

ICAR-Central Inland Fisheries Research Institute

NABARANGAPUR

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MAYURBHANJ

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DHENKANAL

NAYAGARH

HAR SUGUDA

BARGARH

BALANGIR

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APA DA

KALAHANO

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BAUD

ANDHAMA

AMBALPUR

Barrackpore, Kolkata-700120, India

GIS Mapping of Inland water bodies of Odisha

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ICAR-Central Inland Fisheries Research Institute

Barrackpore, Kolkata-700120, India



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राज्य मंत्री सूक्ष्म, लघु और मध्यम उद्यम और मत्स्य पालन, पशुपालन एवं ढेयरी मारत सरकार नई दिल्ली–110011 MINISTER OF STATE FOR MICRO, SMALL & MEDIUM ENTERPRISES AND FISHERIES, ANIMAL HUSBANDRY & DAIRYING GOVERNMENT OF INDIA NEW DELHI-110011

Foreword

The fisheries sector has long been in need of authentic scientific data and analysis to address the critical concerns in production and productivity growth. Regardless of several path-breaking scientific advancements made in the fisheries sector, the need for proven scientific knowhow and cutting-edge technology to realize the full potential of the sector can scarcely be over-emphasized. In particular, remote sensing and GIS, as established scientific tools, are exceptionally useful in Inland Fisheries sector, especially in accessing varied information pertaining to the spatio-temporal changes. The inherent utility of the technology in adding quick decision-making and policy interventions for effective monitoring and evaluation of the Government schemes could go a long way in making fisheries sector as one of the important drivers of economic growth and rural regeneration.

Odisha ranks 3rd in inland fish production in the country, with a production of 6.0 lakh tons during the year 2018-19. There is vast untapped potential in the State's inland fish production which could be harnessed provided there is requisite planning based on credible scientific data and analysis.

I am happy to know that ICAR-CIFRI is bringing out a book on "GIS Mapping of inland water-bodies of Odisha". The present Book that dwells on water area delineation of Odisha state where remote sensing and GIS technology are used to delineate the water bodies of more than 0.5 ha is going to be exceedingly useful. The efforts made by the ICAR-CIFRI for delineation of the water bodies of more than 0.5 ha area deserve all round praise and it could be intelligently used as baseline authentic information for further planning. The book will, no doubt, help in better planning and monitoring of the fisheries activities in Odisha.

I compliment the authors for their sustained efforts in bridging a critical gap in the existing planning process to augment fish production in the state. The Book, I am sure, will be quite handy for the policy planners, fisheries scientists and discerning researchers in the fisheries sector.

New Delhi Date: 12.06.2021

(Pratap Chandra Sarangi)

III



त्रिलोचन महापात्र, पीएव.डी. एफ एन ए. एफ एन ए एस सी. एफ एन ए ए एस सचिव एवं महानिदेशक

TRILOCHAN MOHAPATRA, ph.D.

FNA, FNASC, FNAAS SECRETARY & DIRECTOR GENERAL

भारल सरकार कृषि अनुसंधान और शिक्षा विभाग तथा भारतीय कृषि जनुसंधान परिषद कृषि एवं किसान कल्याण मंत्रालय, कृषि भवन, नई दिल्ली 110012 GOVERNMENT OF INDIA DEPARTMENT OF AGRICULTURAL RESEARCH & EDUCATION AND INDIAN COUNCIL OF AGRICULTURAL RESEARCH MINISTRY OF AGRICULTURE AND FARMERS WELFARE KRISHI BHAVAN, NEW DELHI-110 001 Tel.: 91-11-23382629; 23386711, Fax : 91-11-25844773 Email : dg.lcar@nlc.ln

Foreword

I am glad to know that ICAR-CIFRI is bringing out a book on "GIS mapping of Inland water bodies of Odisha". Geographic Information System (GIS) mapping of inland water bodies will create an inventory of all water resources of a particular area. The information created in GIS platform could be utilized for various purposes by the planner and administrators. In this book the inland water resources were assessed using remote sensing and mapped in GIS. The state of Odisha is bestowed with rich inland open water resources comprising of 2 lakh ha of reservoirs, 1.80 lakh ha of lakes, swamps & jheels and 1.71 lakh hectares of rivers and canals. The present fish production from the inland open water resources is 6.60 lakh tones and to meet the demand of fish requirement of the state, annually 0.45 lakh tons of fish is being imported from neighboring states. Fish production from inland water resources could be substantially augmented to meet the domestic market demands, apart from creating employment and income generation opportunities for the rural poor and enhance their food, nutritional and livelihood security. The demand of fish requirement can be met through judiciously harnessing these inland open water resources. The information presented in this book will help in planning fisheries development of Odisha and its monitoring. I complement all authors in bringing out this important book.

Mugnt-

(T. Mohapatra)

Dated, 10th June 2021

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Preface

Water has a special place in our mythology because of its cleansing powers. Without water life is impossible in this earth. There are number of inland water resources available in India and are important for ICAR- Central Inland Fisheries Research Institute for its fisheries potential. ICAR-CIFRI, having a shining history of academic excellence with eminent scientists being a consistent part of this alma mater has long been associated with estimation of fish catch data. As a support to the process of fish catch estimation, an inventory of inland water resources (henceforth referred to as resources) had become an inevitability. Thus the Central Sector Scheme (CSS) project was taken up so that a list of water bodies could be prepared which would be able to complement the fish catch data.

This report intends to study in detail, the presence of water bodies in the state of Odisha. It has been prepared on a two stage platform proceeding from the formal initial stages of introduction, study area and methodology. Initially all water bodies of the state were analyzed with an overview of total, perennial and seasonal water bodies. Further they were also analyzed on a category wise seasonal and perennial basis. In this report district wise representation has been made instead of a block wise to avoid the voluminous of the report

The Inland water resources of Odisha had been assessed using Remote Sensing and GIS. It indirectly helps in monitoring and developing the inland water resources for fisheries purposes to its fullest potential. The data generated can be used as an inventory of inland water resources of Odisha. This report brings into the forefront the number of water bodies and their corresponding area. All the water bodies have been categorized into five categories. Their presence has been mapped for all the districts of the state in the pre-monsoon as well as the post-monsoon conditions. A few maps have been mounted for a quick representation of the scenario on the ground. Their presence might be valuable as a quick display of spatial information for the readers. The information presented will be helpful, especially for planners who take decision for the development of fisheries resources. The tables, associated maps, graphs and other information both literary as well as numeric as presented in the report would useful for scholars, authorities, planners and bureaucrats of fisheries sector along with allied sectors.



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LIST OF ABBREVIATIONS

| Acronym | Definition | Page |
|---------|--|------|
| ASPRS | American Society for Photogrammetry and Remote Sensing | 221 |
| BDO | Block Development Officer | 7 |
| CIFRI | Central Inland Fisheries Research Institute | 3 |
| CSS | Central Sector Scheme | 41 |
| DPM | District Planning Map Series | 17 |
| GIS | Geographical Information System | 17 |
| HPF | High Pass Filter | 16 |
| ICAR | Indian Council of Agricultural Research | 4 |
| IEEE | Institute of Electrical and Electronics Engineers | 221 |
| IHS | Intensity Hue Saturation | 221 |
| IRS | Indian Remote Sensing | 14 |
| ISRO | Indian Space Research Organization | 14 |
| LISS | Linear Imaging Self-Scanning | 15 |
| MSS | Multispectral Scanner | 219 |
| NATMO | National Atlas and Thematic Mapping Organization | 14 |
| NRSC | National Remote Sensing Centre | 221 |
| PAN | Panchromatic | 15 |
| PCA | Principal Component Analysis | 15 |
| RGB | Red Green Blue | 15 |
| SDO | Sub Divisional Officer | 7 |
| SOI | Survey of India | 14 |

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Introduction:

The fishery has been one of the most ancient but important sources of livelihood for a large population. Fishing has been a traditional occupation for millennia, supporting a plethora of communities, both along the sea coast and inland. Fisheries production has an important place in the Indian economy. Fishing is the largest sector in terms of livelihood generation.

Fisheries Sector has been recognized as one of the powerful income and employment generators as it stimulates the growth of many subsidiary industries. Fish is a source of cheap animal protein, is an important source of diet for a large section of the economically backward population of the country. Fisheries are the only sector that offers cheap and good animal protein to the people, particularly to the economically weaker sections of the society. Thereby, it serves as a means for ensuring national food security. Indian fisheries and aquaculture are important sectors of food production, providing nutritional security to the food basket, contributing to the agricultural exports, and engaging about fourteen million people in different activities (Krishna, 2014).

The inland fisheries sector is contributing almost 75% (10.43 MMT) to the total Fish production of 14.16 million metric tonnes (Hand Book of Fishery Statistics, 2020). Paradigm shifts in terms of increasing contributions from the inland sector and further from aquaculture are significant over the years. With high growth rates, the different facets of marine fisheries, coastal aquaculture, mariculture, inland fisheries, freshwater aquaculture and coldwater fisheries are increasingly being diversified, contributing to food, health, economy, exports, employment and tourism of the country.

Location:

The state of Odisha lies in the tropical belt in the Eastern Region of India 17° 48' -22° 34' north latitude and 81° 24'-87° 29' east longitude (Anonymous, 2011). The state is surrounded by West Bengal in the north-east, Bihar in the north, Andhra Pradesh on the south-west, Madhya Pradesh on the northwest and the east it is having a long coastline of 480 kilometers with the Bay of Bengal. It is the tenth largest state in India covering an area 15.57 m hectares, and extends for 800 kilometres from north to south and 500 kilometres from east to west. The state is divided into 30 districts which are further subdivided into 314 blocks (Wikipedia, 2016).

Physiography:

The state can be broadly divided into four physiographic zones based on the existing relief features. These are given as follows.

The Northern plateau: It is a continuation of Chotanagpur plateau of Bihar and chiefly comprises of the districts of Mayurbhanj, Keonjhar, Sundargarh covering about 23 percent of

the total area of the state. There are a number of hill ranges rising to an elevation of 610 to 914 metres above the mean sea level. The topography is from undulating to gently rolling. On the east of the plateau lie the Simlapal ranges of Mayurbhanj district. The Gandhamardan and Meghasan hills of Keonjhar district serve as a natural barrier to monsoon wind. The region constitutes the watersheds of river Baitarani, Salandi, and Budhabalanga. The hills are thickly wooded with sub-tropical forests.

The Central River Basin: The Central River Basin occurs between the Northern Plateau and the Eastern Ghat hill ranges with undulating and folded topography and covers parts of Bolangir, Sambalpur, Dhenkanal and Cuttack districts. It comprises the catchment areas of the major rivers of the state, viz., Mahanadi, Brahmani, Tel and Baitarani rivers and their tributaries. Though largely a peneplain, the Central River Basin is occasionally marked by isolated hills, which rise abruptly from the plains (Anonymous, 2011).

The Eastern Ghats hill ranges: It consists of hill ranges covering 36 percent of the total area of the state. The region has the river Tel and its tributaries in the north and Vamsadhara and Nagabali in the south-east and Machkund in the South-west.

The Coastal region: The Coastal Plains form an extensive alluvial tract lying between the Eastern Ghat hill ranges and the coast. It stretches for about 480 km and includes parts of Balasore, Cuttack, Puri and Ganjam districts. The Chilka Lake, the widest lagoon in India, is a prominent coastal feature of Odisha. The coastal plain is characterized by some deltas mainly formed by the rivers Subarnarekha, Mahanadi, Brahmani and Baitarani.





Figure 1: Location Map of Odisha

Climate:

The State is bestowed with diverse climatic conditions and has a coastline extending to 480 kms. Standing on the coastal belt, the weather in Odisha (Orissa) is greatly influenced by the sea. The weather of Odisha can be classified under three heads namely, summer (March-June), monsoon (July-September) and winter (October-February). The state is also endowed with relatively short stints of the refreshing spring and the mellow autumn. As per Koppen's climatic classifications, most of Odisha comes under the AW having a tropical Savannah type of climate.

Odisha (Orissa) lying just South of the Tropic of Cancer, has a tropical climate. The climate of Odisha is distinctly related to the geography of Odisha. It is warm almost throughout the year in the Western districts of Sundergarh, Sambalpur, Baragarh, Bolangir, Kalahandi and Mayurbhanj with maximum temperature hovering between 40-46° C and in winter, it is intolerably cool. In the coastal districts, the climate is equable but highly humid and sticky. The summer maximum temperature ranges between 35-40° C and the low temperatures are usually between 12-14° C. Winter is not very severe except in some areas in Koraput and Phulbani where the minimum temperature may drop to 3-4° C. The average rainfall is 150 cm, experienced as the result of southwest monsoon during July-September. The month of July is the wettest and the major rivers may get flooded. The state also experiences small rainfall from the retreating monsoon in the months of October-November. January and February are dry. As per "Thornthwaite's classification", Odisha comes under the "Subhumid" category, implying deficient winter rains.

Integrating the effect of land from the topography, climate, soils and crop adaptability, according to the National Agricultural Research Project, launched by ICAR with support from the World Bank, Odisha has been divided into 10 Agro-Climatic zones.. The zones are described next page.

In the past two decades, Odisha has been teetering from one extreme weather condition to another: from heat-wave to cyclone, from drought to flood. The state has been declared disaster-affected for 95 years out of the last 105 years: floods have occurred for 50 years, droughts for 32, and cyclones have struck the state for 12 years. Since 1965, these calamities have not only become more frequent, they are striking areas that have never experienced such conditions before (Lessons from the Cyclone Phailin).

Vulnerability to flood:

There are eleven major river systems in Odisha such as the Subarnarekha, the Budhabalanga & Jambhira, the Baitarani, the Brahmani, the Mahanadi, the Rusikulya, the Vansadhara, the

| Agro-Climatic Zone | Agricultural Districts | Zonal Research Station | Climate | Broad Soil Groups |
|---|---|------------------------------|----------------------------------|---|
| OR-1 North- western Plateau Zone | The whole of Sundargarh Agriculture district and Kuchinda sub-division of Sambalpur district fall in this zone. | Kerai | Hot & moist sub- humid | Red, Brown forest, Red & Yellow, Mixed Red & Black. |
| OR-2 North- central Plateau Zone | Keonjhar excepting Anandpur and Joda Blocks and district of Mayurbhanj. | Keonjhar | Hot & moist sub- humid | Lateritic, Red & Yellow, Mixed Red & Black. |
| OR-3 North- eastern Coastal Plain Zone | Balasore, Jaipur, Keonjhar/Anandpur. | Ranital | Moist sub- humid | Red, Lateritic, Deltaic alluvial, Coastal alluvial & Saline. |
| OR-4 East and South-eastern Coastal Plain Zone | District of Balasore, Cuttack and Puri. The Eastern part of Ganjam district also comes within this range. The land area lies between 0-15m contours with scattered Eastern Ghat Hills and Hillocks in Cuttack, Puri and Ganjam districts. | Bhubaneswar | Hot & humid | Saline, Lateritic, Alluvial, Red and Mixed Red & Black. |
| OR-5 North- eastern Ghat Zone | The area of Phulbani excepting the Western part of Boudh, Paralakhamundi and Rayagada valley consists of hills ranges. | G. Udayagiri | Hot & moist, sub- humid | Brown forest, Lateritic Alluvial, Red, Mixed Red & Black. |
| OR-6 Eastern Ghat High Land Zone | 10 blocks of Koraput and 8 blocks of Nawaranpur and 1 block of Jeypore agricultural district. | Semiliguda | Warm & humid | Red, Mixed Red & Black, Mixed Red & Yellow. |
| OR-7 South- eastern Ghat Zone | Jeypore comprising Malkangiri and Jaypore sub-division. | Kalimela | Warm & humid | Red, Lateritic, Black. |
| OR-8 Western Undulating Zone | Keonjhar excepting Anandpur and Joda Blocks and district of Mayurbhanj. | Bhawanipatna | Hot & | Red, Mixed Red & |
| OR-9 West- central Table Land Zone | The zone consists of 23 blocks of Sambalpur and 20 blocks of Bolangir district. | Chiplima | Hot & | Red & Yellow, |
| OR-10 Mid- central Table Land Zone | Dhenkhanal, Angul, Athgrah and Sukinda block of Jaipur. | Mahisapat | Hot & | Alluvial, Red, |

Table 1: Agro-Climatic Zones of Odisha

Source: (DACNET, 2013)

Nagabali, the Indravati, the Kolab, and the Bahuda. Its densely populated coastal plains are the alluvial deposits of its river systems. The rivers in these areas with a heavy load of silt have a very little carrying capacity, resulting in frequent floods, only to be compounded by breached embankments.

Due to heavy rain during August, flash floods were experienced in Khordha, Kandhamal, Nayagarh and Kalahandi Districts. Similarly due to heavy rain on the effect of Cyclone "Neelam" during 1st week of November, the flash flood was experienced in Ganjam District.

Major flood management efforts have been undertaken to mitigate the risk. The State Govt. tackled the flood situation effectively. Most of these floods occur due to the monsoon rains and overflowing of rivers during the rainy periods. In most, the recent year 2006, 2007, 2008, and 2011 witnessed such massive floods in Odisha.

Vulnerability to Droughts:

During the 1950s only three districts were drought-prone. By the 1980s, the whole of western Odisha, consisting of five districts, became drought-prone. During the 1990s, 25 of the 30 districts became drought-prone. The pattern of drought in the state is of a varied one, sometimes affecting the entire state, sometimes a few regions, and sometimes a few districts. However, the contiguous patch consisting of the subdivisions of Padamapur, Bolangir, Titilagarh, Patnagarh, Nuapada, Khariar, Bhawanipatna, and Phulbani comprising of 47 blocks have been identified as chronic drought-prone zones.

Based on the reports of crop cutting experiment received from the Collectors, the State Government have declared 314 villages of 59 Gram panchayats under 10 Blocks of 4 Districts as drought-affected having sustained crop loss of 50% and above about Kharif 2012 (Annual Report on Natural Calamities, 2012-13).

Vulnerability to Cyclones:

During the 1970s and 1980s, only two severe cyclones hit the state. During the 1990s, two severe cyclones hit the state and the number of cyclonic conditions rose. With 13 severe cyclones in the last 100 years, After the 1999 cyclone that took about 10,000 lives, the recent Phailin was as severe as its 1999 counterpart but could take only 40 lives due to better preparedness. Phailin's economic cost was over USD 4 billion. Odisha is the worst-affected state in India. Once every 2 - 3 decades, a severe cyclone strikes Odisha. Nearly one third of the cyclones of the east coast of India visit Odisha coast. The total number of cyclonic disturbances is more along the Odisha coast, as a natural hazard, the severe storms are of greater public concern in view of their large scale damage potentiality, loss of life and

property. By taking together the storms and severe storms which mostly create havoc and incur a greater amount of damage, the Odisha Coastal Zone is twice more vulnerable in comparison to the other eastern states.

Vulnerability to Heat Waves:

The heatwave condition in Odisha is becoming increasingly prominent and regular. In 1998, the state witnessed a severe heatwave, which claimed over 2,000 lives. Several districts also suffered from an extreme scarcity of drinking water. However, the main risk due to heatwaves is heatstroke. After a large number of deaths in 1998, the main causal factor was identified as a lack of awareness and not following certainly do's and don'ts during heatwave conditions. Though extensive awareness campaigns have reduced a large number of fatalities post-1998, poor socioeconomic conditions, lack of enforcement and adoption of good working conditions during the summer months and remain the main risks of the heatwave. (Lessons from the Cyclone Phailin).

Administration:

Odisha is now divided into 30 districts under 3 divisions (Administrative Unit, 2016-2017). Districts are administered by District Magistrates, and divisions are administered by Divisional Commissioners. Bhubaneswar is the capital of the Indian state of Odisha. Provisional population of whole Odisha state is 41,947,358 out of this population male population is 21,201,678 and female population is 20,745,680 (Census, 2011). Districts are divided into administrative units such as subdivisions and blocks, administered by SDO and BDO, respectively. The Panchayati Raj has a three-tier structure in the state. The atomic unit is called a Gram Panchayat, which is the Panchayat organization for a collection of villages. The block-level organizations are called Panchayat Samiti, and the district-level organizations are named Zilla Parishad. In Odisha, there are 58 numbers of Subdivisions, 317 number of Tahasils and 314 number of Blocks.

Agriculture:

Odisha is primarily an agrarian economy having nearly 30% contribution to the Net State Domestic Product (NSDP) with 73 percent of the workforce engaged in this sector (Economic survey, 2017-18). Agriculture is the mainstay of the State's economy & providing livelihood support to a large section of the population. Odisha is one of the largest producers of rice in India. The state grows almost one tenth of the total rice production of the country. Favorable climate and presence of rich soils account for the flourishing agriculture of Odisha. The main crops cultivated in the state are rice, jute, oilseeds, pulses, coconut, mesta, sugarcane, tea, rubber, cotton, gram, mustard, etc.

The principal problem that Odisha agriculture faces are the shortage of water in many areas. Lack of irrigation facilities in these drought-prone areas creates great obstacles to agriculture. Flood and low per Hectare production are other agricultural problems of the state (Odisha Agriculture policy, 2020).

An Overview of Water Resources:

Odisha is one of the few states in the country, which is endowed with abundant water It is blessed with an excessive network of rivers and streams. The surface water resources of Odisha have their source in major river systems of Mahanadi, Brahmani, Baitarani, Budhabalang, Subarnarekha, Rushikulya and Vasundhara (Department of Water Resources: Govt. of Odisha). The rivers have deposited a lot of silt and enlarged the area. Besides, these rivers there is a big lake Chilka. The river systems besides, useful for agriculture, power generation, and capture fisheries. Odisha, where both floods and drought have a mark in its economic and social conditions, water is one of the crucial elements of development planning. Water is one of the most vital natural resources used not only for direct consumption but also as an input in the process of production in different sectors of the economy.

Freshwater biodiversity:

Odisha is one of the major maritime States, offering vast scope for the development of inland, brackish water and marine fisheries. For the convenience of readers, it may be mentioned that authors are considering the fish biodiversity in a two phased manner. In the initial phase, coastal districts will be considered for the discussion. Hence there is an expectation of a larger variation in fish species if marine fishes are considered. Inland fish species again might have a possibility of restriction of numbers in freshwater fish species. For a detailed discussion, the following districts may be considered for wider visualization.

There are six maritime districts in the state namely: Balasore, Bhadrak, Kendrapara, Jagatsinghpur, Puri, and Ganjam. A considerable extent of land along the seacoast in these districts is unsuitable for agriculture but suitable for brackish water shrimp culture. As such, shrimp culture in the coastal stretch has grown considerably during the last decade. There are 641 marine fishing villages situated along the Odisha coast. The total marine fisher population of the State during the year 2005 has been estimated at 4,50,391 (NMFC, 2006) in 86,352 households, of which 41% are in Balasore district, 15% in Jagatsinghpur district, 13% in Bhadrak, 12% in Puri, 10% in Ganjam and 9% in Kendrapara districts. Out of 1,21,282 persons engaged in marine fishery activities in Odisha, 74,980 are full-time fishermen, 34,315 are part-time and 11,987 are occasional fishermen.

In Chilika lake a total number of 225 species of fresh/brackish water fish comprising 147 genera, 71 families and 15 orders were reported from Chilika Lake, besides 24 species of

shrimp and shrimps, 9 families of crabs comprising 28 species. Besides, 136 species of molluscs under 66 families were also reported. The main species of fish caught in Chilika include mullets, sciaenids, threadfins, catfish, hilsa, clupeids, perches, *Etroplus suratensis*, shrimp species including *Penaeus monodon*, *P. indicus*, *P. semisulcatus*, *Metapenaeus monoceros*, *Metapenaeus dobsoni*, and crab species such as *Scylla serrata* and *Neptunus pelagicus* (Suresh *et al.*, 2018)

Moving on to the districts away from the coast a noticeable effect of highlands, plateaus and rough terrain is found on the number of species found where they exist. Observation of reports from Agropedia 2012, DACNET 2013, and Directorate of Agriculture & Food Production a comprehensive idea is evolved which helps to understand reasons for the existence of a dearth of water bodies and hence fish species in (Lesser water body density districts) districts of Malkangiri (South-eastern Ghat Zone), Koraput (Eastern Ghat High Land Zone), Rayagada (North-eastern Ghat Zone), Kandhamal, Debagarh (North-Western Plateau), Gajapati (North Eastern Ghat), Kendujhar (North-central Plateau Zone), and Nabarangapur (Eastern Ghat High Land Zone) there are lesser species available in these districts, and abundance of fish species like Catla (Labeo catla), Rohu (Labeo rohita), Mrigal (Cirrhinus mrigala), Bata (Labeo bata), Java punti (Puntius javanicus), and exotic carps like common carp (Cyprinus carpio), Silvercarp (Hypophthalmichthys molitrix) grass carp (Ctenopharyngodon idella) and many more fish species may be found in the (Higher water body density districts) districts of Baleshwar (North Eastern Coastal Plain), Balangir (Western central table land), Kalahandi (Western Undulating Zone), Bhadrak (North Eastern coastal plain), Ganjam (East & South Eastern Coastal Plain), and Bargarh (Western central table land), due to the presence of a greater number of water bodies there. In general, the dominant species are *Labeo catla*, Puntius gelius, Labeo rohita, Cirrhinus mrigala, Amblypharyngodon mola, Labeo bata, etc.

Odisha Reservoir Fishery:

There are three large reservoirs, Balimela in Koraput district (19 440 ha), Hirakud in Sambalpur (71 963 ha) and Rangali in Dhenkanal district (28 000 ha). With these varied resources, the state is endowed with high fish biodiversity.

Balimela reservoir and its fishery:

The Balimela reservoir is located at Malkangiri district, Odisha, India on the river Sileru which is a tributary to Godavari River. The result of the total study revealed the occurrence of 29 freshwater fish species belonging to 7 orders, 12 families in two reservoirs of Malkangiri district of Odisha i.e. Balimela and Satiguda Dam Reservoir. This is the first report of its kind from these two reservoirs, in which 26 edible fishes and 3 ornamental fishes have been recorded.

Satiguda Dam reservoir of Malkangiri district, Odisha includes a total of 21 species with 8 species of carps, 6 species of catfishes, 2 species of barbs, 2 species of Snakeheads, 1 species of eel and 1 species of pipefish. Balimela Dam of Malkangiri district, Odisha includes a total of 22 species with 11 species of carps, 2 species of barbs, 2 species of snakeheads, 3 species of catfishes, perch, gobies, feather back and eel species represents one species each (Mahapatra, 2015).

Hirakud Reservoir and its Fishery:

In the year 1957, Odisha got the first major irrigation reservoir commissioned in the Hirakud, which situated in Sambalpur, Jharsuguda and Bargarh districts of Odisha. It stands the largest man made reservoir in Asia with the longest dam in the world. The commercial fishery of Hirakud Reservoir comprises nearly 40 species, a few important ones are *Labeo catla, Labeo rohita, L. gonius, L. fimbriatus, L. calbasu, L. bata, Cirrhinus mrigala, C. reba, Notopterus notopterus, N. chitala, Channa gachua, Channa punctatus* etc (Kumar, 2013).

Rangali reservoir and its fishery:

Rangali reservoir, on the river Brahmani, is the second largest man-made lake in Odisha. The fish catch is estimated at 14.5 t, which is equivalent to 0.52 kg ha⁻¹. No stocking has so far been done(Sugunan, 1995).

The state of Odisha is bestowed with Inland resources and the Fisheries activity is prominent in the State. Inland fisheries sectors offer a vast scope for development and investment in a number of projects. Along with various Centrally Sponsored Schemes and Centrally Plan Schemes, the State Government on its own has initiated various activities for the welfare of fishermen as well as increasing the fish production of the State. The plan, program and policies of Fisheries Sector are carried out through the Directorate of Fisheries, Odisha. The Directorate of Fisheries, Odisha was created in the year 1956 to look after all round development of Fisheries activities in the State. It is a service sector and extension oriented technical Department, which promotes scientific aquaculture in the state and look after the welfare of Fisherfolk.

Fisheries:

The total fish production of the State in 2019-20 was 8.18 lakh tonnes. The overall increase in fish production during the past five years from 2015-16 was in the order of 3.76 lakh tonnes, with an annual growth rate of about 15 percent. While the marine fish production was stagnant to 1.58 lakh tonnes during the corresponding period.

