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Effect Of Urbanisation On Biodiversity And Study On The Special Laws Relating To The Holy River Ganga And Sunderban Delta

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Introduction

India is a land of heritage in terms of Biodiversity and culture. Its geographical structure makes it a paradise on the earth. But due to the economic demand and human needs and rapid growth in the population is big threaten to the Bio-diversity. The best example is our Holy River Ganga and the Sunder bans Delta which are affected by the Urbanization. The Holy River Ganga is polluted by the Industrialization, and chemical activities on the bank of Ganga. The Holy River Ganga is polluted due to the discharge of Sewage Wastes of metropolitan cities and Industrial wastes in the river the chemical wastes are Directly and Indirectly effect the fresh water mangroves plant in the Sunderban Delta. To Protect the Biodiversity related to River Ganga and Sunderban Delta the several legislative measures have been taken by the Legislature. Our Constitution has several provisions to protect the Environment, Natural Resources, and Biodiversity's. In Article 48A (Protection of Ecology of Environment and Environmental Pollution) and Article 51A (g) to safeguard the environment, the Indian Constitution stipulates that "The State is committed to safeguarding the country's forests and wild animals and that the protection of and improvement of the natural environment, including forests, must be the task for each of the Indians"[1]. In efforts to realize the Constitutional provision of environmental protection, India has planned and executed and implement multiple policies, programs and laws and one of the important laws in relation to biological conservation and bringing into effect the Convention on Biological Diversity (CBD) is the Biological Diversity Act 2002. The Provisions of these Constitution gives birth to several Central and State Biodiversity law, which are used for the protection.

SPECIAL PROJECT TO CONTROL THE EFFECT OF URBANISATION ON THE GANAGA

The mighty Ganga is the religious river of the Hindu Civilization.It started from the Gangotri and meet with the sea which is popularly famous as Gangasagar in West

[1]*Page 430 and 431:The constitutional law of India :Dr.J.N Pandey:58th EditionArticle 48 of the Constitution of India - Wikipedia. https://en.wikipedia.org/wiki/Article_48_of_the_Constitution_of_India*

Bengal.During the Course of its Journey from Gangotri to Gangaagar the industrial effluents and sewage wastes causing its water to become highly polluted an destroying its biotic life.To clean this river the Namami Gange programme has been launched under the guidance of National Ganga Council, this programme has been launched under the Environment(Protection) Act 1986.The National mission for clean Ganga has divided its mission into four parts-

-Urban River Management Plan (URMP)

-NIRMAL GANGA(Cleaningup Pollution)

-AVIRAL GANGA(Ensuring Ecology And Flow)

-JAN GANGA(Public Participation In The Clean Up Efforts)

-GYAN GANGA(Promoting Research On Policies And Management Of The River)

URBAN RIVER MANAGEMENT PLAN (URMP)

UNIQUE FEATURES OF THE PROJECT[2]

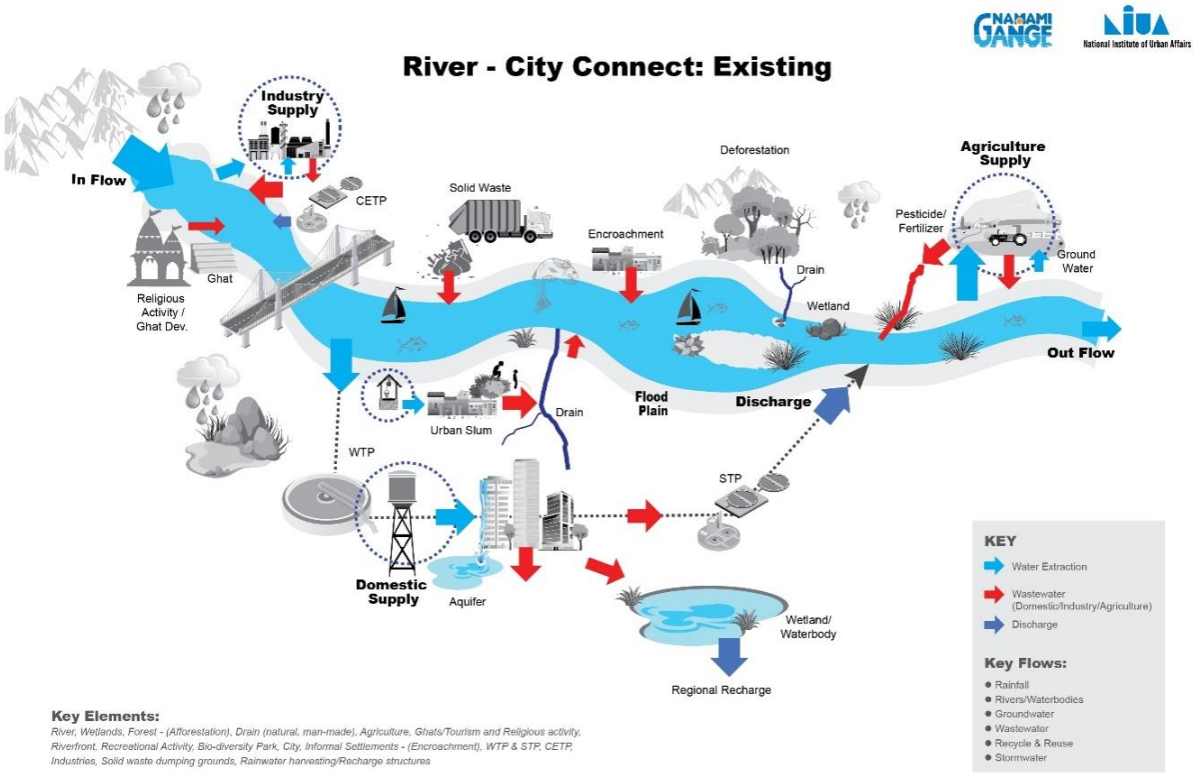
1. It seeks to bring the river to the heart of city planning by mainstreaming river thinking into a city's long-term vision.
2. It has created a first of its kind framework for an Urban River Management Plan (URMP) based on the principles of sustainable development. 97 towns along the main stem of the Ganga will use this framework.
3. It focuses on the 'operational' aspects of river management with a view to bring about a change on the ground.
4. It binds together other related work done by various organizations (e.g. SPA Delhi, INTACH, World Resources Institute, Wildlife Institute of India) under the National Mission for Clean Ganga.
5. In association with the Town and Country Planning Organization (TCPO), it seeks to propose norms and standards for the river zone in cities (something that does not exist so far).
6. It utilizes the expertise and experience of both national and international experts.
7. RIVER-SENSITIVE PLANNING

