



MANAGEMENT OF SUSTAINABLE DEVELOPMENT PRACTICES THROUGH ENHANCING GREEN TOURISM: NEED OF THE HOUR

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ABSTRACT

The Narmada River, which flows through central India, is one of the country's most important waterways. Amarkantak's wetland areas and the Narmada River are prominent tourist attractions. In wetlands, there are distinct zones that are rich in flora, and each one has its unique characteristics. Biologically varied systems, are essential to the hydrologic cycle and carry out a variety of functions. To keep track of, assess, and manage the myriad difficulties and crucial challenges we face today, we need a holistic and long-term approach. It's tourism that's going to save the international economy. When the tourism industry adheres to the principles of sustainable development, however, this is achievable. Through sustainable development, nature and development may coexist to implement green tourism. The present study focuses on the current livelihood practices of people residing in the upper catchment area of River Narmada and it will also perform an Impact analysis of livelihood practices adopted by people living across the Wetland Ecosystem of River Narmada. For this purpose, a self-structured questionnaire is used to find the Opportunities available for the development of the livelihood of people residing in the upper catchment area of river Narmada towards strengthening green tourism. The analysis is done using hypothesis testing and frequency tables and graphs to ascertain the livelihood practices of people in the study area. Study findings reveal that there is a significant role of river Narmada in Managing the bio-diversity of the Amarkantak region towards green tourism activities. Based on the results of the study Measures to be taken for strengthening of Wetland Ecosystem towards green tourism activities are recommended.

Keywords: wetland ecosystems, ecology, green tourism practices, sustainable development

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INTRODUCTION

Most Indian rivers have a significant historical and religious significance. Apart from their scenic value, Indian rivers provide a variety of useful services, such as water purification, irrigation, hydroelectric power generation, transportation, and more. Fishermen and boatmen, farmers, and others who depend on the Indian rivers for their livelihoods are all dependent on the Indian rivers. Indian rivers serve as the primary source of irrigation in India. The rivers and their tributaries are a major draw for tourists from all over the world, not only for their role in sustaining Indian fauna and vegetation. To say that Indian rivers are essential to the country's economy would be an understatement. For both humans and wildlife, the preservation of freshwater resources is a primary issue in protecting our world.

Ecosystem services provided by wetland areas include waste assimilation, flood mitigation and mitigation, erosion control, groundwater recharge, microclimate regulation, aesthetic enhancement of the landscape, as well as significant recreational and cultural activities, as well as being a part of the cultural heritage of the area.

The onus is on the tourism industry, one of the world's fastest-growing industries, to keep the global economy going. Unless tourism is developed in a way that considers "people, planet and profit," it will be impossible to live up to this obligation. The relationship between tourism and sustainable development is one-of-a-kind. Multisectoral, competitive, and made up of a large number of smaller, privately held, and fragmented businesses are some of the characteristics of the tourist industry. The industry is made up of a wide range of enterprises and organisations. In the industry, there is little coordination or cohesion.

The term "green tourism" encompasses a wide range of activities aimed at protecting the environment while on vacation. To put it another way, being a green tourist or offering green tourist services is a broad definition of green tourism. The green tourism concept would be particularly appealing to tourism businesses and operators because of increasing government pressure to enhance environmental performance by implementing effective and tangible environmental management strategies.

Forests and water bodies in Amarkantak, an upper catchment area of the Narmada River in central

India, have been decimated during the past four decades, according to new research.

As a means of promoting ecotourism in the Narmada region, wetland ecosystem management is being investigated in the current research. Studying present livelihood patterns in the upper catchment area of the Narmada River and assessing the impact these activities have on the Wetland Ecosystem is the primary goal of this project. It also attempts to identify the role of river Narmada in Managing the biodiversity of the Amarkantak region towards green tourism activities in the following part of the paper.

WETLANDS

Wetlands are among the world's most productive ecosystems! Considering how they dissipate and purify energy, some people refer to them as the planet's kidneys. Seven percent of the Earth's surface is covered by wetlands, which produce 45 percent of the world's natural production and ecosystem services. These are predicted to have a yearly economic impact of \$20 trillion! MAweb.org reports that However, wetlands have become an easy target for human involvement, and they have been ranked as among the most vulnerable of all natural ecosystems.

SUSTAINABLE DEVELOPMENT

There are several "tourism paradoxes" to consider, including the trade-off between rapid tourism growth and diminishing quality of life, short-term advantages and limited long-term economic outcomes, and economic gains and environmental damage. The tourism industry's rapid and unrestrained growth is analogous to a fire. Indeed, many tourist sites are recognising that current management practices may have unintended environmental and social consequences, which could jeopardise tourism development as well as the economic viability of host cities and countries (Huyber and Bennett, 2003). According to Harris, progress has the potential to fail if it affects the environment and society (2000a). It's past time for a radical rethinking of development, and we'll need to shift both our goals and our techniques to get there (Harris, 2000). As a reaction to these challenges to traditional development ideas, SUSTAINABLE DEVELOPMENT is gaining traction.

One of the most important documents in the history of sustainable development came out of a United Nations-sponsored World Commission on Environment and Development (WCED) in 1987,

known as the "Brundtland Commission Report." To put it another way, the report says that sustainable development is "growth that satisfies the requirements of the present without sacrificing the ability of future generations to satisfy their own needs. (WCED and UN, 1987, p.24).

TOURISM AND SUSTAINABLE DEVELOPMENT

The relationship between tourism and sustainable development is one-of-a-kind. Multisectoral, competitive, and made up of a large number of smaller, privately held, and fragmented businesses are some of the characteristics of the tourist industry. The industry is made up of a wide range of enterprises and organisations. In the industry, there is little coordination or cohesion. According to Medlik (1993), a more correct name would be "tourism-related industries," which accurately reflects the wide range of economic activity and the varied degrees of dependence among enterprises that rely on tourism. Because of the industry's fragmentation, natural resources are being overused with little regard for the environment, resulting in a "common pool" (Briassoulis,2002, p.1065) of resource misuse. Tourism, more than any other sector, relies on the natural environment for its financial wellbeing. When the environment is harmed, tourism suffers. This can be caused by the industry itself or by other industries. Tourism has a basic interest in the preservation of the environment because of its dependence on the natural world.