TABLE 2: Annual Inland Fish Production in Odisha and India during 1961-2017

| Year | Odisha Inland Fish production('000t) | India ('000 t) | % Contribution of Odisha | Year | Odisha Inland Fish production('000t) | India ('000 t) | % Contribution of Odisha |
|------|--|-------------------|--------------------------------|------|--|-------------------|--------------------------------|
| 1961 | 5.146 | 277.43 | 1.85 | 1990 | 83.29 | 1536.25 | 5.42 |
| 1962 | 25.002 | 329.56 | 7.59 | 1991 | 95.03 | 1709.33 | 5.56 |
| 1963 | 25.062 | 390.43 | 6.42 | 1992 | 93.76 | 1789.05 | 5.24 |
| 1964 | 0.338 | 459.86 | 0.07 | 1993 | 128.36 | 1995.5 | 6.43 |
| 1965 | 18 | 505.7 | 3.56 | 1994 | 134.77 | 2096.73 | 6.43 |
| 1966 | 21 | 477.48 | 4.4 | 1995 | 134.85 | 2242.32 | 6.01 |
| 1967 | 25 | 537.15 | 4.65 | 1996 | 143.5 | 2381.43 | 6.03 |
| 1968 | 25 | 621.76 | 4.02 | 1997 | 153.43 | 2438.04 | 6.3 |
| 1969 | 25.5 | 693.15 | 3.68 | 1998 | 159.9 | 2565.81 | 6.23 |
| 1970 | 25.5 | 621.76 | 4.1 | 1999 | 135.3 | 2822.96 | 4.79 |
| 1971 | 15 | 690.21 | 2.17 | 2000 | 138.56 | 2844.83 | 4.87 |
| 1972 | 20 | 665.78 | 3 | 2000 | 168.06 | 3126.18 | 5 37 |
| 1973 | 23 | 747.55 | 3.08 | 2001 | 172 53 | 3209.86 | 5.37 |
| 1974 | 24 | 783.32 | 3.06 | 2002 | 190.02 | 3457.89 | 5.49 |
| 1975 | 25 | 783.77 | 3.19 | 2003 | 193.66 | 3525.88 | 5.49 |
| 1976 | 27 | 799.22 | 3.38 | 2004 | 203.23 | 3755 56 | 5.41 |
| 1977 | 28 | 863.43 | 3.24 | 2005 | 203.23 | 2844.80 | 5.56 |
| 1978 | 29 | 816.45 | 3.55 | 2000 | 213.3 | 4207.25 | 5.50 |
| 1979 | 31 | 848.54 | 3.65 | 2007 | 210.72 | 4207.33 | 5.10 |
| 1980 | 39 | 992.78 | 3.93 | 2008 | 259.55 | 403/.8/ | 5.10 |
| 1981 | 44 | 1025.4 | 4.29 | 2009 | 253.22 | 4894.14 | 5.17 |
| 1982 | 42 | 905.46 | 4.64 | 2010 | 252.71 | 4981.25 | 5.07 |
| 1983 | 50 | 1005.67 | 4.97 | 2011 | 267.53 | 5294 | 5.05 |
| 1984 | 50 | 1204.7 | 4.15 | 2012 | 291.83 | 5719 | 5.1 |
| 1985 | 51.76 | 1160.05 | 4.46 | 2013 | 293.76 | 6136 | 4.79 |
| 1986 | 59.58 | 1228.88 | 4.85 | 2014 | 336.34 | 6691 | 5.03 |
| 1987 | 60 | 1300.92 | 4.61 | 2015 | 376.52 | 7162 | 5.26 |
| 1988 | 69.9 | 1334.6 | 5.24 | 2016 | 455 | 7806 | 5.83 |
| 1989 | 75.87 | 1402 | 5.41 | 2017 | 543.36 | 8902 | 6.10 |


The annual export of marine products from Odisha during the last five years ranged between 23,691 tons in 2012-13 and 41,828 tons (2016-17) valued approximately at 908 crores to 2204 crore. Contribution of Odisha to the present level of marine products exported from the country is about 3.7 percent in terms of quantity and 5.8 percent in terms of value.

For developing inland fisheries, the Department of Fisheries has 106 fish farms, out of which 27 are fish breeding farms with hatcheries and the private sector has 89 fish breeding farms. Presently there are 108 fish seed hatcheries in Odisha with the designed capacity for producing around 70 crore fry(Odisha Fisheries Policy, 2015).

There are 3,878 fishermen villages of which 813 are marine and 3,065 inland. The total fishermen population in Odisha is 14,80,704 comprising 6,05,514 (CMFRI census 2010) are marine fishermen and the remaining 8,75,190 are inland fishermen. There are about 1,69,000 active marine and about 1,89,000 inland fishermen.



GIS MAPPING OF INLAND WATER BODIES OF ODISHA



Figure 2.1: Time series Data Comparing Year wise Inland Fish Production (India and Odisha)





Future Scope:

Fishery as a sub-sector of Agriculture is coming up strongly at the national level as well as state level. In order to grab the opportunities in the sector more and more people are coming into the sector in order to avail the better income and employment opportunities. Odisha is quite progressive particularly in relation to fish production in its inland fisheries. Progress is quite satisfactory in the state.

The Odishagovernment has planned a draft fisheries policy, aimed at bridging the gap between the demand and supply of fish for domestic consumption, encouraging public-private partnership (PPP) investment in the fisheries sector and tapping the untapped potential of aquaculture to ensure food and nutritional security.

Other objectives of the policy include up-gradation of infrastructure facilities in the fisheries sector, up-gradation of overall quality of fish, enhancing productivity and production of fish and expanding export markets for high value products.

The policy has envisioned a balanced approach to fisheries management based on sound ecological, economic and precautionary principles to ensure that the fish population remains viable, productive and accessible to future generations.

It has also stressed on an efficient value chain and an organised and secure marketing for fish and fishery products to protect the producers' and consumers' interest and augment marine products export and foreign exchange earnings of Odisha.

The key areas of this comprehensive fisheries policyare based on the national and international commitments and requirements, covering the entire gamut of fisheries, harvest and post-harvest infrastructure and market support, socio-economic aspects of fisheries and related issues. The policy has identified key opportunities in the fisheries sector- revitalization and modernization of fish ponds, ever increasing demand for freshwater fish, upgradation of fish harbours, utilisation of technologies for minimizing adverse environmental impact and creation of alternative livelihood for the fishermen community.

The policy says adequate and timely credit will be provided to investors, particularly towards working capital to the fish processing sector. The government will also promote insurance in freshwater aquaculture by providing 50 percent of the insurance premium.

Methodology:

The methodology can be broadly divided into image handling, vector handling, data validation, final product generation and identification of potential in the future. Following this, there are meticulous procedures through which the process proceeds as elaborated further. The

output from image handling signals the beginning of vector handling which again is intricately associated with its previous process. These procedures are executed in a software driven environment capable of processing remote sensing and GIS data. A schematic representation of discrete and interdependent processes has been outlined in the figure: 3.

Remote Sensing

Images:

The inland water bodies of Odisha have been extracted from remotely sensed satellite images. Images from the sensors of Indian Remote Sensing (IRS) satellites IRS 1D and IRS P6 have been selected based on cloud-free availability.

Launched in 1997 the IRS 1D has three payloads viz., Panchromatic (PAN), Linear Imaging Self-Scanner (LISS III) and Wide Field Sensor (WiFS). The PAN images have a higher spatial resolution of 5.8 metres at nadir whereas the LISS III images have a moderate spatial resolution of 23.5 metres at nadir (National Remote Sensing Centre, 2013). The PAN camera captures spectral information from a single bandwidth of 0.5µm to 0.75µm. The moderate resolution LISS-III camera captures information from multiple bandwidths of Green: 0.52µm-0.59µm, Red: 0.62µm-0.68µm, near-IR: 0.77µm-0.86µm and mid-IR: 1.55µm-1.70µm.

Launched in 2003, the IRS P6 also known as Resources at -1 was the most advanced remote sensing satellite launched by ISRO. It operates in a high polar sun-synchronous orbit and has payloads of LISS IV, LISS III, (Advanced Wide Field Sensor, AWiFS) AWiFS-A and AWiFS-B. From the four, our need was limited to the images of LISS III camera operating in the bands (Green: $(0.52\mu m-0.59\mu m)$, Red: $(0.62\mu m-0.68\mu m)$, NIR: $(0.77\mu m-0.86\mu m)$ and mid-IR: $(1.55\mu m-1.70\mu m)$) with a spatial resolution of 23.5 metres.

Satellite images of pre and post-monsoon seasons (Table 3) were procured from National Remote Sensing Agency (NRSA), Hyderabad and used for mapping the water bodies and developing a GIS database. (Earth Observation Satellites: IRS P6 / Resources at - 1). We considered March to June as the pre-monsoon period and October to January as the post-

| Period | Months | Year |
|--------------|--------------------|-----------|
| Pre-Monsoon | March to June | 2004-2005 |
| Post-Monsoon | October to January | 2003-2004 |

Table 3: Year wise seasonal images used

monsoon period. In the case of the pre-monsoon period, most of the cloud free images were procured during 2004. However, in a few cases cloud free images were procured for the pre-monsoon period of 2005, as the same were not available for 2004. For the post-monsoon period cloud free images were procured during 2003-2004.

Toposheets and DPMS:

Other than images, toposheets (scale 1: 50,000) and District Planning Map Series (DPMS) from the Survey of India (SOI) and National Atlas and Thematic Mapping Organization (NATMO) have been used at different stages of image and map preparation.

Georeferencing:

At the beginning of any image processing plays a very important step of georeferencing. That establishes a relationship between images and object coordinate systems (Zhu, 2008). It is crucial to make satellite imagery useful for mapping. Images were georeferenced from Survey of India toposheets using sumo-grid 4 digitizers for one season. The Universal Transverse Mercator projection with World Geodetic System 1984 (WGS 84) datum was used for assigning earth co-ordinates to them. Thereafter, geo-referencing was constructed on an image to image basis.

Fusion:

The terms image fusion, resolution merge, or pan-sharpening, are typically used interchangeably. They refer to the technique of combining the spatially detailed structure of a high resolution image with the spectral information of a lower resolution multispectral image to produce a high-resolution multispectral image (Ehlers, 2007). The purpose is to enhance the imagery with the intent of obtaining information of greater quality (Daniel L. Civco and James D. Hurd, 09-13/03/2009).

In PAN images, information is present in a monochromatic band from a very small area. These images have greater spatial detail shown by sharper objects on the ground, they however lack finer bandwidth. On the other hand, LISS III images are enriched with the information from multiple bands over larger area coverage than that of PAN images. However, it is difficult to identify finer objects and their edges on the ground from LISS-III images. Thus image fusion techniques were employed for the identification and delineation of water bodies precisely. More specifically, the strength of the spectral resolution of LISS III image and strength of the spatial resolution of PAN images were exploited within image fusion techniques to produce a fused image of greater quality. In this way, water bodies of area 0.5 ha or more were delineated more precisely.

There exist a number of methods for image fusion. Common techniques include:

The Modified IHS (intensity, hue, saturation) Transformation-

This process involves the conversion of three input multispectral bands from red-green-blue (RGB) space to intensity-hue-saturation (IHS) space. The higher resolution panchromatic band is substituted for the intensity channel and the HIS transform is converted back into RGB space maintaining the panchromatic spatial structure bands (Vrabel, 1996), (Zhou, et. al., 1998).

Principal Components Merge-

Principal Component Analysis (PCA) allows synthesizing the original bands creating new bands, the principal components, which pick up and reorganize most of the original information. (González, et. al., 2004).

The original spectral data are mathematically transformed into new, uncorrelated images called components (Chavez, 1989). As a data fusing method principal components are calculated from the multispectral image. The higher resolution panchromatic band is the first principal component followed by an inverse principal component transformation to derive the fused image (Zhou et. al., 1998).

Brovey Transform -

This process uses a ratio algorithm to combine the multispectral and panchromatic images. Essentially the technique normalizes each of the multispectral bands used and multiplies these with the higher resolution panchromatic band. When layer stacked, the result is a synthesized higher resolution multispectral image(Genderen, 1998).

 $Wave let \, Transformation -$

This process first histogram matches the higher resolution panchromatic band to each of the possible three input multispectral bands. These modified panchromatic bands are converted into three wavelet coefficients which identify the high frequency spatial structure in three directions (vertical, horizontal, and diagonal). Wavelet decomposition is constructed using the multispectral image (3 bands) and high frequency panchromatic information to produce four components. An inverse wavelet transform is then performed introducing the spatial detail into each multispectral band to produce a final 3 band higher resolution multispectral image (Sanjeevi et. al., 2001).

• High Pass Filter (HPF) Resolution Merge-

This process is an arithmetic technique that applies a spatial enhancement filter to the high-resolution image before being merged with the multispectral data set on a pixel-by-pixel basis.

HPF fusion combines both spatial and spectral information using the band addition approach (Chavez, 1991).

Each of these techniques has their benefits and detractions depending on the expected use of the fused image. For the present context, the Brovey Transform technique was used.

Delineation/Classification:

These enhanced images make it easier for the image interpreter to quickly identify water bodies and delineate them in the image processing software environment. The process of delineation is based on subjective discretion. Either a manual process or an automated process or a combination of both has been chosen by the interpreter depending on image quality. The manual process is simple digitization of water body features and the automated process is that of image classification. The overall objective of image classification procedures is to automatically categorize all pixels in an image into different classes. Normally, multispectral data are used to perform the classification. (Lillesand, et. al., 2004). In supervised classification the image analyst "supervises" the pixel categorization process by specifying, to the computer algorithm, numerical descriptors of the water body types present in a scene. To accomplish this, representative sample sites of water body type, called training areas, are used to compile a numerical "interpretation key" that describes the spectral attributes for waterbody features of interest. Each pixel in the dataset is then compared numerically to these categories in the interpretation key and the ones that "look most like" them are labelled with their name.

Vectorization:

To give a meaningful conclusion to the digitization and classification processes, the extracted areas of interest and the pixels classified as water bodies are made to undergo finer processing. The digitized areas of interest are overlaid on a raster fill where pixels bounded by them are extracted to form the water body objects in a raster format. In the case of classified images water body objects already exist in an extracted raster format. This final raster is representative of all extracted water body objects. This is then converted to a vector format using the automated routines of the software. The vector format is an end product of image analysis.

Ground Truthing:

Completion of image analysis initiates a necessity for verification on the ground to validate delineated vector features. There is a need for ground-truthing of water bodies for judging the misclassification and subsequent correction. As far as the identification of water bodies was concerned, 95 % accuracy was achieved.

State/District Boundaries and Transportation lines:

Apart from extracted waterbodies the district and block boundaries were digitized from District Planning Map Series of NATMO. The transportation lines were also digitized with the help of both the DPMS maps and toposheets.

G.I.S.:

A Geographical Information System is a computer system for- collecting, storing, manipulating, analyzing, displaying, and -querying geographically related information. The end product from image analysis becomes the input for G.I.S. Here in the G.I.S. environment, the vector data undergoes further enhancement. A major characteristic of GIS is the ability to assign attributes to the features on the map. This capability means that dots on the map are more than just households, areas more than simple water polygons, and lines more than mere transportation routes. The wealth of information, which would be available in the other layers, will allow for quite a sophisticated analysis. This combination of mapping and attribute analysis means that researchers have a powerful tool that facilitates the understanding of the biophysical aspects of the project.

Aspatial data attachment:

Non – spatial data like state, district and village names, their codes, along with maximum, minimum and average area of the water bodies are attached to the map objects.

Thematic Map Generation:

Several maps based on different themes are prepared to give a strong display and better understanding of the distribution of this priceless natural resource. Several maps based on different themes were prepared to give a strong display and better understanding of the distribution of these priceless natural resources. The main focus theme here is the fisheries of the state. Consequently, water bodies extracted from the aforesaid method were considered as fisheries resources to enlighten fisheries perspective in thematic maps. Then it became pertinent to categorized water bodies. This has emanated from the use and fishing activities prevailing over the state. The details of the categorization of water bodies and other relevant attributes utilized for generating thematic maps are described as follows.

Categorization of water bodies "Water bodies"

Water Bodies Categorization:

As the water has multiple uses, there are several nomenclatures of the water bodies depending upon its use. The present report focuses on the potential water resources for fisheries. This classification and nomenclature used in this report were done in terms of fisheries resources. Broadly, inland water resources in India were classified into freshwater and brackish water, as far as fisheries were concerned. Freshwater fisheries resources comprise ponds, tanks, irrigation tanks, lake, reservoirs, beels, river, stream, while the brackish water fisheries resources include mainly estuaries, lagoons, bheries. Many of the water bodies lose their importance in fisheries, as it contributes marginally to the fisheries production assessment. Keeping this in mind, Central Inland Fisheries Research Institute has classified Indian inland water bodies to eliminate disparity among different states (Tyagi and Mondal, 2008). The idea was to develop national-level uniform criteria for inland water bodies grouping that lead to a statistically sound fish production assessment framework. This resulted in the following three main classifications of inland water bodies that were useful for designing fish catch assessment survey:

Group I (Water bodies up to 10 ha area at full level)

- 1. Aquaculture ponds and tanks
- 2. Brackish water impoundments
- 3. Waterlogged areas

Group II (Water bodies above 10 ha area at full storage level)

- 1. Large irrigation tanks
- 2. Reservoirs and check dams
- 3. Lakes
- 4. Ox-bow lakes / Meander / Channels scares

Group III

- 1. Rivers
- 2. Canals
- 3. Estuaries
- 4. Lagoons
- 5. Back waters

In the present report, water resources of stream and rivers were excluded, as the conservation was more important than enhancing fish production through strategic planning. Moreover, fisheries in Group II water bodies vary greatly with size and spatial scale. Considering this variability, a further subdivision was made on the basis of prior knowledge on the type and area of water bodies (See table 4). This will be helpful for strategic area-specific planning for the improvement of fisheries in different spatial levels.

| Category | Area | Broad Group | Description |
|----------|-------------------------|-------------|--|
| CI | < 10 ha | Group I | Aquaculture ponds and tanks,Brackish water impoundments,Waterlogged areas. |
| CII | 10 ha- 50 ha | Group II | Large irrigation tanks, Ponds and tanks larger than 10 ha of high productivity, Lakes, |
| CIII | 50 ha- 500 ha | Group II | Large irrigation tanks, Small Reservoirs, Lakes, Ox-bow lakes/Meanders/Channel Scars. |
| CIV | 500 ha- 1000 ha | Group II | Large irrigation tanks, Medium reservoirs, here stocking forms the mainstay in management but yields are substantially lower than smaller ones, Lakes, |
| CV | 1000 ha and above | Group II | Large irrigation tanks, Large reservoirs are managed to get a maximum sustainable yield on a long term basis, Lakes, |

Table 4: Categories of water bodies and their description

Following (Tyagi & Mandal, 2008).

Seasonality of water bodies:

The enormous seasonal changes in the water area of water bodies have generated the notions of maximum area, minimum area and average area of water bodies. Going by the literal meaning, perennial water bodies are those that hold water throughout the year and seasonal water bodies are those that become dry in summer months. This natural phenomenon has assisted the formulation of criteria to classify a water body as perennial or seasonal. By criteria perennial water bodies are those which have both a maximum as well as a minimum area, that is water bodies delineated from post-monsoon and pre-monsoon images have a larger and smaller (< 0.5ha) existence. This gives them their maximum area from post-monsoon images and minimum area from pre-monsoon images. Seasonal water bodies are those that are non-

existent that is they have a minimum area of zero from pre-monsoon images, the maximum area of these water bodies are set by post-monsoon images. The average area for perennial and seasonal water bodies is simplistically calculated by adding the maximum and minimum area and thereafter dividing the sum by two.

Water Body Density (WBD):

The perception of Water Body Density (WBD) has been inspired by the census concept of population density. It envisages the availability of potential fishery resources within the periphery of a geographical unit of area. For the ease of comprehension, WBD has been scaled up by 100 sq. km. within the geographical area of a district. Thus, WBD may be defined as the number of water bodies existing within 100 sq. km. of the area within the geographical area of a district. An important observation concerning this definition is that it has been prepared after assuming that the water body units are ubiquitously distributed over the surface of the earth.

1. **WBD**=
$$\frac{\text{Number of Water Bodies}}{\text{Area of District (sq.km.)}}$$
 *100

Water Area Density (WAD):

Just as the availability of fishery resource units is an important parameter for planning to increase production in the fishery industry, the water area is another factor that has an important function in the associated planning process. The changes in water area with variations in seasons mobilize thoughts of supervising resources and farmers, motivating them towards better farm management practices and optimize every opportunity provided by nature. Superior productivity is made possible by efficient and dynamic management of resources brought about by planners, policymakers and decision-makers who can project their views based on such parameters. Water Area Density (WAD) within a district has been defined as the ratio of water spread area delineated within the district and geographical area of the district. For simplification of understanding, WAD has been expressed as a percentage after multiplying it by hundred at the beginning of any graphical presentation and denoted as

1. **WBD**=
$$\frac{\text{Area of Water Bodies delineated}}{\text{Area of District}} *100$$

In the later part of the report, these two attributes have been utilized for regional classification.

Choropleth:

The distribution of diverse attributes of water bodies or any other objects differs with the objects themselves. The variation in the occurrence of objects subjects their attributes to have

a the spatial pattern over the earth's surface. Observation of such patterns in real-world needs excellence in cognitive skills and efficiency in associating different ideas, thoughts and inherent knowledge about the land and its resources. The ability to contain this entire information and simultaneously extract subsequent information is a rare capacity to be found easily. Choropleths have been used to aid this practice and increase the impact of visualizing regional variation by data presentation. In 1826 Baron Pierre Charles Dupin created the earliest known choropleth map. A geographer John Kirtland Wright, in 1938 introduced the term "choropleth map" in "Problems in Population Mapping". The same the concept has been implemented to represent the extent of water body distribution providing a general idea about regional changes. To enlighten the fisheries perspective, water bodies were considered as fisheries resources in visualizing their regional distribution pattern in choropleth. Then it becomes pertinent to categorize the water bodies that emanate from their use and fishing activities. The intensities of distribution have also been considered by the use of densities (WBD) and proportions (WAD). These can be thought of conceptually as field data that is averaged over an area. Specific colour progression has been used to depict the data properly. There are different types of colour progressions used by cartographers like single-hue progressions, bi-polar progressions, blended hue, partial spectral hue, full spectral progression, value progression. For this report single hue progression has been used to depict the distribution of water bodies and their area over different categories of CI, CII, CIII, CIV and CV water bodies. Two important principles have been followed while using this method: first is that darker colours are supposed to be higher in magnitude and second is that colour variation is limited to three so that they can be easily distinguished. Therefore it is easy for the map user to identify the implied degree of the hue and compare it with the legend. The different selection of the number of classes and class breaks can thoroughly change the information perceived from the map, therefore the classes and class boundaries have been carefully considered for statistically optimal classification.

e-Atlas preparation/Report Generation:

The powerful information management, querying, and updating capabilities of a G.I.S. facilitates the generation of several layers of information in a short span of time with dependable accuracy. This has helped in the preparation of electronic atlases and attractive reports.

Within a GIS, various geospatial and demographic data layers, including vector and raster layers, as well as remotely sensed imagery and photos, maybe created, modified, and analysed. An overall description of the water bodies in Uttar Pradesh using GIS techniques, the method, and analyses employed by the CSS Project are described in the latter part.

GIS MAPPING OF INLAND WATER BODIES OF ODISHA



Figure 3: Flow Diagram for Expression of Methodology



Figure 4.1: Pie - Graphs showing the distribution of perennial water bodies over different categories

The perennial water bodies of Odisha after categorization according to size reveal the dominance of those having a size of up to 10 hectares. These form the largest share at 97.52 % followed by a share of 1.86% by the c II category of water bodies. The rest of the 0.62 % is shared between the C III, C IV and CV categories.



Figure 4.2: Pie - Graphs showing the distribution of perennial water bodies over different categories

In case of the seasonal water bodies again, the C I category of the water bodies have the the highest share in the total number of water bodies. They have a 99.38% share in the total a number of water bodies. The rest of the 0.62 % is shared between the C III, C IV and CV categories.

| District Name | Total Number of water Bodies | Maximum Area (ha) | Minimum Area (ha) | Average Area (ha) |
|----------------|---------------------------------|----------------------|----------------------|----------------------|
| ANUGUL | 1395 | 14637.95 | 1800.24 | 8219.10 |
| BALANGIR | 2546 | 6137.31 | 2430.35 | 4283.89 |
| BALESHWAR | 2649 | 2277.37 | 550.10 | 1413.73 |
| BARGARH | 1884 | 4865.80 | 2108.97 | 3487.38 |
| BAUDH | 787 | 1518.44 | 808.37 | 1163.41 |
| BHADRAK | 1970 | 1628.45 | 341.13 | 984.79 |
| CUTTACK | 926 | 2383.45 | 1121.97 | 1752.71 |
| DEBAGARH | 380 | 1757.23 | 1119.08 | 1438.16 |
| DHENKANAL | 1132 | 2682.49 | 1132.24 | 1907.36 |
| GAJAPATI | 188 | 1521.12 | 339.68 | 930.40 |
| GANJAM | 2193 | 23369.89 | 4766.16 | 14068.02 |
| JAGATSINGHAPUF | 768 | 2900.02 | 994.86 | 1947.44 |
| JAJAPUR | 684 | 1715.35 | 779.34 | 1247.35 |
| JHARSUGUDA | 1225 | 19195.35 | 1445.58 | 10320.47 |
| KALAHANDI | 3119 | 6361.57 | 3528.76 | 4945.1 |
| KANDHAMAL | 140 | 710.98 | 357.74 | 534.36 |
| KENDRAPARA | 1535 | 3516.25 | 981.81 | 2249.03 |
| KENDUJHAR | 985 | 4207.78 | 2466.71 | 3337.24 |
| KHORDHA | 750 | 1858.04 | 1092.47 | 1475.25 |
| KORAPUT | 366 | 13755.67 | 2816.43 | 8286.05 |
| MALKANGIRI | 506 | 15980.83 | 970.20 | 8475.51 |
| MAYURBHANJ | 1502 | 8402.14 | 3443.14 | 5922.64 |
| NABARANGAPUR | 669 | 4323.52 | 438.43 | 2380.98 |
| NAYAGARH | 1072 | 3572.47 | 1469.23 | 2520.85 |
| NUAPADA | 1225 | 4504.63 | 2391.19 | 3447.91 |
| PURI | 473 | 47410.44 | 28826.17 | 38118.31 |
| RAYAGADA | 296 | 3691.07 | 581.45 | 2136.26 |
| SAMBALPUR | 1471 | 20036.84 | 3034.19 | 11535.51 |
| SONAPUR | 1231 | 2825.17 | 1042.10 | 1933.64 |
| SUNDARGARH | 1376 | 6853.83 | 2280.66 | 4567.24 |
| | 35443 | 234601.44 | 75458.77 | 155030.16 |

Table 5: Total number of water bodies and their area in the state of Odisha

(26 **)**



Figure 5: Bar-Graphs showing total number of water bodies in the state of Odisha

According to the graph, the highest number of water bodies occurs in district Kalahandi, followed by Baleshwar, Balangir, and Ganjam. Kandhamal district has the lowest number of water bodies. As represented in the spatial distribution (Figure 5), there are six districts that have less than 500 water bodies. Eight districts have a number of water bodies between 500 and 1000. Eight districts have more than 1000 but less than 1500 water bodies. Rest of the eight districts have more than 1500 water bodies. Most of the districts with more than 1000 water bodies are situated in the Mahanadi river basin covering parts of Jharsuguda, Sambalpur, Bargarh, Balangir, Nuapada, Sonapur, Dhenkanal, Kendrapara, Ganjam districts.





Interpretation:

According to the Bar-Graph, the largest water area occurs in districts Puri, followed by Ganjam, Sambalpur and Jharsuguda. Kandhamal, Baudh, Gajapati and Bhadrak districts have the lowest water area in order of their spread area.

As represented in the spatial distribution there is one district that is Kandhamal, which has a water area less than 1000 hectares (Figure: 6). Six districts Baudh, Gajapati, Bhadrak, Jajapur, Debagarh and Khordha have water areas between 1000 and 2000 hectares. Five districts Baleshwar, Cuttack, Dhenkanal, Sonapur and Jagatsinghapur have more than 2000 ha of water area but less than 3000 ha of water area. There are three districts Kendrapara, Nayagarh, Rayagada districts for the category of water area between 3000 ha to 4000 ha and four districts Kendujhar, Nabarangapur, Nuapada, Bargarh between 4000 ha to 5000 ha. The rest of the eleven districts Balangir, Kalahandi, Sundargarh, Mayurbhanj, Koraput, Anugul, Malkangiri, Jharsuguda, Sambalpur, Ganjam, Puri have water area more than 5000 ha. Most of the districts with bellow and above 5000 ha water area situated in the Mahanadi basin. While those with the lowest water area bellow 2000 ha cover most parts of the North-eastern Ghat zone consists of hill ranges.

Kalahandi, Balangir, Ganjam (Figure: 9) are the districts with the highest number of perennial water bodies. The other districts follow them with respect to the count of water bodies. Puri, Ganjam, Sambalpur (Figure: 10); however, are those districts that have the most widespread area covered by perennial water bodies. This may be caused by the greater number of larger water bodies of the perennial type within these districts.





