

Linking livelihoods to conservation approach is inevitable for sustainable development; A case of Manas Tiger Reserve, Assam, India.

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Abstract

Protected Areas (PAs) are among the most important tools for the conservation of biodiversity in a rapidly developing and more populous world. International bodies like the Convention on Biological Diversity (CBD), the IUCN, the International Federation for Social Workers (IFSW), and the International Association of Schools of Social Works (IASSW) have accepted economic growth, social development, and environmental protection are the three dimensions of sustainable development. A study was conducted using a systematic literature review method to understand the widely accepted theories and legal framework related to sustainable development at the global level and the need to link livelihoods to conservation for effective management of PAs in India and Manas Tiger Reserve in particular at the local level. The participation of local communities in wildlife conservation brought Manas UNESCO World Heritage Site lost status back in 2011 which was put 'In Danger' tag in 1992. However, there are many gaps in the planning process by the park authorities to meet the multidimensional needs of the fringe villagers and their dependency on forest resources, and the lack of effective roadmaps that ultimately lead to sustainable development.

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Introduction

With 188 nations participating as parties to the Convention on Biological Diversity (CBD), there is almost universal agreement that protected areas are among the most important tools for the conservation of biodiversity in a rapidly developing and more populous world. As such, they play a critical role in life on Earth, including the health and well-being of humans (Lockwood et al., 2006). At the general meeting in 2004, the International Federation of Social Workers (IFSW) and International Association of Schools of Social Work (IASSW) approved the definition of social work as ‘The social work profession promotes social change, problem-solving in human relationships and the empowerment and liberation of people to enhance well-being. Utilizing theories of human behaviour and social systems, social work intervenes at the points where people interact with their environments. Principles of human rights and social justice are fundamental to social work,’ (Manohar, 2006). The Preamble of the USA’s National Association of Social Workers’ Code of Ethics (1996) states the primary mission of the social work profession is to enhance human well-being (Reamer, 1998).

The Board of the Millennium Ecosystem Assessment (MA) in a statement titled ‘Living Beyond on Means’ Natural Assets and Human-wellbeing said that the objective of the MA was to assess the consequence of ecosystem change for human well-being and the scientific basis for actions needed to enhance the conservation and sustainable use of those systems and their contribution to human well-being. It was initiated in 2001 and MA was called for by the UN General Secretary Kofi Annan in 2000. One of the key messages of the MA includes ‘the loss of services derived from the ecosystem is a significant barrier to the achievement of the Millennium Development Goals to reduce poverty, hunger and disease (Board, MA, 2005).

Christen has explained the five interconnected levels of the Framework of Strategic Sustainable Development. He has stated that level 1 provides an underlying of the constitutional principles of the functioning of the system such

as the ecosphere (including natural and human systems); level 2 defines the principles of sustainability; level-3 considers the principles for a process to meet principles for sustainability; level-4 focus on activities for sustainable development and finally level-5 concentrates on the tools that monitor (Christen, 2012). The sustainable development perspective is generally explained by the concept of the 'three pillars' of economic growth, social development, and environmental protection, which should be considered as 'interdependent and mutually reinforcing' (Laubner, 2002).

Managing protected areas is essentially a social process. It within communities of place and interest that are, in part, formed by their histories, cultural institutions, economic circumstances, and politics. Overall, the natural forest provides 21 percent of total households' income (another 1 percent coming from forest plantation), 6.4 percent derived from non-forest environments (fallows, bush, grassland, etc.) making the combined environmental income 27.5 percent. The poor rely more heavily on subsistence-oriented forest products such as wood fuel and wild foods and or products extracted from natural areas other than forest (Wunder et al., 2014). Community management systems should be an integral part of national forest plans, and therefore, communication linkages should be established between government agencies and user groups such as rural women and low-income households, who heavily depend on forest resources for their livelihoods (Kugonza et al., 2009).

