropical (KMTNC 2002; Bunting and others 1991). ACA's rich biological diversity owes much to its location, the intersection of the two major bioregions between the east and west Himalayas, and supports 22 forest types with 1,140 plant species, of which 426 are believed to have medicinal properties and many endemic to the region (KMTNC 2002). Faunal richness of the conservation area includes 21 species of amphibians, 39 species of reptile, 478 species of birds, and 101 species of mammal (KMTNC 1997). Also protected are rare and endangered species, such as snow-leopard (*Panthera uncia*), Himalayan musk deer (*Moschus chrysogaster*), Tibetan Argali sheep (*Ovis ammon*), Wolf (*Canis lupus*) and 38 breeding species of birds at risk (KMTNC 1997).

The conservation area is home to 120,000 and 10 distinct ethnic groups who belong to mainly two wider cultural traditions, Indo-Aryan or Tibeto-Burman (Bista 1987). It is Nepal's most popular tourist destination with over 50,000 tourists, most of them trekkers and hikers, visiting the area annually (KMTNC 2002). National Trust for Nature Conservation (NTNC), an NGO formerly known as King Mahendra Trust for Nature Conservation (KMTNC), manages ACA under Annapurna Conservation Area Project (ACAP). The conservation area is administered through four field bases that run a wide gamut of community development, educational, and conservation programs in partnership with local institutions called Conservation Area Management Committees (CAMCs) and their subcommittees representing different thematic foci including resource management, community

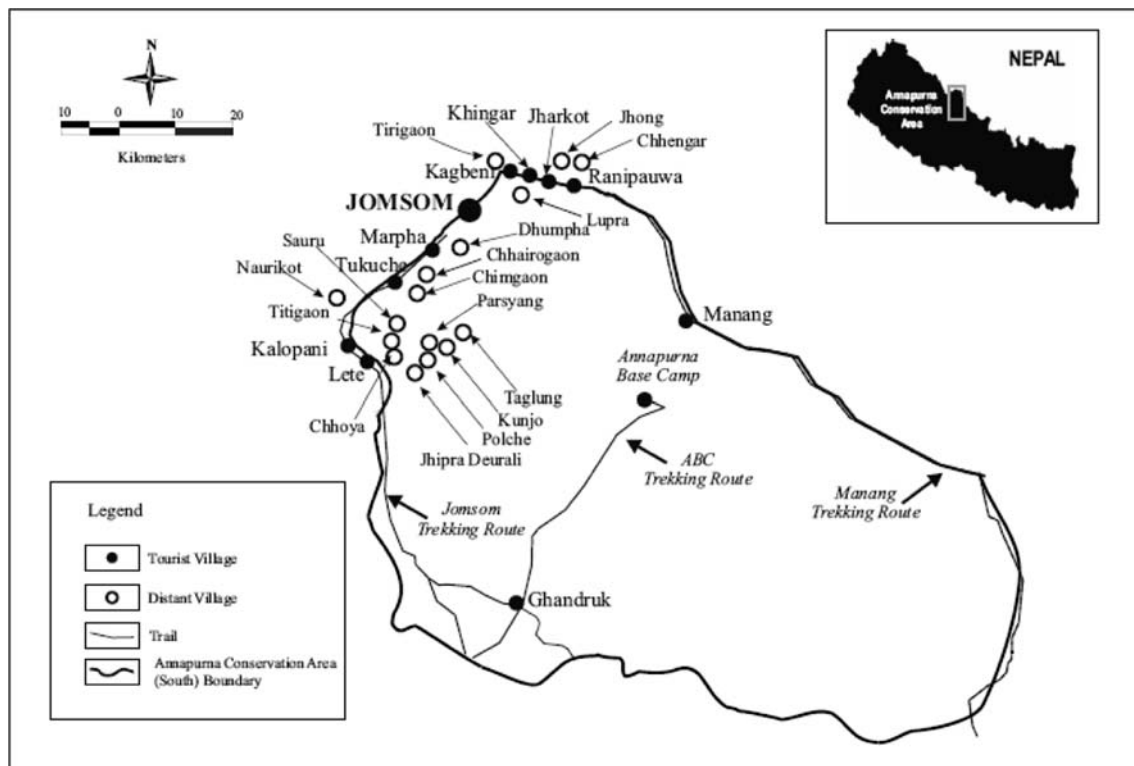


Fig. 1 Distribution of tourist and non-tourist villages in the Annapurna Conservation Area