Figure 7: Spatial pattern of Total WBD and share of perennial and seasonal water bodies in the State of Odisha.

(31



Figure 8: Spatial pattern of Average Water Spread Area in the State of Odisha.

| District Name | No. of Perennial W.B. | Maximum Area | Minimum Area | Average Area |
|----------------|--------------------------|-----------------|-----------------|-----------------|
| ANUGUL | 866 | 14127.05 | 1800.24 | 7963.65 |
| BALANGIR | 2119 | 5702.98 | 2430.35 | 4066.66 |
| BALESHWAR | 473 | 875.92 | 550.10 | 713.01 |
| BARGARH | 1262 | 4126.76 | 2108.97 | 3117.86 |
| BAUDH | 537 | 1279.54 | 808.37 | 1043.96 |
| BHADRAK | 474 | 586.90 | 341.13 | 464.02 |
| CUTTACK | 689 | 1836.80 | 1121.97 | 1479.38 |
| DEBAGARH | 257 | 1605.02 | 1119.08 | 1362.05 |
| DHENKANAL | 847 | 2454.15 | 1132.24 | 1793.19 |
| GAJAPATI | 143 | 1461.55 | 339.68 | 900.62 |
| GANJAM | 1581 | 21907.95 | 4766.16 | 13337.05 |
| JAGATSINGHAPUR | 272 | 1547.02 | 994.86 | 1270.94 |
| JAJAPUR | 483 | 1357.86 | 779.34 | 1068.60 |
| JHARSUGUDA | 907 | 18827.39 | 1445.58 | 10136.49 |
| KALAHANDI | 2752 | 5993.39 | 3528.76 | 4761.07 |
| KANDHAMAL | 96 | 645.46 | 357.74 | 501.60 |
| KENDRAPARA | 700 | 2239.71 | 981.81 | 1610.76 |
| KENDUJHAR | 832 | 4024.23 | 2466.71 | 3245.47 |
| KHORDHA | 382 | 1446.42 | 1092.47 | 1269.44 |
| KORAPUT | 322 | 13611.07 | 2816.43 | 8213.75 |
| MALKANGIRI | 180 | 15551.68 | 970.20 | 8260.94 |
| MAYURBHANJ | 905 | 7864.31 | 3443.14 | 5653.73 |
| NABARANGAPUR | 474 | 4104.10 | 438.43 | 2271.27 |
| NAYAGARH | 875 | 3395.94 | 1469.23 | 2432.59 |
| NUAPADA | 679 | 4005.43 | 2391.19 | 3198.31 |
| PURI | 16 | 42147.79 | 28826.17 | 35486.98 |
| RAYAGADA | 183 | 3552.80 | 581.45 | 2067.13 |
| SAMBALPUR | 1209 | 19782.14 | 3034.19 | 11408.17 |
| SONAPUR | 810 | 2363.50 | 1042.10 | 1702.80 |
| SUNDARGARH | 1007 | 6435.93 | 2280.66 | 4358.29 |
| | 22332 | 214860.79 | 75458.77 | 145159.78 |

Table 6: Total number of perennial water bodies and their area in the state of Odisha

(33)



Figure 9: Bar-Graph showing the total number of perennial water bodies in the state of Odisha



Figure 10: Bar-Graphs showing the total area of perennial water bodies in the state of Odisha



Figure 11: Spatial pattern of perennial WBD in the state of Odisha



| District Name | Total No. of Seasonal W.B. | Maximum Area (ha) | Minimum Area (ha) | Average Area (ha) |
|----------------|-------------------------------|----------------------|----------------------|----------------------|
| ANUGUL | 529 | 510.90 | 0.00 | 255.45 |
| BALANGIR | 427 | 434.33 | 0.00 | 217.17 |
| BALESHWAR | 2176 | 1401.45 | 0.00 | 700.72 |
| BARGARH | 622 | 739.04 | 0.00 | 369.52 |
| BAUDH | 250 | 238.90 | 0.00 | 119.45 |
| BHADRAK | 1496 | 1041.55 | 0.00 | 520.77 |
| CUTTACK | 237 | 546.66 | 0.00 | 273.33 |
| DEBAGARH | 123 | 152.21 | 0.00 | 76.10 |
| DHENKANAL | 285 | 228.34 | 0.00 | 114.17 |
| GAJAPATI | 45 | 59.57 | 0.00 | 29.79 |
| GANJAM | 612 | 1461.94 | 0.00 | 730.97 |
| JAGATSINGHAPUR | 496 | 1353.00 | 0.00 | 676.50 |
| JAJAPUR | 201 | 357.49 | 0.00 | 178.75 |
| JHARSUGUDA | 318 | 367.96 | 0.00 | 183.98 |
| KALAHANDI | 367 | 368.18 | 0.00 | 184.09 |
| KANDHAMAL | 44 | 65.52 | 0.00 | 32.76 |
| KENDRAPARA | 835 | 1276.54 | 0.00 | 638.27 |
| KENDUJHAR | 153 | 183.55 | 0.00 | 91.78 |
| KHORDHA | 368 | 411.62 | 0.00 | 205.81 |
| KORAPUT | 44 | 144.60 | 0.00 | 72.30 |
| MALKANGIRI | 326 | 429.14 | 0.00 | 214.57 |
| MAYURBHANJ | 597 | 537.83 | 0.00 | 268.91 |
| NABARANGAPUR | 195 | 219.41 | 0.00 | 109.71 |
| NAYAGARH | 197 | 176.53 | 0.00 | 88.26 |
| NUAPADA | 546 | 499.19 | 0.00 | 249.60 |
| PURI | 457 | 5262.65 | 0.00 | 2631.32 |
| RAYAGADA | 113 | 138.27 | 0.00 | 69.14 |
| SAMBALPUR | 262 | 254.70 | 0.00 | 127.35 |
| SONAPUR | 421 | 461.68 | 0.00 | 230.84 |
| SUNDARGARH | 369 | 417.90 | 0.00 | 208.95 |
| | 13111 | 19740.65 | 0.00 | 9870.32 |

Table 7: Total number of seasonal water bodies and their area in the state of Odisha

(37)







Figure 13: Bar- Graphs showing the total area of seasonal water bodies in the state of Odisha



Figure 14: Spatial pattern of seasonal WBD in the state of Odisha

Interpretation:

The spatial expression above shows Kalahandi, Baleshwar, Balangir, and Ganjam serially, are districts with the highest number of water bodies whereas Kandhamal, Gajapati and Rayagada are districts with the lowest number of water bodies. The districts with a higher number of water bodies are distributed in the water sufficient basin of Mahanadi, and Subarnarekha River. The highest numbers of perennial water bodies are found in Kalahandi, Balangir, and Ganjam whereas the lowest numbers of perennial water bodies are found in Puri, Kandhamal and Gajapati. Maintaining a similar trend the highest numbers of seasonal water bodies, successively, are found in Baleshwar, Bhadrak and Kendrapara whereas the lowest number of seasonal water bodies occur in, Kandhamal, Koraput and Gajapati sequentially.



Figure 15: Spatial pattern of average WAD in the state of Odisha

| District Name | Number of Water Bodies | Maximum Area (ha) | Minimum Area (ha) | Average Area (ha) |
|---------------|---------------------------|----------------------|----------------------|----------------------|
| Anugul | 1369 | 1870.02 | 897.82 | 1383.95 |
| Balangir | 2519 | 4505.14 | 1954.32 | 3229.79 |
| Baleshwar | 2642 | 2070.95 | 402.47 | 1236.77 |
| Bargarh | 1865 | 3540.35 | 1638.23 | 2589.33 |
| Baudh | 775 | 1285.81 | 668.86 | 977.35 |
| Bhadrak | 1969 | 1581.51 | 341.13 | 961.37 |
| Cuttack | 903 | 1333.16 | 663.15 | 998.17 |
| Debagarh | 376 | 565.29 | 182.28 | 373.79 |
| Dhenkanal | 1119 | 1536.24 | 791.08 | 1163.69 |
| Gajapati | 178 | 342.15 | 193.59 | 267.88 |
| Ganjam | 2135 | 3945.39 | 1792.96 | 2869.22 |
| Jagatsinghpur | 723 | 1455.55 | 340.81 | 898.20 |
| Jajapur | 669 | 1138.27 | 531.10 | 834.70 |
| Jharsuguda | 1201 | 1817.26 | 901.43 | 1359.37 |
| Kalahandi | 3089 | 5225.47 | 3087.58 | 4156.59 |
| Kandhamal | 130 | 227.06 | 116.53 | 171.80 |
| Kendrapara | 1485 | 2235.96 | 577.25 | 1406.63 |
| Kendujhar | 957 | 1540.92 | 830.93 | 1185.94 |
| Khordha | 737 | 800.48 | 380.98 | 590.74 |
| Koraput | 347 | 568.72 | 360.39 | 464.56 |
| Malkangiri | 492 | 714.20 | 240.40 | 477.31 |
| Mayurbhanj | 1472 | 1978.42 | 900.18 | 1439.33 |
| Nabarangapur | 664 | 938.57 | 425.33 | 681.97 |
| Nayagarh | 1048 | 1284.75 | 684.72 | 984.76 |
| Nuapada | 1210 | 1743.52 | 836.90 | 1290.23 |
| Puri | 422 | 881.61 | 18.81 | 450.22 |
| Rayagada | 283 | 391.23 | 199.02 | 295.13 |
| Sambalpur | 1449 | 2287.53 | 1212.62 | 1750.11 |
| Sonapur | 1228 | 2084.09 | 1020.75 | 1552.45 |
| Sundargarh | 1351 | 2359.91 | 1042.25 | 1701.12 |
| | 34807 | 52249.52 | 23233.87 | 37742.47 |

Table 8: Total number of water bodies and their area in the state of Odisha for Category I

(42)



Figure 16: Spatial distribution of Group I water bodies in the state of Odisha



Figure 17: Spatial distribution of Group II water bodies in the state of Odisha

(44 **)**



Figure 18: Spatial pattern of number of water bodies in the state for Group I

(45



Figure 19: Spatial pattern of average water spread area in the state for Group I



Figure 20: Spatial pattern of number of water bodies in the state for Group II


Figure 21: Spatial pattern of average water spread area in the state for Group II

| District Name | Number of perennial Water Bodies | Maximum Area (ha) | Minimum Area (ha) | Average Area (ha) |
|----------------|-------------------------------------|----------------------|----------------------|----------------------|
| Anugul | 840 | 1359.12 | 897.82 | 1128.49 |
| Balangir | 2093 | 4094.96 | 1954.32 | 3024.69 |
| Baleshwar | 466 | 669.50 | 402.47 | 535.99 |
| Bargarh | 1243 | 2801.30 | 1638.23 | 2219.79 |
| Baudh | 525 | 1046.91 | 668.86 | 857.89 |
| Bhadrak | 474 | 586.90 | 341.13 | 464.03 |
| Cuttack | 669 | 965.95 | 663.15 | 814.56 |
| Debagarh | 253 | 413.09 | 182.28 | 297.69 |
| Dhenkanal | 834 | 1307.90 | 791.08 | 1049.51 |
| Gajapati | 133 | 282.58 | 193.59 | 238.09 |
| Ganjam | 1532 | 3024.25 | 1792.96 | 2408.63 |
| Jagatsinghapur | 238 | 489.33 | 340.81 | 415.07 |
| Jajapur | 469 | 801.25 | 531.10 | 666.18 |
| Jharsuguda | 883 | 1449.30 | 901.43 | 1175.38 |
| Kalahandi | 2722 | 4857.29 | 3087.58 | 3972.49 |
| Kandhamal | 86 | 161.55 | 116.53 | 139.04 |
| Kendrapara | 656 | 1123.93 | 577.25 | 850.60 |
| Kendujhar | 804 | 1357.37 | 830.93 | 1094.16 |
| Khordha | 371 | 503.60 | 380.98 | 442.30 |
| Koraput | 304 | 485.55 | 360.39 | 422.97 |
| Malkangiri | 167 | 362.14 | 240.40 | 301.28 |
| Mayurbhanj | 875 | 1440.59 | 900.18 | 1170.41 |
| Nabarangapur | 469 | 719.15 | 425.33 | 572.25 |
| Nayagarh | 851 | 1108.22 | 684.72 | 896.49 |
| Nuapada | 664 | 1244.33 | 836.90 | 1040.62 |
| Puri | 10 | 20.50 | 18.81 | 19.66 |
| Rayagada | 170 | 252.96 | 199.02 | 225.99 |
| Sambalpur | 1187 | 2032.83 | 1212.62 | 1622.75 |
| Sonapur | 807 | 1622.41 | 1020.75 | 1321.60 |
| Sundargarh | 982 | 1942.01 | 1042.25 | 1492.16 |
| | 21777 | 38526.75 | 23233.87 | 30880.77 |

Table 9: Total number of perennial water bodies and their area in the state ofOdisha for Category I

(49)



Figure 22: Spatial pattern of perennial WBD in the state for Group I

(50)

| District Name | Number of seasonal Water Bodies | Maximum Area (ha) | Minimum Area (ha) | Average Area (ha) |
|----------------|------------------------------------|----------------------|----------------------|----------------------|
| Anugul | 529 | 510.90 | 0 | 255.46 |
| Balangir | 426 | 410.18 | 0 | 205.10 |
| Baleshwar | 2176 | 1401.45 | 0 | 700.78 |
| Bargarh | 622 | 739.04 | 0 | 369.54 |
| Baudh | 250 | 238.90 | 0 | 119.46 |
| Bhadrak | 1495 | 994.61 | 0 | 497.34 |
| Cuttack | 234 | 367.20 | 0 | 183.61 |
| Debagarh | 123 | 152.21 | 0 | 76.11 |
| Dhenkanal | 285 | 228.34 | 0 | 114.18 |
| Gajapati | 45 | 59.57 | 0 | 29.79 |
| Ganjam | 603 | 921.15 | 0 | 460.59 |
| Jagatsinghapur | 485 | 966.23 | 0 | 483.13 |
| Jajapur | 200 | 337.02 | 0 | 168.52 |
| Jharsuguda | 318 | 367.96 | 0 | 183.99 |
| Kalahandi | 367 | 368.18 | 0 | 184.10 |
| Kandhamal | 44 | 65.52 | 0 | 32.76 |
| Kendrapara | 829 | 1112.03 | 0 | 556.04 |
| Kendujhar | 153 | 183.55 | 0 | 91.78 |
| Khordha | 366 | 296.88 | 0 | 148.45 |
| Koraput | 43 | 83.17 | 0 | 41.59 |
| Malkangiri | 325 | 352.05 | 0 | 176.03 |
| Mayurbhanj | 597 | 537.83 | 0 | 268.93 |
| Nabarangapur | 195 | 219.41 | 0 | 109.71 |
| Nayagarh | 197 | 176.53 | 0 | 88.27 |
| Nuapada | 546 | 499.19 | 0 | 249.61 |
| Puri | 412 | 861.11 | 0 | 430.57 |
| Rayagada | 113 | 138.27 | 0 | 69.14 |
| Sambalpur | 262 | 254.70 | 0 | 127.36 |
| Sonapur | 421 | 461.68 | 0 | 230.85 |
| Sundargarh | 369 | 417.90 | 0 | 208.96 |
| | 13030 | 13722.77 | 0 | 6861.71 |

Table 10: Total number of seasonal water bodies and their area in thestate of Odisha for Category I

(51)



Figure 23: Spatial pattern of seasonal WBD in the state for Group I



Figure 24: Spatial pattern of Average WAD in the state for Group I



Figure 25: Spatial pattern of perennial WBD in the state for Group II

(54)



Figure 26: Spatial pattern of seasonal WBD in the state for Group II



Figure 27: Spatial pattern of average WAD in the state for Group II

56)

| District Name | Total Number of Water Bodies | Maximum Area (ha) | Minimum Area (ha) | Average Area (ha) |
|---------------|---------------------------------|----------------------|----------------------|----------------------|
| Anugul | 22 | 421.50 | 227.37 | 324.43 |
| Balangir | 20 | 569.62 | 134.35 | 351.98 |
| Baleshwar | 6 | 127.46 | 69.51 | 98.48 |
| Bargarh | 13 | 310.30 | 134.05 | 222.17 |
| Baudh | 12 | 232.63 | 139.51 | 186.08 |
| Bhadrak | 1 | 46.94 | 0.00 | 23.47 |
| Cuttack | 20 | 638.18 | 231.75 | 434.96 |
| Debagarh | 3 | 76.14 | 17.29 | 46.72 |
| Dhenkanal | 11 | 416.79 | 169.77 | 293.28 |
| Gajapati | 8 | 152.78 | 87.00 | 119.89 |
| Ganjam | 40 | 1234.19 | 349.04 | 791.62 |
| Jagatsinghpur | 40 | 1070.60 | 397.29 | 733.95 |
| Jajapur | 13 | 316.39 | 161.64 | 239.02 |
| Jharsuguda | 16 | 404.53 | 202.67 | 303.60 |
| Kalahandi | 26 | 709.45 | 278.56 | 494.00 |
| Kandhamal | 9 | 266.87 | 93.71 | 180.29 |
| Kendrapara | 50 | 1280.30 | 404.56 | 842.43 |
| Kendujhar | 19 | 523.02 | 307.22 | 415.12 |
| Khordha | 12 | 329.87 | 176.43 | 253.15 |
| Koraput | 13 | 446.73 | 182.16 | 314.44 |
| Malkangiri | 10 | 311.55 | 118.22 | 214.89 |
| Mayurbhanj | 20 | 481.69 | 256.32 | 369.00 |
| Nabarangapur | 3 | 121.53 | 12.15 | 66.84 |
| Nayagarh | 17 | 630.78 | 219.27 | 425.03 |
| Nuapada | 10 | 257.45 | 154.54 | 206.00 |
| Puri | 34 | 1301.94 | 30.32 | 666.13 |
| Rayagada | 3 | 98.69 | 35.23 | 66.96 |
| Sambalpur | 11 | 270.21 | 157.11 | 213.66 |
| Sonapur | 2 | 24.73 | 20.54 | 22.63 |
| Sundargarh | 19 | 442.82 | 247.99 | 345.41 |
| | 483 | 13515.66 | 5015.56 | 9265.62 |

Table 11: Total number of water bodies and their area in thestate of Odisha for Category II

(57)



Figure 28: Spatial distribution of Category II water bodies in the state of Odisha.

58)



Figure 29: Spatial pattern of number of water bodies in the state for Category II



Figure 30: Spatial pattern of average water spread area in the state for Category II

(60)

| District Name | Number of perennial Water Bodies | Maximum Area (ha) | Minimum Area (ha) | Average Area (ha) |
|----------------|-------------------------------------|----------------------|----------------------|----------------------|
| Anugul | 22 | 421.50 | 227.37 | 324.43 |
| Balangir | 19 | 545.47 | 134.35 | 339.91 |
| Baleshwar | 6 | 127.46 | 69.51 | 98.48 |
| Bargarh | 13 | 310.30 | 134.05 | 222.17 |
| Baudh | 12 | 232.63 | 139.51 | 186.08 |
| Cuttack | 17 | 458.72 | 231.75 | 345.23 |
| Debagarh | 3 | 76.14 | 17.29 | 46.72 |
| Dhenkanal | 11 | 416.79 | 169.77 | 293.28 |
| Gajapati | 8 | 152.78 | 87.00 | 119.89 |
| Ganjam | 32 | 885.59 | 349.04 | 617.32 |
| Jagatsinghapur | 29 | 683.83 | 397.29 | 540.56 |
| Jajapur | 12 | 295.92 | 161.64 | 228.78 |
| Jharsuguda | 16 | 404.53 | 202.67 | 303.60 |
| Kalahandi | 26 | 709.45 | 278.56 | 494.00 |
| Kandhamal | 9 | 266.87 | 93.71 | 180.29 |
| Kendrapara | 44 | 1115.79 | 404.56 | 760.17 |
| Kendujhar | 19 | 523.02 | 307.22 | 415.12 |
| Khordha | 10 | 215.13 | 176.43 | 195.78 |
| Koraput | 12 | 385.30 | 182.16 | 283.73 |
| Malkangiri | 9 | 234.46 | 118.22 | 176.34 |
| Mayurbhanj | 20 | 481.69 | 256.32 | 369.00 |
| Nabarangapur | 3 | 121.53 | 12.15 | 66.84 |
| Nayagarh | 17 | 630.78 | 219.27 | 425.03 |
| Nuapada | 10 | 257.45 | 154.54 | 206.00 |
| Puri | 2 | 67.43 | 30.32 | 48.88 |
| Rayagada | 3 | 98.69 | 35.23 | 66.96 |
| Sambalpur | 11 | 270.21 | 157.11 | 213.66 |
| Sonapur | 2 | 24.73 | 20.54 | 22.63 |
| Sundargarh | 19 | 442.82 | 247.99 | 345.41 |
| | 416 | 10857.00 | 5015.56 | 7936.29 |

Table 12: Total number of perennial water bodies and their area in thestate of Odisha for Category II

(61)



Figure 31: Spatial pattern of perennial WBD in the state for Category II

(62)

| District Name | Number of seasonal Water Bodies | Maximum Area (ha) | Minimum Area (ha) | Average Area (ha) |
|----------------|------------------------------------|----------------------|----------------------|----------------------|
| Balangir | 1 | 24.15 | 0.00 | 12.07 |
| Bhadrak | 1 | 46.94 | 0.00 | 23.47 |
| Cuttack | 3 | 179.46 | 0.00 | 89.73 |
| Ganjam | 8 | 348.60 | 0.00 | 174.30 |
| Jagatsinghapur | 11 | 386.77 | 0.00 | 193.39 |
| Jajapur | 1 | 20.47 | 0.00 | 10.23 |
| Kendrapara | 6 | 164.51 | 0.00 | 82.25 |
| Khordha | 2 | 114.75 | 0.00 | 57.37 |
| Koraput | 1 | 61.43 | 0.00 | 30.71 |
| Malkangiri | 1 | 77.09 | 0.00 | 38.55 |
| Puri | 32 | 1234.50 | 0.00 | 617.25 |
| Total | 67 | 2658.65 | 0.00 | 1329.33 |

 Table 13: Total number of seasonal water bodies and their area in the state of Odisha for Category II



(63)



Figure 32: Spatial pattern of seasonal WBD in the state for Category II

64)



Figure 33: Spatial pattern of average WAD in the state for Category II

| District Name | Total Number of Water Bodies | Maximum Area (ha) | Minimum Area (ha) | Average Area (ha) |
|---------------|---------------------------------|----------------------|----------------------|----------------------|
| Anugul | 3 | 859.93 | 673.10 | 766.52 |
| Balangir | 7 | 1062.55 | 341.68 | 702.11 |
| Baleshwar | 1 | 78.97 | 78.13 | 78.55 |
| Bargarh | 6 | 1015.15 | 336.69 | 675.92 |
| Cuttack | 3 | 412.12 | 227.07 | 319.59 |
| Dhenkanal | 2 | 729.45 | 171.38 | 450.42 |
| Gajapati | 2 | 1026.19 | 59.10 | 542.64 |
| Ganjam | 14 | 4282.83 | 1814.11 | 3048.47 |
| Jagatsinghpur | 5 | 373.86 | 256.76 | 315.31 |
| Jajapur | 2 | 260.69 | 86.60 | 173.65 |
| Jharsuguda | 6 | 803.82 | 338.05 | 570.94 |
| Kalahandi | 4 | 426.66 | 162.62 | 294.64 |
| Kandhamal | 1 | 217.04 | 147.50 | 182.27 |
| Kendujhar | 8 | 1588.58 | 818.36 | 1203.47 |
| Koraput | 3 | 312.10 | 265.49 | 288.80 |
| Malkangiri | 1 | 140.96 | 86.20 | 113.58 |
| Mayurbhanj | 6 | 1438.62 | 547.58 | 993.10 |
| Nabarangapur | 1 | 490.28 | 0.00 | 245.14 |
| Nayagarh | 7 | 1656.94 | 565.24 | 1111.09 |
| Nuapada | 3 | 911.54 | 473.66 | 692.60 |
| Puri | 15 | 3508.39 | 47.77 | 1778.08 |
| Rayagada | 10 | 3201.15 | 347.20 | 1774.17 |
| Sambalpur | 8 | 2861.24 | 588.15 | 1724.70 |
| Sonapur | 1 | 716.35 | 0.81 | 358.58 |
| Sundargarh | 5 | 1322.67 | 943.52 | 1133.10 |
| | 124 | 29698.09 | 9376.77 | 19537.43 |

Table 14: Total number of water bodies and their area in the
state of Odisha for Category III

(66)



Figure 34: Spatial distribution of Category III water bodies in the state of Odisha

(67



Figure 35: Spatial pattern of the number of water bodies in the state of Odisha for Category III

(68)



Figure 36: Spatial pattern of Average Water Spread Area in the state for Category III

| District Name | Number of perennial Water Bodies | Maximum Area (ha) | Minimum Area (ha) | Average Area (ha) |
|----------------|-------------------------------------|----------------------|----------------------|----------------------|
| Anugul | 3 | 859.93 | 673.10 | 766.52 |
| Balangir | 7 | 1062.55 | 341.68 | 702.11 |
| Baleshwar | 1 | 78.97 | 78.13 | 78.55 |
| Bargarh | 6 | 1015.15 | 336.69 | 675.92 |
| Cuttack | 3 | 412.12 | 227.07 | 319.59 |
| Dhenkanal | 2 | 729.45 | 171.38 | 450.42 |
| Gajapati | 2 | 1026.19 | 59.10 | 542.64 |
| Ganjam | 13 | 4090.64 | 1814.11 | 2952.38 |
| Jagatsinghapur | 5 | 373.86 | 256.76 | 315.31 |
| Jajapur | 2 | 260.69 | 86.60 | 173.65 |
| Jharsuguda | 6 | 803.82 | 338.05 | 570.94 |
| Kalahandi | 4 | 426.66 | 162.62 | 294.64 |
| Kandhamal | 1 | 217.04 | 147.50 | 182.27 |
| Kendujhar | 8 | 1588.58 | 818.36 | 1203.47 |
| Koraput | 3 | 312.10 | 265.49 | 288.80 |
| Malkangiri | 1 | 140.96 | 86.20 | 113.58 |
| Mayurbhanj | 6 | 1438.62 | 547.58 | 993.10 |
| Nabarangapur | 1 | 490.28 | 0.00 | 245.14 |
| Nayagarh | 7 | 1656.94 | 565.24 | 1111.09 |
| Nuapada | 3 | 911.54 | 473.66 | 692.60 |
| Puri | 2 | 341.35 | 47.77 | 194.56 |
| Rayagada | 10 | 3201.15 | 347.20 | 1774.17 |
| Sambalpur | 8 | 2861.24 | 588.15 | 1724.70 |
| Sonapur | 1 | 716.35 | 0.81 | 358.58 |
| Sundargarh | 5 | 1322.67 | 943.52 | 1133.10 |
| | | | | |

26338.87

9376.77

17857.82

110

Table 15: Total number of perennial water bodies and their area in thestate of Odisha for Category III

(70)



Figure 37: Spatial pattern of perennial WBD in the state for Category III

| District Name | 1 | Number of seasonal Water Bodies | Maximum Area (ha) | Minimum Area (ha) | Average Area (ha) |
|---------------|---|------------------------------------|----------------------|----------------------|----------------------|
| Ganjam | | 1 | 192.19 | 0.00 | 96.10 |
| Puri | | 13 | 3167.03 | 0.00 | 1583.52 |
| | | 14 | 3359.23 | 0.00 | 1679.61 |

Table 16: Total number of seasonal water bodies and their area in the state of Odisha



Figure 38: Spatial pattern of seasonal WBD in the state for Category III



Figure 39: Spatial pattern of average WAD in the state for Category III

| District Name | Total Number of Water Bodies | Maximum Area Ha | Minimum Area Ha | Average Area Ha |
|---------------|---------------------------------|--------------------|--------------------|--------------------|
| Ganjam | 2 | 1769.24 | 799.19 | 1284.22 |
| Kendujhar | 1 | 555.27 | 510.21 | 532.74 |
| Khordha | 1 | 727.69 | 535.06 | 631.37 |
| Malkangiri | 2 | 2377.32 | 524.79 | 1451.05 |
| Mayurbhanj | 3 | 2105.39 | 1738.62 | 1922.01 |
| Nuapada | 2 | 1592.12 | 926.09 | 1259.11 |
| Sambalpur | 2 | 1683.05 | 1075.17 | 1379.11 |
| | 13 | 10810.08 | 6109.12 | 8459.60 |



85°0'0"E



74)