The current definition of livelihoods is defined as the capabilities, assets (stores, resources, claims, and access), and activities required for a means of living a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihoods opportunities for the next generation and which contributes net benefits to other livelihoods at the local and global levels and in the short and long terms (Chamber, 1991).

Various countries rich in forest and biodiversity have adopted the laws at national level that promote sustainable livelihoods and conservation. Brazil is one of the richest countries in the world in terms of biodiversity. The Brazilian pilot experiences involving local communities in the design of protected sites and with biodiversity management are still recent and not numerous, which

makes it difficult to compare different situations, results, and conclusions concerning biodiversity conservation improvement and social betterment. The economic development of local communities in reserves that have been established by top-down models has been based on their involvement with some services, such as reserve management and tourism guiding. These are only possible in those few reserves that can be easily visited.

Economic growth has also been pursued by some sort of value aggregation to local community produce, but this is still at a low level, with weak technological and market support (Egler, 2002). The Government and people of Bhutan recognize the need to follow a middle path that is committed to pursuing economic growth without undermining the integrity of the natural resources or the country's unique cultural heritage. This development philosophy of gross domestic happiness is based on four government-endorsed pillars: conservation and sustainable use of the natural environment; preservation and promotion of cultural heritage; adequate economic development; and good governance. The country is currently working on identifying indicators that can allow measurement of progress with these four pillars, thereby tracking development in terms of gross national happiness as an alternative to the traditional GDP measure (Tshering, 2006). The fundamental policy regarding the utilization of wildlife resources in Namibia appears in Article 95 of the Constitution, where 'the State shall actively promote and maintain the welfare of the people by shaping policies aimed at maintenance of the ecosystem, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefits of all Namibians, both present and future,' (Nuding, 2002). South Africa is an emerging democracy, whose constitution contains among the strongest environmental protection in the world. The new Government has shown its commitment to conservation by becoming a party to the International Convention on Biodiversity, the RAMSAR Convention of Wetlands of International Importance, and in the process of undertaking a National Biodiversity Strategy and Action Plan. However, the country still suffers from extremes of poverty and inequitable resource distribution. Social injustice, environmental degradation, poverty, and disease go hand in hand (Younge, 2002). Protected areas must be designed and managed to provide tangible and intangible benefits to society (McNeely, 1994).

Manas Tiger Reserve (MTR), one of the first batch of nine TRs declared on 1st April 1973 under the aegis of 'Project Tiger' by the Government of India. Manas TR covers a total geographical area of 2837.10 km² bound by the Sankosh River on the west, sharing with the Indo-Bhutan international boundary on the north, Dhansiri River on the east, and thickly populated villages including 151 forest villages on the south (Manas TCP 2014). As per the Wild Life (Protection) Act, 1972, there are four categories of Protected Areas (PAs) viz-National Park (Section 35), Wildlife Sanctuary (Section, 18), Conservation Reserve (Section 36A), and Community Reserve (36C) (WPA India 1972). There are many national and international recognitions and inscriptions of Manas. Manas Wildlife Sanctuary covering 391 km² was notified in 1928 and later in 1985, the area was inscribed as a UNESCO World Heritage Site (N338). Manas TR was also notified as a UNESCO Biosphere Reserve in 1989.

The core of Manas TR covering 500 km² was notified as a national park in 1990. Later, in 2003, the Chirang-Ripu covering 2600 km², part of Manas TR was notified as Elephant Reserve (The Assam Gazette 2003). As per the recommendation made in 2011 by the World Heritage Committee 55th Session, the western part of the existing Manas NP covering 350 km² of Manas Reserve Forest was notified as the First Addition to Manas National Park in August 2016. The westernmost part of Manas TR covering 422 km² was notified as Raimona National Park in June 2021. Thus, the forest areas are highly protected in terms of legal notification and upgradation of the status of forest areas to protected areas 1298.22 km² (45 percent) of the total geographical area of Manas TR. There are 151 recognized forest villages in the tiger reserve (Manas TCP 2014) and the protected areas are surrounded by thickly populated villages. Therefore, the interaction of forest resources by the fringe villagers for livelihoods, and sustenance including cattle grazing is inevitable. If the management of natural resources is to succeed then it must be built on trust between managers and people to ensure public support. Resource management decisions are bound to affect different groups of people in different ways depending on what their interests are. Involving people in resource planning does not simply mean keeping them informed. It is only a part of the process. It is important to listen to people and understand their perceptions so that the resultant strat-