development, tourism management and conservation education (KMTNC 2002). NTNC plans to hand over ACA management and operation responsibilities to local communities in 2012. However, in order for that to happen the local institutions will have to demonstrate that they have the capacity required to take the custody of such a huge conservation area. The conservation area is currently fraught with challenges that cut across, socio-economic, ecological, and political domains.

Rising poverty, illiteracy, unemployment, and unequal distribution of tourism opportunities and income between villages widen existing social disparity that inhibits social integration for effective participatory conservation. The haphazard growth in tourism businesses has further deepened the area's energy crisis as more hotels and lodges continue to crop up all along the trail (Baral and others 2007; Nepal and others 2002; Mehta and Heinen 2001). In the absence or lack of viable and affordable alternative sources of energy, the pressure has intensified on the area's limited forest resources, raising the specter of widespread desertification. External factors such as national and local politics have also posed serious challenges to conservation area and its participatory programs during the time of the field research. In one instance, local government in Mustang invoked the Local Self Governance Act 1999 to proceed with the construction of a controversial paved road in

direct contravention of ACAP's conservation laws and without any environmental impact assessment (KMTNC 2002). The road will certainly bring some economic prospects to the impoverished villages, but it will also bring a fair load of problems that will eventually erode the region's pristine Shangri-la image. The decade-long armed Maoist insurgency, which came to an end only very recently, has also caused setbacks on the gains made in building partnerships with local communities (Baral and Heinen 2006). Besides the bombing of ACAP headquarters at Ghandruk and infrastructure such as power plants, and the subsequent closing of the southern flank of ACA, the state of lawlessness is believed to have resulted in widespread wildlife poaching, of which there is no account.

Research Methods

The option of choosing locations for the fieldwork was limited due to the severity of the political conflict and security concerns in the southern parts of the conservation area where ACAP had lost control to Maoist rebels (Thapa 2003). The north-western region of ACA encompassing the Manang and Mustang districts were unaffected by the insurgency, and, for that reason, provided a better alternative for research locations. In addition, the northern extension of

ACA with its distinct geographical and cultural traits offers interesting prospects in contrast to its much-researched southern counterpart. ACAP initially faced hurdles in its attempt to generate local support for its conservation programs in the north where the conservation agency's presence invoked suspicion among the people (KMTNC 2002). ACA's attempt in replicating conservation successes of the south in the culturally reticent northern region provides insights into a whole new range of limitations and opportunities in forging partnership with local communities across geographical and cultural barriers. Such knowledge of communities and their behaviors is imperative to inform the discourse on participatory conservation.

Since tourism is easily the most obvious mark of distinction between villages in Manang and Mustang, tourism impact was used as the standard of measurement to group villages into tourist villages and distant villages, herein after referred to as TV and DV, respectively. DV included villages far off the trekking routes with no visible tourism activities, while TV comprised villages on the busy hiking trails brimming with tourism businesses. TV also had higher concentration of built infrastructure, businesses and services compared to the DV. TV villages surveyed include Jharkot, Jomsom, Kagbeni, Kalopani, Khingar, Lete, Manang, Marpha, Ranipauwa, and Tukuche. The DV include Chhairogaon, Chhoya, Chhengar, Chimgaon, Dhumpha, Jhipra Deurali, Jhong, Kunjo, Lupra, Naurikot, Parsyang, Polche, Sauru, Taglung, Tirigaon, and Titigaon. Since TV communities were comparatively denser and larger in population size compared to DV which tend to be smaller and far between, a fairly higher number of DV had to be surveyed to achieve proportional representation of both the population groups for comparison.