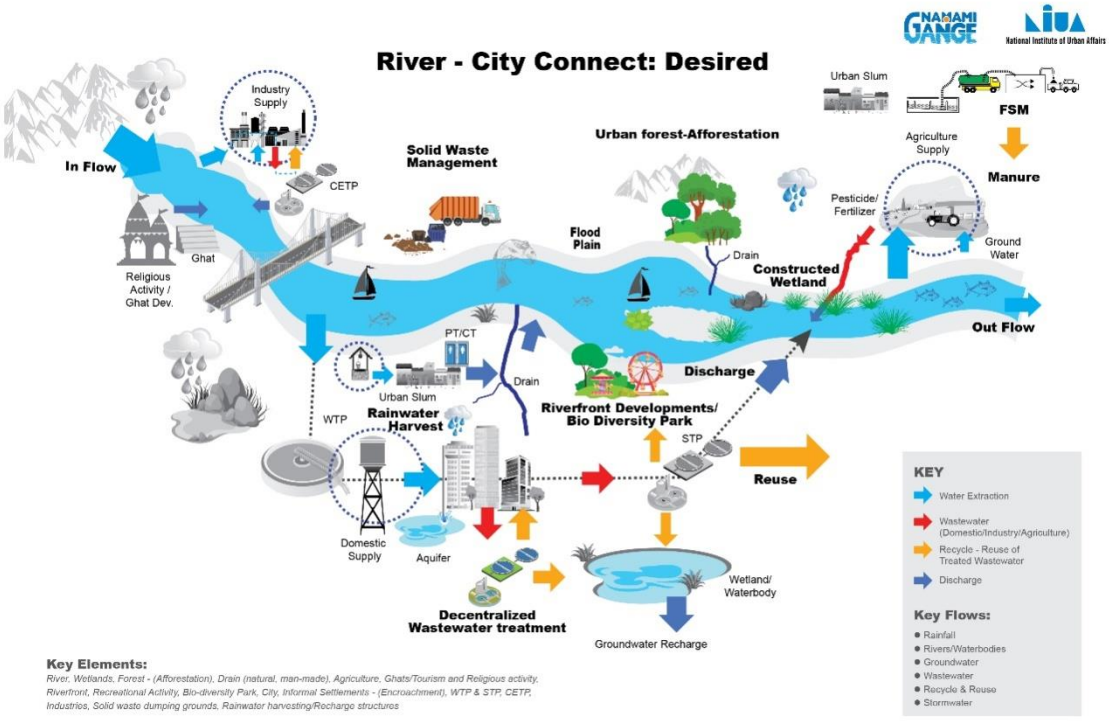
Strategic guidance to help cities mainstream river thinking into long-term city planning

"Seeking a paradigm shift, with river-sensitive Urban Planning"

THEORY OF CHANGE

[2] *Home | Urban Rivers (niua.org)*





Legal Sanctity of the URMP

The URMP is being developed by the National Mission for Clean Ganga (NMCG), which serves as the implementation arm of the National Council for Rejuvenation, Protection

and Management of River Ganga (after the dissolution of the National Ganga River Basin Authority), under the Ministry of Jal Shakti. The River Ganga (Rejuvenation, Protection and Management) Authorities Order, 20164 authorizes NMCG to "take any other measures which may be necessary for continuous flow of water and abatement of pollution in River Ganga and its tributaries," among other orders. The URMP is one of the instruments through which NMCG is implementing the principles to be followed for rejuvenation, protection and management of River Ganga. The aforementioned Order also empowers NMCG to "issue directions to the State Ganga Committees, District Ganga Committees or local authorities and other authorities in the implementation of the River Ganga Basin Management Plan and any other matter connected with affairs of the River Ganga and its tributaries." It is envisaged that the URMP will fall under the ambit of this direction.[3]