Since the underlying facts of tourism and the "special relationship" contradict one other, the sector is a contradiction in terms, and Sustainable Tourism Development holds the answer to resolving these inconsistencies.

GREEN TOURISM

The term "green tourism" refers to a type of travel that focuses on protecting and preserving the natural environment while also minimising the damage it has on the environment. Its goals might range from educating tourists to raising money for environmental conservation to helping local communities prosper economically and politically. It can also be used to promote tolerance and respect for other people's cultures and human rights. For environmentalists, Green Tourism is an important activity because it allows future generations to visit places that have been less impacted by humans.

The promotion of tourism businesses' products and services through winning internationally

recognised environmental awards is another important factor. Because of this, several concerned and responsible parties have come up with ideas on how to reduce the harmful effects of tourism.

SUSTAINABLE TOURISM PRACTICES IN INDIA

India and sustainability have a long and profound history together. A sustainable lifestyle based on the five elements of earth (Prithvi), water (Jal), fire (Agni), wind (Pawan) and aether (Akash) is ingrained in the values and ethos of Hindu philosophy, whether it is the practice of worshipping Nature as God, or the observance of a sustainable lifestyle based on the five elements (Earth, water, fire, and air). As a result, India isn't the first country to advocate for sustainable development. Bharat Darshan and Atithi Devo Bhavah, India's twin travel commandments, are not new in the context of sustainable tourism practices in India (MOT,2014, p.1).

On the one hand, President India has recognised tourism in India as "an agent of development and an engine of economic growth and employment generation" (Press Information Bureau [PIB], September 2015) and on the other, the Indian Tourism Ministry and industry veterans have admitted that tourism in India is far away from smokeless industry (Ecotourism Society of India [ESOI],2014). To respond to the global shift in emphasis toward STP implementation, India has implemented the various measures described in the previous section. There are also STP efforts for India that need to be further developed.

It's tourism that's going to save the international economy. When the tourism industry adheres to the principles of sustainable development, however, this is achievable. It's been decades since the necessity of sustainable tourism growth was acknowledged, but little has been done. Sustainable tourism development should be a reality soon. Only if all stakeholders are actively involved can this goal be achieved. Travel intermediaries bear the lion's share of this burden among all other parties involved. As a result, this study attempts to evaluate the STP of travel intermediaries in the Golden Triangle, one of the most popular tourist circuits in India. According to the survey, travel intermediaries are aware, but they aren't always implementing STP. The study also looks into the reasons why travel intermediaries want to improve their STP implementation, and what obstacles they face in doing so.

IMPORTANCE OF WETLANDS

Wetlands are among the world's most productive ecosystems! Considering how they dissipate and purify energy, some people refer to them as the planet's kidneys. Seven percent of the Earth's surface is covered by wetlands, which produce 45 percent of the world's natural production and ecosystem services.

However, wetlands have become an easy target for human involvement, and they have been ranked as among the most vulnerable of all natural ecosystems. Around half of Earth's wetlands have already vanished in the last century, according to most estimates. Policies, plans, and evaluations of development projects fail to take into account the entire value of Wetlands' ecological functions.

In the decade from 1991 to 2001, India lost 38% of its wetlands. (SACON) Flood control is a major function of wetland ecosystems. Wetlands absorb water and slow the flow of floodwaters, which reduces the damage caused by flooding. It is considered a natural capital equivalent for traditional flood control investments like dykes, dams, and embankments. • During periods of flooding, they trap suspended particles and nutrient load.

Increased storm surges and sea level rise will cause erosion, greater salinity of estuaries and freshwater aquifers, altered tidal ranges in rivers and bays, changes in sediment and nutrient transport, and increased coastal flooding as a result of climate change mitigation Physical climate change mitigation relies heavily on wetlands like mangroves and floodplains. Research on the Bhitarkanika mangrove ecosystem in Orissa (the second biggest mangrove forest on the Indian peninsula) found that cyclone damage avoided was highest in the hamlet that was protected by mangrove forests. Waterways provide an abundance of recreational and educational opportunities as well as a wide range of spiritual and aesthetic benefits.

Wetlands play a critical role in global climate change regulation by sequestering and then releasing a large portion of the carbon stored in the biosphere. Many regions of wetlands have been drained and then cultivated, making them a net source of CO₂ emissions. Carbon sequestration is facilitated by coastal wetlands.

Wetlands continue to provide a haven for many of the world's most endangered species, including the

Gangetic Dolphin, Gharial, Swamp Crocodile, Black-necked Crane, and a variety of amphibian and fish species, as well as the mangroves and the Bengal Florican. Wetlands, which are essential to any ecosystem's biodiversity, are also disappearing at the quickest rates in the globe, as is the case in India.

CHALLENGES OF WETLANDS IN INDIA

In the last century, the world has lost up to 50% of its wetlands. In the decade from 1991 to 2001, India lost 38 percent of its wetlands, according to SACON investigations. As much as 88% of the population in some regions of Gujarat and Rajasthan was affected by the disaster (SACON) Changes in hydrology, reclamation, encroachment, pollution, and the resulting loss of habitat and species are some of the most pressing issues.

Sewage and industrial waste have accumulated in the majority of the world's wetlands, making them breeding grounds for a variety of invasive species. Pollution is wreaking havoc on the wetlands of Kolkata, Mumbai MMRDA Wetlands, Chilika, Loktak, and Kashmir. Irrigation wetlands lack baseline water quality data and do not receive regular water quality monitoring, according to multiple CAG Reports including the CAG report on Water Pollution in 2011. It's been reported that the Bengaluru Wetlands have gotten to the point of foaming and even catching fire because of the commercialization and pollution that have occurred there.