The nature and purpose of the study required the application of both quantitative and qualitative research techniques. As either research method by itself is inadequate in appropriately exploring complex social and behavioral phenomena, the research employed a qualitative-quantitative triangulation approach to data collection (Creswell 2002; Babbie 2001). The data collected using qualitative techniques such as semi-structured expert interviews, informal chats, and key informants interviews were used to complement the findings from the quantitative method, and to improve the accuracy and validity of the findings. Some of the expert interviewees included conservation policy makers, scientists, protected area managers, and conservation project leaders representing the country's major conservation players, such as the former Director of Department of National Parks and Wildlife Conservation (DNPWC), former country representatives of The World Conservation Union and World Wildlife Fund, and heads of other government and non-government organizations, to name a few. Information from these

techniques has been used exclusively in supporting the arguments in the discussion section. Informal chats were conducted at teashops, in community gatherings and at participants' homes. There were a total of 54 informal chats from both DV and TV.

For the quantitative method, a simple random sampling was conducted. In order to ensure a balanced representation of the villages, every second household was sampled in sparsely populated villages, while every third household was included in densely populated villages. Only respondents over 18 years of age were included in the survey. The survey questionnaire was pre-tested with villagers and necessary modifications made before they were administered to households. The survey team consisted of four people, two graduate students (male and female) and two field assistants (male and female). Fieldwork was conducted between September 15 and December 15, 2004. The survey responses were later translated into English. A total of 188 (23%) household heads participated in the questionnaire interview. The interview took between 30 and 60 minutes to complete. No compensation was provided to the interviewees. Less than five percent of those approached refused to be interviewed.

Exploring a subjective issue like "benefit" in isolated, uneducated and somewhat reticent ethnic communities of rural Nepal brings its own challenges, especially when respondents' definition of "benefit" strictly denotes monetary gains. Many respondents in ACA, especially in DV, thought they benefited only when they received money or other tangible goods from ACA programs. Since local response to a straight question like "*did you benefit from ACA?*" does not accurately measure the actual benefit received, a set of six proxy questions with different response categories were asked to explore local views of benefits from participating in ACAP-sponsored activities. Responses to questions related to 15 participation barrier items were recorded on a four-point scale (Don't Know = 1, Not Significant = 2, Somewhat Significant = 3, and Most Significant = 4). The questions were coded in the same direction to make the data manageable and to facilitate statistical analysis and interpretation. For example, ordinal categorical questions were assigned numerical values with higher scores corresponding to positive responses and lower scores corresponding to negative responses. Numerical codes of all negatively worded questions and statements were reversed so as to match with the rest of the questions. Data were analyzed using the Statistical Package for the Social Sciences (SPSS- Version 13). As the data were not normally distributed, non-parametric statistics such as chi-square test of independence (χ^2) was used to show differences between the village categories. It should be noted that this article is part of a larger study on incentive-based conservation, results of which have been reported elsewhere.

Results

A total of 85 interviews in 15 DV and 103 in eight TV were conducted. Both genders are fairly represented in the survey (52% male and 48% female). The matriarchal family structure of TV explains a higher female participation (52%) compared to only 44% in DV where family structure tend to be more patriarchal. The difference in family structure is mainly due to caste and religion (see the Discussion section). The majority (84%) is born in the region. More than half have little or no formal education; more in TV than DV have a higher education level. For the purpose of this study, respondents' caste is identified as ordered ranking of high, middle, and low castes. The main caste group in both villages is the middle caste (most ethnic groups conducting trade and tourism businesses), with significantly more low caste (i.e., Bishwkarma, Pariyar) in DV and high caste (i.e., Brahmin and Chetri) in TV. Farming is the mainstay of a significant majority in DV (66%) compared to TV (29%); no household in DV is employed in tourism compared to almost half in TV. Respondents were categorized into three income groups (low, medium and high) based on their ability to address their family needs round the year. Those who could never adequately meet their needs were grouped as low-income, while those who met their needs sometimes were grouped as middle-income. Likewise, families who were able to meet their needs round the year were grouped as high-income. More respondents in DV (15.3%) than in TV (8.7%) have difficulty meeting their livelihood needs.