BENEFITS OF THE URMP FOR THE CITY

From experiences within the country and around the world, it is becoming increasingly evident that economic development does not have to come at the cost of the environment. In fact, true sustainable economic development will be impossible to achieve without harmonizing environmental considerations. With this as a backdrop, there are several benefits that a city can reap through the URMP. Some of these are listed below. 1. Environmental benefits: These include rich biodiversity, clean air, clean water, improved groundwater levels. 2. Economic benefits: These include Improved livelihood opportunities, tourism growth, attractive external investment. 3. Social benefits: These include vibrant places for religious, cultural and recreational events, serene and scenic picnic spots. Furthermore, protection of the river and its environment is mandated by the law. Constitution of India, Article 51 (A), exhorts every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures. Additionally, as per the 12th Schedule of the 74th Constitutional Amendment Act of 1992, Urban Local Bodies (ULBs) are expected to carry out several tasks that include urban forestry, protection of the environment and promotion of ecological aspects. Therefore, implementation of the URMP by ULBs is in line with constitutional duties.

NAMAMI GANGE PROGRAMME

'Namami Gange Programme', is an Integrated Conservation Mission, approved as 'Flagship Programme' by the Union Government in June 2014 with budget outlay of Rs.20,000 Crore to accomplish the twin objectives of effective abatement of pollution, conservation and rejuvenation of National River Ganga.

Main pillars of the Namami Gange Programmeare:-

1. Sewerage Treatment Infrastructure

[3] *URMP publication - Nov 25_0.pdf (niua.org)*

2. River-Front Development
3. River-Surface Cleaning
4. Bio-Diversity
5. Afforestation
6. Public Awareness
7. Industrial Effluent Monitoring
8. Ganga Gram

The key achievements under Namami Gangeprogramme are:

Creating Sewerage Treatment Capacity:- 63 sewerage management projects under implementation in the States of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal.12 new sewerage management Projects Launched in these states. Work is under construction for creating Sewerage capacity of 1187.33 (MLD).Hybrid Annuity PPP Model based two projects has been initiated for Jagjeetpur, Haridwar and Ramanna, Varanasi.

Creating River-Front Development:-28 River-Front Development projects and 33 Entry level Projects for construction, modernization and renovation of 182 Ghats and 118 crematoria has been initiated

River Surface Cleaning:-River Surface cleaning for collection of floating solid waste from the surface of the Ghats and River and its disposal are afoot and pushed into service at 11 locations.

Bio-Diversity Conservation:- One of NMCG's long-term visions for Ganga rejuvenation is to restore viable populations of all endemic and endangered biodiversity of the river, so that they occupy their full historical range and fulfil their role in maintaining the integrity of the Ganga river ecosystems. To address this, Wildlife Institute of India (WII), Dehradun, Central Inland Fisheries Research Institute (CIFRI), Kolkata & Uttar Pradesh State Forest Department has been awarded projects to develop science - based aquatic species restoration plan for Ganga River by involving multiple stakeholders along with conservation & restoration of aquatic biodiversity. As per the field research conducted by WII, high biodiversity areas have been identified in river Ganga for focused conservation action, rescue & rehabilitation centers have been established for the rescued aquatic biodiversity, cadre of volunteers (Ganga Praharis) have been developed and trained to support conservation actions in the field, floating interpretation centre "Ganga Tarini" and interpretation centre "Ganga Darpan" have been established for developing awareness on biodiversity conservation and Ganga rejuvenation, key ecosystem services of Ganga river have been identified and an assessment framework developed to strengthen the environmental services in the river basin.

CIFRI has carried out the assessment of fish and fisheries in the basin to record the available fish species and has mapped it in GIS platform to understand the status and distribution of fishes in Ganga. Tagging procedures has also been initiated to see the migration pattern of identified fish like Hilsa. CIFRI is also conducting ranching and awareness programmes at various locations in the river basin for conservation and restoration of Indian Major Carps (IMC) & Mahseer in Ganga.

Further, the Uttar Pradesh State Forest Department is implementing the 'Expansion of conservation breeding program of freshwater turtles and Gharial at Kukrail Gharial Rehabilitation Centre, Lucknow' which will help in revival and restoration of Gharials and turtles in the Ganga basin.