REVIEW OF LITERATURE

Ekka et. al. (2020). "Anthropogenic modifications and river ecosystem services: A landscape perspective". As a result of development, river capes have changed. Ecosystem services (ESs) are presently out of balance in terms of ecological, economic, and social/cultural uses, placing rivers' biotic and social integrity at peril. At several scales, anthropogenic changes to river landscapes have an impact on the formation of river ESs. "The purpose of this review is to compile the literature to gain a better understanding of the biocomplexity of river landscapes and their importance in ecosystem service research". This study, which focuses on human-caused changes from the watershed to the regional scale, excludes stream channelization, dams, and sand mining. This involves water transfers across basins and changes in land use patterns. "River ecosystem services are influenced by biophysical processes that are linked to the geomorphological, biological, and hydrological elements of river landscapes (ESs)". ESs also have

monetary, environmental, and societal implications. Almost every anthropogenically produced modification, according to the study, increases the economic value of the ESs. Dams, interbasin water transfers, and land use patterns that have changed as a result of human intervention all harm ecological and cultural values. "The socio-cultural effects of groundwater extraction and subsurface alteration are not addressed in the literature presented here". In addition, stakeholders' perspectives on ecological and sociocultural aspects of ecosystem services are investigated. We believe that ecosystem service assessment should be connected to landscape signatures that consider socio-ecological interactions.

Mazumder, et. al. (2016). "Role of co-management in wetland productivity: A case study from Hail haor in Bangladesh". The status of hail haor resources and fisheries is investigated in this study, which uncovers opportunities to improve current fisheries management practises while emphasising the protection of fish species. A project called "Management of Aquatic Ecosystems by Community Husbandry (MACH)" that adopted a comanagement system made wetlands preservation possible in 1998. All stakeholders and resource users from the adjacent haor regions were included in the formation of several Resource Management Organizations (RMOs). The RMOs of Hail Haor bring together members of the community and other stakeholders to work toward the haor's long-term preservation and development. When we compared Borogangina and Dumuria RMOs, we discovered that Borogangina RMOs outperformed Dumuria RMOs significantly. The Borogangina RMO surpassed the Dumuria RMO in the survey report due to better communication with authorities and more effective organisational capacities (score 80.60). The Hail Haor's co-management strategy, on the other hand, has helped both RMOs.

Verma, Bakshi & Nair, (2001). Economic valuation of Bhoj Wetland for sustainable use. Environmental Management Capacity-Building, Government of India, World Bank assistance unpublished project report. It is the goal of the current study project, "Economic Valuation of Bhoj Wetland for Sustainable Use," to examine the causes of Bhoj Wetland degradation; the kind and extent of injury to the wetland; and how this deterioration impacts the uses that inhabitants of Bhopal derive from it. In terms of productivity losses and health implications, how much of a financial burden is placed on the users? To what extent may these

impacts be used to amend or develop management policies and to solicit the engagement of stakeholders to prevent wetland degradation or loss? How much money are the locals ready to put aside to protect this wetland? People should be made aware of the numerous benefits and losses associated with the wetland to resist wetland degradation through the application of economic evaluation, according to the findings. To ensure that the Bhoj wetland's economic and environmental benefits will continue to flow in the future, it is imperative to adopt the appropriate physical and economic interventions.

RESEARCH GAP

Even though a great deal of progress has been made in terms of understanding the biodiversity and livelihood practises in the Achanakmar-Amarkantak biosphere reserve, there is still much to be learned, especially in terms of impact analysis of livelihood practises adopted by people living across the Wetland Ecosystem of river Narmada, including the quality and quantity of ecosystem services that include tangible benefits. Since river Narmada plays an important role in managing the Amarkantak region's bio-diversity, this study aims to examine the livelihood habits of people who reside across its wetland ecosystem.

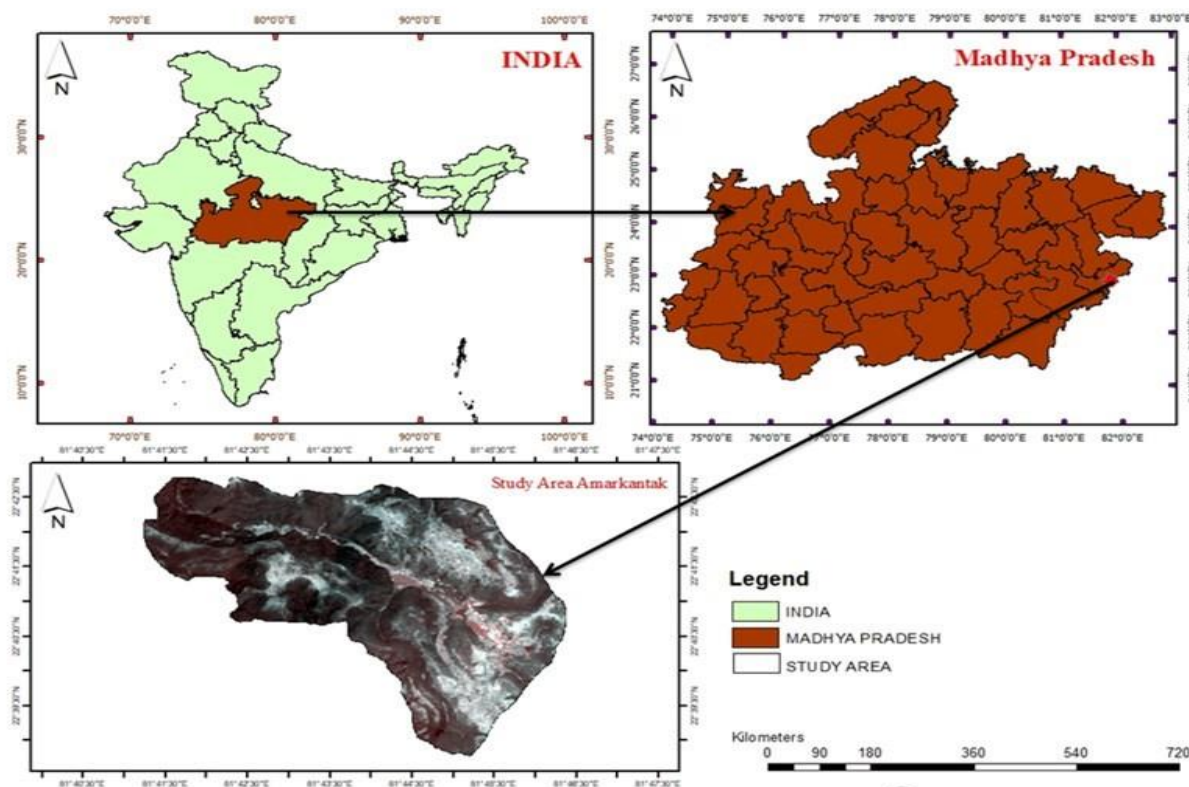
OBJECTIVE OF STUDY

- To study the current livelihood practices of people residing in the upper catchment area of river Narmada.
- To identify the Opportunities available for the development of livelihood of people residing in the upper catchment area of river Narmada towards strengthening green tourism.
- To identify the Measures to be taken for strengthening of Wetland Ecosystem towards green tourism activities.
- To identify the role of river Narmada in Managing the bio-diversity of the Amarkantak region towards green tourism activities.