egies can appropriately integrate their concerns while reducing pressures on forests through a variety of alternatives that make ecological and economic sense (Sawarkar, 2005). Therefore, the main objectives of the study i) to understand the current theories and thoughts on protected areas at global level for conservation of natural heritage and sustainable livelihoods of the local communities inhabiting near the PAs; ii) the legal framework of PAs in India in general and the Manas Tiger Reserve in particular for finding the scope of linking sustainable livelihoods to conservation and for further in-depth study to design a clear framework for building park-people relations and effective management of PAs.

Methodology

A systematic review of relevant literature based on the title and objectives of the study was made. The concept of Protected Areas (PAs) as a tool for conservation and human well-being were sorted out at the global level in the discussion in a platform like the International Union for Conservation of Nature (IUCN), World Parks Congress, Convention on Biological Diversity (CBD), International Federation of Social Workers (IFSW) and the legal framework for conservation and sustainable livelihoods in India, the management objectives that cover the concerns of local communities to balance conservation and livelihoods among the fringe villagers inhabiting around PAs. The existing management system of the protected areas of Manas Tiger Reserve and the scope for considering the effective management tools for linking park-people relations for effective management of the PAs using the Social- Ecological Systems (SES) lens (Berkes et al., 2016) framework that analyses the four main themes of social-ecological systems viz- i) Meaning of Conservation, ii) Motivations of Conservation, iii) Governance of Conservation and iv) Outcomes of Conservation. Conservation and stewardship are actions that ensure the long-term sustainability of resources and associated livelihoods.

Results

The Sustainable Livelihoods Framework

Since the 1980s, sustainable development has become widely established as a guiding policy framework at all scales. The first 'modern' state-designated

protected areas were established in the US and Australia during the 1860s and 1870s. The US Congress dedicated 'Yellowstone' the world's first national park, in 1872. The idea of national parks as a land use spread to Australia, with the establishment in 1879 of the establishment of Royal National Park near Sydney. Over time, this purpose has widened to embrace, from the 1930s, the provision of public aesthetic and recreation benefits, from the 1970s, biodiversity conservation; and most recently a focus on economic and social benefits. In India, Hailey National Park notified in 1936 was the first in the country. By 2005, there were 113,707 protected areas covering 19.6 million square kilometers recorded in the World Database on Protected Areas (Lockwood et al., 2006). The Union for Conservation of Nature (IUCN), Third World Conference on National Park held in Bali in 1982 recommended linking protected areas to sustainable development. The Fourth World Congress held in Caracas, Venezuela, in 1992 sent the message that communities wanted to be involved in decision-making and the management of protected areas. The World Commission on Environment and Development (WCED) in 1987 in a report entitled 'Our Common Future' articulated the definition that sustainable development is a development that 'meets the needs of the present without compromising the ability of future generations to meet their needs' (WCED 1987). The Framework of Strategic Sustainable Development involves five interconnected levels that is explained by Christen. He has stated that level 1 provides an underlying of the constitutional principles of the functioning of the system such as the ecosphere (including natural and human systems); level 2 defines the principles of sustainability; level 3 considers the principles for a process to meet principles for sustainability; level-4 focus on activities for sustainable development and finally level-5 concentrates on the tools that monitor (Christen, 2011). The ecological perspective leads us to focus on the natural environment within which human life must be lived—the natural environment on which all life ultimately depends. It refers to the environmental crisis that is widely seen to be of great response to this crisis. One of them is 'to solve specific problems by finding discrete solutions.' It's ecological perspective adopts the green view of ecological problems. As he states, 'If the ecological crisis is to be effectively resolved, it will be through social, economic and political change, rather than through scientific and technological prog-