Participation Benefits

Of the 61% respondents who answered in the affirmative, more from DV (67%) than TV (54%) indicate that they participate in ACAP sponsored conservation and development activities. Both male (51%) and female (49%) indicate they do participate in ACAP-sponsored or community organized events. No statistical differences exist between the two village groups in the participant's gender, age, and education. Even though many villagers in the study area are not considered caste-conscious, overall low-caste participation remains poor (21.9%). Interestingly, more respondents on the lowest rung of the income ladder (51.8%) participate than those on the middle (24.6%) and top (23.7%) rungs. Also, those who are engaged in tourism businesses (for example, from TV) tend to participate less than those whose primary occupation is farming.

Only a third report that their family benefits from participation in community programs. When proxy questions on benefits were asked, interestingly, 63% report receiving some benefits, and 39% rate ACA's ability to deliver benefits as good or excellent (Table 1). Similarly, 49%

report that ACA has been successful in meeting their needs, 39% agree tourism benefits their family, and 34% agree their livelihood depends on wildlife conservation. Differences between TV and DV are significant only on items related to tourism (more TV respondents indicating benefits; $\chi^2 = 30.57$, $P < .000$), livelihood dependence on wildlife conservation (more from DV indicating as such; $\chi^2 = 11.32$, $P < .003$), and ACA's success in meeting household needs (more from DV indicating as such; $\chi^2 = 8.14$, $P < .004$). Overall, about a half of the people surveyed indicate receiving some form of benefits from participating in ACAP-sponsored activities.

Barriers to Participation

Issues such as whether or not people participate, or how and when they participate are often directly or indirectly related to several factors, which may bar or facilitate participation. In order to determine what the factors are, the question "*are there any barriers limiting your participation?*" was asked irrespective of the respondents' answer to the preceding question "*do you participate in community programs?*" Approximately, 92% of all participants reported some form of barriers. The top five barriers are "demands from household chores", "schedule conflicts with agricultural activities", lack of free time, "schedule conflicts with other livelihood activities", and "demand of family childcare responsibilities" (Table 2). A chi-square test on the barriers found significant differences between DV and TV respondents on at least 3 out of 15 items. Respondents from DV than TV rated at a higher level the barriers posed by schedule conflicts with agricultural activities and livestock grazing, and demands of family and childcare responsibilities. Asked what would make them participate or participate more often, an overwhelming majority (95%) reported availability of free time.

Discussion

Local participation has been the driving force behind the creation and operation of ACA right from its inception. The conservation area has placed special emphasis on plans and policies to help elicit local involvement in community building and resource management, including wildlife protection. However, results of this study show that ACAP's drive to broaden the purview of participatory conservation in northern communities has not yet earned the same level of success as in the southern region (Nepal and others 2002). Close to half the population still stay out of the participatory process. Overall, less than 50% indicate receiving some form of benefits from participating in ACAP-sponsored activities. ACAP tends to ascribe the