MATERIALS AND METHODS Study Area

Central India's biosphere reserve, the Achanakmar Amarkantak Biosphere Reserve (AABR), was chosen as the study site. The research region is rich in flora and fauna, including medicinal, aromatic, and herbal species. This region is home to a slew of smaller waterways, including the Gayatri, Savitri, Kapila, Baitarini, Arandi and Arpa rivers. The Narmada receives water from these little streams throughout the year. Many perennial streams and wetlands, in addition to minor rivers, feed water into Narmada's main channel.

Map of the study area



Based on both primary and secondary data, the study is an empirical investigation. This study aims to determine the livelihood practices adopted by people living across the Wetland Ecosystem of River Narmada. To gather primary data, the researcher has contacted people living in the wetlands area of the Narmada River. For collecting secondary data is collected from various research papers already published related to green tourism particularly associated with the Ph.D. thesis related to the covered topics and areas, different websites, newspapers, and travel and tourism magazines that carry related information.

THE NARMADA RIVER'S UPPER CATCHMENT HAS A WIDE VARIETY OF PLANTS

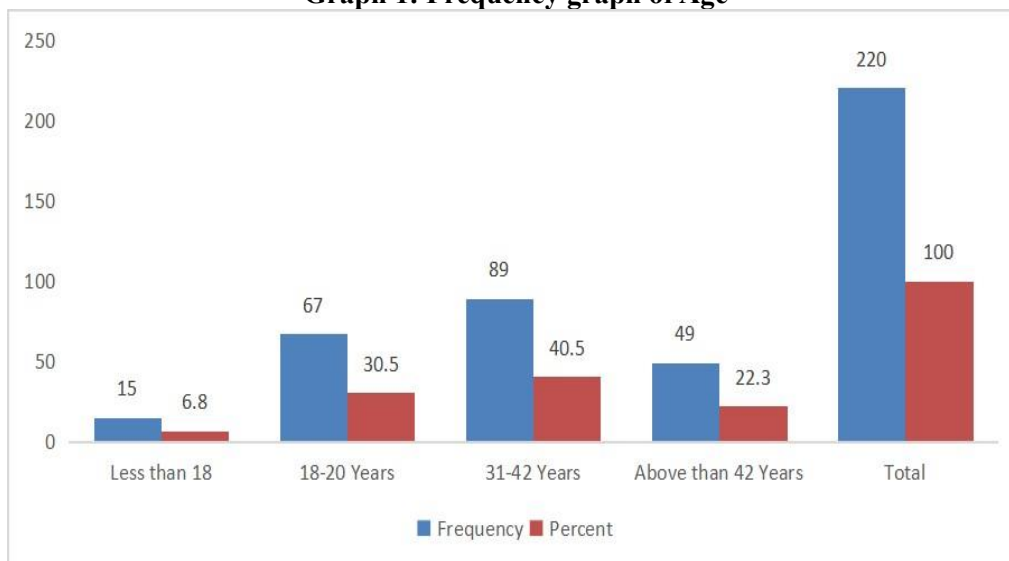
A lot of valuable vegetation structures and substances have been discovered. Indigenous peoples are well-versed in the use of medicinal plants in health care and other applications. The

current study included 157 plant species (herbs, tubers, grasses, and climbers). Local indigenous inhabitants in the Narmada River's upper catchment area have traditionally relied on 24 different varieties of understory plants. The species diversity values calculated by AABR were lower than previously published diversity indexes (Thakur, 2018). According to this study, plant species have been wiped out due to a range of factors such as human occupation, degradation, fragmentation, construction, and the introduction of foreign species and monoculture. Similar ecological implications have been identified in tropical forest ecosystems in several investigations. As a result of human expansion, forest diversity is being over-exploited, and mixed forests are disappearing. The higher catchment areas of the Narmada River are seeing increased development pressure. Forests are also being degraded as a result of mining's detrimental consequences.

ANALYSIS Table 1: Frequency Table of Age

		Age			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 18	15	6.8	6.8	6.8
	18-20 Years	67	30.5	30.5	37.3
	31-42 Years	89	40.5	40.5	77.7
	Above 42 Years	49	22.3	22.3	100.0
Total		220	100.0	100.0	

Graph 1: Frequency graph of Age



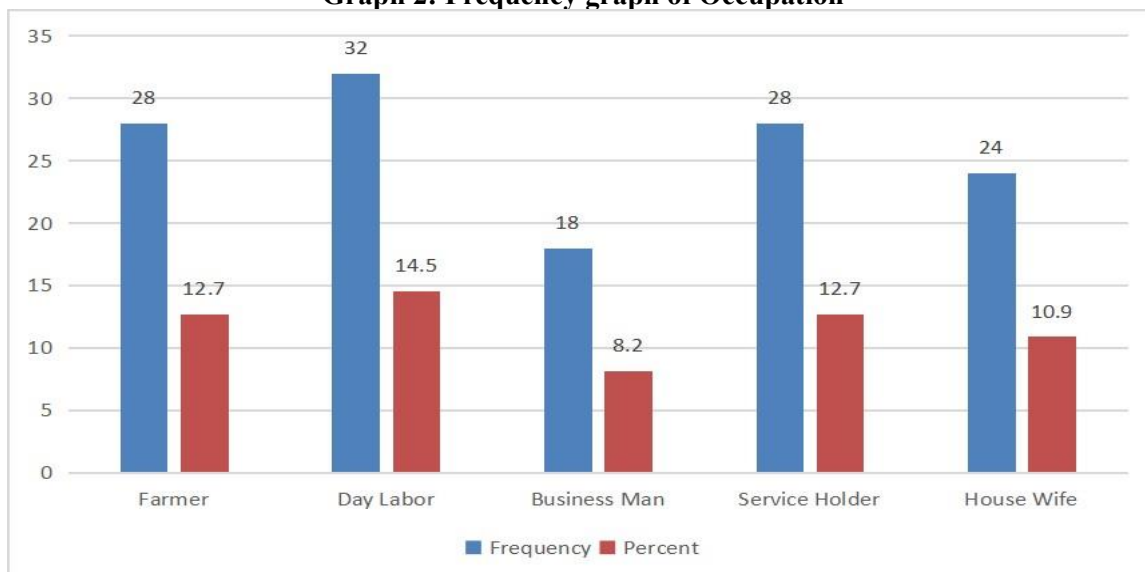
The data above shows the age of respondents, From the data it can be seen that 6.8% of respondents are from the age group of less than 18 years, 30.5% are from 18-20 years of age, 40.5% are from 31-42