Afforestation:- One of the major components of Ganga rejuvenation is 'forestry interventions' to enhance the productivity and diversity of the forests in head water areas and all along the river and its tributaries. Accordingly, Forest Research Institute (FRI), Dehradun prepared a Detailed Project Report (DPR) for afforestation in an area of 1,34,106 hectares in the Ganga river bank states of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal at an estimated cost of Rs. 2293.73 Crores. The FRI DPR provides for taking up works under four major heads viz. Natural landscape, Agriculture landscape, Urban landscape and Conservation interventions. The main purpose of the proposed forestry interventions is to contribute towards holistic conservation of river Ganga, including improving the flow in the river (Aviralta) by adopting a multi-pronged approach throughout the pre-defined Ganga riverscape. The project of "Forestry Interventions for Ganga" is being implemented by State Forest Departments of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, and West Bengal as per the FRI DPR since year 2016-17, for which NMCG is providing financial support to the respective State Forest Departments.

Public Awareness:- A series of activities such as events, workshops, seminars and conferences and numerous IEC activities were organized to make a strong pitch for public outreach and community participation in the programme. Various awareness activities through rallies, campaigns, exhibitions, shramdaan, cleanliness drives, competitions, plantation drives and development and distribution of resource materials were organized and for wider publicity the mass mediums such as TV/Radio, print media advertisements, advertorials, featured articles and advertorials were published. Gange Theme song was released widely and played on digital media to enhance the visibility of the programme. NMCG ensured presence at Social Media platforms like Facebook, Twitter, You Tube etc.

Industrial Effluent Monitoring:- The number of Grossly Polluting Industries (GPIs) in April, 2019 are 1072. Regulation and enforcement through regular and surprise inspections of GPIs is carried out for compliance verification against stipulated environmental norms. The GPIs are also inspected on annual basis for compliance verification of the pollution norms and process modification, wherever required

through third party technical institutes. First round of inspection of GPIs by the third-party technical institutes has been carried out in 2017. Second round of inspection of GPIs has been completed in 2018. Out of 961 GPIs inspected in 2018, 636 are complying, 110 are non-complying and 215 are self-closed. Action has been taken against 110 non-complying GPIs and are issued closure directions under Section 5 of the E(P) Act. Online Continuous Effluent Monitoring Stations (OCEMS) connectivity established to CPCB server in 885 out of 1072 GPIs.

Ganga Gram:- Ministry of Drinking Water and Sanitation (MoDWS) identified 1674 Gram Panchayats situated on the bank of River Ganga in 5 State (Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, West Bengal). Rs. 578 Crores has been released to Ministry of Drinking Water and Sanitation (MoDWS) for construction of toilets in 1674 Gram Panchayats of 5 Ganga Basin States. Out of the targeted 15, 27,105 units, MoDWS has completed construction of 8, 53,397 toilets. Consortium of 7 IITs has been engaged in the preparation of Ganga River basin Plan and 65 villages has been adopted by 13 IITs to develop as model villages. UNDP has been engaged as the executing agency for rural sanitation programme and to develop Jharkhand as a model State at an estimated cost of Rs. 127 Crore.

National Mission for Clean Ganga, endeavors to deploy best available knowledge and resources across the world for Ganga rejuvenation. Clean Ganga has been a perennial attraction for many international countries that have expertise in river rejuvenation. Countries such as Australia, United Kingdom, Germany, Finland, Israel etc. have shown interest in collaborating with India for Ganga rejuvenation. Memorandums of Understanding (MoUs) were signed with various Central Ministries viz.- Ministry of Human Resource Development, Ministry of Rural Development, Ministry of Railways, Ministry of Shipping, Ministry of Tourism, Ministry of Ayush, Ministry of Petroleum, Ministry of Youth Affairs and Sports, Ministry of Drinking Water & Sanitation and Ministry of Agriculture for synergizing the Government schemes.

The Sundarbans

"The Sundarbans mangrove forest, one of the largest such forests in the world (140,000 ha), lies on the delta of the Ganges, Brahmaputra and Meghna rivers on the Bay of Bengal. It is adjacent to the border of India's Sundarbans World Heritage site inscribed in 1987. The site is intersected by a complex network of tidal waterways, mudflats and small islands of salt-tolerant mangrove forests, and presents an excellent example of ongoing ecological processes. The area is known for its wide range of fauna, including 260 bird species, the Bengal tiger and other threatened species such as the estuarine crocodile and the Indian python"[4].

[4]https://whc.unesco.org/en/list/798/

Outstanding Universal Value[5]

"The Sundarbans Reserve Forest (SRF), located in the south-west of Bangladesh between the river Baleswar in the East and the Harinbanga in the West, adjoining to the Bay of Bengal, is the largest contiguous mangrove forest in the world. Lying between latitude 21° 27′ 30″ and 22° 30′ 00″ North and longitude 89° 02′ 00″ and 90° 00′ 00″ East and with a total area of 10,000 km^2, 60% of the property lies in Bangladesh and the rest in India. The land area, including exposed sandbars, occupies 414,259 ha (70%) with water bodies covering 187,413 ha (30%).