Table 1 Respondents' perception of benefits ACA-sponsored programs

Benefit statement/question (proportion of total responses indicating the benefit)	Village category				χ^2	P
	DV		TV			
	#	%	#	%		
Has your participation in ACA programs benefited you? (Yes: 33.3%)	17	28.3	20	39.2	1.47	.225
How have ACA programs benefited you and your family? (Benefited Somewhat or Benefited Most: 62.6%)	54	57.4	63	67.7	2.12	.146
How would you rate ACA's ability to deliver benefits to you and your family personally? (Good or Excellent: 39.4%)	31	33.0	43	45.7	3.21	.073
Has ACA been successful in meeting your needs? (Yes: 49.2%)	56	59.6	36	38.7	8.14	.004 ^a
Tourism benefits my family (Agree: 39.4%)	20	21.3	54	57.4	30.57	.000 ^b
My livelihood depends on wildlife conservation (Agree: 34%)	40	42.6	24	25.5	11.32	.003 ^c

^a Significant at @ < .05, Cramer's V = 0.209; ^b significant at @ < .001, Cramer's V = 0.403; ^c significant at @ < .05, Cramer's V = 0.245

Table 2 Respondents' ratings of barriers to participation in ACA

Barriers to community participation (% of total respondents (n = 188) reporting the barrier)	DV* TV*				χ^2	P
	%	Mean	%	Mean		
Demands from household chores (92.2%)	94.8	3.74	42.8	3.51	1.50	.220
Schedule conflicts with agricultural activities (83.7%)	93.5	3.70	73.7	3.12	11.0	.001 ^b
I have no free time (75.7%)	77.9	2.04	73.3	3.11	0.43	.510
Schedule conflicts with other livelihood activities (60.1%)	58.4	3.74	61.8	2.87	0.18	.668
Demands of family childcare responsibilities (48.3%)	56.6	2.12	40.0	2.55	4.15	.042 ^c
Schedule conflicts with livestock grazing (28.3%)	36.8	3.74	19.7	2.22	5.48	.019 ^a
I do not know how to become involved (21.9%)	23.7	1.93	20.0	2.15	0.30	.584
The meeting place is too far from my home (17.8%)	23.4	2.92	12.0	2.04	3.36	.067
Schedule conflicts with other employment (16.0%)	12.2	3.70	19.7	2.32	1.60	.206
I am not invited to participate (15.2%)	18.4	2.11	12.0	2.12	1.20	.272
I am not interested in participating (14.7%)	19.7	3.25	9.5	2.08	3.16	.075
Park/conservation area policies (13.9%)	17.1	2.77	10.7	2.01	1.30	.253
No one will listen to me, so why should I participate (11.3%)	15.8	2.25	6.8	1.96	3.04	.081
I did not know I could participate (9.3%)	11.8	2.18	6.7	1.99	1.20	.273
I was made to feel unwelcome in the past (5.3%)	3.9	2.21	6.7	2.01	0.56	.456

* Means calculated on the scores from the original four-point scale (Don't Know = 1, Not Significant = 2, Somewhat Significant = 3, and Most Significant = 4); percentages are from total number of respondents from each village category

^a significant at @ < .05, Cramer's V = 0.190; ^b significant at @ < .001, Cramer's V = 0.268; ^c significant at @ < .05, Cramer's V = 0.166

northern region's lack of enthusiastic response to its call for participation mainly to the 'infant stage' of the process, which was initiated in 1992 (Baral and others 2007). But a span of a decade is not a very short time to institutionalize an already successfully tested initiative, especially for an entity of ACAP's stature with a reputation in grassroots mobilization. Results of this study suggest that even though the project did make progress in forging alliances with some groups, it has not been able to establish wider acceptability in the culturally sequestered villages in the northern extension. The project and its employees are still looked upon with considerable suspicion, not only in remote villages where the project's presence is sporadic,

but also in thriving tourist villages where ACAP is tangibly more active (Mehta and Heinen 2001; Mehta and Kellert 1998; Colfer and others 1996). The discourse of local participation in ACA is complex as it pervades geographic, political, cultural and socio-economic realities, and is beyond the scope of this article.