years of age, 22.3% are from above 42 years of age. Thus, most of the respondents are from 18-42 years.

Table 2: Frequency Table of Occupation

		Occupation			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Farmer	28	12.7	12.7	12.7
	Day Labor	32	14.5	14.5	27.3
	Business Man	18	8.2	8.2	35.5
	Service Holder	28	12.7	12.7	48.2
	House Wife	24	10.9	10.9	59.1
	Fishermen	15	6.8	6.8	65.9
	Teacher	75	34.1	34.1	100.0
	Total	220	100.0	100.0	

Graph 2: Frequency graph of Occupation



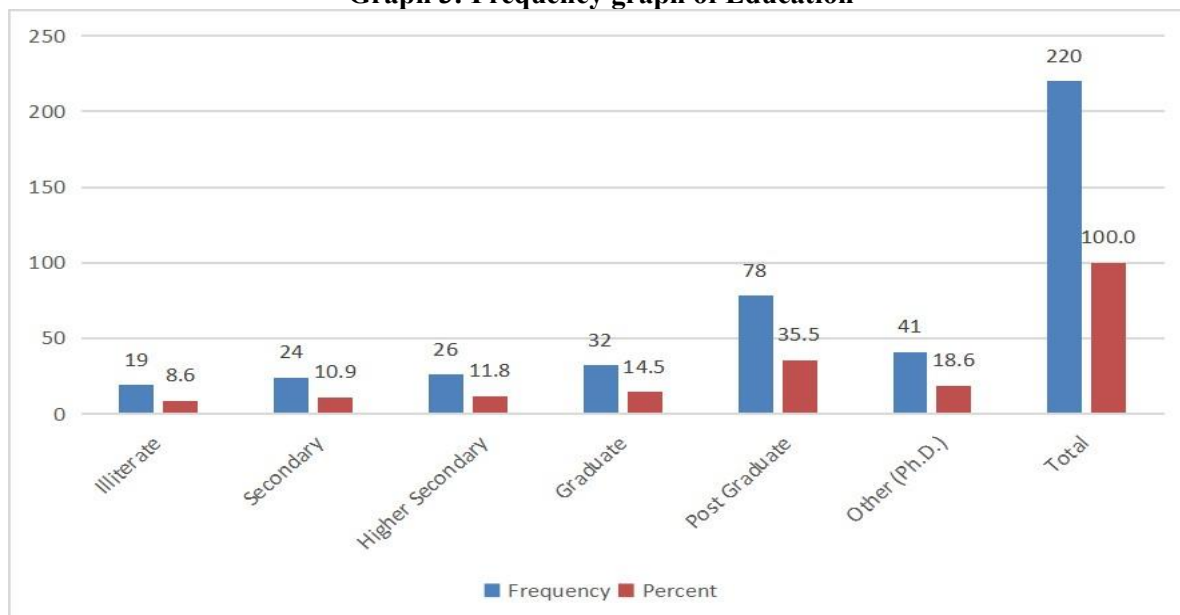
The above data shows the occupation details of respondents. 12.7% of respondents are farmers, 14.5% are day labourers, 8.2% are businessmen,

12.7% of respondents are service holders and the remaining 11% are housewives. Thus, respondents are selected from all occupation categories.

Table 3: Frequency Table of Education

		Education			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Illiterate	19	8.6	8.6	8.6
	Secondary	24	10.9	10.9	19.5
	Higher Secondary	26	11.8	11.8	31.4
	Graduate	32	14.5	14.5	45.9
	Post Graduate	78	35.5	35.5	81.4
	Other (Ph.D.)	41	18.6	18.6	100.0
	Total	220	100.0	100.0	

Graph 3: Frequency graph of Education



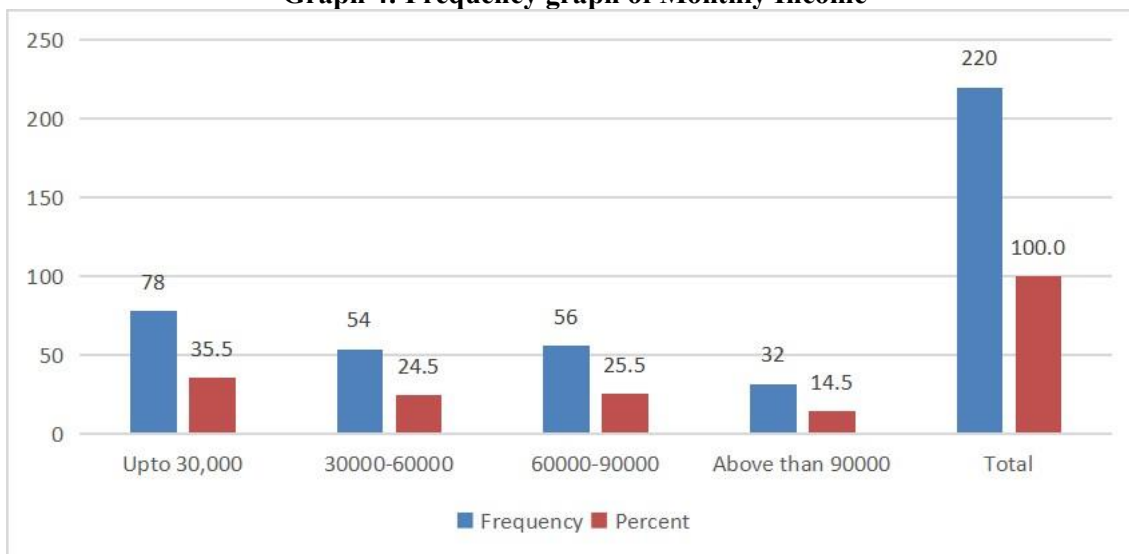
When the educational qualification of respondents was enquired, it was found that 8.6% of them were illiterate, 11% were secondary certificate holders, 12% were senior secondary passed, 14.5% were

graduates, 35.5% were postgraduates and 18.6% were Ph. D. holders. Thus, most of the respondents are post-graduates.

