



IMPLEMENTATION OF ENVIRONMENTAL LAW THROUGH BUDGET FOR ECOLOGICAL SECURITY AND BIODIVERSITY IN ASSAM: A STUDY (2020-2025)

Nilakshi Bhuyan 

RESEARCH ARTICLE



Author Details:

Ph.D. Scholar,
Department of Political Science,
Assam University, Silchar,
Assam, India

Corresponding Author:

Nilakshi Bhuyan

DOI:

<https://doi.org/10.70096/tssr.260402007>

Abstract

Performance of a well efficient budgetary procedure and its relating legislative practices in response to our natural environment require the attention of the concerned government and the administrative officials. In this context, public finance can play a significant role. When the concerned government get the authority from legislature to use public finance in the form of a budget, then the focussed goals can also be fulfilled. A budget is an estimated financial plan of a government for the overall development of a country or of a state. Through a budget, government can fulfil their developmental purpose with a limited resource in an economical way and with their time bound programmes, policies and laws. To implement the framed policy of a government, budget is very helpful. This research paper has selected the public budget of Assam for a particular term of 5 years. This 5 year term will target to cover the implementation level of the environmental policies of the concerned state government and also their budgetary provisions in the financial context. Moreover, this study will compare the budgetary policies in the selected financial years within this particular term. The major objective of this paper is to examine the role of Assam budget to ensure the ecological system and the maintenance of biodiversity. This paper will also provide another major effort to assess the budgetary policies relating to environment and forest within this particular term. This critical study through this paper will be helpful to examine the success and failure of Assam budget to maintain ecological security and to the protection of the biodiversity in the state.

Keywords: *Biodiversity, Budget, Ecology, Implementation, Security*

Introduction

Ecology demands the cooperation and integration among the living organisms and their surrounding physical environment. The term 'ecology' refers to the study of all the living organisms in earth and nature. Healthy existence of the plant and animals of our earth demand connected with the surrounding environment around them. Ecology also encourages to get information about the benefits of ecosystems and also provides assistance to use earth's resources in a limited and sustainable way to leave the environment for our future generations as they wish to get. Ecological security and the protection of biodiversity is the major focussed area of the governance of a state. The governing authority have that accountability and responsibility to protect the natural environment from any kind of destructive activities. It is also the constitutional right to live in a healthy environment and also the fundamental duty to protect the natural environment in its original position and should give its due recognition. The failure to keep the natural environment in a safe position cannot define the efficiency of a government which also cannot establish the country as a developed one. Ruling government has taken various policies and programmes to tackle the environmental issues through its annual investment of financial resources for the upliftment of the department of Environment and Forest. But it is the question of every common citizen that though the government provides their financial and other necessary efforts to the upliftment of that department, but these are not sufficient or these are not utilised in a democratic way due to which environmental issues are rising and we have faced the loss of biodiversity. Selection of this particular term will be beneficial to investigate and measure the operational activities of the government budget of Assam in response to environment. The major objective of this paper is to examine the role of Assam budget to ensure the ecological system and the maintenance of biodiversity. This paper will also provide another major effort to assess the budgetary policies relating to environment and forest within this particular term.

Literature Review

Issues of ecological security and biodiversity in Assam: Joshi & Puri (2024) have said in their article that biodiversity is the variability among organisms from all sources including terrestrial, marine and other ecosystems at three levels- species, genetics and ecosystem. It deals with the degree of nature's variety in the biosphere. Variety of ecosystems which occur in deserts, forests, wetlands, mountains, lakes, rivers and agricultural landscapes encompass overall biodiversity on earth. Globally, biodiversity has come under increasing pressure on account of factors such as habitat fragmentation/habitat loss, over-exploitation, pollution, invasive species and global warming. The Convention on Biological Diversity is a legally binding instrument to address biological diversity with three objectives- conservation biodiversity, sustainable use of its components and the fair and equitable sharing of benefits arising from the use of genetic resources. Conservation of biodiversity is crucial because it provides several goods and services necessary for human survival. The need of hour is to use appropriate technologies to formulate effective and sustainable management of the natural resources. It is widely recognised that Remote Sensing and GIS are powerful tools in the assessment of biodiversity and conservation. Effective management of protected area and conservation of biodiversity in general demands inventory, evaluation, planning and management at scales ranging from local and regional to national, continental and global. IUCN prepares the Red List of Threatened Species which is a critical indicator of the health of the world's biodiversity. Growing human-led exploitation of natural resources and climatic changes has put biodiversity of India under severe threat. India is one of the twelve mega biodiverse countries in the world. due to the growth of increasing pressure of various factors, the potential of geospatial tools needs to be utilised in terms of forest cover maps, land use, land cover maps and vegetation maps especially in places of inaccessible, rugged terrain for further macro and micro level planning.ⁱ