The three wildlife sanctuaries in the south cover an area of 139,700 ha and are considered core breeding areas for a number of endangered species. Situated in a unique bioclimatic zone within a typical geographical situation in the coastal region of the Bay of Bengal, it is a landmark of ancient heritage of mythological and historical events. Bestowed with magnificent scenic beauty and natural resources, it is internationally recognized for its high biodiversity of mangrove flora and fauna both on land and water.

The immense tidal mangrove forests of Bangladeshs' Sundarbans Forest Reserve, is in reality a mosaic of islands of different shapes and sizes, perennially washed by brackish water shrilling in and around the endless and mind-boggling labyrinths of water channels. The site supports exceptional biodiversity in its terrestrial, aquatic and marine habitats; ranging from micro to macro flora and fauna. The Sundarbans is of universal importance for globally endangered species including the Royal Bengal Tiger, Ganges and Irawadi dolphins, estuarine crocodiles and the critically endangered endemic river terrapin (Batagurbaska). It is the only mangrove habitat in the world for Panthera tigristigris species.

Criterion (ix): The Sundarbans provides a significant example of on-going ecological processes as it represents the process of delta formation and the subsequent

[5]https://whc.unesco.org/en/list/798/

colonization of the newly formed deltaic islands and associated mangrove communities. These processes include monsoon rains, flooding, delta formation, tidal influence and plant colonization. As part of the world's largest delta, formed from sediments deposited by three great rivers; the Ganges, Brahmaputra and Meghna, and covering the Bengal Basin, the land has been moulded by tidal action, resulting in a distinctive physiology.

Criterion (x): One of the largest remaining areas of mangroves in the world, the Sundarbans supports an exceptional level of biodiversity in both the terrestrial and marine environments, including significant populations of globally endangered cat species, such as the Royal Bengal Tiger. Population censuses of Royal Bengal Tigers estimate a population of between 400 to 450 individuals, a higher density than any other population of tigers in the world.

The property is the only remaining habitat in the lower Bengal Basin for a wide variety of faunal species. Its exceptional biodiversity is expressed in a wide range of flora; 334 plant species belonging to 245 genera and 75 families, 165 algae and 13 orchid species. It is also rich in fauna with 693 species of wildlife which includes; 49 mammals, 59 reptiles, 8 amphibians, 210 white fishes, 24 shrimps, 14 crabs and 43 mollusks species. The varied and colourful bird-life found along the waterways of the property is one of its greatest attractions, including 315 species of waterfowl, raptors and forest birds including nine species of kingfisher and the magnificent white-bellied sea eagle.

Integrity

The Sundarbans is the biggest delta, back water and tidal phenomenon of the region and thus provides diverse habitats for several hundreds of aquatic, terrestrial and amphibian species. The property is of sufficient size to adequately represent its considerably high floral and faunal diversity with all key values included within the boundaries. The site includes the entire landscape of mangrove habitats with an adequate surrounding area of aquatic (both marine and freshwater) and terrestrial habitats, and thus all the areas essential for the long term conservation of the Sundarbans and its rich and distinct biodiversity

The World Heritage property is comprised of three wildlife sanctuaries which form the core breeding area of a number of species of endangered wildlife. Areas of unique natural beauty, ethno botanical interest, special marine faunal interest, rivers, creeks, islands, swamps, estuaries, mud flats, and tidal flats are also included in the property. The boundaries of the property protect all major mangrove vegetation types, areas of high floral and faunal values and important bird areas. The integrity of the property is further enhanced by terrestrial and aquatic buffer zones that surround, but are not part of the inscribed property.

Natural calamities such as cyclones, have always posed threats on the values of the property and along with saline water intrusion and siltation, remain potential threats to the attributes. Cyclones and tidal waves cause some damage to the forest along the sea-land interface and have previously caused occasional considerable mortality among some species of fauna such as the spotted deer. Over exploitation of both timber resources and fauna, illegal hunting and trapping, and agricultural encroachment also pose serious threats to the values of the property and its overall integrity.

The Delta is composed of three wildlife sanctuaries and has a history of effective national legal protection for its land, forest and aquatic environment since the early 19th century. All three wildlife sanctuaries were established in 1977 under the Bangladesh Wildlife (Preservation) (Amendment) Act, 1974, having first been gazetted as forest reserves in 1878. Along with the Forest Act, 1927, the Bangladesh Wildlife (Preservation) (Amendment) Act 1974, control activities such as entry, movement, fishing, hunting and extraction of forest produces. A number of field stations established within Sundarbans West assist in providing facilities for management staff. There are no recognised local rights within the reserved forest with entry and collection of forest products subject to permits issued by the Forest Department.

The Delta is currently well managed and regularly monitored by established management norms, regular staff and individual administrative units. The key objective of management is to manage the property to retain the biodiversity, aesthetic values and integrity. A delicate balance is needed to maintain and facilitate the ecological process of the property on a sustainable basis. Another key management priority is the maintenance of ongoing ecological and hydrological process which could otherwise be threatened by ongoing developmental activities outside the property. Subject to a series of successively more comprehensive management plans since its declaration as reserved forest, a focus point of many of these plans is the management of tigers, together with other widlife, as an integral part of forest management that ensures the sustainable harvesting of forest products while maintaining the coastal zone in a way that meets the needs of the local human population.