Table 4: Frequency table of Monthly Income

		Monthly Income			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Upto 30,000	78	35.5	35.5	35.5
	30000-60000	54	24.5	24.5	60.0
	60000-90000	56	25.5	25.5	85.5
	Above than 90000	32	14.5	14.5	100.0
	Total	220	100.0	100.0	

Graph 4: Frequency graph of Monthly Income



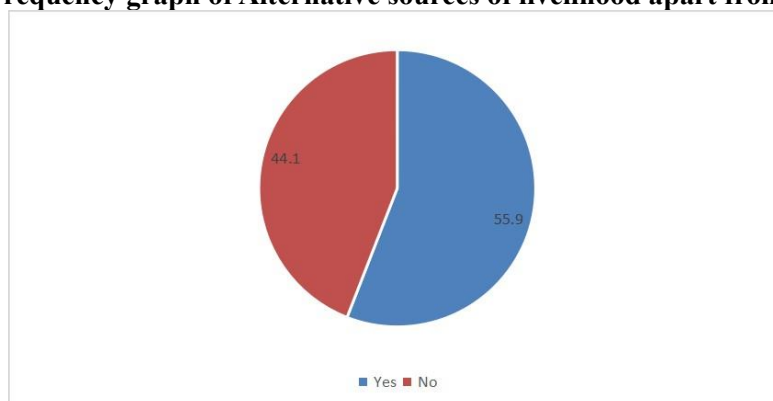
Further, when the monthly income of respondents is enquired, results from the collected data show that 35.5% are earning up to 30K, 24.5% are earning 30-60 K, 25.5% are earning 60-90K and the

remaining 14.5% are earning above 90K. Thus, almost all the respondents are found as earning well.

Table 5: Frequency table of Alternative sources of livelihood apart from agriculture

		Alternative source of livelihood apart from agriculture			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	64	29.1	29.1	29.1
	No	156	70.9	70.9	100.0
	Total	220	100.0	100.0	

Graph 5: Frequency graph of Alternative sources of livelihood apart from agriculture



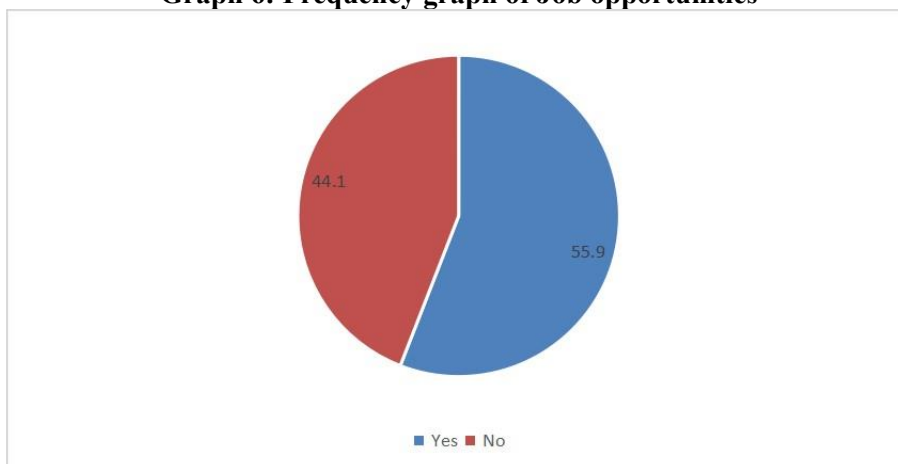
When respondents were asked about whether they have any Alternative source of livelihood apart from agriculture. The results from the collected data display that 56% of respondents have an

Alternative source of livelihood apart from agriculture and the remaining 44% do not have any Alternative source of livelihood apart from agriculture.

Table 6: Frequency table of Job opportunities

		Job opportunities			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	100	45.5	45.5	45.5
	No	120	54.5	54.5	100.0
	Total	220	100.0	100.0	

Graph 6: Frequency graph of Job opportunities



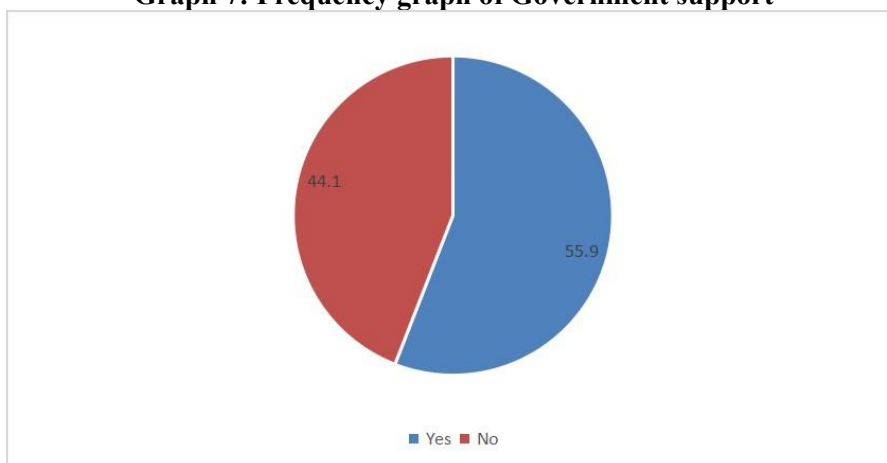
Further, when respondents were asked about the job opportunities in their region, the results from collected data display that 56% said yes and 44%

stated no as they didn't get sufficient job opportunities in their region.