Figure 41: Spatial pattern of number of water bodies the state for Category IV





76)

| District Name | Number of perennial Water Bodies | Maximum Area Ha | Minimum Area Ha | Average Area |
|---------------|-------------------------------------|--------------------|--------------------|-----------------|
| Ganjam | 2 | 1769.24 | 799.19 | 1284.22 |
| Kendujhar | 1 | 555.27 | 510.21 | 532.74 |
| Khordha | 1 | 727.69 | 535.06 | 631.37 |
| Malkangiri | 2 | 2377.32 | 524.79 | 1451.05 |
| Mayurbhanj | 3 | 2105.39 | 1738.62 | 1922.01 |
| Nuapada | 2 | 1592.12 | 926.09 | 1259.11 |
| Sambalpur | 2 | 1683.05 | 1075.17 | 1379.11 |
| | 13 | 10810.08 | 6109.12 | 8459.60 |

Table 18: Total number of Perennial water bodies and their area in the state of Odisha for Category IV



Figure 43: Spatial pattern of perennial WBD in the state for Category IV



Figure 44: Spatial pattern of average WAD in the state for Category IV

| District Name | Number of Water Bodies | Maximum Area Ha | Minimum Area Ha | Average Area Ha |
|---------------|---------------------------|--------------------|--------------------|--------------------|
| Anugul | 1 | 11486.50 | 1.95 | 5744.24 |
| Debagarh | 1 | 1115.80 | 919.51 | 1017.66 |
| Ganjam | 2 | 12138.24 | 10.85 | 6074.54 |
| Jharsuguda | 2 | 16169.74 | 3.42 | 8086.59 |
| Koraput | 3 | 12428.12 | 2008.39 | 7218.25 |
| Malkangiri | 1 | 12436.80 | 0.60 | 6218.69 |
| Mayurbhanj | 1 | 2398.02 | 0.46 | 1199.24 |
| Nabarangapur | 1 | 2773.14 | 0.95 | 1387.04 |
| Puri | 2 | 41718.51 | 28729.27 | 35225.09 |
| Sambalpur | 1 | 12934.80 | 1.15 | 6467.97 |
| Sundargarh | 1 | 2728.42 | 46.90 | 1387.66 |
| | 16 | 128328.09 | 31723.45 | 80026.98 |

Table 19: Total number of water bodies and their area in the
state of Odisha for Category V

(79)



Figure 45: Spatial distribution of Category V water bodies in the state of Odisha

(80)



Figure 46: Spatial pattern of the waterbodies in the state of Odisha for Category V



Figure 47: Spatial pattern of average water spread area in the state of Odisha for Category V

| District Name | Number of perennial Water Bodies | Maximum Area Ha | Minimum Area Ha | Average Area Ha |
|---------------|-------------------------------------|--------------------|--------------------|--------------------|
| Anugul | 1 | 11486.50 | 1.95 | 5744.24 |
| Debagarh | 1 | 1115.80 | 919.51 | 1017.66 |
| Ganjam | 2 | 12138.24 | 10.85 | 6074.54 |
| Jharsuguda | 2 | 16169.74 | 3.42 | 8086.59 |
| Koraput | 3 | 12428.12 | 2008.39 | 7218.25 |
| Malkangiri | 1 | 12436.80 | 0.60 | 6218.69 |
| Mayurbhanj | 1 | 2398.02 | 0.46 | 1199.24 |
| Nabarangapur | 1 | 2773.14 | 0.95 | 1387.04 |
| Puri | 2 | 41718.51 | 28729.27 | 35225.09 |
| Sambalpur | 1 | 12934.80 | 1.15 | 6467.97 |
| Sundargarh | 1 | 2728.42 | 46.90 | 1387.66 |
| | 16 | 128328.09 | 31723.45 | 80026.98 |

Table 20: Total number of perennial water bodies and their area in thestate of Odisha for Category V

(83)
GIS MAPPING OF INLAND WATER BODIES OF ODISHA



Figure 48: Spatial pattern of perennial WBD in the state for Category V



Figure 49: Spatial pattern of average WAD in the state for Category V

GIS MAPPING OF INLAND WATER BODIES OF ODISHA



Figure 50: Spatial distribution of water body categories in the state for water body categories

Angul

Table 21: Distribution of the total number of water bodies and their area in Angul district

| Anugul block-wise Total Water Bodies | | | | |
|--------------------------------------|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum Area | Minimum Area | |
| ANUGUL | 141 | 762.92 | 465.98 | |
| ATHMALLIK | 105 | 186.38 | 81.17 | |
| BANARPAL | 118 | 165.93 | 82.07 | |
| BANTALA | 76 | 133.14 | 59.26 | |
| BIKRAMPUR | 18 | 18.85 | 9.47 | |
| CHHENDIPADA | 140 | 237.15 | 98.92 | |
| COLLIERY | 74 | 200.17 | 135.47 | |
| HANDAPA | 41 | 56.43 | 25.87 | |
| JARAPADA (P) | 85 | 157.41 | 78.52 | |
| KANIHA | 98 | 282.88 | 158.20 | |
| KHAMAR | 106 | 110.26 | 54.19 | |
| KISHORENAGAR | 71 | 331.14 | 285.69 | |
| N.T.P.C. | 25 | 65.35 | 40.50 | |
| NALCO | 43 | 69.87 | 44.06 | |
| PALALAHADA | 44 | 11553.62 | 30.51 | |
| PURUNAKOT | 13 | 13.47 | 5.85 | |
| RENGALI DAMSITE | 30 | 41.62 | 21.38 | |
| SAMAL BARRAGE | 47 | 56.83 | 30.71 | |
| TALCHER SADAR | 89 | 152.55 | 75.46 | |
| THAKURGARH | 31 | 41.98 | 16.96 | |
| | 1395 | 14637.95 | 1800.24 | |

(87)

 Table 22: Season wise distribution of water spread area in Angul district for the different water body categories

| Perennial | | | | | Seasonal | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area | Minimum Area |
| CI | 840 | 1359.12 | 897.82 | 529 | 510.90 | 0 |
| CII | 22 | 421.50 | 227.37 | 0 | 0.00 | 0 |
| CIII | 3 | 859.93 | 673.10 | 0 | 0.00 | 0 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0.00 | 0 |
| CV | 1 | 11486.50 | 1.95 | 0 | 0.00 | 0 |
| | 866 | 14127.05 | 1800.24 | 529 | 510.90 | 0 |

Table 23: Distribution of perennial water bodies and their water spread area in Angul district

| Anugul block-wise Total Perennial Water Bodies | | | | |
|--|---------------------------|-----------------|-----------------|--|
| Block name | Number of water bodies | Maximum Area | Minimum Area | |
| ANGUL | 90 | 698.13 | 465.98 | |
| ATHMALLIK | 72 | 154.93 | 81.17 | |
| BANARPAL | 65 | 117.38 | 82.07 | |
| BANTALA | 43 | 106.84 | 59.26 | |
| BIKRAMPUR | 10 | 12.26 | 9.47 | |
| CHHENDIPADA | 72 | 182.09 | 98.92 | |
| COLLIERY | 52 | 174.24 | 135.47 | |
| HANDAPA | 26 | 45.79 | 25.87 | |
| JARAPADA (P) | 60 | 138.67 | 78.52 | |
| KANIHA | 59 | 237.87 | 158.20 | |
| KHAMAR | 69 | 85.38 | 54.19 | |
| KISHORENAGAR | 46 | 309.52 | 285.69 | |
| N.T.P.C. | 16 | 45.94 | 40.50 | |
| NALCO | 25 | 49.60 | 44.06 | |
| PALALAHADA | 28 | 11540.19 | 30.51 | |
| PURUNAKOT | 9 | 9.44 | 5.85 | |
| RENGALI DAMSITE | 25 | 38.24 | 21.38 | |
| SAMAL BARRAGE | 30 | 41.13 | 30.71 | |
| TALCHER SADAR | 49 | 108.80 | 75.46 | |
| THAKURGARH | 20 | 30.60 | 16.96 | |
| | 866 | 14127.05 | 1800.24 | |

(88)

| Angul Block wise Total Seasonal Water Bodies | | | | | |
|--|---------------------------|-----------------|--|--|--|
| Block name | Number of water bodies | Maximum Area | | | |
| ANGUL | 51 | 64.79 | | | |
| ATHMALLIK | 33 | 31.45 | | | |
| BANARPAL | 53 | 48.55 | | | |
| BANTALA | 33 | 26.30 | | | |
| BIKRAMPUR | 8 | 6.59 | | | |
| CHHENDIPADA | 68 | 55.06 | | | |
| COLLIERY | 22 | 25.93 | | | |
| HANDAPA | 15 | 10.63 | | | |
| JARAPADA (P) | 25 | 18.74 | | | |
| KANIHA | 39 | 45.01 | | | |
| KHAMAR | 37 | 24.89 | | | |
| KISHORENAGAR | 25 | 21.63 | | | |
| N.T.P.C. | 9 | 19.41 | | | |
| NALCO | 18 | 20.27 | | | |
| PALALAHADA | 16 | 13.42 | | | |
| PURUNAKOT | 4 | 4.03 | | | |
| RENGALI DAMSITE | 5 | 3.39 | | | |
| SAMAL BARRAGE | 17 | 15.70 | | | |
| TALCHER SADAR | 40 | 43.75 | | | |
| THAKURGARH | 11 | 11.39 | | | |
| | 529 | 510.90 | | | |

Table 24: Distribution of seasonal water bodies and their water spread area inAngul district

(89)

Table 25: Distribution of the perennial water bodies and their water spreadarea in Angul district for C I

| Angul Block wise Total Perennial Water Bodies of C I | | | | |
|--|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum Area | Minimum Area | |
| ANGUL | 88 | 140.65 | 89.98 | |
| ATHMALLIK | 70 | 112.37 | 69.77 | |
| BANARPAL | 64 | 94.32 | 69.45 | |
| BANTALA | 41 | 66.04 | 42.22 | |
| BIKRAMPUR | 10 | 12.26 | 9.47 | |
| CHHENDIPADA | 69 | 106.68 | 71.86 | |
| COLLIERY | 49 | 119.75 | 84.34 | |
| HANDAPA | 25 | 30.93 | 18.66 | |
| JARAPADA (P) | 59 | 115.91 | 59.46 | |
| KANIHA | 55 | 112.48 | 72.01 | |
| KHAMAR | 69 | 85.38 | 54.19 | |
| KISHORENAGAR | 45 | 59.48 | 41.15 | |
| N.T.P.C. | 15 | 34.32 | 29.29 | |
| NALCO | 24 | 31.86 | 26.32 | |
| PALALAHADA | 26 | 37.49 | 23.70 | |
| PURUNAKOT | 9 | 9.44 | 5.85 | |
| RENGALI DAMSITE | 25 | 38.24 | 21.38 | |
| SAMAL BARRAGE | 30 | 41.13 | 30.71 | |
| TALCHER SADAR | 47 | 79.79 | 61.05 | |
| THAKURGARH | 20 | 30.60 | 16.96 | |
| | 840 | 1359.12 | 897.82 | |

(90)

| Angul Block wise Total Perennial Water Bodies of C II | | | | | |
|---|---------------------------|-----------------|-----------------|--|--|
| Block Name | Number of Water Bodies | Maximum Area | Minimum Area | | |
| ANGUL | 1 | 10.90 | 9.28 | | |
| ATHMALLIK | 2 | 42.55 | 11.40 | | |
| BANARPAL | 1 | 23.07 | 12.62 | | |
| BANTALA | 2 | 40.79 | 17.04 | | |
| CHHENDIPADA | 3 | 75.41 | 27.05 | | |
| COLLIERY | 3 | 54.49 | 51.14 | | |
| HANDAPA | 1 | 14.87 | 7.21 | | |
| JARAPADA (P) | 1 | 22.77 | 19.06 | | |
| KANIHA | 3 | 62.07 | 24.35 | | |
| N.T.P.C. | 1 | 11.61 | 11.22 | | |
| NALCO | 1 | 17.74 | 17.74 | | |
| PALALAHADA | 1 | 16.20 | 4.85 | | |
| TALCHER SADAR | 2 | 29.02 | 14.42 | | |
| | 22 | 421.50 | 227.37 | | |

Table 26: Distribution of perennial water bodies and their water spread area inAngul district for C II

Table 27: Distribution of perennial water bodies and their water spread area inAngul district for C III

| Angul Block wise Total Perennial Water Bodies of C III | | | | | |
|--|---------------------------|-----------------|-----------------|--|--|
| Block Name | Number of Water Bodies | Maximum Area | Minimum Area | | |
| ANGUL | 1 | 546.58 | 366.72 | | |
| KANIHA | 1 | 63.32 | 61.84 | | |
| KISHORENAGAR | 1 | 250.04 | 244.54 | | |
| | 3 | 859.93 | 673.10 | | |

Table 28: Distribution of perennial water bodies and their water spread area inAngul district for C V

| Angul Block wise Total Perennial Water Bodies of C V | | | | | |
|--|---------------------------|-----------------|-----------------|--|--|
| Block Name | Number of Water Bodies | Maximum Area | Minimum Area | | |
| PALALAHADA | 1 | 11486.50 | 1.95 | | |
| | 1 | 11486.50 | 1.95 | | |

Table 29: Distribution of seasonal water bodies and their water spread area inAngul district for C I

| Anugul Block wise Total Seasonal Water Bodies of C I | | | | |
|--|---------------------------|-----------------|--|--|
| Block name | Number of Water Bodies | Maximum Area | | |
| ANUGUL | 51 | 64.79 | | |
| ATHMALLIK | 33 | 31.45 | | |
| BANARPAL | 53 | 48.55 | | |
| BANTALA | 33 | 26.30 | | |
| BIKRAMPUR | 8 | 6.59 | | |
| CHHENDIPADA | 68 | 55.06 | | |
| COLLIERY | 22 | 25.93 | | |
| HANDAPA | 15 | 10.63 | | |
| JARAPADA (P) | 25 | 18.74 | | |
| KANIHA | 39 | 45.01 | | |
| KHAMAR | 37 | 24.89 | | |
| KISHORENAGAR | 25 | 21.63 | | |
| N.T.P.C. | 9 | 19.41 | | |
| NALCO | 18 | 20.27 | | |
| PALALAHADA | 16 | 13.42 | | |
| PURUNAKOT | 4 | 4.03 | | |
| RENGALI DAMSITE | 5 | 3.39 | | |
| SAMAL BARRAGE | 17 | 15.70 | | |
| TALCHER SADAR | 40 | 43.75 | | |
| THAKURGARH | 11 | 11.39 | | |
| | 529 | 510.90 | | |

In Angul District no parrenial waterbodies and their water spread areas on C IV and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

Balangir

Table 30: Distribution of the total number of water bodies and their area inBalangir district

| Balangir block-wise Total Water Bodies | | | | |
|--|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum Area | Minimum Area | |
| BALANGIR (P) | 410 | 997.73 | 360.07 | |
| BANGOMUNDA | 135 | 321.79 | 73.36 | |
| BELPARA | 189 | 476.97 | 209.01 | |
| KANTABANJI | 61 | 115.86 | 40.16 | |
| KHAPRAKHOL | 108 | 426.64 | 219.27 | |
| LOISINGA (P) | 223 | 522.17 | 194.34 | |
| PATNAGARH | 276 | 553.24 | 270.2 | |
| SAINTALA | 199 | 527.34 | 195.21 | |
| SINDHEKELA (P) | 214 | 302.56 | 146.06 | |
| TITLAGARH | 317 | 1054.94 | 356.26 | |
| TUREKELA | 94 | 283.74 | 123.45 | |
| TUSHURA | 320 | 554.33 | 242.94 | |
| | 2546 | 6137.31 | 2430.33 | |

Table 31: Season wise distribution of water spread area in Balangir district for the different water body categories

| Perennial | | | | | Sea | sonal |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area | Minimum Area |
| CI | 2093 | 4094.96 | 1954.32 | 426 | 410.18 | 0 |
| CII | 19 | 545.47 | 134.35 | 1 | 24.15 | 0 |
| CIII | 7 | 1062.55 | 341.68 | 0 | 0.00 | 0 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0.00 | 0 |
| CV | 0 | 0.00 | 0.00 | 0 | 0.00 | 0 |
| | 2119 | 5702.98 | 2430.35 | 427 | 434.33 | 0 |

| Balangir blockwise Total Perennial Water Bodies | | | | |
|---|---------------------------|-----------------|-----------------|--|
| Block name | Number of water Bodies | Maximum Area | Minimum Area | |
| BALANGIR (P) | 342 | 932.88 | 360.07 | |
| BANGOMUNDA | 105 | 290.07 | 73.36 | |
| BELPARA | 155 | 445.93 | 209.01 | |
| KANTABANJI | 53 | 109.97 | 40.16 | |
| KHAPRAKHOL | 67 | 388.49 | 219.27 | |
| LOISINGA (P) | 176 | 471.56 | 194.34 | |
| PATNAGARH | 241 | 521.01 | 270.2 | |
| SAINTALA | 174 | 499.17 | 195.21 | |
| SINDHEKELA (P) | 201 | 289.79 | 146.06 | |
| TITLAGARH | 284 | 1026.74 | 356.26 | |
| TUREKELA | 50 | 219.92 | 123.45 | |
| TUSHURA | 271 | 507.46 | 242.94 | |
| | 2119 | 5702.99 | 2430.33 | |

| Fable 32: Distribution of | perennial wate | r bodies and their | r water spread a | rea in Balangir district |
|----------------------------------|----------------|--------------------|------------------|--------------------------|
|----------------------------------|----------------|--------------------|------------------|--------------------------|

Table 33: Distribution of seasonal water bodies and their water spread area in Balangir district

| Balangir Block wise Total Seasonal Water Bodies | | | | |
|---|---------------------------|-----------------|--|--|
| Block name | Number of Water Bodies | Maximum Area | | |
| BALANGIR (P) | 68 | 64.85 | | |
| BANGOMUNDA | 30 | 31.72 | | |
| BELPARA | 34 | 31.04 | | |
| KANTABANJI | 8 | 5.89 | | |
| KHAPRAKHOL | 41 | 38.15 | | |
| LOISINGA (P) | 47 | 50.61 | | |
| PATNAGARH | 35 | 32.23 | | |
| SAINTALA | 25 | 28.18 | | |
| SINDHEKELA (P) | 13 | 12.77 | | |
| TITLAGARH | 33 | 28.2 | | |
| TUREKELA | 44 | 63.82 | | |
| TUSHURA | 49 | 46.87 | | |
| | 427 | 434.33 | | |

| Balangir Block wise Total Perennial Water Bodies of C I | | | | |
|---|---------------------------|-----------------|-----------------|--|
| Block name | Number of Water Bodies | Maximum Area | Minimum Area | |
| BALANGIR (P) | 338 | 780.92 | 331.71 | |
| BANGOMUNDA | 103 | 200.84 | 63.21 | |
| BELPARA | 152 | 248.54 | 115.63 | |
| KANTABANJI | 53 | 109.97 | 40.16 | |
| KHAPRAKHOL | 64 | 160.79 | 91.89 | |
| LOISINGA (P) | 175 | 390.87 | 173.89 | |
| PATNAGARH | 238 | 460.74 | 256.63 | |
| SAINTALA | 171 | 330.96 | 151.26 | |
| SINDHEKELA (P) | 201 | 289.79 | 146.06 | |
| TITLAGARH | 280 | 499.08 | 271.08 | |
| TUREKELA | 49 | 155.72 | 82.37 | |
| TUSHURA | 269 | 466.76 | 230.44 | |
| | 2093 | 4094.96 | 1954.32 | |

Table 34: Distribution of perennial water bodies and their water spreadthe area in Balangir district for C I

Table 35: Distribution of perennial water bodies and their water spreadthe area in Balangir district for C II

| Balangir Block wise Total Perennial Water Bodies of C II | | | | |
|--|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum Area | Minimum Area | |
| BALANGIR (P) | 4 | 151.96 | 28.36 | |
| BANGOMUNDA | 2 | 89.23 | 10.15 | |
| BELPARA | 2 | 79.75 | 17.05 | |
| KHAPRAKHOL | 2 | 42.71 | 26.69 | |
| PATNAGARH | 3 | 60.27 | 13.57 | |
| SAINTALA | 2 | 34.19 | 9.59 | |
| TITLAGARH | 2 | 46.65 | 16.43 | |
| TUSHURA | 2 | 40.7 | 12.51 | |
| | 19 | 545.46 | 134.35 | |

| Table 36: Distribution of perennial water bodies and their | water spread |
|--|--------------|
| the area in Balangir district for C III | |

| Balangir Block wise Total Perennial Water Bodies of C III | | | | |
|---|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum Area | Minimum Area | |
| BELPARA | 1 | 117.63 | 76.33 | |
| KHAPRAKHOL | 1 | 184.99 | 100.69 | |
| LOISINGA (P) | 1 | 80.69 | 20.45 | |
| SAINTALA | 1 | 134.02 | 34.36 | |
| TITLAGARH | 2 | 481.02 | 68.75 | |
| TUREKELA | 1 | 64.2 | 41.09 | |
| | 7 | 1062.55 | 341.67 | |

Table 37: Distribution of seasonal water bodies and their water spreadarea in Balangir district for C I

| Balangir Block wise Total Seasonal Water Bodies of C I | | | | |
|--|------------------------|--------------|--|--|
| Block name | Number of Water Bodies | Maximum Area | | |
| BALANGIR (P) | 68 | 64.85 | | |
| BANGOMUNDA | 30 | 31.72 | | |
| BELPARA | 34 | 31.04 | | |
| KANTABANJI | 8 | 5.89 | | |
| KHAPRAKHOL | 41 | 38.15 | | |
| LOISINGA (P) | 47 | 50.61 | | |
| PATNAGARH | 35 | 32.23 | | |
| SAINTALA | 25 | 28.18 | | |
| SINDHEKELA (P) | 13 | 12.77 | | |
| TITLAGARH | 33 | 28.20 | | |
| TUREKELA | 43 | 39.67 | | |
| TUSHURA | 49 | 46.87 | | |
| | 426 | 410.18 | | |

Table 38: Distribution of seasonal water bodies and their water spreadarea in Balangir district for C II

| Balangir Block wise Total Seasonal Water Bodies of C II | | | | |
|---|------------------------|--------------|--|--|
| Block Name | Number of Water Bodies | Maximum Area | | |
| TUREKELA | 1 | 24.15 | | |

In Balangir District no parrenial waterbodies and their water spread areas on C IV and C V and no seasonal water bodies and their water spread areas on C III and C IV are available no seasonal water bodies for CV also.

Balasore

 Table 39: Distribution of the total number of water bodies and their area in Balasore district

| Balasore block-wise Total Water Bodies | | | | |
|--|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum Area | Minimum Area | |
| BALESHWAR (M) | 12 | 12.44 | 5.49 | |
| BALESHWAR SADAR | 1148 | 944.58 | 154.35 | |
| BALIAPAL | 25 | 64.54 | 22.37 | |
| BAMPADA | 14 | 12.12 | 2.86 | |
| BASTA | 140 | 111.71 | 23.74 | |
| BERHAMPUR | 24 | 102.48 | 91.65 | |
| BHOGRAI | 28 | 31.87 | 5.69 | |
| CHANDIPUR | 377 | 205.41 | 33.79 | |
| JALESWAR | 46 | 68.15 | 30.68 | |
| KHAIRA | 13 | 18.01 | 4.83 | |
| NILAGIRI | 61 | 102.46 | 40.16 | |
| OUPADA | 4 | 11.78 | 9.32 | |
| RAIBANIA | 37 | 39.64 | 12.38 | |
| REMUNA | 26 | 42.54 | 18.75 | |
| RUPSA | 20 | 23.88 | 13.23 | |
| SIMILIA | 59 | 64.73 | 19.65 | |
| SINGLA (P) | 442 | 280.53 | 9.83 | |
| SORO | 173 | 140.49 | 51.32 | |
| | 2649 | 2277.36 | 550.09 | |

Table 40: Season wise distribution of water spread area in Balasore district for the different water body categories

| Perennial | | | Seaso | nal | | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area | Minimum Area |
| CI | 466 | 669.50 | 402.47 | 2176 | 1401.45 | 0 |
| CII | 6 | 127.46 | 69.51 | 0 | 0.00 | 0 |
| CIII | 1 | 78.97 | 78.13 | 0 | 0.00 | 0 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0.00 | 0 |
| CV | 0 | 0.00 | 0.00 | 0 | 0.00 | 0 |
| | 473 | 875.93 | 550.11 | 2176 | 1401.45 | 0 |

Table 41: Distribution of perennial water bodies and their water spread area inBalasore district

| Balasore block-wise Total Perennial Water Bodies | | | | |
|--|---------------------------|-----------------|-----------------|--|
| Block name | Number of Water bodies | Maximum area | Minimum area | |
| BALESHWAR (M) | 5 | 8.02 | 5.49 | |
| BALESHWAR SADAR | 128 | 325.39 | 154.35 | |
| BALIAPAL | 10 | 34.98 | 22.37 | |
| BAMPADA | 4 | 3.13 | 2.86 | |
| BASTA | 16 | 27.29 | 23.74 | |
| BERHAMPUR | 17 | 97.71 | 91.65 | |
| BHOGRAI | 7 | 7.72 | 5.69 | |
| CHANDIPUR | 61 | 70.77 | 33.79 | |
| JALESWAR | 20 | 44.73 | 30.68 | |
| KHAIRA | 10 | 9.72 | 4.83 | |
| NILAGIRI | 45 | 55.67 | 40.16 | |
| OUPADA | 3 | 11.22 | 9.32 | |
| RAIBANIA | 11 | 15.73 | 12.38 | |
| REMUNA | 11 | 22.95 | 18.75 | |
| RUPSA | 11 | 16.45 | 13.23 | |
| SIMILIA | 25 | 28.03 | 19.65 | |
| SINGLA (P) | 10 | 11.75 | 9.83 | |
| SORO | 79 | 84.67 | 51.32 | |
| | 473 | 875.93 | 550.09 | |

| Balangir Tehsil wise Total Seasonal Water Bodies | | | | |
|--|---------------------------|-----------------|--|--|
| Block name | Number of water bodies | Maximum area | | |
| BALESHWAR (M) | 7 | 4.42 | | |
| BALESHWAR SADAR | 1020 | 619.19 | | |
| BALIAPAL | 15 | 29.56 | | |
| BAMPADA | 10 | 9 | | |
| BASTA | 124 | 84.42 | | |
| BERHAMPUR | 7 | 4.76 | | |
| BHOGRAI | 21 | 24.15 | | |
| CHANDIPUR | 316 | 134.64 | | |
| JALESWAR | 26 | 23.41 | | |
| KHAIRA | 3 | 8.3 | | |
| NILAGIRI | 16 | 46.79 | | |
| OUPADA | 1 | 0.56 | | |
| RAIBANIA | 26 | 23.91 | | |
| REMUNA | 15 | 19.59 | | |
| RUPSA | 9 | 7.43 | | |
| SIMILIA | 34 | 36.7 | | |
| SINGLA (P) | 432 | 268.78 | | |
| SORO | 94 | 55.83 | | |
| | 2176 | 1401.44 | | |

Table 42: Distribution of seasonal water bodies and their water spread area inBalasore district

(99)

| Table 43: Distribution of perennial w | vater bodies | and their | water spread | area in |
|---------------------------------------|--------------|-----------|--------------|---------|
| Balasore district for C I | | | | |

| Balasore Block wise Total Perennial Water Bodies of C I | | | | |
|---|------------------------|-----------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | Minimum area | |
| BALESHWAR (M) | 5 | 8.02 | 5.49 | |
| BALESHWAR SADAR | 124 | 227.54 | 111.27 | |
| BALIAPAL | 9 | 20.11 | 8.68 | |
| BAMPADA | 4 | 3.13 | 2.86 | |
| BASTA | 15 | 12.55 | 11.00 | |
| BERHAMPUR | 16 | 18.74 | 13.52 | |
| BHOGRAI | 7 | 7.72 | 5.69 | |
| CHANDIPUR | 61 | 70.77 | 33.79 | |
| JALESWAR | 20 | 44.74 | 30.68 | |
| KHAIRA | 10 | 9.72 | 4.83 | |
| NILAGIRI | 45 | 55.67 | 40.16 | |
| OUPADA | 3 | 11.22 | 9.32 | |
| RAIBANIA | 11 | 15.73 | 12.38 | |
| REMUNA | 11 | 22.95 | 18.75 | |
| RUPSA | 11 | 16.45 | 13.23 | |
| SIMILIA | 25 | 28.03 | 19.65 | |
| SINGLA (P) | 10 | 11.75 | 9.83 | |
| SORO | 79 | 84.67 | 51.32 | |
| | 466 | 669.50 | 402.47 | |

Table 44: Distribution of perennial water bodies and their water spread area inBalasore district for C II

| Balasore Block wise Total Perennial Water Bodies of C II | | | | |
|--|------------------------|--------------|--------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| BALESHWAR SADAR | 4 | 97.84 | 43.08 | |
| BALIAPAL | 1 | 14.87 | 13.68 | |
| BASTA | 1 | 14.74 | 12.74 | |
| | 6 | 127.45 | 69.5 | |