“The working plans for the Sundarbans demonstrate a progressive increase in the understanding of the management requirements and the complexity of prescriptions made to meet them. Considerable research has been conducted on the Sundarbans wildlife and ecosystem. International input and assistance from WWF and the National Zoological Park, the Smithsonian Institution as well as other organisations has assisted with the development of working plans for the property, focusing on conservation and management of wildlife.

The Sundarbans provides sustainable livelihoods for millions of people in the vicinity of the site and acts as a shelter belt to protect the people from storms, cyclones, tidal surges, sea water seepage and intrusion. The area provides livelihood in certain seasons for large numbers of people living in small villages surrounding the property, working

variously as wood-cutters, fisherman, honey gatherers, leaves and grass gatherers. Tourism numbers remain relatively low due to the difficult access, arranging transport and a lack of facilities including suitable accommodation. Mass tourism and its impacts are unlikely to affect the values of the property. While the legal protection afforded the property prohibit a number of activities within the boundaries illegal hunting, timber extraction and agricultural encroachment pose potential threats to the values of the property. Storms, cyclones and tidal surges up to 7.5 m high, while features of the areas, also pose a potential threat with possible increased frequency as a result of climate change"[6][7].

The largest mangrove forest Sundarbans is contributing to the sustenance and safety of living beings in the most densely populated part of the world. Unscrupulous human interventions constitute a significant threat to nature. Similarly, climate change: the fallout of exaggerated interventions in the name of development horrifies nature, including the Sundarbans. Water flowing via the rivers, canals, etc, drain salt water from the sea and into the Sundarbans[8]. Increases in salt owing to projected sea-level increases represent a major danger to Sundari trees, already at risk due to increasing levels of salinity. Thus, the total ecosystem is now facing the peril of extinction. Studies show that a 45cm sea-level rise would inundate 75% of the Sundarbans, and a 67cm rise could flood the entire ecosystem. Though only Sundarban cannot resolve all the problems of this issue, some essential steps should be taken by the local administrative bodies or governing agencies or government to retard the destruction of this ecosystem. Only a reasonable practice of sustainable development can ensure the ongoing management of the biotic and abiotic resources of the Delta region.

The Indian Sundarbans have been difficult for their livelihoods, owing to persistent water concerns – SLRs, salination of soil, water and floods caused by recession and bankruptcy – and "the effects of global climate change will only worsen conditions"[9]. Attempts at poverty alleviation in high-risk areas will involve an endless and unavailing struggle, even in the absence of future climate change impacts. The study team's recommended approach consists of striking an effective balance between (a) long-term risk avoidance via voluntary out-migration and (b) risk-reduction measures for those who remain in the high-risk transition zone. As mentioned, this combination of approaches is not internally contradictory once the time scales involved are considered. Time will require time to equip those who choose to out-migrate with the economic,

[6]*https://whc.unesco.org/en/list/798/*

[7]*https://documents.worldbank.org/curated/en/539771546853079693/text/Sundarban-Joint-Landscape-Narrative.txt*

[8]Mangrove forests threatened by Climate Change in the https://takvera.blogspot.com/2013/01/mangrove-forests-threatened-by-climate.html

[9]Journal: International journal of water resourceshttps://pubag.nal.usda.gov/?f%5Bjournal_name%5D%5B%5D=International+journal+of+water+resources+development&f%5Bpublication_year_rev%5D%5B%5D=7982-2018&f%5Bsource%5D%5B%5D=2018+v.34+no.1

human, and social capital needed to migrate successfully to safer areas with more significant opportunities. Measures to assist with the out-migration include:

Improve interagency collaboration. Invest in critical areas, such as the creation and operation of job training centers for migrants.

- Augment services in nearby regions are urbanized in the stable zone and beyond. Those areas can receive migrants and implement incentives to encourage out-migration (e.g., information dissemination campaigns to alert residents regarding the increased risks of remaining and the improved options elsewhere) and discourage in-migrants.

During the time needed to prepare for successful voluntary out-migration, measures to cut risks (e.g., embankment re-alignment and enhanced disaster-management systems) will be required because the population will continue to be exposed to considerable risk.

The impact of climate change on cause-effect relation to pollution in this river system will not only depend on high flow, discharge, and fluxes of pollutants but also on the rate and magnitude of changes in flow regime associated with temperature, pH, and other such factors which get influenced by the climatic extremes[10]. These may have far-reaching consequences for this river basin. Increasing temperatures and lowering pH are some of the major precursors, enhancers, and modifiers of the Physico-chemical and biological systems of the rivers. More interactive studies are still needed to understand the associations thoroughly. Abundant knowledge is available on various pollution problems of this river basin; however, attempts to link it with changes in climate-related variables and yet to understand and specify.