A comparative analysis of ACA's demographics clearly sets the two village categories apart in terms of cultural traditions, income and assets, and the level of participation. While statistically not significant, the remote and less educated and less resourceful DV had greater participation than their richer and more entrepreneurial TV counterparts. The discrepancy in participation between DV and TV in

ACA suggests that access to amenities and a higher socio-economic status may not always exclusively drive rural participation. Demographics, among other factors, play a critical role in public participation. Past research has found rural women to be available, motivated and even proactive more than their men (Baral and Heinen 2007; Gupte 2003; Agrawal and Gibson 1999). In ACA, it is natural for any discerning person to expect women household heads of the largely matriarchal Buddhist families in TV to participate more than their seemingly submissive counterparts from the patriarchal Hindu families in DV. However, the empowered womenfolk of TV are also the custodians of their businesses, which rarely allow them enough time to volunteer in community works. The DV women, on the other hand, may not have as much customary leeway but can still take advantage of the seasonality of their farming occupation to dabble in participatory processes. Beyond demographics, issues such as who or what segments of people participate, why they participate, and what barriers forestall local participation are particularly integral to understanding the elements of participatory conservation.

Benefits and Participation

While the majority of respondents acknowledge there are benefits associated with ACA's community development and conservation programs, two-thirds of them deny benefiting from their community involvement. One possible explanation for such a low perception of benefits receipt could be the limited use of the term 'benefit' to denote money or material that has a cash value (Belsky 2002; Jim and Xu 2002; Walpole and Goodwin 2001). There were instances in which villagers failed to name benefits they were obviously enjoying. While such an observation could indicate local apathy toward conservation authority and institutions, it could also be a case of mismatch between local expectations from community participation and actual deliverables (Spiteri and Nepal 2008). Either case calls for a vigorous expansion of ACA's education and awareness campaign. It is common among rural populations to have unrealistic expectations from programs implemented by or in collaboration with external agencies. Despite the fact that community development and conservation programs are locally planned, designed and implemented under ACA guidelines, locals still consider them as external. Many DV and TV residents like to compare the immediate and tangible benefits including cash they received from international development agencies with what they receive from ACA. Their expectations have soared, but ACA's participatory programs are not designed to distribute benefits the way some external agencies' experimental projects are. In addition, most programs or projects must complete their life cycles before the rewards can be delivered (Baral and others

2007). The delay can easily alter local perceptions and attitudes (Archabald and Naughton-Treves 2001, Songorwa 1999). For example, some villagers in Taglung were not happy about the fertilizer that came a little too late in the season. The perception of benefits varies across population groups, and is directly relevant to their felt needs (Spiteri and Nepal 2008; Archabald and Naughton-Treves 2001; Songorwa 1999). The two village categories had a significant difference in rating the conservation area's success in meeting local needs. Again the DV with comparatively higher participation rated ACA better for its success in addressing local needs. When it comes to the bottom-up approach to reconcile conservation and development challenges, it is critical to delineate needs and benefits. However, the distinction often gets blurred with regard to when and where the deliverables are identified and distributed.

Contrary to popular belief, providing benefits or addressing people's felt needs may not always lead to higher public participation. Like in other developing countries, TV close to conservation agency headquarters and busy hiking trails reap more benefits than DV (Spiteri and Nepal 2008; Jim and Xu 2002; Gillingham 2001; Goodwin and Roe 2001). However, a higher concentration of benefits in TV has not translated into higher participation. Small incentives may not hold much value for already rich and busy hotel operators, but they may provide valuable support to DV inhabitants with their livelihood. The participatory program in itself is an incentive, especially for DV farmers as it brings them an opportunity to deal with wildlife depredation in partnership with ACA. Wildlife depredation in DV has remained a serious challenge to local livelihood as well as wildlife conservation. This explains why a higher proportion of DV respondents, than their TV counterparts, think their livelihood depends on wildlife conservation. Since the region's tourism relies less on wildlife than it does on the landscape, scenery, local culture, and hiking trails, TV inhabitants are less likely to recognize wildlife management strategies as benefits than DV dwellers.