Issues of budgetary policy implementation for ecological security and biodiversity in Assam: Hazarika (2023) has said in his article that over time, Deepor Beel has lost its originality, primarily due to the deterioration of water and soil quality, as well as the loss of habitats and ecological balance. The beel is also undergoing changes in size due to human activities like urbanization, illegal settlements and industrial growth. The construction of railroads through the wetland poses a threat to Asiatic elephants, leading to frequent collisions with trains. Moreover, there has been a significant decline of aquatic species, particularly a 26% decrease in fish varieties, mainly caused by rising temperatures. The survival conditions for these species have been compromised due to continuous pollution from sewage disposal and waste dumping near the beel. Therefore, it is crucial to urgently relocate the dumping grounds. The presence of heavy metals and faecal coliforms disturbs the water balance for a wetland can have detrimental effects on the reproduction of fish and other aquatic organisms. Consequently, the coexistence of wetlands and landfills poses an ecological risk and threat.ⁱⁱ Thakur (2024) has said in his article that the act of human vandalism perpetrated on nature has triggered. In the last year, we certainly have one or two success stories involving Kaziranga, Manas or Pobitora, but viewed against the overall degradation of forests in the state, this does not raise much hope for realizing the goal of long term conservation or maintaining a healthy environment. Apart from the loss of forest cover, the state is also losing its tree cover outside forests at an alarming rate. Intrusive infrastructure development projects, especially road projects, which have resulted in the felling of lakhs of trees. At the root of all this lies the failure of the government to enforce the laws meant for forest and environment protection. Moreover, recent decisions of the state government such as the withdrawal of the preliminary notification for upgrading the city's biodiversity-rich Garbhanga Reserve Forest to a Wildlife Sanctuary, the allotment of traditional elephant territory in Kaziranga's periphery for high-end hotel construction, the granting of oil exploration activities in the eco-sensitive zone of Hologpar Gibon Wildlife Sanctuary and approving the electrification of a train track cutting through the same sanctuary which boasts the country's highest primate diversity etc., are some such acts of the state government that are at complete odds with the interests of wildlife. It may be noted that the dense forest cover in Assam, which shelters much of the state's biodiversity is only about 13%. Open cast coal mining too has resumed in the Dehing Patkai rainforests, which are Assam's only viable stretch of rainforests accounting for mega biodiversity. Unless the authorities realize the worth of the state's natural environment, especially its forests and wetlands, together with the amazing biodiversity they sustain and desist from sacrificing this priceless bequest from nature at the altar of a thoughtless and insensitive developmental process, the damages will be catastrophic and irreversible. All that the ongoing haphazard and ill-executed construction activities which care little about maintaining the norms for checking dust pollution, have achieved is a shroud of dust hanging perennially over the city skyline. Exposure to this shocking and prolonged air pollution has made the citizens vulnerable to various respiratory and eye disorders. It will be no exaggeration to say that the citizens' right to a healthy living has seriously been compromised in the face of this assault from the government authorities. The state's only Ramsar Site- Deepor Beel is also literally gasping for breath amid the slew of polluting activities taking place in and around the wetland. Even strictures from the Gauhati High Court and National Green Tribunal have failed to move the State Government into shifting the municipal waste dumping ground from the beels periphery. The wetland has also shrunk rapidly due to growing anthropogenic and industrial pressures over the years with the trend in no mood to ease. With a little push from the government, community conservation can emerge as a potent tool to protect tool to protect our forests and wetlands, particularly those not falling under protected areas such as national parks and sanctuaries.ⁱⁱⁱ Das (2013) has explained about the present scenario of forest areas of Assam through this article. She also explained about the causes of the destruction of forest areas in the state and its impact upon climate. She has criticised that though there are many government laws at the central and at the state level for preserving forest resources but unfortunately many people are not aware of these laws nor are these executed with sincerity. Deforestation is also one of the major reasons as forest cover is shrinking day by day and as a result the elephants, leopards and tigers are entering human habitation in search of food. Humans are entering into forest and encroaching forest land and deriving the animals from their area resulting in conflict. According to official report, more than 70 people and 80 pachyderms on average die every year in human- elephant conflict in Assam. As per