Table 7: Frequency table of Government support

		Government support			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	58	26.4	26.4	26.4
	No	162	73.6	73.6	100.0
	Total	220	100.0	100.0	

Graph 7: Frequency graph of Government support



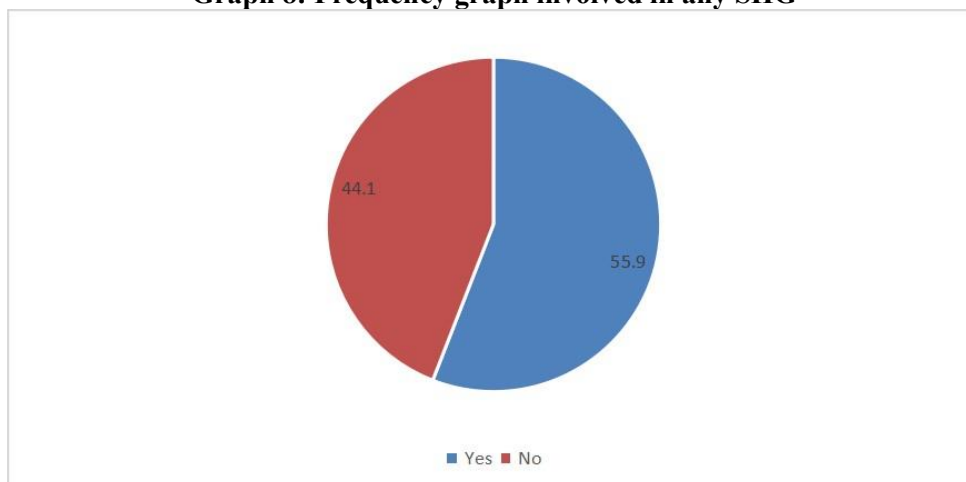
When respondents were asked about government support, the data show that 56% were in favour of the question while 44% were against it and stated

that they didn't get any support from the government.

Table 8: Frequency table of those involved in any SHG

		Whether you are involved in any SHG?			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	123	55.9	55.9	55.9
	No	97	44.1	44.1	100.0
	Total	220	100.0	100.0	

Graph 8: Frequency graph involved in any SHG



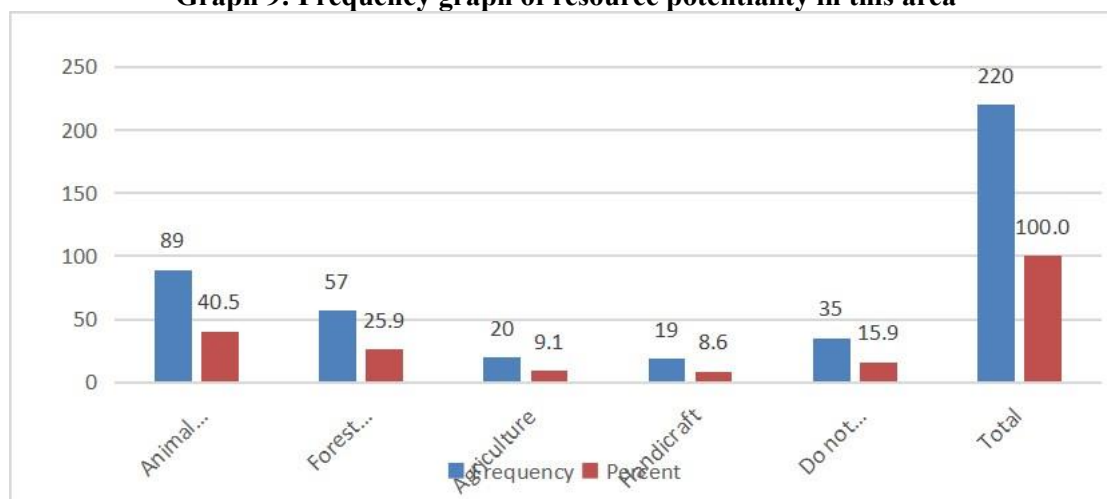
When respondents were asked about their involvement in SHGs. The results from collected data show that 56% said yes, they are involved in

SHGs however 44% are identified as uninvolved in SHGs.

Table 9: Frequency table of resource potentiality in this area

What kind of resource potential is in this area?		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Animal Husbandry	89	40.5	40.5	40.5
	Forest Product	57	25.9	25.9	66.4
	Agriculture	20	9.1	9.1	75.5
	Handicraft	19	8.6	8.6	84.1
	Do not know	35	15.9	15.9	100.0
	Total	220	100.0	100.0	

Graph 9: Frequency graph of resource potentiality in this area



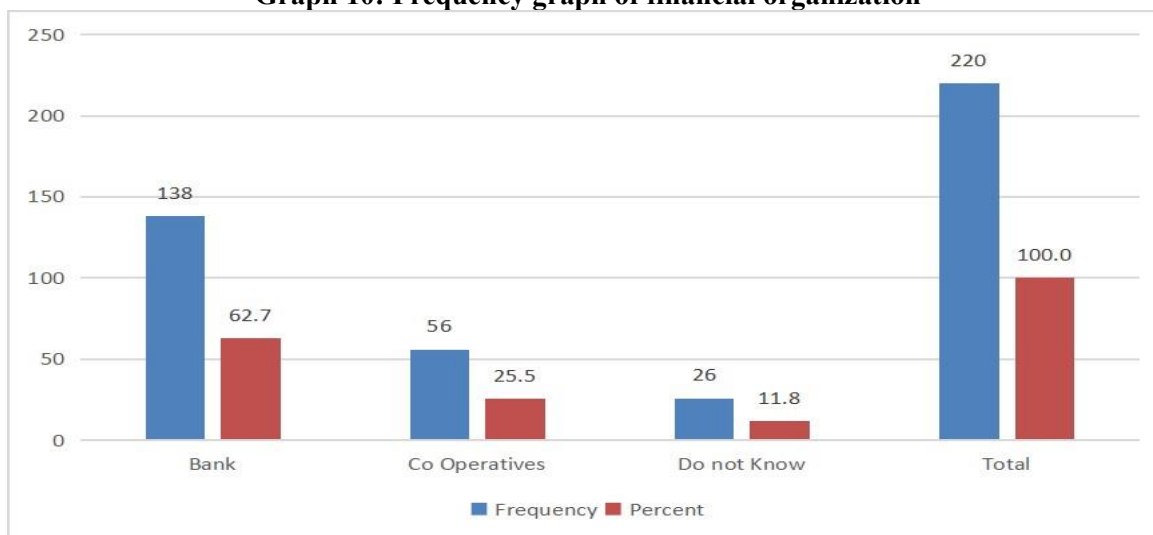
Further for enquiring about their livelihood status respondents were asked about the kind of resource potentiality in their area. From the collected data it can be seen that 40.5% voted for animal husbandry, 23% for forest products, 9% for agriculture, 8.6%