Barriers to Participation

Over 90% of surveyed respondents reported barriers preventing them from participating in community programs. Busy household chores, scheduling conflicts with agricultural and other livelihood activities, family and childcare demands, and lack of free time have been identified as the major barriers in participation by both DV and TV respondents. Like in any remote agrarian society, the villagers surveyed in ACA spend most of their time working on farms or businesses. DV and TV differ in rating their barriers largely because of their different socio-economic and occupational pursuits. For example, primarily agricultural DV residents find household chores, farm and livelihood

activities, family and children, and lack of time constraining their social engagements, while most TV residents identify household chores, which mostly include hotel and lodge businesses, and agricultural activities as the main barriers. Community participation obviously demands local commitment of time, efforts and resources, but how a community values and manages its time depends much on its unique structures and processes, complex subgroups and their behaviors (Colfer and others 1999). The value and local use of time varies across both the village groups and their subgroups. Most households in DV practice farming and animal husbandry, therefore community programs scheduled during sowing and harvesting seasons are apparently bound to falter with low participation. Similarly, the TV residents cannot be expected to come in hordes to participate in community programs during the tourist season when they are most likely to be busy attending their businesses.

A higher proportion of DV respondents do not participate because of the distance they have to travel. The problem of distance worsens as communities get sparse and far between, especially in DV where people spend hours commuting to and from farms. The identification of distance as a major barrier indicates that the participatory process has yet to take institutional roots and represent communities proportionately. Even though there were no statistical differences between DV and TV, overall, study results indicate public participation tends to augment in correspondence with a rise in people's education and awareness levels (Baral and Heinen 2007; Kellert and others 2000; Salafsky and Wollenberg 2000). It comes as no surprise that the educated members of both DV and TV are better positioned to manipulate the participatory process to their advantage, sometimes at the cost of the others with little or no education. Despite ACAP's avowed policy emphasis on the education and awareness component of its community programs, the people remain largely ignorant about ACAP itself and its mandates. Ironically, an incredible 95% of the respondents inaccurately perceive ACAP as a foreign agency. Prevalent local ignorance clearly illustrates the need to intensify ACAP's education and awareness programs in the region.

The respondents also perceived some of ACAP policies preventing them from participation. The majority of DV residents resent ACAP's wildlife policies, which they think are in favor of wild animals over humans. Villagers affected by wildlife depredation strongly argue in favor of a compensation plan for their losses, which ACAP argues is hard to implement. In TV, on the other hand, those who do not participate because of ACAP policies think the conservation agency is stifling local socio-economic development and traditional resource management. For example, residents of Marpha are bitter about ACAP's rejection of local requests to open some mountain peaks for climbing. Other TV residents

in Jomsom, Kagbeni and Muktinath contend ACAP's exorbitant entry fee for the Upper Mustang Area led to a steep decline in local tourism businesses. Local disapproval of some of ACAP policies may not be necessarily justified from a strictly conservation perspective. Nevertheless, it is naïve to expect full local compliance to conservation rules and regulation in any resource-dependent society.

Villages in ACA are comprised of clusters of occupational castes who constitute the bulk of the region's marginalized and disadvantaged people. Many of these people who participated in the past had to retreat from community programs as they felt discriminated by fellow members belonging to upper castes and classes. Manang and Mustang being largely Buddhist may not have the same level of social discrimination rooted in caste and ethnicity as in primarily Hindu villages in the south, but the 'social elites'—mostly upper-caste, richer, and more educated social groups—are better positioned to control and manipulate participatory programs in the area (Mehta and Heinen 1998). For people at the bottom of the social hierarchy, participating in community programs often means challenging the status and authority of the social elites, which most marginalized people rarely contemplate, much less attempt it. One of the ideals of participatory conservation is to help social groups, especially underprivileged and marginalized of them, build capacity so that they can forge better social relations by breaking traditional barriers based on caste, creed and income status so as to create sustainable communities. However, capacity building is easier said than done, especially in communities where social division and disparity are deeply rooted and perpetuated (Baral and Heinen 2007; Gupte 2003; Kellert and others 2000; Heinen and Mehta 1999; Sarin and others 1998). As other studies have shown unequal socio-economic status, inequality in access to power, and daily struggles of vulnerable groups to make ends meet are critical determinants of successes or failures of participatory conservation (Classen and others 2008; Muñoz and others 2007). Such barriers may not be totally uprooted, but can be greatly incapacitated by appropriate institutional reforms, local empowerment and equity, which are some of the preconditions for successful implementation of participatory conservation.