latest data, 1330 elephants have died between 2001 and 2012, with the highest number of deaths reported in 2013 when 107 pachyderms died. Among the various reasons for the deaths, 509 died of natural causes, 261 succumbed to unknown reasons, 202 were electrocuted, 102 died in train accidents, 65 due to poisoning, 40 were poached and 18 after being hit by lightning. The Assam Forest Department data shows that a total of 245 humans and 146 elephants were killed between 2001 and 2013 in man-animal conflict on border between Assam and Bhutan. According to the forest survey of India, Assam lost 65 percent of its lowland semi- evergreen forests since 1972. All the northeastern states together lost 1802 sq. Km. of elephant range habitat between 1991 and 1999. The conflict peak during winter, because the elephants come out of forest in search of food and enter human habitation. Angry villagers who want to save their crops from elephant depredation put electric wires and sometimes poison the pachyderms. Due to electrocution, many elephants die every year. So, to mitigate the human- animal conflict in ecologically sensitive and less developed regions like Assam. He has pointed out the importance of government effort which is the need of the hour.^{iv}

Assessment of the application of environmental law through budget in Assam during this particular term: Kalita & Hussain (2021) they said in their article that Forest degradation due to human settlement, agriculture, exploitation of forest resources, land use/land cover change has resulted in loss of biodiversity, habitat fragmentation, shrinkage of wildlife habitats, man-animal conflicts and climate change. Assam has also suffered rapid loss of forest cover due to encroachment in the forest areas, clearing of forest for expansion of agriculture land, excessive dependency of the rural communities on forest resources and displacement of people by annual floods, erosion, militancy, ethnic clashes. Fuel wood extraction, illicit felling of trees for timber extraction, hunting and poaching, fishing, livestock grazing have altered forest cover and paved paths for other land use in many protected areas of India. Depletion of forest in the past decades for agriculture, human settlement etc. have contributed to climate change, loss of biodiversity, habitat fragmentation, shrinkage of wildlife habitats and exploitation of forest resources have adversely affected the sustenance of forest dependent communities. Shrinking wildlife habitats due to encroachment and fragmentation have resulted in human- wildlife conflicts in many parts of India especially in the north- eastern region. The state of Assam have suffered rapid loss of forest cover in the past decades due to encroachment in the forest areas and displacement of people by annual floods, erosion, militancy, ethnic clashes and excessive dependency of the rural communities on forest resources and clearing of forest for expansion of agriculture land.^v