(100**)**

Table 45: Distribution of perennial water bodies and their water spread area inBalasore district for C III

| Balasore Block wise Total Perennial Water Bodies of C III | | | | |
|---|------------------------|--------------|--------------|--|
| Block Name | Number of Water Bodies | Maximum Area | Minimum Area | |
| BERHAMPUR | 1 | 78.97 | 78.13 | |

Table 46: Distribution of seasonal water bodies and their water spreadarea in Balasore district for C I

| Balasore Block wise Total Seasonal Water Bodies of C I | | | | |
|--|---------------------------|-----------------|--|--|
| Block name | Number of water bodies | Maximum area | | |
| BALESHWAR (M) | 7 | 4.42 | | |
| BALESHWAR SADAR | 1020 | 619.19 | | |
| BALIAPAL | 15 | 29.57 | | |
| BAMPADA | 10 | 9.00 | | |
| BASTA | 124 | 84.42 | | |
| BERHAMPUR | 7 | 4.77 | | |
| BHOGRAI | 21 | 24.15 | | |
| CHANDIPUR | 316 | 134.64 | | |
| JALESWAR | 26 | 23.41 | | |
| KHAIRA | 3 | 8.30 | | |
| NILAGIRI | 16 | 46.79 | | |
| OUPADA | 1 | 0.56 | | |
| RAIBANIA | 26 | 23.91 | | |
| REMUNA | 15 | 19.59 | | |
| RUPSA | 9 | 7.43 | | |
| SIMILIA | 34 | 36.70 | | |
| SINGLA (P) | 432 | 268.78 | | |
| SORO | 94 | 55.83 | | |
| | 2176 | 1401.45 | | |

In Balasore District no parrenial waterbodies and their water spread areas on C IV and C V and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

Bargarh

Table 47: Distribution of total number of water bodies and their area in Bargarh district

| Bargarh block wise Total Water Bodies | | | | |
|---------------------------------------|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| AMBABHONA | 174 | 811.72 | 182.04 | |
| ATTABIRA | 132 | 230.07 | 158.12 | |
| BARAPALI | 133 | 249.47 | 136.43 | |
| BARGARH | 127 | 251.2 | 144.49 | |
| BHATLI | 180 | 444.24 | 180.42 | |
| BHEDEN | 85 | 161.39 | 106.62 | |
| BIJEPUR | 151 | 339.93 | 177.39 | |
| BURDEN | 46 | 110.75 | 34.47 | |
| GAISILET | 120 | 331.72 | 87.14 | |
| JHARABANDHA | 183 | 647.1 | 279.83 | |
| MELCHHAMUNDA | 130 | 285.08 | 147.07 | |
| PADMAPUR | 106 | 327.17 | 158.08 | |
| PAIKAMAL | 122 | 282.57 | 143.17 | |
| SOHELA | 195 | 393.38 | 173.68 | |
| | 1884 | 4865.79 | 2108.95 | |

Table 48: Season wise distribution of water spread area in Bargarh district for the different water body categories

| | | Perennial | | | Seasonal | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area | Minimum Area |
| CI | 1243 | 2801.30 | 1638.23 | 622 | 739.04 | 0 |
| CII | 13 | 310.30 | 134.05 | 0 | 0.00 | 0 |
| CIII | 6 | 1015.15 | 336.69 | 0 | 0.00 | 0 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0.00 | 0 |
| CV | 0 | 0.00 | 0.00 | 0 | 0.00 | 0 |
| | 1262 | 4126.75 | 2108.97 | 622 | 739.04 | 0 |

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| Bargarh block-wise Total Perennial Water Bodies | | | | |
|---|------------------------|--------------|--------------|--|
| Block name | Number of water bodies | Maximum area | Minimum area | |
| AMBABHONA | 127 | 709.63 | 182.04 | |
| ATTABIRA | 111 | 211.94 | 158.12 | |
| BARAPALI | 98 | 200.57 | 136.43 | |
| BARGARH | 94 | 203.11 | 144.49 | |
| BHATLI | 122 | 378.89 | 180.42 | |
| BHEDEN | 65 | 136.27 | 106.62 | |
| BIJEPUR | 105 | 287.55 | 177.39 | |
| BURDEN | 31 | 97.06 | 34.47 | |
| GAISILET | 85 | 283.02 | 87.14 | |
| JHARABANDHA | 83 | 554 | 279.83 | |
| MELCHHAMUNDA | 83 | 230.4 | 147.06 | |
| PADMAPUR | 79 | 300.78 | 158.08 | |
| PAIKAMAL | 62 | 220.83 | 143.17 | |
| SOHELA | 117 | 312.68 | 173.68 | |
| | 1262 | 4126.73 | 2108.94 | |

Table 49: Distribution of perennial water bodies and their water spread area in Bargarh district

Table 50: Distribution of seasonal water bodies and their water spread area in Bargarh district

| Bargarh Tehsil wise Total Seasonal Water Bodies | | | | |
|---|------------------------|--------------|--|--|
| Block name | Number of water bodies | Maximum area | | |
| AMBABHONA | 47 | 103 | | |
| ATTABIRA | 21 | 18.13 | | |
| BARAPALI | 35 | 48.9 | | |
| BARGARH | 33 | 48.09 | | |
| BHATLI | 58 | 65.35 | | |
| BHEDEN | 20 | 25.11 | | |
| BIJEPUR | 46 | 52.37 | | |
| BURDEN | 15 | 13.69 | | |
| GAISILET | 35 | 48.69 | | |
| JHARABANDHA | 100 | 93.11 | | |
| MELCHHAMUNDA | 47 | 54.67 | | |
| PADMAPUR | 27 | 26.39 | | |
| PAIKAMAL | 60 | 61.74 | | |
| SOHELA | 78 | 80.7 | | |
| | 622 | 739.94 | | |

| Bargarh Block-wise Total Perennial Water Bodies of C I | | | | |
|---|------------------------|-----------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | Minimum area | |
| AMBABHONA | 122 | 276.16 | 118.50 | |
| ATTABIRA | 111 | 211.94 | 158.12 | |
| BARAPALI | 98 | 200.57 | 136.43 | |
| BARGARH | 93 | 192.14 | 133.53 | |
| BHATLI | 120 | 247.66 | 130.57 | |
| BHEDEN | 64 | 119.98 | 98.22 | |
| BIJEPUR | 103 | 240.56 | 161.87 | |
| BURDEN | 31 | 97.06 | 34.47 | |
| GAISILET | 83 | 230.85 | 79.03 | |
| JHARABANDHA | 81 | 197.87 | 96.01 | |
| MELCHHAMUNDA | 82 | 187.46 | 127.01 | |
| PADMAPUR | 78 | 133.86 | 83.79 | |
| PAIKAMAL | 61 | 177.08 | 113.83 | |
| SOHELA | 116 | 288.09 | 166.84 | |
| | 1243 | 2801.30 | 1638.23 | |

Table 51: Distribution of perennial water bodies and their water spreadarea in Bargarh district for C I

Table 52: Distribution of perennial water bodies and their water spreadarea in Bargarh district for C II

| Bargarh Block-wise Total Perennial Water Bodies of C II | | | | |
|---|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| AMBABHONA | 2 | 39.13 | 23.31 | |
| BARGARH | 1 | 10.96 | 10.96 | |
| BHATLI | 1 | 14.37 | 7.33 | |
| BHEDEN | 1 | 16.29 | 8.4 | |
| BIJEPUR | 2 | 46.99 | 15.52 | |
| GAISILET | 2 | 52.17 | 8.12 | |
| JHARABANDHA | 1 | 19.09 | 4.17 | |
| MELCHHAMUNDA | 1 | 42.94 | 20.1 | |
| PAIKAMAL | 1 | 43.76 | 29.35 | |
| SOHELA | 1 | 24.59 | 6.84 | |
| | 13 | 310.29 | 134.1 | |

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Table 53: Distribution of perennial water bodies and their water spreadarea in Bargarh district for C III

| Bargarh Block-wise Total Perennial Water Bodies of C III | | | | | |
|--|--|-----------------|-----------------|--|--|
| Block Name | Number of Water Bodies Water Bodies | Maximum area | Minimum area | | |
| AMBABHONA | 3 | 394.34 | 40.23 | | |
| BHATLI | 1 | 116.85 | 42.52 | | |
| JHARABANDHA | 1 | 337.05 | 179.65 | | |
| PADMAPUR | 1 | 166.92 | 74.3 | | |
| | 6 | 1015.16 | 336.7 | | |

Table 54: Distribution of seasonal water bodies and their water spreadarea in Bargarh district for C I

| Bargarh Block-wise Total seasonal Water Bodies of C I | | | | |
|---|---------------------------|-----------------|--|--|
| Block name | Number of water bodies | Maximum area | | |
| AMBABHONA | 47 | 102.09 | | |
| ATTABIRA | 21 | 18.13 | | |
| BARAPALI | 35 | 48.90 | | |
| BARGARH | 33 | 48.09 | | |
| BHATLI | 58 | 65.35 | | |
| BHEDEN | 20 | 25.11 | | |
| BIJEPUR | 46 | 52.37 | | |
| BURDEN | 15 | 13.69 | | |
| GAISILET | 35 | 48.70 | | |
| JHARABANDHA | 100 | 93.11 | | |
| MELCHHAMUNDA | 47 | 54.67 | | |
| PADMAPUR | 27 | 26.39 | | |
| PAIKAMAL | 60 | 61.74 | | |
| SOHELA | 78 | 80.70 | | |
| | 622 | 739.04 | | |

In Bargarh District no parrenial waterbodies and their water spread areas on C IV and C V and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

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Boudh

Table 55: Distribution of the total number of water bodies and their area in Boudh district

| Boudh block-wise Total Water Bodies | | | | |
|-------------------------------------|------------------------|--------------|--------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| BAUDH SADAR | 232 | 519.52 | 303.06 | |
| BAUNSUNI | 72 | 169.26 | 92.8 | |
| HARBHANGA | 47 | 82.69 | 54.42 | |
| KANTAMAL | 147 | 243.26 | 104.85 | |
| MANAMUNDA (P) | 232 | 419.56 | 196.25 | |
| PURUNA KATAK | 57 | 84.15 | 56.99 | |
| | 787 | 1518.44 | 808.37 | |

 Table 56: Season wise distribution of water spread area in Boudh district for the different water body categories

| Perennial | | | Sea | sonal | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 525 | 1046.91 | 668.86 | 250 | 238.90 |
| CII | 12 | 232.63 | 139.51 | 0 | 0.00 |
| CIII | 0 | 0.00 | 0.00 | 0 | 0.00 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| CV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| | 537 | 1279.54 | 808.37 | 250 | 238.90 |

Table 57: Distribution of perennial water bodies and their water spread area in Boudh district

| Boudh block-wise Total Perennial Water Bodies | | | | |
|---|------------------------|--------------|--------------|--|
| Block name | Number of water bodies | Maximum area | Minimum area | |
| BAUDH SADAR | 172 | 451.24 | 303.06 | |
| BAUNSUNI | 49 | 146.73 | 92.8 | |
| HARBHANGA | 34 | 71.81 | 54.42 | |
| KANTAMAL | 86 | 190.18 | 104.85 | |
| MANAMUNDA (P) | 150 | 343.91 | 196.25 | |
| PURUNA KATAK | 46 | 75.67 | 56.99 | |
| | 537 | 1279.54 | 808.37 | |

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| Boudh Tehsil wise Total Seasonal Water Bodies | | | | |
|---|---------------------------|-----------------|--|--|
| Block name | Number of water bodies | Maximum area | | |
| BAUDH SADAR | 60 | 68.27 | | |
| BAUNSUNI | 23 | 22.53 | | |
| HARBHANGA | 13 | 10.88 | | |
| KANTAMAL | 61 | 53.08 | | |
| MANAMUNDA (P) | 82 | 75.65 | | |
| PURUNA KATAK | 11 | 8.48 | | |
| | 250 | 238.89 | | |

Table 58: Distribution of seasonal water bodies and their water spread area in Boudh district

Table 59: Distribution of perennial water bodies and their water spread area inBoudh district for C I

| Boudh Block-wise Total Perennial Water Bodies of C I | | | | |
|--|------------------------|-----------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | Minimum area | |
| BAUDH SADAR | 168 | 374.14 | 256.44 | |
| BAUNSUNI | 47 | 101.89 | 59.31 | |
| HARBHANGA | 32 | 44.99 | 29.93 | |
| KANTAMAL | 84 | 146.40 | 83.60 | |
| MANAMUNDA (P) | 148 | 303.82 | 182.58 | |
| PURUNA KATAK | 46 | 75.67 | 56.99 | |
| | 525 | 1046.91 | 668.86 | |

Table 60: Distribution of perennial water bodies and their water spread area inBoudh district for C II

| Boudh Block-wise Total Perennial Water Bodies of C II | | | | |
|---|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| BAUDH SADAR | 4 | 77.11 | 46.62 | |
| BAUNSUNI | 2 | 44.84 | 33.49 | |
| HARBHANGA | 2 | 26.81 | 24.48 | |
| KANTAMAL | 2 | 43.78 | 21.24 | |
| MANAMUNDA (P) | 2 | 40.09 | 13.67 | |
| | 12 | 232.63 | 139.5 | |

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Table 61: Distribution of seasonal water bodies and their water spread area inBoudh district for C I

| Boudh Block-wise Total seasonal Water Bodies of C I | | | | |
|---|---------------------------|-----------------|--|--|
| Block name | Number of water bodies | Maximum area | | |
| BAUDH SADAR | 60 | 68.27 | | |
| BAUNSUNI | 23 | 22.53 | | |
| HARBHANGA | 13 | 10.88 | | |
| KANTAMAL | 61 | 53.09 | | |
| MANAMUNDA (P) | 82 | 75.65 | | |
| PURUNA KATAK | 11 | 8.48 | | |
| | 250 | 238.90 | | |

In Boudh District no parrenial waterbodies and their water spread areas on C III, C IV and C V and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

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Bhadrak

Table 62: Distribution of the total number of water bodies and their area inBhadrak district

| Bhadrak block-wise Total Water Bodies | | | | |
|---------------------------------------|-------------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies bodies | Maximum area | Minimum area | |
| AGARPADA | 15 | 17.82 | 9.92 | |
| BANSADA | 941 | 575.85 | 85.12 | |
| BANT (P) | 22 | 21.07 | 11.64 | |
| BASUDEBPUR | 373 | 291.06 | 95.16 | |
| BHADRAK RURAL (P) | 98 | 128.3 | 43.79 | |
| BHANDARI POKHARI | 37 | 29.19 | 7.75 | |
| CHANDABALI | 45 | 52.32 | 17.53 | |
| DHAMANAGAR | 28 | 34.44 | 15.98 | |
| DHUSURI (P) | 22 | 30.91 | 5.71 | |
| NAIKANIDIHI | 348 | 264.6 | 40.66 | |
| TIHIDI (P) | 41 | 182.89 | 7.87 | |
| | 1970 | 1628.45 | 341.13 | |

Table 63: Season wise distribution of water spread area in Bhadrak district for the different water body categories

| Perennial | | | Se | easonal | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 474 | 586.90 | 341.13 | 1495 | 994.61 |
| CII | 0 | 0.00 | 0.00 | 1 | 46.94 |
| CIII | 0 | 0.00 | 0.00 | 0 | 0.00 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| CV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| | 474 | 586.90 | 341.13 | 1496 | 1041.55 |

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| Bhadrak block wise Total Perennial Water Bodies | | | | |
|---|---------------------------|-----------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | Minimum area | |
| AGARPADA | 13 | 13.96 | 9.92 | |
| BANSADA | 139 | 172.48 | 85.12 | |
| BANT (P) | 13 | 13.4 | 11.64 | |
| BASUDEBPUR | 142 | 152.24 | 95.16 | |
| BHADRAK RURAL (P) | 44 | 71.05 | 43.79 | |
| BHANDARI POKHARI | 11 | 10.46 | 7.75 | |
| CHANDABALI | 20 | 20.84 | 17.53 | |
| DHAMANAGAR | 13 | 20.42 | 15.98 | |
| DHUSURI (P) | 5 | 7.34 | 5.71 | |
| NAIKANIDIHI | 66 | 94.24 | 40.66 | |
| TIHIDI (P) | 8 | 10.46 | 7.87 | |
| | 474 | 586.89 | 341.13 | |

Table 64: Distribution of perennial water bodies and their water spread area inBhadrak district

Table 65: Distribution of seasonal water bodies and their water spread area in Bhadrak district

| Bhadrak Tehsil wise Total Seasonal Water Bodies | | | |
|---|---------------------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | |
| AGARPADA | 2 | 3.86 | |
| BANSADA | 802 | 403.36 | |
| BANT (P) | 9 | 7.67 | |
| BASUDEBPUR | 231 | 138.81 | |
| BHADRAK RURAL (P) | 54 | 57.25 | |
| BHANDARI POKHARI | 26 | 18.73 | |
| CHANDABALI | 25 | 31.48 | |
| DHAMANAGAR | 15 | 14.02 | |
| DHUSURI (P) | 17 | 23.57 | |
| NAIKANIDIHI | 282 | 170.36 | |
| TIHIDI (P) | 33 | 172.43 | |
| | 1496 | 1041.54 | |

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| Bhadrak Block wise Total Perennial Water Bodies of C I | | | |
|--|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| AGARPADA | 13 | 13.96 | 9.92 |
| BANSADA | 139 | 172.49 | 85.12 |
| BANT (P) | 13 | 13.40 | 11.64 |
| BASUDEBPUR | 142 | 152.24 | 95.16 |
| BHADRAK RURAL (P) | 44 | 71.05 | 43.79 |
| BHANDARI POKHARI | 11 | 10.46 | 7.75 |
| CHANDABALI | 20 | 20.84 | 17.53 |
| DHAMANAGAR | 13 | 20.42 | 15.98 |
| DHUSURI (P) | 5 | 7.34 | 5.71 |
| NAIKANIDIHI | 66 | 94.24 | 40.66 |
| TIHIDI (P) | 8 | 10.46 | 7.87 |
| | 474 | 586.90 | 341.13 |

Table 66: Distribution of perennial water bodies and their water spread area in Bhadrak district for C I

Table 67: Distribution of seasonal water bodies and their water spread area inBhadrak district for C I

| Bhadrak Block wise Total seasonal Water Bodies of C I | | | | | |
|---|----------------------------------|--------|--|--|--|
| Block Name | Number of WaterMaximumBodiesarea | | | | |
| AGARPADA | 2 | 3.86 | | | |
| BANSADA | 802 | 403.36 | | | |
| BANT (P) | 9 | 7.67 | | | |
| BASUDEBPUR | 231 | 138.81 | | | |
| BHADRAK RURAL (P) | 54 | 57.25 | | | |
| BHANDARI POKHARI | 26 | 18.73 | | | |
| CHANDABALI | 25 | 31.48 | | | |
| DHAMANAGAR | 15 | 14.02 | | | |
| DHUSURI (P) | 17 | 23.57 | | | |
| NAIKANIDIHI | 282 | 170.36 | | | |
| TIHIDI (P) | 32 | 125.49 | | | |
| | 1495 | 994.61 | | | |

Table 68: Distribution of seasonal water bodies and their water spread area inBhadrak district for C II

| Bhadrak Block wise Total seasonal Water Bodies of C II | | | |
|--|---------------------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | |
| TIHIDI (P) | 1 | 46.94 | |

In Bhadrak District no parrenial waterbodies and their water spread areas on C II, C III, C IV and C V and no seasonal water bodies and their water spread areas on C III, C IV and C V are available

GIS MAPPING OF INLAND WATER BODIES OF ODISHA

Cuttack

Table 69: Distribution of the total number of water bodies and their area in Cuttack district

| Cuttack block-wise Total Water Bodies | | | |
|---------------------------------------|---------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| ATHAGAD | 48 | 92.95 | 41.5 |
| BADAMBA | 106 | 166.31 | 99.63 |
| BAIDYESWAR | 50 | 83.48 | 51.1 |
| BANKI | 115 | 822.98 | 318.49 |
| BARANG | 22 | 70.72 | 39.13 |
| CHOUDWAR (P) | 50 | 229.06 | 72.81 |
| CUTTACK (M. CORP.) | 14 | 14.56 | 8.97 |
| CUTTACK SADAR | 29 | 31.25 | 15.62 |
| GOBINDPUR | 24 | 21.03 | 10.09 |
| GURUDIJHATIA | 40 | 66.14 | 22.28 |
| JAGATPUR | 14 | 14.5 | 10 |
| KANPUR | 87 | 137.1 | 77.69 |
| KISHANNAGAR | 12 | 14.4 | 7.92 |
| MAHANGA | 19 | 26.14 | 18.83 |
| NARASINGHPUR | 121 | 354.53 | 179.76 |
| NIALI | 24 | 27.05 | 6.47 |
| SALEPUR | 46 | 55.64 | 35.02 |
| TANGI | 43 | 71.12 | 47.63 |
| TIGIRIA | 62 | 84.49 | 59.02 |
| | 926 | 2383.45 | 1121.96 |

 Table 70: Season wise distribution of water spread area in Cuttack district for the different water body categories

| Perennial | | | Sea | sonal | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 669 | 965.95 | 663.15 | 234 | 367.20 |
| CII | 17 | 458.72 | 231.75 | 3 | 179.46 |
| CIII | 3 | 412.12 | 227.07 | 0 | 0.00 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| CV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| | 689 | 1836.79 | 1121.97 | 237 | 546.66 |

Table 71: Distribution of perennial water bodies and their water spread area inCuttack district

| Cuttack block-wise Total Perennial Water Bodies | | | |
|---|---------------------------|-----------------|-----------------|
| Block name | Number of water bodies | Maximum area | Minimum area |
| ATHAGAD | 29 | 68.96 | 41.5 |
| BADAMBA | 86 | 146.33 | 99.63 |
| BAIDYESWAR | 42 | 77.74 | 51.1 |
| BANKI | 86 | 657.41 | 318.49 |
| BARANG | 13 | 50.59 | 39.13 |
| CHOUDWAR (P) | 32 | 96.5 | 72.81 |
| CUTTACK (M. CORP.) | 10 | 9.39 | 8.97 |
| CUTTACK SADAR | 21 | 19.61 | 15.62 |
| GOBINDPUR | 14 | 10.74 | 10.09 |
| GURUDIJHATIA | 26 | 27.4 | 22.28 |
| JAGATPUR | 11 | 12.07 | 10.01 |
| KANPUR | 78 | 129.3 | 77.69 |
| KISHANNAGAR | 9 | 12.04 | 7.92 |
| MAHANGA | 17 | 24.66 | 18.83 |
| NARASINGHPUR | 87 | 309.82 | 179.76 |
| NIALI | 9 | 8.68 | 6.47 |
| SALEPUR | 38 | 46.09 | 35.02 |
| TANGI | 30 | 58.11 | 47.64 |
| TIGIRIA | 51 | 71.33 | 59.02 |
| | 689 | 1836.77 | 1121.98 |

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| Cuttack Tehsil wise Total Seasonal Water Bodies | | | |
|---|---------------------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | |
| ATHAGAD | 19 | 23.99 | |
| BADAMBA | 20 | 19.97 | |
| BAIDYESWAR | 8 | 5.74 | |
| BANKI | 29 | 165.57 | |
| BARANG | 9 | 20.13 | |
| CHOUDWAR (P) | 18 | 132.55 | |
| CUTTACK (M. CORP.) | 4 | 5.17 | |
| CUTTACK SADAR | 8 | 11.64 | |
| GOBINDPUR | 10 | 10.29 | |
| GURUDIJHATIA | 14 | 38.74 | |
| JAGATPUR | 3 | 2.43 | |
| KANPUR | 9 | 7.79 | |
| KISHANNAGAR | 3 | 2.35 | |
| MAHANGA | 2 | 1.48 | |
| NARASINGHPUR | 34 | 44.71 | |
| NIALI | 15 | 18.37 | |
| SALEPUR | 8 | 9.55 | |
| TANGI | 13 | 13.01 | |
| TIGIRIA | 11 | 13.16 | |
| | 237 | 546.64 | |

Table 72: Distribution of seasonal water bodies and their water spread area inCuttack district

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| Table 73: Distribution of perennial water | bodies and their water spread area in |
|---|---------------------------------------|
| Cuttack distr | ict for C I |

| Cuttack Block-wise Total Perennial Water Bodies of C I | | | |
|--|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| ATHAGAD | 27 | 33.93 | 28.33 |
| BADAMBA | 85 | 116.16 | 75.15 |
| BAIDYESWAR | 41 | 59.27 | 37.60 |
| BANKI | 77 | 135.55 | 85.65 |
| BARANG | 12 | 28.17 | 16.70 |
| CHOUDWAR (P) | 31 | 50.45 | 34.57 |
| CUTTACK (M. CORP.) | 10 | 9.39 | 8.97 |
| CUTTACK SADAR | 21 | 19.61 | 15.62 |
| GOBINDPUR | 14 | 10.74 | 10.09 |
| GURUDIJHATIA | 26 | 27.40 | 22.28 |
| JAGATPUR | 11 | 12.07 | 10.01 |
| KANPUR | 78 | 129.30 | 77.69 |
| KISHANNAGAR | 9 | 12.04 | 7.92 |
| MAHANGA | 17 | 24.66 | 18.83 |
| NARASINGHPUR | 84 | 137.64 | 86.65 |
| NIALI | 9 | 8.68 | 6.47 |
| SALEPUR | 38 | 46.09 | 35.02 |
| TANGI | 29 | 45.89 | 39.01 |
| TIGIRIA | 50 | 58.90 | 46.59 |
| | 669 | 965.95 | 663.15 |

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| Cuttack Block wise Total Perennial Water Bodies of C II | | | |
|---|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| ATHAGAD | 2 | 35.04 | 13.17 |
| BADAMBA | 1 | 30.18 | 24.48 |
| BAIDYESWAR | 1 | 18.47 | 13.5 |
| BANKI | 7 | 244.83 | 68.21 |
| BARANG | 1 | 22.42 | 22.42 |
| CHOUDWAR (P) | 1 | 46.05 | 38.24 |
| NARASINGHPUR | 2 | 37.08 | 30.67 |
| TANGI | 1 | 12.22 | 8.63 |
| TIGIRIA | 1 | 12.43 | 12.43 |
| | 17 | 458.72 | 231.75 |

Table 74: Distribution of perennial water bodies and their water spread area inCuttack district for C II

Table 75: Distribution of perennial water bodies and their water spread area inCuttack district for C III

| Cuttack Block wise Total Perennial Water Bodies of C III | | | |
|--|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| BANKI | 2 | 277.03 | 164.64 |
| NARASINGHPUR | 1 | 135.09 | 62.44 |
| | 3 | 412.12 | 227.08 |

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| Cuttack Block-wise Total Seasonal Water Bodies of C I | | | |
|---|---------------------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | |
| ATHAGAD | 19 | 23.99 | |
| BADAMBA | 20 | 19.97 | |
| BAIDYESWAR | 8 | 5.74 | |
| BANKI | 28 | 80.79 | |
| BARANG | 9 | 20.13 | |
| CHOUDWAR (P) | 16 | 37.88 | |
| CUTTACK (M. CORP.) | 4 | 5.17 | |
| CUTTACK SADAR | 8 | 11.64 | |
| GOBINDPUR | 10 | 10.29 | |
| GURUDIJHATIA | 14 | 38.74 | |
| JAGATPUR | 3 | 2.43 | |
| KANPUR | 9 | 7.79 | |
| KISHANNAGAR | 3 | 2.35 | |
| MAHANGA | 2 | 1.48 | |
| NARASINGHPUR | 34 | 44.71 | |
| NIALI | 15 | 18.37 | |
| SALEPUR | 8 | 9.55 | |
| TANGI | 13 | 13.01 | |
| TIGIRIA | 11 | 13.16 | |
| | 234 | 367.20 | |

Table 76: Distribution of Seasonal water bodies and their water spread area inCuttack district for C I

Table 77: Distribution of Seasonal water bodies and their water spread area inCuttack district for C II

| Cuttack Block wise Total Seasonal Water Bodies of C II | | | | | |
|--|--------------|---------|--|--|--|
| Block Name | Number of | Maximum | | | |
| | Water Bodies | area | | | |
| BANKI | 1 | 84.78 | | | |
| CHOUDWAR (P) | 2 | 94.67 | | | |
| | 3 | 179.45 | | | |

In Cuttack District no parrenial waterbodies and their water spread areas on C IV and C V and no seasonal water bodies and their water spread areas on C III, C IV and C V are available