ress,' (Manohar, 2006). 'World Heritage Conservation' has emerged as an interdisciplinary field of study and practice that draws on the broader aims of sustainable development. It provides a multifaceted lens for understanding contemporary human interaction with the environment in a globalized world in which heritage conservation is increasingly defined and regulated by international parties. The World Heritage Convention is unique in its focus on the conservation of both cultural and natural heritage on behalf of humanity (Cave, 2017). The concept of sustainable development was first launched by the International Union for the Conservation of Nature (IUCN) in the 1980s in a document entitled *World Conservation Strategy: Living Resource Conservation for Sustainable Development*. The strategy determined that for development to be sustainable it 'must take account of social and ecological factors, as well as economic ones' (WWF, 1980, para 1.3). This is underscored by the belief that 'we have not inherited the earth from our parents, we have borrowed it from our children' and that ultimately conservation and development are mutually dependable and should be reviewed by the international community compatible issues. This strategy for the first time, considered that development was a means for achieving conservation rather than being exclusively damaging to it. The present thinking of the ecological approaches suggests that the primary premise explaining human problems is derived from the complex interplay of psychological, social, economic, political, and physical forces. Such a framework accords due recognition of the transactional relationship between environmental and human conditions. This perspective allows the practitioners to effectively treat problems and needs of various systematic levels including the individual, family, the small group, and the practitioner can easily shift from a clinical role to a policy and planning role within the board framework of the ecological approach (Pardeck, 1988). Rural development research in the 1980s and 1990s revealed that many rural households did not rely only on agricultural systems as their main economic basis. There was evidence that many households depend on a range of natural resources, such as forests, fisheries, and grazing lands. Livelihood analysis examines the diversity of rural livelihood practices, and its use has become widespread over the past decades. Livelihoods are defined as "the capabilities, assets (stores, resources, claims, and access) and activities required for a means of living: a livelihood is sustainable which can

cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term. Different types of livelihood outcomes have been identified, including increased income, reduced vulnerability, increased well-being, improved food security, and more sustainable use of natural resources. The development of a livelihoods module needs to address whether the focus will be on economic livelihood outcomes (income) or if a broader definition of livelihoods is used (Davidson-Hunt et al., 2017).

Park-people relations in the existing legal framework in India: The Provisional Forest Department, Assam was established in 1874. However, Gustav Mann had already completed the selection and reservation of a few forested tracts in Guwahati, Tezpur, and Golghat as work that began in 1870. Before the Bengal Forest Act, of 1865 was replaced with the Indian Forest Act of 1878 a sizeable forest area was notified as Reserve Forest. In 1892, as the Assam Forest Regulation of 1891 came into force, the forest came to be constituted into three categories: Reserved Forests, Village Forests, and Unclassed State Forests (Saikia, 2011). The Wildlife (Protection) Act, 1972 brought a lot of changes to the existing forest regulations, laws, and rules in the country. The Act was a milestone in empowering the Forest Department to protect the forest and wildlife of India. It would be pertinent to point out that of the 617 national parks and wildlife sanctuaries that currently stand notified, more than half were hunting reserves eighty-seven of the British and 277 of the India Princes. Unfortunately, almost all of them were established as protected areas after the Wild Life (Protection) Act, 1972 came into force (Ranjitsinh, 2017). It was Prime Minister Indira Gandhi who had set up a full-fledged Department of Environment in 1980. Then in January 1985, Prime Minister Rajib Gandhi expanded the scope of the department by transferring 'Forest' from the Ministry of Agriculture and creating a separate Ministry of Environment and Forests. The debate on whether to privilege growth over ecological security is passe. Environmental considerations must be at the heart of economic growth, especially for a country of 1.25 billion people destined to add another 400 million by the middle of the country. "Green Signals" chronicles the 1991

moment in India's environmental decision-making by the author Jairam Ramesh who had the charge of Minister, Union Minister, Environment and Forests, Government of India in 2009 (Ramesh, 2015).