for handicraft and the remaining 16% stated that they do not have any idea. Thus from the results, it becomes clear that animal husbandry is the most potential resource in the region.

Table 10: Frequency table of financial organization

From which financial organization do you get help?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bank	138	62.7	62.7	62.7
	Co-Operatives	56	25.5	25.5	88.2
	Do not Know	26	11.8	11.8	100.0
	Total	220	100.0	100.0	

Graph 10: Frequency graph of financial organization



Further when respondents were asked about from which financial organization they take help. It becomes clear from the results that 62.7% of them take help from banks, 25.5% take help from cooperatives and 12% responded that they do not know. Thus, most of them are found to be getting financial help from banks.

Hypothesis

H₀₁: There is no significant role of river Narmada in Managing the bio-diversity of the Amarkantak region towards green tourism activities.

H_{A1}: There is a significant role of river Narmada in Managing the bio-diversity of the Amarkantak region towards green tourism activities.

Table 11: Tests of Between-Subjects Effects - bio-diversity of Amarkantak region

Tests of Between-Subjects Effects					
Dependent Variable: The bio-diversity of the Amarkantak region					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.859 ^a	4	.965	.708	.588
Intercept	1157.450	1	1157.450	848.966	.000
Role of River Narmada	3.859	4	.965	.708	.588
Error	293.123	215	1.363		
Total	1662.000	220			
Corrected Total	296.982	219			

a. R Squared = .013 (Adjusted R Squared = -.005)

Results from the analysis given above show that there is a significant role of river Narmada in Managing the bio-diversity of the Amarkantak region towards green tourism activities.

H₀₂: There are no opportunities available for the development of the livelihood of people residing in the upper catchment area of river Narmada towards strengthening green tourism.

H_{A2}: There are opportunities available for the development of the livelihood of people

residing in the upper catchment area of river Narmada towards strengthening green tourism.

Table 11: Tests of Between-Subjects Effects - Development of livelihood of people residing

Tests of Between-Subjects Effects					
Dependent Variable: Development of livelihood of people residing					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	171.734 ^a	4	42.933	93.957	.000
Intercept	1296.453	1	1296.453	2837.208	.000
River Narmada towards strengthening green tourism	171.734	4	42.933	93.957	.000
Error	98.244	215	.457		
Total	1571.000	220			
Corrected Total	269.977	219			
a. R Squared = .636 (Adjusted R Squared = .629)					

Further, results from the test of between subjects' effects given above show that There are opportunities available for the development of livelihood of people residing in the upper catchment area of river Narmada towards strengthening green tourism.

CONCLUSION

According to the findings, green tourism and holistic development are both urgently needed. In terms of ecological importance, the upper reaches of the Narmada River are critical. According to a new study, wetland area management has been effectively analysed with the use of this technology, which is both affordable and effective.

The study has successfully revealed the current livelihood practices of people residing in the upper catchment area of River Narmada. Study shows that there is a significant impact of wetlands and their ecosystem on livelihood practices adopted by people living across the Wetland Ecosystem of river Narmada. From the study, it can now be stated that there are sufficient opportunities available for the development of the livelihood of people residing in the upper catchment area of River Narmada towards strengthening green tourism and there is a significant role of River Narmada in managing the bio-diversity of Amarkantak region towards green tourism activities.

There must be an effort to identify uncommon, endangered, and threatened species in the Narmada's upper catchment area. Aside from collecting information on socioeconomic status and livelihood practises in the "upper catchment area of river Narmada, the field surveys help in getting

information on ground realities". A study found that resource overuse and unsustainable practices lead to deforestation. As a result, indigenous tribes were encouraged to participate in the development of management strategies to protect the species most at risk and the Narmada River watershed as a whole.

RECOMMENDATIONS

Now more than ever, we must realise that wetland management must be done in an "integrated manner" and "sustainably used." There are numerous degrees of complexity and delicate integrity that must be maintained to accomplish this task. All stakeholders in the Narmada Wetland must be incorporated into a local area institution, which will assist in eliciting their thoughts on the wetland's future usage and management. The newly constituted entity might create a comprehensive action plan that addresses environmental, economic, social, and institutional concerns. and so on and so on. The following policy recommendations are presented to address the above concerns:

- Before undertaking any management exercise, especially one of this scope, it is essential to consider the views of the people and to involve them at every stage of the planning process.
- Every aspect of wetlands management is examined. To do this, excellent coordination is required amongst all departments involved in the usage and upkeep of wetlands.
- The system should be more open and accountable. Government officials are required to explain to the public how large sums of public

dollars are being spent on various development projects.

- To protect the wetlands, a committee should be formed that includes representatives from various government agencies, as well as representatives from non-governmental organisations, journalists and members of the public who represent their constituents in the form of elected officials from the various local governments and residents.
- Future strategies should be built on an understanding of the wetlands' value. It would also help determine how much money will be needed in the future for maintenance work.
- People are willing to pay a lot of money to get access to the lake's recreational benefits. Money collected in a genuine collection effort should be used as the foundation for the Narmada Wetland Management Committee's fund.
- Once all the numbers have been crunched, it's time to do a cost-benefit analysis. An accurate evaluation of the restoration efforts would be possible if all social costs and gains were taken into consideration.
- Promoting ecological tourism in the city is essential. Wetlands in the city offer good opportunities for adventure tourism. A great number of people would be employed as a result of this, as well as bringing in much-needed cash for the government.

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