Conclusion

Participatory conservation is slowly gaining wider social acceptance in remote and isolated mountain communities of the northern extension of the Annapurna Conservation Area. The region may not have the same level of success in social mobilization for biodiversity conservation as in the southern region; however community participation has increased over the years. It is encouraging to see half of the

people in the study area taking initiatives to build grass-roots institutions. Of all the changes ACAP's participatory model has brought to the region, the most important catalyst, perhaps, is the rise in local conservation awareness.

Participatory conservation dwells on the idea of trade-off between social needs and conservation values. The use of social and economic development as a reward for local initiatives in sustainable management of their biophysical resources has its pitfalls and promises, which explain why some participatory programs fail while others succeed. ACAP has successfully implemented the participatory conservation strategy in the southern part of the conservation area. The extension of the strategy to the north is essentially aimed at replicating the successes from the south to create sustainable communities in the fragile environments of the Himalaya where a combination of rising population, unregulated tourism, deforestation, and the resultant land degradation and declining agricultural prospects have raised the specter of widespread social, economic and environmental ruins. However, there can be no comparisons between the two regions characterized by different geographic, cultural, and socio-economic dynamics. These distinctions could have affected ACAP's implementation of participatory conservation and local response to it in the north. Reasonable adjustments in the programs and projects appropriate to local culture, social conditions and livelihood issues can make a difference in overall participation.

What really constitute motivation for participation varies across communities and their subgroups, their social and economic status, education, and felt needs, which create their own barriers and opportunities in participation. As community participation happens within specific social settings, it is often subject to influence and even manipulations by existing social systems and their architects and custodians. In communities like those surveyed in ACA, the so-called 'social elites' are highly likely to abuse the participatory process to further entrench their power, position and influence. Their social standing allows them to lead local institutions and gives them power to decide who participates and who does not. The study found cases in some villages where high-caste, and richer social groups systematically precluded participation of the marginalized people. Social disparity and its proponents present a challenge in the implementation of participatory programs in ACA. Formation of group-specific local committees and incentives appropriate to marginalized groups could be an effective antidote to existing social and cultural barriers in participation.

ACA is a large multiple-use conservation area that presents opportunities to expand participatory conservation beyond the traditional domain of micro community projects, which are sometimes too small to make an impact. Social divide and income disparities are formidable

barriers in greater social mobilization for biodiversity conservation in the region. A more equitable distribution of tourism revenue can dismantle this barrier and usher in social equity and justice, a prerequisite in expanding participatory conservation. One way of attempting it is to link different sectors of the local economy so that tourism benefits can also flow to the remote and needy communities. Creation of linkages between economic sectors and DV and TV communities may also relieve ACAP of the onus of providing socio-economic support, as communities will have the wherewithal to sustain themselves.

ACA is a precious repository of ecological and cultural treasure of the mid-Himalayan range. It cannot at any cost be rendered vulnerable to the frailties of political instability, social divide, poverty, and weak law enforcement that currently threaten it. ACAP plans to hand over the conservation area to local communities in 2012. However, the current practice of participatory conservation marred by low community turnout, institutional infirmities, general lack of education and awareness, and social inequities indicate that the communities, at least in the northern region of ACA, seriously lack critical institutional and management capabilities to take on the onus of managing such a huge and fragile conservation area.

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