Every continent has its tragic history of dispossessions of those who treat the land, or parts of it, as a common resource. The assumption that the conservation of natural resources is only possible through the exclusion of local people has been pervasive throughout history. Local mismanagement has been used as an excuse to exclude people—who in turn are often seen as different from ruling entities. An inevitable result of this exclusion is that local people are forced to struggle for their lands, the rights to which are progressively denied. This has led to many open protests, rallies, and acts of sabotage against national parks and protected areas themselves. In the early 1980s, over a hundred clashes were reported from national parks and sanctuaries in India. Later, villagers set fire to large areas of the Kanha and Nagarhole national parks in the early 1990s, when denied access to the park for forest produce. In remote areas, insurgents have taken advantage of local resentment to take off the Manas Tiger Reserve in Assam, to drive out the forest guards, and to invade the Kutur Tiger and Buffalo Reserve in Madhya Pradesh (Roy, 1993). The tears of Manas started with the series of incidents that happened during the late nineties that continued till 2003. From 1989 to 1999, there were 55 times attacks on forest camps, destroyed the properties of the World Heritage Site, several forest staff were killed, and more than one hundred rhinos were extirpated. The Park was closed to visitors for 14 years (Manas TCP 2014). Empirical evidence from the present study conducted in Manas TR suggests that the land cover changes in the foothills belt between Assam and Bhutan during the last four decades are the result of both anthropogenic pressure and natural processes as well. Both processes are consequently depleting the forest resources that have direct as well as indirect effects on the livelihood pattern of the people living in this area, vis-à-vis forest ecology of the foothills region (Narzary, 2013).

Discussion

Manas Tiger Reserve (TR) covering 2837.10 km² was notified in 1973 by the Govt. of India (Project Tiger 2023). It was one among the nine TRs notified in the country for the conservation of the key species. The core area of Manas

TR covering 500 km² was notified as Manas National Park in 1990 (The Assam Gazette 1990). The Manas Wildlife Sanctuary (WLS) (The Assam Gazette, 1928) and the Manas WLS was later inscribed as a UNESCO World Heritage Site (WHS) in 1985 covering 391 km² (IUCN 1985). However, the natural heritage was severely damaged during the Bodoland movement by the Bodo tribe for their civil and political rights that started in the late nineteenth and continued for two decades. The UNESCO WHS Committee evaluated the situation and by the provision of Article 11, Paragraph 4 of the Convention decided to include it on the list of World Heritage in Danger in 1992 (WHS 1992). This is an example for the entire global community to understand that local communities are the main custodians of the natural heritage and protected areas. The formation of the Bodoland Territorial Council (BTC) in 2003 brought normalcy and the Bodo tribe got autonomy at the cost of a two-decades-long struggle. However, they lost their natural heritage.

The All-Bodo Students Union (ABSU), the most powerful non-political force in the council inspired the local villagers, and the youth to work with the newly established BTC to bring the previous Manas glory back. The local youth gathered and formed Community-based Organizations (CBOs) and encouraged the Forest Department to enhance patrolling. The national and international NGOs like Wildlife Trust of India (WTI), WWF-India, Aaranyak and ATREE also came forward to extend all possible support to the local communities, to the BTC, and the Forest Department. This collaborative journey brought the previous glory back in June 2011 (WHC 2011). The Greater One-horned Rhinoceros was reintroduced by the Assam Forest Department jointly with WTI in 2006 from Kaziranga National Park to Manas National Park. Community-based nature tourism was started again, and the Manas Tiger Conservation Foundation was established. The UNESCO WH Committee in the 55th Session recommended the authority to extend the area of Manas NP by 360 km², implement recovery of Swamp Deer complete the reintroduction of Greater One-horned Rhinoceros, and develop a comprehensive tourism management plan in close cooperation with the local communities (WHC 2011).