Pollution problems in the river Ganges are now being viewed under broader aspects and with various dimensions of climate change. However, numerous interacting experimental evidence is still needed to comprehend the polluting distribution and transformation and its impacts in waterways and in sediments and biota by interesting climatic factors and pollutant Interactions. Due to these factors, sufficient basic information on water flows and associated disruption to water quality interacting with climate change must be obtained in order to construct complete scenarios of the potential effects of climate change in this river basin. In conjunction with scientific study results demonstrating climate and pollutant connections, it is also essential to take management measures to restore the functioning of the river ecosystem. Therefore climate changes must be integrated in all research activities and policies in order to develop and restore the riverine ecosystems of this important Basin, emphasizing the relationship between cause and effect, to improve and accurately understand exact know-how, and accordingly plan for adjust and reductions.

[10]Understanding Integrated Impacts of Climate Change andhttps://www.smjournals.com/biology/fulltext/smjb-v3-1017.php

The current examination completed the recent analysis to decide the effect of urbanization on biodiversity about Ganga and Sunderland Delta. Keeping up the noteworthy social criticalness of the sacred Ganga is significant. Aside from help for the most crowded river basin of the world and a freshwater ecosystem, the Ganga underpins some interesting aquatic fauna and flora. The planet earth will be denied a portion of the magnificent creatures, such as mugger crocodile, the gharial, smooth-covered otter, and the Ganga dolphins alongside a part of the unique biome collaborative endeavour's are not taken up ideal. Aside from this, the Ganga is a manifestation of an entire civilization that needs ongoing deliberations from the individuals for their character.

The overall study relating to Urbanization and Biodiversity clearly signifies that only enactment of special laws is not sufficient to control any problems. Whatever be the laws if the approach is not clear, and goal oriented it leads to poor result. For Example, the Indian Government has enacted several laws and spend big part of fund to clean the Holy River Ganga and provide safeguard to the Sundarbans Delta, but not a Single percent of out come is there. But if we observed since the last two years the Covid has impacted almost all the corner of the Human and Biodiversity's. Several articles and reports that the nature is reviving himself or herself naturally in the span of fixed interval either in the form of natural disaster or in the form of pandemic. If we analyzed the era of pandemics then we found that a big shot of change has been observed in the nature after the Pandemics, then why not we apply some lessons which we have observed during this era to safeguard the biodiversity's and human society, as per my analysis the following are my suggestion which I observed during this pandemic:

1) I
   nstead the enactment of new laws teach the people ansPromote Research On Policies And Management Of The Biodiversity and rivers like GYAN GANGA.

2) To implement the weekly lock down rule in the normal life of human society to prevent the long-term lock down.

3) To diversify the urbanization as per the need of biodiversity not as per the need and demand of urbanization.

4) The establish that the natural habitat and our Holy river Ganga along with Sundarbans Delta Should be treated as Natural and living Personality in the eye of law.

India is confronting an enormous expansion in urban population, from 377 million individuals in 2010 to 600 million of every 2031, partially because the nation is putting vigorously in huge scope foundations, for example, streets, telecommunications, water organizations, and force and power networks. This expansion will undoubtedly establish enormous difficulties for biodiversity and human prosperity in India. Urbanization arranging infrastructural improvement and the consumption examples of urban occupants will affect ecosystems inside urban communities just as a long way past the city limits, with implications for the quality of life for individuals the nation over.

Urban communities can and do hold incredible biodiversity, as a rule, oversaw and kept up by residents of various degrees of society, going from the rich to the oppressed. This shows an extraordinary potential and opportunity inside urban communities. Numerous Indian social development and cultural growths are related to nature and its protection, which has added to the strength of urban green and blue spaces.

The ecosystem of Sundarbans is under administration for a long time, however, wanted information about floral or faunal diversity can't be produced can't produce information about floral or faunal diversity can't make information about floral or faunal diversity because of the absence of very much arranged and long haul study. From the investigation, it tends to be presumed that the more significant part of our contemplated parameters inside reasonable reaches for aquatic organism, however, have a little worry about Salinity esteems. During study time, a low degree of BOD and COD worth demonstrates that the organic waste pollution was unimportant in the Sundarbans water. From the new examinations, it has likewise mentioned that the Sundarbans is experienced with numerous issues like overexploitation, geomorphological changes, saltiness increments, and so on influencing it in general

production. The conveying limit of the Sundarbans is obscure. Indeed, even it isn't evident whether its marine assets are at overexploitation or at under exploitation. Countless individuals in the nearshore regions are occupied with getting seeds of Pea and using little nets. An immense number of hatchlings of different organisms, including blade fish and Zooplankton, get executed in the process. This causes a decrease in the biodiversity of aquatic creatures.

Another significant point is pollution in mangrove territories because of the deposition of solid or fluid industrial effluents. Besides, lately, there have been expanding events of oil slicks in the coastal oceans. It is essential to plan an administration program to battle pollution because of Mongla Port nearby Sundarbans.