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Debagarh

Table 78: Distribution of the total number of water bodies and their area in Debagarh district

| Debagarh block-wise Total Water Bodies | | | | | | |
|--|------------------------|-----------------|-----------------|--|--|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | | | |
| BARKOT | 77 | 188.53 | 44.66 | | | |
| DEBAGARH | 109 | 208.62 | 80.77 | | | |
| KUNDHEIGOLA | 80 | 111.5 | 30.84 | | | |
| REAMAL | 114 | 1248.58 | 962.81 | | | |
| | 380 | 1757.23 | 1119.08 | | | |

Table 79: Season wise distribution of water spread area in Debagarh district for the different water body categories

| Perennial | | | | Seasonal | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 253 | 413.09 | 182.28 | 123 | 152.21 |
| CII | 3 | 76.14 | 17.29 | 0 | 0.00 |
| CIII | 0 | 0.00 | 0.00 | 0 | 0.00 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| CV | 1 | 1115.80 | 919.51 | 0 | 0.00 |
| | 257 | 1605.03 | 1119.08 | 123 | 152.21 |

Table 80: Distribution of perennial water bodies and their water spread area inDebagarh district

| Debagarh block-wise Total Perennial Water Bodies | | | | | | |
|--|------------------------|-----------------|-----------------|--|--|--|
| Block name | Number of water bodies | Maximum area | Minimum area | | | |
| BARKOT | 59 | 148.09 | 44.66 | | | |
| DEBAGARH | 82 | 173.49 | 80.77 | | | |
| KUNDHEIGOLA | 51 | 82.97 | 30.84 | | | |
| REAMAL | 65 | 1200.47 | 962.81 | | | |
| | 257 | 1605.02 | 1119.08 | | | |

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Table 81: Distribution of seasonal water bodies and their water spread area inDebagarh district

| Debagarh Tehsil wise Total Seasonal Water Bodies | | | |
|--|---------------------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | |
| BARKOT | 18 | 40.43 | |
| DEBAGARH | 27 | 35.13 | |
| KUNDHEIGOLA | 29 | 28.53 | |
| REAMAL | 49 | 48.11 | |
| | 123 | 152.2 | |

Table 82: Distribution of perennial water bodies and their water spread area inDebagarh district for C I

| Debagarh Block wise Total Perennial Water Bodies of C I | | | | |
|---|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| BARKOT | 57 | 93.98 | 36.72 | |
| DEBAGARH | 81 | 151.47 | 71.41 | |
| KUNDHEIGOLA | 51 | 82.97 | 30.84 | |
| REAMAL | 64 | 84.67 | 43.30 | |
| | 253 | 413.09 | 182.28 | |

Table 83: Distribution of perennial water bodies and their water spread area inDebagarh district for C II

| Debagarh Block wise Total Perennial Water Bodies of C II | | | |
|--|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| BARKOT | 2 | 54.11 | 7.94 |
| DEBAGARH | 1 | 22.02 | 9.35 |
| | 3 | 76.13 | 17.29 |

(120)

Table 84: Distribution of perennial water bodies and their water spread area inDebagarh district for C V

| Debagarh Block wise Total Perennial Water Bodies of C V | | | |
|---|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| REAMAL | 1 | 1115.8 | 919.51 |

Table 85: Distribution of Seasonal water bodies and their water spread area inDebagarh district for C I

| Debagarh Block wise Total Seasonal Water Bodies of C I | | | |
|--|---------------------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | |
| BARKOT | 18 | 40.44 | |
| DEBAGARH | 27 | 35.13 | |
| KUNDHEIGOLA | 29 | 28.53 | |
| REAMAL | 49 | 48.11 | |
| | 123 | 152.21 | |

In Debagarh District no parrenial waterbodies and their water spread areas on C III and C IV and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

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Dhenkanal

Table 86: Distribution of the total number of water bodies and their area inDhenkanal district

| Dhenkanal block-wise Total Water Bodies | | | | |
|---|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| BALIMI | 88 | 134.61 | 54.5 | |
| BHUBAN | 71 | 110.24 | 92.15 | |
| DHENKANAL SADAR | 208 | 280.89 | 183.75 | |
| GANDIA (P) | 95 | 205.07 | 124.76 | |
| HINDOL | 54 | 129.98 | 45.26 | |
| KAMAKSHYANAGAR (P) | 173 | 205.96 | 121.5 | |
| MOTUNGA | 79 | 94.27 | 37.22 | |
| PARAJANG (P) | 197 | 941.19 | 192.06 | |
| RASOL | 105 | 427.92 | 222.14 | |
| TUMUSINGHA | 62 | 152.35 | 58.89 | |
| | 1132 | 2682.48 | 1132.23 | |

Table 87: Season wise distribution of water spread area in Dhenkanal district for the different water body categories

| Perennial | | Se | easonal | | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 834 | 1307.90 | 791.08 | 285 | 228.34 |
| CII | 11 | 416.79 | 169.77 | 0 | 0 |
| CIII | 2 | 729.45 | 171.38 | 0 | 0 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0 |
| CV | 0 | 0.00 | 0.00 | 0 | 0 |
| | 847 | 2454.14 | 1132.23 | 285 | 228.34 |

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| Dhenkanal block-wise Total Perennial Water Bodies | | | |
|---|------------------------|-----------------|-----------------|
| Block name | Number of water bodies | Maximum area | Minimum area |
| BALIMI | 64 | 115.96 | 54.5 |
| BHUBAN | 62 | 103.35 | 92.15 |
| DHENKANAL SADAR | 158 | 239.49 | 183.75 |
| GANDIA (P) | 74 | 188.65 | 124.76 |
| HINDOL | 36 | 112.47 | 45.26 |
| KAMAKSHYANAGAR (P) | 128 | 171.66 | 121.5 |
| MOTUNGA | 45 | 67.8 | 37.22 |
| PARAJANG (P) | 161 | 915.04 | 192.06 |
| RASOL | 79 | 406.04 | 222.14 |
| TUMUSINGHA | 40 | 133.67 | 58.89 |
| | 847 | 2454.13 | 1132.23 |

Table 88: Distribution of perennial water bodies and their water spread area inDhenkanal district

Table 89: Distribution of seasonal water bodies and their water spread area inDhenkanal district

| Dhenkanal Tehsil wise Total Seasonal Water Bodies | | | |
|---|---------------------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | |
| BALIMI | 24 | 18.65 | |
| BHUBAN | 9 | 6.89 | |
| DHENKANAL SADAR | 50 | 41.4 | |
| GANDIA (P) | 21 | 16.42 | |
| HINDOL | 18 | 17.5 | |
| KAMAKSHYANAGAR (P) | 45 | 34.29 | |
| MOTUNGA | 34 | 26.47 | |
| PARAJANG (P) | 36 | 26.15 | |
| RASOL | 26 | 21.88 | |
| TUMUSINGHA | 22 | 18.68 | |
| | 285 | 228.33 | |

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| Dhenkanal Block wise Total Perennial Water Bodies of C I | | | | |
|--|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| BALIMI | 63 | 98.90 | 45.59 | |
| BHUBAN | 61 | 73.65 | 62.44 | |
| DHENKANAL SADAR | 158 | 239.49 | 183.75 | |
| GANDIA (P) | 72 | 124.40 | 82.13 | |
| HINDOL | 34 | 59.16 | 31.01 | |
| KAMAKSHYANAGAR (P) | 128 | 171.66 | 121.50 | |
| MOTUNGA | 45 | 67.80 | 37.22 | |
| PARAJANG (P) | 159 | 271.94 | 124.16 | |
| RASOL | 75 | 108.08 | 51.91 | |
| TUMUSINGHA | 39 | 92.83 | 51.37 | |
| | 834 | 1307.90 | 791.08 | |

Table 90: Distribution of perennial water bodies and their water spread area inDhenkanal district for C I

Table 91: Distribution of perennial water bodies and their water spread area inDhenkanal district for C II

| Dhenkanal Block wise Total Perennial Water Bodies of C II | | | | |
|---|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| BALIMI | 1 | 17.06 | 8.91 | |
| BHUBAN | 1 | 29.7 | 29.7 | |
| GANDIA (P) | 2 | 64.25 | 42.64 | |
| HINDOL | 2 | 53.32 | 14.25 | |
| PARAJANG (P) | 1 | 47.9 | 12.71 | |
| RASOL | 3 | 163.72 | 54.04 | |
| TUMUSINGHA | 1 | 40.84 | 7.53 | |
| | 11 | 416.79 | 169.78 | |

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Table 92: Distribution of perennial water bodies and their water spread area inDhenkanal district for C III

| Dhenkanal Block wise Total Perennial Water Bodies of C III | | | | |
|--|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| RASOL | 1 | 134.24 | 116.19 | |
| PARAJANG (P) | 1 | 595.21 | 55.19 | |
| | 2 | 729.45 | 171.38 | |

Table 93: Distribution of Seasonal water bodies and their water spread area inDhenkanal district for C I

| Dhenkanal Block wise Total Seasonal Water Bodies of C I | | | | |
|---|---------------------------|-----------------|--|--|
| Block Name | Number of Water Bodies | Maximum area | | |
| BALIMI | 24 | 18.65 | | |
| BHUBAN | 9 | 6.89 | | |
| DHENKANAL SADAR | 50 | 41.40 | | |
| GANDIA (P) | 21 | 16.42 | | |
| HINDOL | 18 | 17.50 | | |
| KAMAKSHYANAGAR (P) | 45 | 34.29 | | |
| MOTUNGA | 34 | 26.47 | | |
| PARAJANG (P) | 36 | 26.15 | | |
| RASOL | 26 | 21.88 | | |
| TUMUSINGHA | 22 | 18.68 | | |
| | 285 | 228.34 | | |

In Dhenkanal District no parrenial waterbodies and their water spread areas on C IV and C V and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

Gajapati

Table 94: Distribution of the total number of water bodies and their area inGajapati district

| Gajapati block-wise Total Water Bodies | | | | |
|--|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| ADVA | 6 | 979.15 | 16.86 | |
| GARABANDHA | 22 | 79.21 | 28.2 | |
| KASHINAGARA | 60 | 146.27 | 96.06 | |
| MOHANA | 15 | 32.31 | 18.53 | |
| PARLAKHEMUNDI | 60 | 244.58 | 158.76 | |
| R.UDAYGIRI | 9 | 20.65 | 10.64 | |
| RAYAGADA | 4 | 2.62 | 1.47 | |
| SERANGO | 12 | 16.32 | 9.16 | |
| | 188 | 1521.11 | 339.68 | |

Table 95: Season wise distribution of water spread area in Gajapati district for the different water body categories

| Perennial | | | Sea | sonal | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 133 | 282.58 | 193.59 | 45 | 59.57 |
| CII | 8 | 152.78 | 87.00 | 0 | 0.00 |
| CIII | 2 | 1026.19 | 59.10 | 0 | 0.00 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| CV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| | 143 | 1461.55 | 339.69 | 45 | 59.57 |

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| Gajapati block-wise Total Perennial Water Bodies | | | | |
|--|------------------------|-----------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | Minimum area | |
| ADVA | 5 | 976.78 | 16.86 | |
| GARABANDHA | 15 | 64.73 | 28.2 | |
| KASHINAGARA | 43 | 127 | 96.06 | |
| MOHANA | 14 | 31.76 | 18.53 | |
| PARLAKHEMUNDI | 48 | 231.4 | 158.76 | |
| R.UDAYGIRI | 5 | 13.65 | 10.64 | |
| RAYAGADA | 3 | 1.82 | 1.47 | |
| SERANGO | 10 | 14.4 | 9.16 | |
| | 143 | 1461.54 | 339.68 | |

Table 96: Distribution of perennial water bodies and their water spread area inGajapati district

Table 97: Distribution of seasonal water bodies and their water spread area inGajapati district

| Gajapati Tehsil wise Total Seasonal Water Bodies | | | | |
|--|---------------------------|-----------------|--|--|
| Block name | Number of water bodies | Maximum area | | |
| ADVA | 1 | 2.37 | | |
| GARABANDHA | 7 | 14.48 | | |
| KASHINAGARA | 17 | 19.27 | | |
| MOHANA | 1 | 0.55 | | |
| PARLAKHEMUNDI | 12 | 13.18 | | |
| R.UDAYGIRI | 4 | 7 | | |
| RAYAGADA | 1 | 0.81 | | |
| SERANGO | 2 | 1.92 | | |
| | 45 | 59.58 | | |

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| Gajapati Block wise Total Perennial Water Bodies of C I | | | | |
|---|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| ADVA | 3 | 7.20 | 3.87 | |
| GARABANDHA | 14 | 33.41 | 13.57 | |
| KASHINAGARA | 41 | 103.37 | 72.43 | |
| MOHANA | 14 | 31.76 | 18.53 | |
| PARLAKHEMUNDI | 43 | 76.97 | 63.93 | |
| R.UDAYGIRI | 5 | 13.65 | 10.64 | |
| RAYAGADA | 3 | 1.82 | 1.47 | |
| SERANGO | 10 | 14.40 | 9.16 | |
| | 133 | 282.58 | 193.59 | |

Table 98: Distribution of perennial water bodies and their water spread area inGajapati district for C I

Table 99: Distribution of perennial water bodies and their water spread area inGajapati district for C II

| Gajapati Block wise Total Perennial Water Bodies of C II | | | |
|--|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| ADVA | 1 | 20.76 | 12.99 |
| GARABANDHA | 1 | 31.32 | 14.64 |
| KASHINAGARA | 2 | 23.63 | 23.63 |
| PARLAKHEMUNDI | 4 | 77.07 | 35.74 |
| | 8 | 152.78 | 87 |

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Table 100: Distribution of perennial water bodies and their water spread area inGajapati district for C III

| Gajapati Block wise Total Perennial Water Bodies of C III | | | | |
|---|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| ADVA | 1 | 948.83 | 0.01 | |
| PARLAKHEMUNDI | 1 | 77.36 | 59.09 | |
| | 2 | 1026.19 | 59.1 | |

Table 101: Distribution of Seasonal water bodies and their water spread area inGajapati district for C I

| Gajapati Block-wise Total Seasonal Water Bodies of C I | | | | |
|--|---------------------------|-----------------|--|--|
| Block Name | Number of Water Bodies | Maximum area | | |
| ADVA | 1 | 2.37 | | |
| GARABANDHA | 7 | 14.48 | | |
| KASHINAGARA | 17 | 19.27 | | |
| MOHANA | 1 | 0.55 | | |
| PARLAKHEMUNDI | 12 | 13.18 | | |
| R.UDAYGIRI | 4 | 7.00 | | |
| RAYAGADA | 1 | 0.81 | | |
| SERANGO | 2 | 1.92 | | |
| | 45 | 59.57 | | |

In Gajapati District no parrenial waterbodies and their water spread areas on C IV and C V and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

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Ganjam

Table 102: Distribution of the total number of water bodies and their area inGanjam district

| Ganjam block-wise Total Water Bodies | | | |
|--------------------------------------|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| ASIKA | 108 | 175.42 | 96.93 |
| BADAGADA(P) | 63 | 146.5 | 63.96 |
| BHANJANAGAR(P) | 166 | 1353.61 | 864.48 |
| BRAHMAPUR SADAR(P) | 56 | 106.99 | 54.95 |
| BRAHMAPUR(M) | 13 | 53.1 | 30.88 |
| BUGUDA | 170 | 1003.2 | 318.67 |
| CHHATRAPUR(P) | 100 | 504.51 | 319.36 |
| DIGAPAHANDI(P) | 132 | 358.79 | 171.67 |
| GANGAPUR(P) | 127 | 208.85 | 122.04 |
| GOLANTHARA | 164 | 963.1 | 159.55 |
| GOPALPUR(P) | 39 | 109.1 | 20.83 |
| HINJILI | 72 | 161.23 | 97.97 |
| JARADA | 72 | 381.3 | 227.36 |
| KABISURYANAGAR | 148 | 245.79 | 121.88 |
| KHALIKOTE | 95 | 380.91 | 162.86 |
| KODALA(P) | 186 | 7440.23 | 617.41 |
| NUAGAON(P) | 114 | 620.78 | 415.34 |
| PATAPUR(P) | 99 | 276.78 | 128.96 |
| PURUSOTTAMPUR | 62 | 115.07 | 56.83 |
| RAMBHA(P) | 88 | 7580.07 | 271.69 |
| SURADA | 56 | 1088.22 | 391.21 |
| TARASINGI | 63 | 96.38 | 51.34 |
| | 2193 | 23369.93 | 4766.17 |

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| Perennial | | | Sea | sonal | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 1532 | 3024.25 | 1792.96 | 603 | 921.15 |
| CII | 32 | 885.59 | 349.04 | 8 | 348.60 |
| CIII | 13 | 4090.64 | 1814.12 | 1 | 192.19 |
| CIV | 2 | 1769.24 | 799.20 | 0 | 0.00 |
| CV | 2 | 12138.24 | 10.85 | 0 | 0.00 |
| | 1581 | 21907.96 | 4766.17 | 612 | 1461.94 |

Table 103: Season wise distribution of water spread area in Ganjam district for the different water body categories

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Table 104: Distribution of perennial water bodies and their water spread area inGanjam district

| Ganjam block-wise Total Perennial Water Bodies | | | |
|--|------------------------|-----------------|-----------------|
| Block name | Number of water bodies | Maximum area | Minimum area |
| ASIKA | 89 | 154.53 | 96.93 |
| BADAGADA(P) | 50 | 126.66 | 63.96 |
| BHANJANAGAR(P) | 123 | 1322.11 | 864.48 |
| BRAHMAPUR SADAR(P) | 39 | 87.2 | 54.95 |
| BRAHMAPUR(M) | 10 | 49.37 | 30.88 |
| BUGUDA | 142 | 975.36 | 318.67 |
| CHHATRAPUR(P) | 53 | 441.2 | 319.36 |
| DIGAPAHANDI(P) | 109 | 325.78 | 171.67 |
| GANGAPUR(P) | 110 | 194.2 | 122.04 |
| GOLANTHARA | 38 | 263.83 | 159.55 |
| GOPALPUR(P) | 17 | 47.71 | 20.83 |
| HINJILI | 62 | 149.39 | 97.97 |
| JARADA | 58 | 346.43 | 227.35 |
| KABISURYANAGAR | 114 | 204.68 | 121.88 |
| KHALIKOTE | 58 | 331.43 | 162.86 |
| KODALA(P) | 152 | 7404.34 | 617.41 |
| NUAGAON(P) | 102 | 601.87 | 415.34 |
| PATAPUR(P) | 90 | 244.78 | 128.96 |
| PURUSOTTAMPUR | 40 | 76.95 | 56.83 |
| RAMBHA(P) | 24 | 7394.79 | 271.69 |
| SURADA | 47 | 1076.76 | 391.21 |
| TARASINGI | 54 | 88.58 | 51.34 |
| | 1581 | 21907.95 | 4766.16 |

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| Ganjam Tehsil wise Total Seasonal Water Bodies | | | | |
|--|---------------------------|-----------------|--|--|
| Block name | Number of water bodies | Maximum area | | |
| ASIKA | 19 | 20.89 | | |
| BADAGADA(P) | 13 | 19.84 | | |
| BHANJANAGAR(P) | 43 | 31.49 | | |
| BRAHMAPUR SADAR(P) | 17 | 19.79 | | |
| BRAHMAPUR(M) | 3 | 3.72 | | |
| BUGUDA | 28 | 27.84 | | |
| CHHATRAPUR(P) | 47 | 63.31 | | |
| DIGAPAHANDI(P) | 23 | 33.01 | | |
| GANGAPUR(P) | 17 | 14.64 | | |
| GOLANTHARA | 126 | 699.27 | | |
| GOPALPUR(P) | 22 | 61.39 | | |
| HINJILI | 10 | 11.84 | | |
| JARADA | 14 | 34.87 | | |
| KABISURYANAGAR | 34 | 41.11 | | |
| KHALIKOTE | 37 | 49.47 | | |
| KODALA(P) | 34 | 35.89 | | |
| NUAGAON(P) | 12 | 18.9 | | |
| PATAPUR(P) | 9 | 31.99 | | |
| PURUSOTTAMPUR | 22 | 38.12 | | |
| RAMBHA(P) | 64 | 185.28 | | |
| SURADA | 9 | 11.46 | | |
| TARASINGI | 9 | 7.81 | | |
| | 612 | 1461.93 | | |

Table 105 : Distribution of seasonal water bodies and their water spread area inGanjam district

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Table 106: Distribution of perennial water bodies and their water spread area in Ganjam district for C I

| Ganjam Block wise Total Perennial Water Bodies of C I | | | | | |
|---|---------------------------|-----------------|-----------------|--|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | | |
| ASIKA | 89 | 154.53 | 96.93 | | |
| BADAGADA(P) | 50 | 126.66 | 63.96 | | |
| BHANJANAGAR(P) | 118 | 162.08 | 109.63 | | |
| BRAHMAPUR SADAR(P) | 39 | 87.20 | 54.95 | | |
| BRAHMAPUR(M) | 9 | 27.23 | 21.12 | | |
| BUGUDA | 137 | 221.13 | 121.69 | | |
| CHHATRAPUR(P) | 50 | 138.54 | 82.04 | | |
| DIGAPAHANDI(P) | 105 | 226.97 | 138.93 | | |
| GANGAPUR(P) | 109 | 165.19 | 103.53 | | |
| GOLANTHARA | 34 | 84.36 | 55.31 | | |
| GOPALPUR(P) | 16 | 27.97 | 14.59 | | |
| HINJILI | 61 | 129.09 | 94.31 | | |
| JARADA | 57 | 158.47 | 70.56 | | |
| KABISURYANAGAR | 114 | 204.68 | 121.88 | | |
| KHALIKOTE | 54 | 172.57 | 92.09 | | |
| KODALA(P) | 145 | 257.35 | 166.36 | | |
| NUAGAON(P) | 101 | 221.77 | 113.80 | | |
| PATAPUR(P) | 87 | 151.17 | 87.18 | | |
| PURUSOTTAMPUR | 40 | 76.95 | 56.83 | | |
| RAMBHA(P) | 20 | 61.78 | 28.86 | | |
| SURADA | 44 | 93.75 | 54.53 | | |
| TARASINGI | 53 | 74.82 | 43.89 | | |
| | 1532 | 3024.25 | 1792.96 | | |

| Ganjam Block wise Total Perennial Water Bodies of C II | | | | | |
|--|---------------------------|-----------------|-----------------|--|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | | |
| BHANJANAGAR(P) | 2 | 144.79 | 3.38 | | |
| BRAHMAPUR(M) | 1 | 22.15 | 9.76 | | |
| BUGUDA | 4 | 85.43 | 35.29 | | |
| CHHATRAPUR(P) | 2 | 35.46 | 21.03 | | |
| DIGAPAHANDI(P) | 4 | 98.81 | 32.74 | | |
| GANGAPUR(P) | 1 | 29 | 18.51 | | |
| GOLANTHARA | 3 | 113.6 | 49.11 | | |
| GOPALPUR(P) | 1 | 19.74 | 6.24 | | |
| HINJILI | 1 | 20.3 | 3.66 | | |
| KHALIKOTE | 3 | 77.19 | 47.63 | | |
| KODALA(P) | 4 | 85.3 | 54.12 | | |
| PATAPUR(P) | 3 | 93.62 | 41.78 | | |
| RAMBHA(P) | 1 | 15.88 | 4.66 | | |
| SURADA | 1 | 30.55 | 13.68 | | |
| TARASINGI | 1 | 13.76 | 7.45 | | |
| | 32 | 885.58 | 349.04 | | |

Table 107: Distribution of perennial water bodies and their water spread area inGanjam district for C II

Table 108: Distribution of perennial water bodies and their water spread area inGanjam district for C III

| Ganjam Block-wise Total Perennial Water Bodies of C III | | | | | |
|---|---------------------------|-----------------|-----------------|--|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | | |
| BHANJANAGAR(P) | 2 | 351.95 | 178.86 | | |
| BUGUDA | 1 | 668.8 | 161.69 | | |
| CHHATRAPUR(P) | 1 | 267.19 | 216.29 | | |
| GOLANTHARA | 1 | 65.86 | 55.13 | | |
| JARADA | 1 | 187.96 | 156.79 | | |
| KHALIKOTE | 1 | 81.67 | 23.15 | | |
| KODALA(P) | 2 | 908.04 | 395.78 | | |
| NUAGAON(P) | 1 | 380.11 | 301.54 | | |
| RAMBHA(P) | 1 | 226.59 | 1.89 | | |
| SURADA | 2 | 952.46 | 323 | | |
| | 13 | 4090.63 | 1814.12 | | |

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Table 109: Distribution of perennial water bodies and their water spread areain Ganjam district for C IV

| Ganjam Block wise Total Perennial Water Bodies of C IV | | | | | | | | |
|---|---|---------|--------|--|--|--|--|--|
| Block Name Number of water bodies Maximum area Minimum area | | | | | | | | |
| BHANJANAGAR(P) | 1 | 663.29 | 572.61 | | | | | |
| RAMBHA(P) | 1 | 1105.95 | 226.59 | | | | | |
| | 2 | 1769.24 | 799.2 | | | | | |

Table 110: Distribution of perennial water bodies and their water spread area in Ganjam district for C V

| Ganjam Block wise Total Perennial Water Bodies of C V | | | | | | | |
|--|---|----------|-------|--|--|--|--|
| Block Name Number of water bodies Maximum area Minimum | | | | | | | |
| KODALA(P) | 1 | 6153.64 | 1.15 | | | | |
| RAMBHA(P) | 1 | 5984.6 | 9.69 | | | | |
| | 2 | 12138.24 | 10.84 | | | | |

| Ganjam Block-wise Total Seasonal Water Bodies of C I | | | | |
|--|------------------------|-----------------|--|--|
| Block Name | Number of water bodies | Maximum area | | |
| ASIKA | 19 | 20.89 | | |
| BADAGADA(P) | 13 | 19.84 | | |
| BHANJANAGAR(P) | 43 | 31.49 | | |
| BRAHMAPUR SADAR(P) | 17 | 19.79 | | |
| BRAHMAPUR(M) | 3 | 3.72 | | |
| BUGUDA | 28 | 27.84 | | |
| CHHATRAPUR(P) | 47 | 63.31 | | |
| DIGAPAHANDI(P) | 23 | 33.01 | | |
| GANGAPUR(P) | 17 | 14.64 | | |
| GOLANTHARA | 121 | 290.54 | | |
| GOPALPUR(P) | 21 | 32.38 | | |
| HINJILI | 10 | 11.84 | | |
| JARADA | 14 | 34.87 | | |
| KABISURYANAGAR | 34 | 41.11 | | |
| KHALIKOTE | 37 | 49.47 | | |
| KODALA(P) | 34 | 35.89 | | |
| NUAGAON(P) | 12 | 18.90 | | |
| PATAPUR(P) | 8 | 5.74 | | |
| PURUSOTTAMPUR | 22 | 38.12 | | |
| RAMBHA(P) | 62 | 108.48 | | |
| SURADA | 9 | 11.46 | | |
| TARASINGI | 9 | 7.80 | | |
| | 603 | 921.15 | | |

Table 111: Distribution of Seasonal water bodies and their water spread area in Ganjam district for C I

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Table 112: Distribution of Seasonal water bodies and their water spread areain Ganjam district for C II

| Ganjam Block-wise Total Seasonal Water Bodies of C II | | | | | |
|---|---------------------------|-----------------|--|--|--|
| Block Name | Number of water bodies | Maximum area | | | |
| GOLANTHARA | 4 | 216.54 | | | |
| GOPALPUR(P) | 1 | 29.1 | | | |
| PATAPUR(P) | 1 | 26.25 | | | |
| RAMBHA(P) | 2 | 76.71 | | | |
| | 8 | 348.6 | | | |

Table 113: Distribution of Seasonal water bodies and their water spread areain Ganjam district for C III

| Ganjam Block-wise Total Seasonal Water Bodies of C III | | | | | |
|--|------------------------|-----------------|--|--|--|
| Block Name | Number of water bodies | Maximum area | | | |
| GOLANTHARA | 1 | 192.19 | | | |

In Ganjam District no seasonal water bodies and their water spread areas on C IV and C V are available

Jagatsinghpur

Table 114: Distribution of the total number of water bodies and their area inJagatsinghpur district

| Jagatsinghpur block-wise Total Water Bodies | | | | | |
|---|------------------------|-----------------|-----------------|--|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | | |
| BALIKUDA | 20 | 22.58 | 11.72 | | |
| ERSAMA | 268 | 557.58 | 15.25 | | |
| JAGATSINGHPUR | 98 | 134.2 | 70.08 | | |
| KUJANG | 111 | 514.37 | 76.15 | | |
| NAUGAON | 7 | 7.56 | 3.51 | | |
| PARADIP | 185 | 1566.71 | 755.05 | | |
| TIRTOL | 79 | 97.03 | 63.1 | | |
| | 768 | 2900.03 | 994.86 | | |