Choudhury (2004) has focussed upon the conservation issues of wildlife and human- animal conflict of northeast states and especially in Assam. One of the major instigators of human- wildlife conflict is competition for space. Destruction of forests through logging, encroachment, slash- and- burn shifting cultivation and monoculture tree plantations are major threats to the survival of the elephant. The forest cover in Northeast India is disappearing at an alarming rate. Encroachment into forested areas is a major problem. In the 1970s and 1980s, almost the entire population of elephants and other wildlife has disappeared from the 900km² rain forest tract comprising Nambor south, Diphu and Rengma in Golaghat district of Assam because of border problems with Nagaland and subsequent logging, poaching and encroachment. Moreover, development projects also invite conflict between humans and wildlife. Human development destroys and fragments wildlife habitat, blocks migration routes, facilitates encroachment and encourages poaching. For example, bamboo harvesting for paper mills in Jagiroad, Panchgram and Jogighopa in Assam, oil mining/exploration in Assam and Arunachal Pradesh and open cast coal mining in Assam and Meghalaya have disturbed and destroyed wildlife habitat, as well as caused pollution. Construction of roads, railways and other infrastructure projects destroy and fragment natural habitat and allow encroachment, logging and poaching to occur. Near Burhachapori and Loakhuwa wildlife sanctuaries in Assam, most of the people were died due to injury caused by elephants. Elephants have also died as a result of human- elephant conflicts. More than 370 elephants were killed or poached in NE India between 1980 and 2003, many of which were killed in retaliation by villagers. Individuals and families affected by human- elephant conflicts are usually paid compensation by government agencies, but the lack of adequate funding, delays in processing and the tendency among many villagers to submit false claims complicate the problem.^{vi}

Hazarika & Kalita (2019) has exposed through their article about various issues inside Kaziranga National Park which causes threatening to the biodiversity and wild life of the national park. Kaziranga National Park is considered as an embodiment of biodiversity and ecosystem services which is one of the seven natural heritage sites of India is also inscribed for being the world's major stronghold of the Indian one- horned rhino, currently with a species strength of two- thirds of the global rhino population. Severely affected by fluvial processes and bank erosion, coupled with negative anthropogenic interventions, Kaziranga National Park has suffered from deaths of numerous wildlife species, destruction of ecosystems and discontinuity in ecological successions. As such, the conservation process of Kaziranga National Park hovers around strictly protecting its biodiversity and negating human interventions. It is no secret that poaching of rhino horns has been notoriously active in and around the park and efforts to contain it has faced dead- ends. The strict conservation process has now and then devoid fringe communities of their livelihood as well as their traditional lands, subsequently resulting in clashes among park authorities and local people.^{vii}

Findings

1. Discharge of untreated effluents in natural water bodies or land area will be prohibited. Commercial establishment of hotels and resorts will be prohibited. No new commercial hotels and resorts shall be permitted within one kilometre of the boundary of the protected area or upto the extent of eco- sensitive zone, whichever is nearer, except for small temporary structures for eco- tourism activities.
2. The success of Indian Rhino Vision 2020 led to the greater one- horned rhinoceros being downlisted from endangered to vulnerable position on the IUCN Red List in 2008.

3. IUCN has the global authority which can create a just world to protection and for the conservation of nature which can lead to fulfil the Sustainable Development Goals
4. From this study, it was found that though this wetland has got international recognition from an Iran based organisation, but its due recognition from Assam budget is not satisfactory. Though the Assam budget has taken various policies to deal with various environmental issues, but these are not satisfactory which are cleared from the official report of Union Ministry of Environment, Forest and Climate Change.
5. Most of the industrial activities and their operations and processes have disturbed upon the nearby areas of this wetland. The wastage products of these industries have polluted the water level of Deepor Beel.
6. There is a need to check the polluting activities of this wetland. A well organised Monitoring Committee that is to be formed by the Assam government should check the activities and operation of the concerned authority related to Deepor Beel from time to time and should submit an annual report.
7. The municipal authority of the Kamrup (M) district cannot be called as a responsible one. Due to its irresponsibility, the wastage products have to be absorbed by this beel which has made this beel as a dumping site.
8. Wildlife of the nearby forest areas of this beel are also not safe now. Forests areas are used by the government and other organisations for the commercial purposes which actually disturbs the habitat and livelihood of those wildlife habitat.