Cities also need to incorporate ecologie knowledge into urban design practices by minimizing habitat and loss of biodiversity and prevent the deterioration of ecosystem services[11] (Niemela 1999; Pupin de Oliveira et al. 2011). Specifically, urban planning approaches must focus on conserving biodiversity and preserving the critically important ecological services for urban residents (McDonald et al. 2014; Pupin de Oliveira et al. 2011). Among this context it is an important element of developing good urbanisation policies that recognize and take account explicitly of biodiversity protection to disseminate information and science in the practitioners (General and Seto 2013). One of the key preconditions for ensuring this integration is to provide urban planners with the necessary institutional competence (Sandstrom et al., 2006; Blicharska et al., 2011). New ecosystems and communities of indigenous and non-native species may help us understand how future ecosystems might operate in urban settings[12]. New plants and animal populations, whether on abandoned grounds or with active management, have been continually constructed in metropolitan settings. Such communities may play an important role in building and maintaining ecosystem services, including water, fuel, food and recreational activities inside metropolitan areas. Therefore, an urban biodiversity-aware design may contribute to a larger percentage of functional biodiversity inside urban landscapes and preserve plant and animal community densities, structure and distribution.

In developing nations there are several biodiversity hotspots endangered by urban development (countries forecasted to have the most significant increase in population). It may have less financial resources than cities in industrialized nations for land preservation. Moreover, given the understandable emphasis on regulating services such as the supply of clean drinking and sanitation to the growing population of the local

[11]The Future of Global Urbanization and the Environment https://thesolutionsjournal.com/2016/02/22/the-future-of-global-urbanization-and-the-environment/

[12]Stewardship of the Biosphere in the Urban Era | SpringerLink. https://link.springer.com/chapter/10.1007%2F978-94-007-7088-1_33

governments of emerging nations[13]"Protection of biodiversity cannot be considered a city priority. In these biodiversity hotspots that confront constant urbanization, however, many people worldwide have a significant stake in avoiding catastrophic biodiversity loss. A worldwide effort to preserve these hotspots from further urban interference can only bridge the geographical divide between those who make choices in the towns in the biodiversity hot spots and those who are worried about losses in biodiversity elsewhere. This endeavour must involve concentrating conservation funds from rich world organizations and governments in these areas (McDonald et al., 2014). General et al. (2015b) discussed the barriers to integrating biodiversity and ecosystem services into land use plan in their research of possible direct consequences of urban development in biodiversity protection in China. The Intergovernmental Panel on Climates Change (IPCC) forecasts of the gross domestic product and United Nations forecasts of urban population growth, and examines historical patterns in urban development, predict that by the year 2030 urban land will reach more than four hundred thousand km2, which is equivalent to four-fold urban growth over a period of 30 years. Such development would raise strain in metropolitan areas in the country's already stressed protected areas and ecological hotspots. For the 145 I of the nation, this presents a huge problem! : Thomas Elmqvist et al. Biodiversity Conservation Goal and asks for better regional and provincial land use planning and control. The whole Chinese planning system includes a number of government organizations that develop land use plans and approve them. This system established an institutional context in which local and municipal governments increasingly use land leasing to developers as a key source of income during the Land and Fiscal Policy Reforms of the 1980s and 1990s. This led to the fast development of urban areas that, despite subsequent measures to stop the tendency, are now virtually unchecked. China must include ecological concerns into regional and provincial plans and choices and effectively manage municipal development decisions in order to combine well-functioning urban areas with that well-functioning ecosystems. However, overcoming firm governance standards and special interests is difficult (Giineralp et al. 2015b). While China's latest urbanization plan, for example, acknowledges that local governments have too much dependence on land rentals. It is unclear if, despite its high objectives, the program leads to substantial improvements in planning methods (Chinese State Council 2014). The proposed measures to alleviate urban effects on biodiversity could provide the most effective opportunity for regional floral and faunal species to continue in the face of climate change, as well as a surrounding urbanized landscape, with the laying down of large parts of native habitat in those regions facing urbanization pressures. These protected areas should be sufficiently large to cover the range of natural disruptions and indigenous ecosystems. Multiple landscape designs are available with land conservation. For example, for big parcels a method might consist of multiple-use areas

[13]*WHAT'S IT WORTH. https://conservancy.umn.edu/bitstream/handle/11299/53775/Sander_umn_0130E_10533.pdf?sequence=1&isAllowed=y*

(Noss and Harris 1986). The inner area will be free of roads and maintained to preserve indigenous vegetation and wildlife. In contrast, the perimeter would be utilized as a buffer for various advantages and be connected to other regions.

The Tijuca Forest in Rio de Janeiro, Brazil, is one example (Herzog 2013). "Large plots may, to a degree, cushion local climates and include more species individuals, thus increasing their genetic breadth. Even in these broad regions, however, human interference will not be immune; thus, natural resources managers need to constantly adjust themselves to different conditions."[14] The overall discussion interalia with the National and International examples clearly establish that the natural habitat and our Holy river Ganga along with Sundarbans Delta Should be treated as Natural and living Personality in the eye of law.

[14] : *https://www.fs.usda.gov/treesearch/pubs/download/52798.pd*