Table 115: Season wise distribution of water spread area in Jagatsinghpur district for the different water body categories

| | Ре | Seas | sonal | | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 238 | 489.33 | 340.81 | 485 | 966.23 |
| CII | 29 | 683.83 | 397.29 | 11 | 386.77 |
| CIII | 5 | 373.86 | 256.76 | 0 | 0.00 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| CV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| | 272 | 1547.02 | 994.86 | 496 | 1353.00 |

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| Table 116: | Distribution | of perennial | water | bodies | and | their | water | spread | area in |
|------------|--------------|--------------|----------------|----------|-----|-------|-------|--------|---------|
| | | Jagatsi | i nghpu | r distri | ct | | | | |

| Jagatsinghapur block-wise Total Perennial Water Bodies | | | |
|--|------------------------|-----------------|-----------------|
| Block name | Number of water bodies | Maximum area | Minimum area |
| BALIKUDA | 13 | 12.56 | 11.72 |
| ERSAMA | 10 | 15.25 | 15.25 |
| JAGATSINGHAPUR | 66 | 77.01 | 70.08 |
| KUJANG | 24 | 263.79 | 76.15 |
| NAUGAON | 4 | 3.65 | 3.51 |
| PARADIP | 91 | 1087.39 | 755.05 |
| TIRTOL | 64 | 87.38 | 63.1 |
| | 272 | 1547.03 | 994.86 |

Table 117: Distribution of seasonal water bodies and their water spread area inJagatsinghpur district

| Jagatsinghpur Tehsil wise Total Seasonal Water Bodies | | | |
|---|---------------------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | |
| BALIKUDA | 7 | 10.02 | |
| ERSAMA | 258 | 542.33 | |
| JAGATSINGHPUR | 32 | 57.19 | |
| KUJANG | 87 | 250.59 | |
| NAUGAON | 3 | 3.91 | |
| PARADIP | 94 | 479.32 | |
| TIRTOL | 15 | 9.65 | |
| | 496 | 1353.01 | |

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| Jagatsinghapur Block wise Total Perennial Water Bodies of C I | | | |
|---|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| BALIKUDA | 13 | 12.56 | 11.72 |
| ERSAMA | 10 | 15.25 | 15.25 |
| JAGATSINGHAPUR | 66 | 77.01 | 70.08 |
| KUJANG | 21 | 67.82 | 39.03 |
| NAUGAON | 4 | 3.65 | 3.51 |
| PARADIP | 60 | 225.66 | 138.13 |
| TIRTOL | 64 | 87.38 | 63.10 |
| | 238 | 489.33 | 340.81 |

Table 118: Distribution of perennial water bodies and their water spread area inJagatsinghpur district for C I

Table 119: Distribution of perennial water bodies and their water spread area inJagatsinghpur district for C II

| Jagatsinghpur Block wise Total Perennial Water Bodies of C II | | | |
|---|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| KUJANG | 2 | 69.13 | 16.77 |
| PARADIP | 27 | 614.71 | 380.52 |
| | 29 | 683.84 | 397.29 |

Table 120: Distribution of perennial water bodies and their water spread area inJagatsinghpur district for C III

| Jagatsinghpur Block wise Total Perennial Water Bodies of C III | | | |
|--|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| KUJANG | 1 | 126.84 | 20.36 |
| PARADIP | 4 | 247.02 | 236.4 |
| | 5 | 373.86 | 256.76 |

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Table 121: Distribution of Seasonal water bodies and their water spread area inJagatsinghpur district for C I

| Jagatsinghpur Block wise Total Seasonal Water Bodies of C I | | | |
|---|---------------------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | |
| BALIKUDA | 7 | 10.02 | |
| ERSAMA | 256 | 479.77 | |
| JAGATSINGHPUR | 32 | 57.19 | |
| KUJANG | 86 | 229.20 | |
| NAUGAON | 3 | 3.91 | |
| PARADIP | 86 | 176.49 | |
| TIRTOL | 15 | 9.64 | |
| | 485 | 966.23 | |

Table 122: Distribution of Seasonal water bodies and their water spread area inJagatsinghpur district for C II

| Jagatsinghpur Block wise Total Seasonal Water Bodies of C II | | | |
|--|--|-----------------|--|
| Block Name | Number of Water Bodies Water Bodies | Maximum area | |
| ERSAMA | 2 | 62.56 | |
| KUJANG | 1 | 21.39 | |
| PARADIP | 8 | 302.83 | |
| | 11 | 386.78 | |

In Jagatsinghpur District no parrenial waterbodies and their water spread areas on C IV and C V and no seasonal water bodies and their water spread areas on C III, C IV and C V are available

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Jajpur

Table 123: Distribution of the total number of water bodies and their area inJajpur district

| Jajpur block-wise Total Water Bodies | | | | |
|--------------------------------------|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| BADACHANA | 51 | 244.8 | 130.14 | |
| BALICHANDRAPUR | 10 | 39.2 | 4.96 | |
| BINJHARPUR | 25 | 51.26 | 9.4 | |
| DHARMASALA | 136 | 303.44 | 129.7 | |
| DUBURI | 57 | 79.54 | 52.34 | |
| JAJPUR | 86 | 153.22 | 79.03 | |
| JAJAPUR ROAD | 40 | 142.93 | 67.11 | |
| KORAI | 156 | 440.95 | 141.68 | |
| MANGALPUR | 16 | 27.07 | 1.28 | |
| SUKINDA | 107 | 232.94 | 163.71 | |
| | 684 | 1715.35 | 779.35 | |

Table 124: Season wise distribution of water spread area in Jajpur district for the different water body categories

| Perennial | | | Se | asonal | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 469 | 801.25 | 531.1 | 200 | 337.02 |
| CII | 12 | 295.92 | 161.64 | 1 | 20.47 |
| CIII | 2 | 260.69 | 86.6 | 0 | 0 |
| CIV | 0 | 0.00 | 0 | 0 | 0 |
| CV | 0 | 0.00 | 0 | 0 | 0 |
| | 483 | 1357.86 | 779.34 | 201 | 357.49 |

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| Jajpur block-wise Total Perennial Water Bodies | | | |
|--|------------------------|-----------------|-----------------|
| Block name | Number of water bodies | Maximum area | Minimum area |
| BADACHANA | 40 | 233.32 | 130.14 |
| BALICHANDRAPUR | 6 | 31.68 | 4.96 |
| BINJHARPUR | 9 | 22.05 | 9.4 |
| DHARMASALA | 87 | 197.92 | 129.7 |
| DUBURI | 45 | 67.3 | 52.34 |
| JAJPUR | 61 | 113.96 | 79.03 |
| JAJAPUR ROAD | 24 | 115.11 | 67.1 |
| KORAI | 125 | 377.71 | 141.68 |
| MANGALPUR | 3 | 1.85 | 1.28 |
| SUKINDA | 83 | 196.96 | 163.72 |
| | 483 | 1357.86 | 779.35 |

Table 125: Distribution of perennial water bodies and their water spread area inJajpur district

Table 126: Distribution of seasonal water bodies and their water spread area inJajpur district

| Jajpur Tehsil wise Total Seasonal Water Bodies | | | | |
|--|---------------------------|-----------------|--|--|
| Block name | Number of water bodies | Maximum area | | |
| BADACHANA | 11 | 11.47 | | |
| BALICHANDRAPUR | 4 | 7.52 | | |
| BINJHARPUR | 16 | 29.22 | | |
| DHARMASALA | 49 | 105.53 | | |
| DUBURI | 12 | 12.24 | | |
| JAJPUR | 25 | 39.26 | | |
| JAJAPUR ROAD | 16 | 27.82 | | |
| KORAI | 31 | 63.25 | | |
| MANGALPUR | 13 | 25.21 | | |
| SUKINDA | 24 | 35.98 | | |
| | 201 | 357.5 | | |

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| Jajpur Block-wise Total Perennial Water Bodies of C I | | | |
|---|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| BADACHANA | 38 | 66.28 | 41.81 |
| BALICHANDRAPUR | 6 | 31.68 | 4.96 |
| BINJHARPUR | 9 | 22.05 | 9.40 |
| DHARMASALA | 85 | 171.05 | 114.69 |
| DUBURI | 45 | 67.30 | 52.34 |
| JAJPUR | 60 | 102.31 | 68.35 |
| JAJAPU ROAD | 21 | 39.18 | 23.18 |
| KORAI | 121 | 148.81 | 93.06 |
| MANGALPUR | 3 | 1.85 | 1.28 |
| SUKINDA | 81 | 150.74 | 122.04 |
| | 469 | 801.25 | 531.10 |

Table 127: Distribution of perennial water bodies and their water spread area inJajpur district for C I

Table 128: Distribution of perennial water bodies and their water spread area inJajpur district for C II

| Jajpur Block wise Total Perennial Water Bodies of C II | | | |
|--|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| BADACHANA | 1 | 19.3 | 3.47 |
| DHARMASALA | 2 | 26.86 | 15.01 |
| JAJPUR | 1 | 11.65 | 10.67 |
| JAJAPUR ROAD | 3 | 75.93 | 43.93 |
| KORAI | 3 | 115.96 | 46.87 |
| SUKINDA | 2 | 46.22 | 41.69 |
| | 12 | 295.92 | 161.64 |

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Table 129: Distribution of perennial water bodies and their water spread area inJajpur district for C III

| Jajpur Block wise Total Perennial Water Bodies of C III | | | |
|---|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| BADACHANA | 1 | 147.75 | 84.86 |
| KORAI | 1 | 112.95 | 1.74 |
| | 2 | 260.7 | 86.6 |

Table 130: Distribution of Seasonal water bodies and their water spread area inJajpur district for C I

| Jajpur Block wise Total Seasonal Water Bodies of C I | | | |
|--|---------------------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | |
| BADACHANA | 11 | 11.47 | |
| BALICHANDRAPUR | 4 | 7.52 | |
| BINJHARPUR | 16 | 29.22 | |
| DHARMASALA | 49 | 105.53 | |
| DUBURI | 12 | 12.24 | |
| JAJPUR | 25 | 39.26 | |
| JAJAPUR ROAD | 16 | 27.82 | |
| KORAI | 30 | 42.78 | |
| MANGALPUR | 13 | 25.22 | |
| SUKINDA | 24 | 35.98 | |
| | 200 | 337.02 | |

Table 131: Distribution of Seasonal water bodies and their water spread area inJajpur district for C II

| Jajpur Block wise Total Seasonal Water Bodies of C II | | | |
|---|---------------------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | |
| KORAI | 1 | 20.47 | |

In Jajpur District no parrenial waterbodies and their water spread areas on C IV and C V and no seasonal water bodies and their water spread areas on C III, C IV and C V are available

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Jharsuguda

Table 132: Distribution of the total number of water bodies and their area inJharsuguda district

| Jharsuguda block-wise Total Water Bodies | | | |
|--|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| BANAHARAPALI | 230 | 16951.67 | 344.36 |
| BELAPAHAR | 29 | 46.26 | 24.41 |
| BRAJARAJNAGAR | 77 | 126.35 | 41.19 |
| JHARSUGUDA | 133 | 230.71 | 98.61 |
| KOLABIRA | 88 | 124.16 | 53.69 |
| LAIKERA | 326 | 657.87 | 238.86 |
| LAKHANPUR | 65 | 100.18 | 66.59 |
| ORIENT | 21 | 71.23 | 23.87 |
| RENGALI | 256 | 886.92 | 554 |
| | 1225 | 19195.35 | 1445.58 |

Table 133: Season wise distribution of water spread area in Jharsuguda district for the different water body categories

| Perennial | | | | Seasonal | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 883 | 1449.30 | 901.43 | 318 | 367.96 |
| CII | 16 | 404.53 | 202.67 | 0 | 0 |
| CIII | 6 | 803.82 | 338.05 | 0 | 0 |
| CIV | 0 | 0.00 | 0 | 0 | 0 |
| CV | 2 | 16169.74 | 3.42 | 0 | 0 |
| | 907 | 18827.39 | 1445.57 | 318 | 367.96 |

| Jharsuguda block-wise Total Perennial Water Bodies | | | |
|--|------------------------|-----------------|-----------------|
| Block name | Number of water bodies | Maximum area | Minimum area |
| BANAHARAPALI | 187 | 16900.13 | 344.36 |
| BELAPAHAR | 25 | 39.35 | 24.41 |
| BRAJARAJNAGAR | 50 | 88.75 | 41.19 |
| JHARSUGUDA | 104 | 195.89 | 98.61 |
| KOLABIRA | 60 | 99.95 | 53.69 |
| LAIKERA | 210 | 558.9 | 238.86 |
| LAKHANPUR | 51 | 82.44 | 66.59 |
| ORIENT | 19 | 66.27 | 23.87 |
| RENGALI | 201 | 795.73 | 554 |
| | 907 | 18827.41 | 1445.58 |

Table 134: Distribution of perennial water bodies and their water spread area inJharsuguda district

Table 135: Distribution of seasonal water bodies and their water spread area inJharsuguda district

| Jharsuguda Tehsil wise Total Seasonal Water Bodies | | | |
|--|---------------------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | |
| BANAHARAPALI | 43 | 51.54 | |
| BELAPAHAR | 4 | 6.91 | |
| BRAJARAJNAGAR | 27 | 37.61 | |
| JHARSUGUDA | 29 | 34.82 | |
| KOLABIRA | 28 | 24.21 | |
| LAIKERA | 116 | 98.96 | |
| LAKHANPUR | 14 | 17.74 | |
| ORIENT | 2 | 4.97 | |
| RENGALI | 55 | 91.19 | |
| | 318 | 367.95 | |

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| Jharsuguda Block wise Total Perennial Water Bodies of C I | | | |
|---|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| BANAHARAPALI | 178 | 282.07 | 194.22 |
| BELAPAHAR | 25 | 39.35 | 24.41 |
| BRAJARAJNAGAR | 50 | 88.75 | 41.19 |
| JHARSUGUDA | 103 | 171.30 | 98.60 |
| KOLABIRA | 59 | 86.92 | 43.64 |
| LAIKERA | 209 | 327.90 | 171.83 |
| LAKHANPUR | 51 | 82.44 | 66.59 |
| ORIENT | 18 | 26.92 | 18.50 |
| RENGALI | 190 | 343.65 | 242.45 |
| | 883 | 1449.30 | 901.43 |

Table 136: Distribution of perennial water bodies and their water spread area inJharsuguda district for C I

Table 137: Distribution of perennial water bodies and their water spread area inJharsuguda district for C II

| Jharsuguda Block wise Total Perennial Water Bodies of C II | | | |
|--|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| BANAHARAPALI | 4 | 74.6 | 56.55 |
| JHARSUGUDA | 1 | 24.59 | 0.02 |
| KOLABIRA | 1 | 13.03 | 10.04 |
| ORIENT | 1 | 39.34 | 5.36 |
| RENGALI | 9 | 252.97 | 130.7 |
| | 16 | 404.53 | 202.67 |

Table 138: Distribution of perennial water bodies and their water spread area inJharsuguda district for C III

| Jharsuguda Block wise Total Perennial Water Bodies of C III | | | |
|---|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| BANAHARAPALI | 3 | 373.71 | 90.17 |
| LAIKERA | 1 | 231 | 67.03 |
| RENGALI | 2 | 199.11 | 180.85 |
| | 6 | 803.82 | 338.05 |

Table 139: Distribution of perennial water bodies and their water spread area inJharsuguda district for C V

| Jharsuguda Block wise Total Perennial Water Bodies of C V | | | |
|---|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| BANAHARAPALI | 2 | 16169.74 | 3.42 |

Table 140: Distribution of Seasonal water bodies and their water spread area inJharsuguda district for C I

| Jharsuguda Block wise Total Seasonal Water Bodies of C I | | | | |
|--|---------------------------|-----------------|--|--|
| Block Name | Number of Water Bodies | Maximum area | | |
| BANAHARAPALI | 43 | 51.54 | | |
| BELAPAHAR | 4 | 6.91 | | |
| BRAJARAJNAGAR | 27 | 37.61 | | |
| JHARSUGUDA | 29 | 34.82 | | |
| KOLABIRA | 28 | 24.21 | | |
| LAIKERA | 116 | 98.96 | | |
| LAKHANPUR | 14 | 17.74 | | |
| ORIENT | 2 | 4.97 | | |
| RENGALI | 55 | 91.19 | | |
| | 318 | 367.96 | | |

In Jharsuguda District no parrenial waterbodies and their water spread areas on C IV and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

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Kalahandi

Table 141: Distribution of the total number of water bodies and their area inKalahandi district

| Kalahandi block-wise Total Water Bodies | | | | |
|---|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| DHARAMGARH | 411 | 778.06 | 570.98 | |
| JAYAPATNA | 430 | 756.21 | 453.57 | |
| JUNAGARH(P) | 581 | 1056.02 | 664.57 | |
| KEGAON(P) | 221 | 491.64 | 244.06 | |
| KESINGA(P) | 301 | 833.21 | 355.33 | |
| KOKASARA(P) | 426 | 727.13 | 457.93 | |
| LANJIGARH(P) | 31 | 63.6 | 31.66 | |
| MADANPUR RAMPUR | 203 | 352.9 | 171.25 | |
| NARALA | 265 | 760.04 | 325.98 | |
| SADAR | 242 | 525.65 | 246.52 | |
| THUAMUL RAMPUR | 8 | 17.11 | 6.91 | |
| | 3119 | 6361.57 | 3528.76 | |

Table 142: Season wise distribution of water spread area in Kalahandi district for the different water body categories

| Perennial | | | | | Seasonal |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 2722 | 4857.29 | 3087.58 | 367 | 368.18 |
| CII | 26 | 709.45 | 278.56 | 0 | 0 |
| CIII | 4 | 426.66 | 162.62 | 0 | 0 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0 |
| CV | 0 | 0.00 | 0.00 | 0 | 0 |
| | 2752 | 5993.40 | 3528.76 | 367 | 368.18 |

| Kalahandi block-wise Total Perennial Water Bodies | | | | |
|---|------------------------|-----------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | Minimum area | |
| DHARAMGARH | 386 | 748.98 | 570.99 | |
| JAYAPATNA | 380 | 705 | 453.56 | |
| JUNAGARH(P) | 537 | 1019.56 | 664.56 | |
| KEGAON(P) | 185 | 448.18 | 244.06 | |
| KESINGA(P) | 270 | 801.49 | 355.33 | |
| KOKASARA(P) | 353 | 661.21 | 457.93 | |
| LANJIGARH(P) | 28 | 61.18 | 31.66 | |
| MADANPUR RAMPUR | 175 | 329.29 | 171.25 | |
| NARALA | 215 | 701.33 | 325.98 | |
| SADAR | 217 | 503.16 | 246.52 | |
| THUAMUL RAMPUR | 6 | 14.01 | 6.91 | |
| | 2752 | 5993.39 | 3528.75 | |

Table 143: Distribution of perennial water bodies and their water spread area in Kalahandi district

Table 144: Distribution of seasonal water bodies and their water spread area in Kalahandi district

| Kalahandi Tehsil wise Total Seasonal Water Bodies | | | | |
|---|---------------------------|-----------------|--|--|
| Block name | Number of water bodies | Maximum area | | |
| DHARAMGARH | 25 | 29.08 | | |
| JAYAPATNA | 50 | 51.21 | | |
| JUNAGARH(P) | 44 | 36.46 | | |
| KEGAON(P) | 36 | 43.48 | | |
| KESINGA(P) | 31 | 31.72 | | |
| KOKASARA(P) | 73 | 65.92 | | |
| LANJIGARH(P) | 3 | 2.41 | | |
| MADANPUR RAMPUR | 28 | 23.6 | | |
| NARALA | 50 | 58.71 | | |
| SADAR | 25 | 22.49 | | |
| THUAMUL RAMPUR | 2 | 3.1 | | |
| | 367 | 368.18 | | |

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| Kalahandi Block-wise Total Perennial Water Bodies of C I | | | | |
|--|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| DHARAMGARH | 383 | 709.09 | 539.39 | |
| JAYAPATNA | 379 | 583.42 | 434.51 | |
| JUNAGARH(P) | 534 | 836.95 | 591.92 | |
| KEGAON(P) | 181 | 331.54 | 177.71 | |
| KESINGA(P) | 263 | 578.46 | 304.02 | |
| KOKASARA(P) | 351 | 571.51 | 392.53 | |
| LANJIGARH(P) | 27 | 42.56 | 29.16 | |
| MADANPUR RAMPUR | 174 | 307.01 | 164.08 | |
| NARALA | 211 | 476.58 | 223.17 | |
| SADAR | 213 | 406.14 | 224.18 | |
| THUAMUL RAMPUR | 6 | 14.01 | 6.91 | |
| | 2722 | 4857.29 | 3087.58 | |

Table 145: Distribution of perennial water bodies and their water spread area inKalahandi district for C I

Table 146: Distribution of perennial water bodies and their water spread area inKalahandi district for C II

| Kalahandi Block-wise Total Perennial Water Bodies of C II | | | | |
|---|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| DHARAMGARH | 3 | 39.89 | 31.6 | |
| JUNAGARH(P) | 2 | 47 | 41.46 | |
| KEGAON(P) | 4 | 116.64 | 66.35 | |
| KESINGA(P) | 7 | 223.03 | 51.31 | |
| KOKASARA(P) | 1 | 13.95 | 13.95 | |
| LANJIGARH(P) | 1 | 18.63 | 2.5 | |
| MADANPUR RAMPUR | 1 | 22.28 | 7.16 | |
| NARALA | 3 | 131.02 | 41.88 | |
| SADAR | 4 | 97.01 | 22.35 | |
| | 26 | 709.45 | 278.56 | |

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Table 147: Distribution of perennial water bodies and their water spread area inKalahandi district for C III

| Kalahandi Block-wise Total Perennial Water Bodies of C III | | | | |
|--|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| JAYAPATNAJU | 1 | 121.58 | 19.05 | |
| NAGARH(P) | 1 | 135.61 | 31.19 | |
| KOKASARA(P) | 1 | 75.75 | 51.45 | |
| NARALA | 1 | 93.72 | 60.93 | |
| | 4 | 426.66 | 162.62 | |

Table 148: Distribution of Seasonal water bodies and their water spread area inKalahandi district for C I

| Kalahandi Block-wise Total Seasonal Water Bodies of C I | | | | |
|---|---------------------------|-----------------|--|--|
| Block Name | Number of Water Bodies | Maximum area | | |
| DHARAMGARH | 25 | 29.08 | | |
| JAYAPATNA | 50 | 51.21 | | |
| JUNAGARH(P) | 44 | 36.46 | | |
| KEGAON(P) | 36 | 43.48 | | |
| KESINGA(P) | 31 | 31.72 | | |
| KOKASARA(P) | 73 | 65.92 | | |
| LANJIGARH(P) | 3 | 2.41 | | |
| MADANPUR RAMPUR | 28 | 23.60 | | |
| NARALA | 50 | 58.71 | | |
| SADAR | 25 | 22.49 | | |
| THUAMUL RAMPUR | 2 | 3.10 | | |
| | 367 | 368.18 | | |

In Kalahandi District no parrenial waterbodies and their water spread areas on C IV and C V and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

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Kandhamal

Table 149: Distribution of the total number of water bodies and their area inKandhamal district

| Kandhamal block-wise Total Water Bodies | | | | |
|---|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| BALIGUDA | 20 | 52.48 | 24.26 | |
| BELAGHAR | 2 | 2.21 | 0 | |
| BRAHMANIGAON | 2 | 2.7 | 0 | |
| DARINGBADI | 7 | 20.06 | 5.13 | |
| G. UDAYAGIRI | 19 | 56.03 | 41.98 | |
| GOCHHAPADA | 7 | 6.91 | 3.24 | |
| KHAJURIPADA | 17 | 269.51 | 174.65 | |
| KOTAGARH | 4 | 9.9 | 0 | |
| PHIRINGIA | 16 | 39.1 | 27.43 | |
| PHULABANI | 12 | 69.27 | 26.49 | |
| PHULABANI TOWN | 3 | 2.43 | 1.48 | |
| RAIKIA | 13 | 107.59 | 9.97 | |
| SARANGAGARG(P) | 4 | 26.4 | 22.44 | |
| TIKABALI | 8 | 37.32 | 19.64 | |
| TUMUDIBANDHA | 6 | 9.07 | 1.03 | |
| | 140 | 710.98 | 357.74 | |

 Table 150: Season wise distribution of water spread area in Kandhamal district for the different water body categories

| Perennial | | | | Sea | asonal |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 86 | 161.55 | 116.53 | 44 | 65.52 |
| CII | 9 | 266.87 | 93.71 | 0 | 0 |
| CIII | 1 | 217.04 | 147.5 | 0 | 0 |
| CIV | 0 | 0.00 | 0 | 0 | 0 |
| CV | 0 | 0.00 | 0 | 0 | 0 |
| | 96 | 645.46 | 357.74 | 44 | 65.52 |

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| Kandhamal block-wise Total Perennial Water Bodies | | | |
|---|------------------------|-----------------|-----------------|
| Block name | Number of water bodies | Maximum area | Minimum area |
| BALIGUDA | 13 | 46.47 | 24.26 |
| DARINGBADI | 3 | 5.21 | 5.13 |
| G. UDAYAGIRI | 16 | 53.54 | 41.98 |
| GOCHHAPADA | 5 | 5.68 | 3.24 |
| KHAJURIPADA | 13 | 266.32 | 174.65 |
| PHIRINGIA | 14 | 35.31 | 27.43 |
| PHULABANI | 8 | 65.3 | 26.49 |
| PHULABANI TOWN | 3 | 2.43 | 1.48 |
| RAIKIA | 9 | 101.61 | 9.97 |
| SARANGAGARG(P) | 4 | 26.4 | 22.44 |
| TIKABALI | 7 | 36.15 | 19.64 |
| TUMUDIBANDHA | 1 | 1.03 | 1.03 |
| | 96 | 645.45 | 357.74 |

Table 151: Distribution of perennial water bodies and their water spread area inKandhamal district

Table 152: Distribution of seasonal water bodies and their water spread area inKandhamal district

| Kandhamal Tehsil wise Total Seasonal Water Bodies | | | |
|---|---------------------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | |
| BALIGUDA | 7 | 6.01 | |
| BELAGHAR | 2 | 2.21 | |
| BRAHMANIGAON | 2 | 2.7 | |
| DARINGBADI | 4 | 14.85 | |
| G. UDAYAGIRI | 3 | 2.49 | |
| GOCHHAPADA | 2 | 1.23 | |
| KHAJURIPADA | 4 | 3.19 | |
| KOTAGARH | 4 | 9.9 | |
| PHIRINGIA | 2 | 3.79 | |
| PHULABANI | 4 | 3.97 | |
| RAIKIA | 4 | 5.98 | |
| TIKABALI | 1 | 1.16 | |
| TUMUDIBANDHA | 5 | 8.04 | |
| | 44 | 65.52 | |

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| Kandhamal Block-wise Total Perennial Water Bodies of C I | | | |
|--|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| BALIGUDA | 12 | 29.09 | 18.54 |
| DARINGBADI | 3 | 5.21 | 5.13 |
| G. UDAYAGIRI | 14 | 20.25 | 13.28 |
| GOCHHAPADA | 5 | 5.68 | 3.24 |
| KHAJURIPADA | 11 | 18.30 | 11.60 |
| PHIRINGIA | 14 | 35.31 | 27.43 |
| PHULABANI | 6 | 11.02 | 6.47 |
| PHULABANI TOWN | 3 | 2.43 | 1.48 |
| RAIKIA | 8 | 12.18 | 9.15 |
| SARANGAGARG(P) | 3 | 9.13 | 8.55 |
| TIKABALI | 6 | 11.91 | 10.61 |
| TUMUDIBANDHA | 1 | 1.03 | 1.03 |
| | 86 | 161.55 | 116.53 |

Table 153: Distribution of perennial water bodies and their water spread area inKandhamal district for C I

Table 154: Distribution of perennial water bodies and their water spread area inKandhamal district for C II

| Kandhamal Block-wise Total Perennial Water Bodies of C II | | | | |
|---|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| BALIGUDA | 1 | 17.38 | 5.72 | |
| G. UDAYAGIRI | 2 | 33.29 | 28.69 | |
| KHAJURIPADA | 1 | 30.98 | 15.54 | |
| PHULABANI | 2 | 54.28 | 20.02 | |
| RAIKIA | 1 | 89.43 | 0.82 | |
| SARANGAGARG(P) | 1 | 17.27 | 13.89 | |
| TIKABALI | 1 | 24.24 | 9.03 | |
| | 9 | 266.87 | 93.71 | |

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Table 155: Distribution of perennial water bodies and their water spread areain Kandhamal district for C III

| Kandhamal Block-wise Total Perennial Water Bodies of C III | | | |
|--|------------------------|--------------|--------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| KHAJURIPADA | 1 | 217.04 | 147.5 |