Suggestions

1. This UNESCO listed site is considered as an Eco- sensitive zone from ecological, environmental and biodiversity point of view and to prohibit industries or class of industries and their operations and processes in the said eco- sensitive zone.
2. Forest, open spaces earmarked for recreational purposes in the eco- sensitive zone shall not be used or converted into areas for major commercial or major residential complex or industrial activities.
3. The vehicular movement of the traffic shall be regulated in a habitat friendly manner and specific provisions in this regard shall be incorporated in the Zonal Master Plan.
4. Establishment of new and expansion of existing polluting industries in the eco- sensitive zone shall not be permitted. Pollution prevention technologies and noise barriers should be installed by existing industries.
5. Downlisted from the position of 'endangered' status to a 'vulnerable' status is hopeful. But still it requires continuous protection to this one- horned rhinos to prohibit the potentiality of threatening issues from any type of external factors.
6. Uses of eco-friendly transport, restoration of degraded land/forests/habitat, there shall be a monitoring committee constituted by the central government to scrutinise the activities covered in the schedule to the notification of the government of India in the erstwhile Ministry of Environment and Forest. The monitoring committee shall submit the annual action taken report of its activities for every year.
7. The loss of biodiversity of Deepor Beel Wildlife Sanctuary has reminded us that we are only the part of this vast ecosystem. We are not the whole part of this ecosystem. Like us, animals and other living beings also have the same right to live in a healthy environment. Right to get a healthy environment is included in our third generation of human right.
8. Deepor Beel is entitled as an eco-sensitive zone. Government should maintain a balance between the developmental activities and the protection of this ecologically rich site. Concerned government should look after minutely about the impact of their construction activities which should not destroy the original habitat of the wild animals.
9. Voluntary organisations also have the duty to review the implementation process of the public policies relating to Deepor Beel Wildlife Sanctuary. They can take the feedback from the local communities about the current condition of this wetland.
10. The Forest areas and open spaces of this wetland should not be used or converted into commercial complex or industrial activities by the concerned state government.
11. The vehicular movement of traffic should be regulated in this eco- sensitive zone for the interest of wildlife habitat to keep them in a peaceful environment.

Conclusion

Budget is considered as a time bound financial instrument of a financial administration to fight for getting justice to keep in safe position and to use in a fair manner of the country's natural resources without wasting of it. Because through a budget, the specific department of the government gets the authority to use the financial resources from the public fund. This paper has focussed upon to do an investigative study of the budgetary provisions of a 5 year term. The selection of a particular term has helped to disclose the level of implementation of budgetary policies within this term and to see the differences regarding budgetary expenditure to our natural environment and to see the outcomes of the environmental policies which are provided through the budget.

Acknowledgment: No

Author's Contribution: Nilakshi Bhuyan: Data Collection, Literature Review, Methodology, Analysis, Drafting, Referencing

Funding: No

Declaration: Not Applicable

Competing Interest: No

Endnotes

- ⁱ Joshi, Ritesh, Dr. & Puri, Kanchan, Dr. (2024). Biodiversity Conservation using Remote Sensing and GIS tools, Kurukshetra, Vol. 72, No. 7, May, pp. 35-38.
- ⁱⁱ Roopjyoti Hazarika, 'Locational Suitability of Pschim Boragaon Landfill Adjacent to Deepor Beel Wetland, Assam' (2023), Vol.18, No.3, Current World Environment, 1022-1031.
- ⁱⁱⁱ Sivasish Thakur, 'Environment on Edge', Vol.86, No.356, (The Assam Tribune, December 2024), 3.
- ^{iv} Das, Beejata et al. (2013). A Study on the Utilization and Conservation of Forest Resources of Assam, *International Journal of Physical and Social Sciences*, February, Vol.3, Issue 2, pp. 134-144.
- ^v Kalita, Sarbeswar & Hussain, Tanvi (2021). Livelihood status and human pressure on forest resources by the inhabitants of forest villages of Assam, India, January, international journal of research and review, vol.8, issue:1, pp.189-201(accessed from www.ijrrjournal.com).
- ^{vi} Choudhury, Anwaruddin (2004). Human- Elephant Conflicts In Northeast India, *Human Dimensions of Wildlife*, pp.261-270.
- ^{vii} Hazarika, Kumar, Arup & Kalita, Unmilan (2019). Space and Culture in India, Conservation and Livelihood Conflict of Kaziranga National Park: A World Heritage Site of Assam, India, November.

Publisher's Note

The Social Science Review A Multidisciplinary Journal remains neutral with regard to jurisdictional claims in published data, map and institutional affiliations.

©The Author(s) 2026. Open Access.

This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>