The western part of Manas Reserve Forest covering 350 km² was upgraded to the First Addition to Manas National Park in 2016 by the Government of

Assam (Assam Gazette 2016). 36 individuals of Swamp Deer from Kaziranga NP were translocated to Manas NP in 2014 and 2017 respectively and the population increased by 121 individuals recorded in 2021 (Islam et al. 2022). During the Worldwide lockdown, the Govt. of Assam notified Raimona NP covering 422 km² in June 2021 (Assam Gazette 2021), a western buffer area of Manas TR. These are remarkable achievements for Manas TR in terms of conservation. The management goals of Manas TR included the promotion of diversified ecotourism activities ensuring maximum benefit to local communities (Manas TCP 2014). However, there is no plan as such for addressing the manifold aspirations and livelihood issues of the fringe villagers inhabiting the protected areas. Out of 2837.10 km² of the total area of Manas TR, there are 1298.22 km² under protected area. The contribution of the Wildlife Trust of India and the vision 'Greater Manas' has largely contributed towards bringing more forest areas under PAs in Manas TR (Menon et al., 2008). Some proposed activities for community development for forest-dependent households under the foundation exist. However, there are no clear objectives, budget outlined, or time frame for addressing issues like cattle grazing inside the PAs, reducing NTFP collection, participation of local communities in the planning process, and sharing the Manas TCP in local languages with the local communities to ensure their long-term planning to bring a win-win situation. Allowing more active local participation in the PA decision-making process means that PA financial resources can be better invested in improving governance, local capacity building, and participation programs rather than draconian measures (Andrew and Rhodes, 2012). In a recent study done for PAs in developing countries, the authors have defined Conservation-compatible livelihoods (CCLs) by deepening the meaning of sustainable livelihoods and strengthening cultural inclusiveness (Siyuan et al., 2023). They have also agreed that there is not a clear definition and model of CCL and a systematic approach to guide rural livelihood development for those affected by protected areas management. During the commemoration of fifty years of Project Tiger in India held on 9th April 2023 at Mysore, the Tiger Vision Plan for the Amrit Kaal was released. It focuses on a landscape-level approach for sustaining wild tiger habitats while recognizing the tiger and its role as a mascot for livelihoods, sustenance of natural resources, and preserving the socio-cultural ethos ((Tiger Vision 2023).

The participation of local communities in the process of conservation is inevitable in such a thickly populated landscape surrounded by villages in and around all the PAs in Manas TR and there are 151 recognized forest villages in Manas TR (Manas TCP 2014). People's participation in the conservation process in such a human-dominant landscape would require comprehensive long-term planning to ensure sustainable livelihoods and conservation. Conclusion Climate change, the loss of biodiversity, and the vulnerability arising out of weather change are international issues. Almost all countries have accepted the fact that protected areas are the best tools for securing the lives of humans as well as wildlife on Earth. However, this theoretical perspective has not been applied fully to work towards this. Many questions have not been answered like how the protected area managers will involve the people in the planning process while preparing the management plan to consider the aspirations and livelihoods needs of local communities inhabiting the protected areas. The fact is that anthropogenic pressure is one of the major threats to managing forests and wildlife on Earth.

The question that arises here is, how much amount in the total budget is kept aside to address the threats arising out of human activities that may harm the PA? What are the major drivers stimulating local communities to depend on the forest resources of a PA? What is the arrangement to link sustainable livelihoods to conservation? Manas Tiger Reserve is an example for the global community to learn how the involvement of local communities could bring a UNESCO WHS from the list of 'In-Danger' tagged in 1992 to its previous glory in 2011 through collaborative management and a multi-stakeholder approach. Therefore, a study in Manas TR to understand the scope of linking livelihoods to conservation, park-people relations for effective management of the PAs and developing a clear roadmap and framework giving a wider scope of the local communities would help other PAs in the globe for better planning and management.

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