Table 156: Distribution of Seasonal water bodies and their water spread areain Kandhamal district for C I

| Kandhamal Block-wise Total Seasonal Water Bodies of C I | | | |
|---|---------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| BALIGUDA | 7 | 6.01 | |
| BELAGHAR | 2 | 2.21 | |
| BRAHMANIGAON | 2 | 2.70 | |
| DARINGBADI | 4 | 14.85 | |
| G. UDAYAGIRI | 3 | 2.49 | |
| GOCHHAPADA | 2 | 1.23 | |
| KHAJURIPADA | 4 | 3.19 | |
| KOTAGARH | 4 | 9.90 | |
| PHIRINGIA | 2 | 3.79 | |
| PHULABANI | 4 | 3.97 | |
| RAIKIA | 4 | 5.98 | |
| TIKABALI | 1 | 1.16 | |
| TUMUDIBANDHA | 5 | 8.04 | |
| | 44 | 65.52 | |

In Kandhamal District no parrenial waterbodies and their water spread areas on C IV and C V and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

Kendrapara

Table 157: Distribution of the total number of water bodies and their areain Kendrapara district

| Kendrapara block-wise Total Water Bodies | | | |
|--|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| AALI | 41 | 42.73 | 17.53 |
| KENDRAPARA | 75 | 73.87 | 32.74 |
| MAHAKALAPADA | 1048 | 2702.11 | 728.12 |
| PATKURA | 56 | 90.87 | 39.27 |
| PATTAMUNDAI | 47 | 50.77 | 22.89 |
| RAJKANIKA | 52 | 40.72 | 25.31 |
| RAJNAGAR | 216 | 515.18 | 115.94 |
| | 1535 | 3516.25 | 981.8 |

Table 158: Season wise distribution of water spread area in Kendrapara district for the different water body categories

| | | Poronnial | | Soa | sonal |
|------------|--------------|-----------|---------|--------------|---------|
| | | | | Sca | sonai |
| Categories | Number of | Maximum | Minimum | Number of | Maximum |
| Categories | Water Bodies | Area | Area | Water Bodies | Area |
| CI | 656 | 1123.93 | 577.25 | 829 | 1112.03 |
| CII | 44 | 1115.79 | 404.56 | 6 | 164.51 |
| CIII | 0 | 0.00 | 0 | 0 | 0 |
| CIV | 0 | 0.00 | 0 | 0 | 0 |
| CV | 0 | 0.00 | 0 | 0 | 0 |
| | 700 | 2239.72 | 981.81 | 835 | 1276.54 |

Table 159: Distribution of perennial water bodies and their water spread area in Kendrapara district

| Kendrapara block-wise Total Perennial Water Bodies | | | | |
|--|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| AALI | 26 | 25.94 | 17.53 | |
| KENDRAPARA | 57 | 54.96 | 32.74 | |
| MAHAKALAPADA | 419 | 1687.71 | 728.12 | |
| PATKURA | 39 | 61.72 | 39.27 | |
| PATTAMUNDAI | 35 | 29.71 | 22.89 | |
| RAJKANIKA | 40 | 31.14 | 25.31 | |
| RAJNAGAR | 84 | 348.53 | 115.94 | |
| | 700 | 2239.71 | 981.8 | |

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| Kendrapara Tehsil wise Total Seasonal Water Bodies | | | |
|--|------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| AALI | 15 | 16.79 | |
| KENDRAPARA | 18 | 18.92 | |
| MAHAKALAPADA | 629 | 1014.4 | |
| PATKURA | 17 | 29.14 | |
| PATTAMUNDAI | 12 | 21.06 | |
| RAJKANIKA | 12 | 9.58 | |
| RAJNAGAR | 132 | 166.64 | |
| | 835 | 1276.53 | |

Table 160: Distribution of seasonal water bodies and their water spread areain Kendrapara district

Table 161: Distribution of perennial water bodies and their water spread areain Kendrapara district for C I

| Kendrapara Block wise Total Perennial Water Bodies of C I | | | | |
|---|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| AALI | 26 | 25.94 | 17.53 | |
| KENDRAPARA | 57 | 54.96 | 32.74 | |
| MAHAKALAPADA | 383 | 823.92 | 401.47 | |
| PATKURA | 38 | 45.90 | 23.44 | |
| PATTAMUNDAI | 35 | 29.71 | 22.89 | |
| RAJKANIKA | 40 | 31.14 | 25.32 | |
| RAJNAGAR | 77 | 112.36 | 53.86 | |
| | 656 | 1123.93 | 577.25 | |

Table 162: Distribution of perennial water bodies and their water spread areain Kendrapara district for C II

| Kendrapara Block-wise Total Perennial Water Bodies of C II | | | | |
|--|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| MAHAKALAPADA | 36 | 863.79 | 326.65 | |
| PATKURA | 1 | 15.83 | 15.83 | |
| RAJNAGAR | 7 | 236.17 | 62.08 | |
| | 44 | 1115.79 | 404.56 | |

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| Kendrapara Block-wise Total Seasonal Water Bodies of C I | | | |
|--|---------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| AALI | 15 | 16.79 | |
| KENDRAPARA | 18 | 18.92 | |
| MAHAKALAPADA | 624 | 870.58 | |
| PATKURA | 17 | 29.14 | |
| PATTAMUNDAI | 12 | 21.06 | |
| RAJKANIKA | 12 | 9.58 | |
| RAJNAGAR | 131 | 145.96 | |
| | 829 | 1112.03 | |

Table 163: Distribution of Seasonal water bodies and their water spread areain Kendrapara district for C I

Table 164: Distribution of Seasonal water bodies and their water spread areain Kendrapara district for C II

| Kendrapara Block wise Total Seasonal Water Bodies of C II | | | |
|---|------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| MAHAKALAPADA | 5 | 143.82 | |
| RAJNAGAR | 1 | 20.69 | |
| | 6 | 164.51 | |

In Kendrapara District no parrenial waterbodies and their water spread areas on C III, C IV and C V and no seasonal water bodies and their water spread areas on C III, C IV and C V are available

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Kendujhar

Table 165: Distribution of the total number of water bodies and their areain Kendujhar district

| Kendujhar block-wise Total Water Bodies | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| ANANDAPUR(P) | 29 | 97.74 | 42.83 |
| BARBIL | 8 | 46.97 | 35.95 |
| BARIA | 93 | 152.63 | 81.37 |
| CHAMPUA | 188 | 306.72 | 155.74 |
| DAITARI | 4 | 177.65 | 142.92 |
| GHASIPURA | 39 | 177.91 | 151.03 |
| GHATGAON | 59 | 671.31 | 529.18 |
| HARICHANDANPUR | 36 | 172.38 | 129.27 |
| JODA | 24 | 128.96 | 48.25 |
| KANJIPANI | 3 | 2.95 | 2.49 |
| KENDUJHAR SADAR | 115 | 170.61 | 89.95 |
| KENDUJHAR TOWN | 35 | 178.66 | 66.45 |
| NANDIPADA | 51 | 83.19 | 46.21 |
| NAYAKOTE | 8 | 9.59 | 2.87 |
| PANDAPARA | 30 | 82.53 | 52.25 |
| PATANA(P) | 60 | 93.41 | 52.25 |
| SAINKUL | 64 | 132.95 | 89.63 |
| SOSO | 15 | 158.77 | 110.42 |
| TELKOI | 55 | 1261.34 | 575.14 |
| TURUMUNGA | 69 | 101.50 | 62.51 |
| | 985 | 4207.77 | 2466.71 |

Table 166: Season wise distribution of water spread area in Kendujhar district for the different water body categories

| | | Perennial | | S | Seasonal |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 804 | 1357.37 | 830.93 | 153 | 183.55 |
| CII | 19 | 523.02 | 307.22 | 0 | 0.00 |
| CIII | 8 | 1588.58 | 818.36 | 0 | 0.00 |
| CIV | 1 | 555.27 | 510.21 | 0 | 0.00 |
| CV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| | 832 | 4024.23 | 2466.71 | 153 | 183.55 |

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| Kendujhar block-wise Total Perennial Water Bodies | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| ANANDAPUR(P) | 19 | 58.70 | 42.83 |
| BARBIL | 6 | 44.53 | 35.93 |
| BARIA | 85 | 146.57 | 81.38 |
| CHAMPUA | 164 | 285.55 | 155.74 |
| DAITARI | 3 | 177.07 | 142.92 |
| GHASIPURA | 34 | 173.33 | 151.03 |
| GHATGAON | 54 | 667.43 | 529.18 |
| HARICHANDANPUR | 28 | 167.14 | 129.28 |
| JODA | 21 | 124.91 | 48.25 |
| KANJIPANI | 3 | 2.95 | 2.49 |
| KENDUJHAR SADAR | 95 | 154.97 | 89.95 |
| KENDUJHAR TOWN | 30 | 174.68 | 66.45 |
| NANDIPADA | 39 | 67.40 | 46.22 |
| NAYAKOTE | 5 | 5.63 | 2.88 |
| PANDAPARA | 25 | 77.12 | 52.25 |
| PATANA(P) | 48 | 82.82 | 52.25 |
| SAINKUL | 51 | 112.12 | 89.63 |
| SOSO | 14 | 154.29 | 110.42 |
| TELKOI | 44 | 1249.71 | 575.14 |
| TURUMUNGA | 64 | 97.31 | 62.51 |
| | 832 | 4024.23 | 2466.71 |

Table 167: Distribution of perennial water bodies and their water spread areain Kendujhar district

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Table 168: Distribution of seasonal water bodies and their water spread areain Kendujhar district

| Kendujhar Tehsil wise Total Seasonal Water Bodies | | | |
|---|------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| ANANDAPUR(P) | 10 | 39.05 | |
| BARBIL | 2 | 2.44 | |
| BARIA | 8 | 6.06 | |
| CHAMPUA | 24 | 21.17 | |
| DAITARI | 1 | 0.58 | |
| GHASIPURA | 5 | 4.58 | |
| GHATGAON | 5 | 3.88 | |
| HARICHANDANPUR | 8 | 5.24 | |
| JODA | 3 | 4.05 | |
| KENDUJHAR SADAR | 20 | 15.64 | |
| KENDUJHAR TOWN | 5 | 3.99 | |
| NANDIPADA | 12 | 15.80 | |
| NAYAKOTE | 3 | 3.95 | |
| PANDAPARA | 5 | 5.41 | |
| PATANA(P) | 12 | 10.59 | |
| SAINKUL | 13 | 20.84 | |
| SOSO | 1 | 4.49 | |
| TELKOI | 11 | 11.63 | |
| TURUMUNGA | 5 | 4.19 | |
| | 153 | 183.55 | |

| Kendujhar Block wise Total Perennial Water Bodies of C I | | | |
|--|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| ANANDAPUR(P) | 19 | 58.70 | 42.83 |
| BARBIL | 5 | 13.73 | 5.15 |
| BARIA | 85 | 146.57 | 81.38 |
| CHAMPUA | 163 | 263.37 | 142.76 |
| DAITARI | 1 | 2.57 | 2.57 |
| GHASIPURA | 31 | 56.92 | 46.18 |
| GHATGAON | 52 | 73.84 | 42.87 |
| HARICHANDANPUR | 23 | 31.38 | 21.73 |
| JODA | 20 | 41.69 | 22.35 |
| KANJIPANI | 3 | 2.95 | 2.49 |
| KENDUJHAR SADAR | 94 | 140.73 | 83.38 |
| KENDUJHAR TOWN | 28 | 37.39 | 24.56 |
| NANDIPADA | 39 | 67.40 | 46.22 |
| NAYAKOTE | 5 | 5.63 | 2.88 |
| PANDAPARA | 23 | 43.39 | 28.78 |
| PATANA(P) | 47 | 68.67 | 42.77 |
| SAINKUL | 49 | 88.14 | 68.65 |
| SOSO | 13 | 34.84 | 19.54 |
| TELKOI | 40 | 82.16 | 41.35 |
| TURUMUNGA | 64 | 97.31 | 62.51 |
| | 804 | 1357.37 | 830.93 |

Table 169: Distribution of perennial water bodies and their water spread area in Kendujhar district for C I

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| Kendujhar Block-wise Total Perennial Water Bodies of C II | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| BARBIL | 1 | 30.80 | 30.80 |
| CHAMPUA | 1 | 22.18 | 12.98 |
| DAITARI | 1 | 21.83 | 21.66 |
| GHASIPURA | 2 | 59.87 | 48.30 |
| HARICHANDANPUR | 5 | 135.76 | 107.55 |
| KENDUJHAR SADAR | 1 | 14.24 | 6.56 |
| KENDUJHAR TOWN | 1 | 54.48 | 4.55 |
| PANDAPARA | 2 | 33.74 | 23.47 |
| PATANA(P) | 1 | 14.16 | 9.48 |
| SAINKUL | 2 | 23.98 | 20.99 |
| TELKOI | 2 | 111.99 | 20.87 |
| | 19 | 523.02 | 307.22 |

Table 170: Distribution of perennial water bodies and their water spread areain Kendujhar district for C II

Table 171: Distribution of perennial water bodies and their water spread area in Kendujhar district for C III

| Kendujhar Block-wise Total Perennial Water Bodies of C III | | | |
|--|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| DAITARI | 1 | 152.67 | 118.68 |
| GHASIPURA | 1 | 56.54 | 56.54 |
| GHATGAON | 2 | 593.59 | 486.31 |
| JODA | 1 | 83.23 | 25.91 |
| KENDUJHAR TOWN | 1 | 82.81 | 37.34 |
| SOSO | 1 | 119.45 | 90.88 |
| TELKOI | 1 | 500.29 | 2.71 |
| | 8 | 1588.58 | 818.36 |

Table 172: Distribution of perennial water bodies and their water spread areain Kendujhar district for C IV

| Kendujhar Block-wise Total Perennial Water Bodies of C IV | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| TELKOI | 1 | 555.27 | 510.21 |

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| Kendujhar Block-wise Total Seasonal Water Bodies of C I | | | |
|---|------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| ANANDAPUR(P) | 10 | 39.05 | |
| BARBIL | 2 | 2.44 | |
| BARIA | 8 | 6.06 | |
| CHAMPUA | 24 | 21.17 | |
| DAITARI | 1 | 0.58 | |
| GHASIPURA | 5 | 4.58 | |
| GHATGAON | 5 | 3.88 | |
| HARICHANDANPUR | 8 | 5.24 | |
| JODA | 3 | 4.05 | |
| KENDUJHAR SADAR | 20 | 15.64 | |
| KENDUJHAR TOWN | 5 | 3.99 | |
| NANDIPADA | 12 | 15.80 | |
| NAYAKOTE | 3 | 3.95 | |
| PANDAPARA | 5 | 5.41 | |
| PATANA(P) | 12 | 10.59 | |
| SAINKUL | 13 | 20.84 | |
| SOSO | 1 | 4.49 | |
| TELKOI | 11 | 11.63 | |
| TURUMUNGA | 5 | 4.19 | |
| | 153 | 183.55 | |

Table 173: Distribution of Seasonal water bodies and their water spread areain Kendujhar district for C I

In Kendujhar District no parrenial waterbodies and their water spread areas on C V and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

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Khordha

Table 174: Distribution of the total number of water bodies and their area in Khordha district

| Khordha block-wise Total Water Bodies | | | |
|---------------------------------------|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| BALIANTA | 35 | 43.04 | 31.50 |
| BALIPATNA | 41 | 42.05 | 24.91 |
| BALUGAON | 126 | 56.58 | 26.52 |
| BANAPUR | 48 | 781.45 | 569.02 |
| BEGUNIA | 64 | 61.15 | 32.73 |
| BHUBANESHWAR(M.CORP) | 13 | 42.10 | 39.76 |
| BOLAGAD | 126 | 164.56 | 94.04 |
| CHANDAKA | 18 | 145.11 | 125.51 |
| JANKIA | 33 | 39.00 | 7.65 |
| JATANI | 19 | 18.22 | 9.20 |
| KHANDAGIRI | 4 | 2.73 | 1.20 |
| KHORDHA | 75 | 109.51 | 55.74 |
| LINGARAJ | 12 | 15.07 | 1.37 |
| SAHEEDNAGAR | 6 | 60.53 | 48.68 |
| TANGI | 130 | 276.95 | 24.65 |
| | 750 | 1858.04 | 1092.47 |

Table 175: Season wise distribution of water spread area in Khordha district for the different water body categories

| | Perennial | | Seas | onal | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 371 | 503.60 | 380.98 | 366 | 296.88 |
| CII | 10 | 215.13 | 176.43 | 2 | 114.75 |
| CIII | 0 | 0.00 | 0.00 | 0 | 0.00 |
| CIV | 1 | 727.69 | 535.06 | 0 | 0.00 |
| CV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| | 382 | 1446.42 | 1092.47 | 368 | 411.62 |

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| Khordha block-wise Total Perennial Water Bodies | | | | |
|---|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| BALIANTA | 29 | 33.32 | 31.50 | |
| BALIPATNA | 19 | 25.48 | 24.91 | |
| BALUGAON | 51 | 35.48 | 26.52 | |
| BANAPUR | 30 | 770.41 | 569.02 | |
| BEGUNIA | 41 | 43.09 | 32.73 | |
| BHUBANESHWAR(M.CORP) | 11 | 40.40 | 39.76 | |
| BOLAGAD | 99 | 145.03 | 94.04 | |
| CHANDAKA | 14 | 141.99 | 125.51 | |
| JANKIA | 11 | 10.86 | 7.65 | |
| JATANI | 11 | 11.51 | 9.20 | |
| KHANDAGIRI | 2 | 1.31 | 1.20 | |
| KHORDHA | 38 | 77.27 | 55.74 | |
| LINGARAJ | 1 | 2.08 | 1.37 | |
| SAHEEDNAGAR | 6 | 60.53 | 48.68 | |
| TANGI | 19 | 47.64 | 24.65 | |
| | 382 | 1446.42 | 1092.47 | |

Table 176: Distribution of perennial water bodies and their water spread area in Khordha district

Table 177: Distribution of seasonal water bodies and their water spread area in Khordha district

| Khordha Tehsil wise Total Seasonal Water Bodies | | | | |
|---|---------------------------|-----------------|--|--|
| Block Name | Number of water bodies | Maximum area | | |
| BALIANTA | 6 | 9.72 | | |
| BALIPATNA | 22 | 16.57 | | |
| BALUGAON | 75 | 21.11 | | |
| BANAPUR | 18 | 11.04 | | |
| BEGUNIA | 23 | 18.06 | | |
| BHUBANESHWAR(M.CORP) | 2 | 1.70 | | |
| BOLAGAD | 27 | 19.52 | | |
| CHANDAKA | 4 | 3.12 | | |
| JANKIA | 22 | 28.14 | | |
| JATANI | 8 | 6.71 | | |
| KHANDAGIRI | 2 | 1.42 | | |
| KHORDHA | 37 | 32.23 | | |
| LINGARAJ | 11 | 12.99 | | |
| TANGI | 111 | 229.31 | | |
| | 368 | 411.62 | | |

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| Khordha Block-wise Total Perennial Water Bodies of C I | | | | |
|--|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| BALIANTA | 29 | 33.32 | 31.50 | |
| BALIPATNA | 19 | 25.48 | 24.91 | |
| BALUGAON | 51 | 35.48 | 26.52 | |
| BANAPUR | 29 | 42.72 | 33.95 | |
| BEGUNIA | 41 | 43.09 | 32.73 | |
| BHUBANESHWAR(M.CORP) | 10 | 24.07 | 23.44 | |
| BOLAGAD | 98 | 128.28 | 89.49 | |
| CHANDAKA | 11 | 34.63 | 33.61 | |
| JANKIA | 11 | 10.86 | 7.65 | |
| JATANI | 11 | 11.51 | 9.20 | |
| KHANDAGIRI | 2 | 1.31 | 1.20 | |
| KHORDHA | 37 | 64.97 | 43.43 | |
| LINGARAJ | 1 | 2.08 | 1.37 | |
| SAHEEDNAGAR | 3 | 15.67 | 8.03 | |
| TANGI | 18 | 30.12 | 13.94 | |
| | 371 | 503.60 | 380.98 | |

Table 178: Distribution of perennial water bodies and their water spread areain Khordha district for C I

Table 179: Distribution of perennial water bodies and their water spread areain Khordha district for C II

| Khordha Block-wise Total Perennial Water Bodies of C II | | | | |
|---|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| BHUBANESHWAR(M.CORP) | 1 | 16.32 | 16.32 | |
| BOLAGAD | 1 | 16.76 | 4.54 | |
| CHANDAKA | 3 | 107.36 | 91.90 | |
| KHORDHA | 1 | 12.30 | 12.30 | |
| SAHEEDNAGAR | 3 | 44.86 | 40.65 | |
| TANGI | 1 | 17.52 | 10.70 | |
| | 10 | 215.13 | 176.43 | |

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Table 180: Distribution of perennial water bodies and their water spread areain Khordha district for C IV

| Khordha Block-wise Total Perennial Water Bodies of C IV | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| BANAPUR | 1 | 727.69 | 535.06 |

Table 181: Distribution of Seasonal water bodies and their water spread area in Khordha district for C I

| Khordha Block-wise Total Seasonal Water Bodies of C I | | | |
|---|------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| BALIANTA | 6 | 9.72 | |
| BALIPATNA | 22 | 16.57 | |
| BALUGAON | 75 | 21.11 | |
| BANAPUR | 18 | 11.04 | |
| BEGUNIA | 23 | 18.06 | |
| BHUBANESHWAR(M.CORP) | 2 | 1.70 | |
| BOLAGAD | 27 | 19.52 | |
| CHANDAKA | 4 | 3.12 | |
| JANKIA | 22 | 28.14 | |
| JATANI | 8 | 6.71 | |
| KHANDAGIRI | 2 | 1.42 | |
| KHORDHA | 37 | 32.23 | |
| LINGARAJ | 11 | 12.99 | |
| TANGI | 109 | 114.56 | |
| | 366 | 296.88 | |

Table 182: Distribution of Seasonal water bodies and their water spread areain Khordha district for C II

| Khordha Block-wise Total Seasonal Water Bodies of C II | | | |
|--|------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| TANGI | 2 | 114.75 | |

In Khordha District no parrenial waterbodies and their water spread areas on C III and C V and no seasonal water bodies and their water spread areas on C III, C IV and C V are available

Koraput

Table 183: Distribution of the total number of water bodies and their area inKoraput district

| Koraput block- wise Total Water Bodies | | | | |
|--|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| BHAIRABSINGIPUR | 54 | 75.40 | 50.07 | |
| BOIPARIGUDA | 18 | 32.51 | 28.98 | |
| BORIGUMA | 63 | 81.70 | 60.91 | |
| DAMANJODI | 4 | 42.94 | 19.41 | |
| DASAMANTAPUR | 3 | 4351.91 | 32.40 | |
| JEYPUR | 37 | 164.98 | 116.04 | |
| KORAPUT | 6 | 6309.08 | 158.12 | |
| KORAPUT TOWN | 1 | 1.83 | 1.78 | |
| KOTPAD | 132 | 325.33 | 232.98 | |
| KUNDURA | 19 | 26.56 | 20.10 | |
| LAKSHMIPUR | 3 | 11.85 | 6.27 | |
| MACHH KUND | 4 | 201.46 | 77.86 | |
| NANDAPUR(P) | 1 | 5.71 | 0.00 | |
| NARAYANPATNA | 5 | 9.26 | 4.89 | |
| PADUA | 13 | 2083.68 | 1979.48 | |
| POTTANGI | 1 | 1.66 | 0.00 | |
| SUNABEDA | 2 | 29.81 | 27.14 | |
| | 366 | 13755.67 | 2816.43 | |

Table 184: Season wise distribution of water spread area in Koraput district for the different water body categories

| | Perennial | | S | easonal | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 304 | 485.55 | 360.39 | 43 | 83.17 |
| CII | 12 | 385.30 | 182.16 | 1 | 61.43 |
| CIII | 3 | 312.10 | 265.49 | 0 | 0.00 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| CV | 3 | 12428.12 | 2008.39 | 0 | 0.00 |
| | 322 | 13611.07 | 2816.43 | 44 | 144.60 |

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| Koraput block-wise Total Perennial Water Bodies | | | | |
|---|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| BHAIRABSINGIPUR | 51 | 73.30 | 50.07 | |
| BOIPARIGUDA | 14 | 29.20 | 28.98 | |
| BORIGUMA | 61 | 79.37 | 60.91 | |
| DAMANJODI | 2 | 39.38 | 19.41 | |
| DASAMANTAPUR | 2 | 4351.36 | 32.40 | |
| JEYPUR | 33 | 161.34 | 116.04 | |
| KORAPUT | 6 | 6309.08 | 158.12 | |
| KORAPUT TOWN | 1 | 1.83 | 1.78 | |
| KOTPAD | 121 | 314.65 | 232.98 | |
| KUNDURA | 17 | 21.96 | 20.10 | |
| LAKSHMIPUR | 3 | 11.85 | 6.27 | |
| MACHH KUND | 4 | 201.46 | 77.86 | |
| NARAYANPATNA | 5 | 9.26 | 4.89 | |
| PADUA | 1 | 1979.48 | 1979.48 | |
| SUNABEDA | 1 | 27.54 | 27.14 | |
| | 322 | 13611.07 | 2816.43 | |

 Table 185: Distribution of perennial water bodies and their water spread area

 in Koraput district

Table 186: Distribution of seasonal water bodies and their water spread area inKoraput district

| Koraput Tehsil wise Total Seasonal Water Bodies | | | | |
|---|------------------------|-----------------|--|--|
| Block Name | Number of water bodies | Maximum area | | |
| BHAIRABSINGIPUR | 3 | 2.11 | | |
| BOIPARIGUDA | 4 | 3.31 | | |
| BORIGUMA | 2 | 2.33 | | |
| DAMANJODI | 2 | 3.56 | | |
| DASAMANTAPUR | 1 | 0.55 | | |
| JEYPUR | 4 | 3.63 | | |
| KOTPAD | 11 | 10.68 | | |
| KUNDURA | 2 | 4.59 | | |
| NANDAPUR(P) | 1 | 5.71 | | |
| PADUA | 12 | 104.20 | | |
| POTTANGI | 1 | 1.66 | | |
| SUNABEDA | 1 | 2.27 | | |
| | 44 | 144.60 | | |

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| Koraput Block-wise Total Perennial Water Bodies of C I | | | | |
|--|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| BHAIRABSINGIPUR | 50 | 55.84 | 41.98 | |
| BOIPARIGUDA | 13 | 17.84 | 17.61 | |
| BORIGUMA | 61 | 79.37 | 60.91 | |
| DAMANJODI | 1 | 3.32 | 2.79 | |
| DASAMANTAPUR | 1 | 4.68 | 3.78 | |
| JEYPUR | 30 | 38.13 | 31.05 | |
| KORAPUT | 4 | 15.99 | 13.32 | |
| KORAPUT TOWN | 1 | 1.83 | 1.78 | |
| KOTPAD | 117 | 224.46 | 155.26 | |
| KUNDURA | 17 | 21.96 | 20.10 | |
| LAKSHMIPUR | 3 | 11.85 | 6.27 | |
| MACHH KUND | 1 | 1.01 | 0.65 | |
| NARAYANPATNA | 5 | 9.26 | 4.89 | |
| | 304 | 485.55 | 360.39 | |

Table 187: Distribution of perennial water bodies and their water spread areain Koraput district for C I

Table 188: Distribution of perennial water bodies and their water spread areain Koraput district for C II

| Koraput Block-wise Total Perennial Water Bodies of C II | | | | |
|---|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| BHAIRABSINGIPUR | 1 | 17.45 | 8.08 | |
| BOIPARIGUDA | 1 | 11.37 | 11.37 | |
| DAMANJODI | 1 | 36.05 | 16.62 | |
| JEYPUR | 2 | 69.05 | 30.84 | |
| KOTPAD | 4 | 90.19 | 77.72 | |
| MACHH KUND | 2 | 133.63 | 10.39 | |
| SUNABEDA | 1 | 27.54 | 27.14 | |
| | 12 | 385.30 | 182.16 | |

Table 189: Distribution of perennial water bodies and their water spread areain Koraput district for C III

| Koraput Block-wise Total Perennial Water Bodies of C III | | | | |
|--|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| JEYPUR | 1 | 54.16 | 54.16 | |
| KORAPUT | 1 | 191.13 | 144.52 | |
| MACHH KUND | 1 | 66.82 | 66.82 | |
| | 3 | 312.10 | 265.49 | |

Table 190: Distribution of perennial water bodies and their water spread area in Koraput district for C V

| Koraput Block-wise Total Perennial Water Bodies of C V | | | |
|--|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| DASAMANTAPUR | 1 | 4346.68 | 28.63 |
| KORAPUT | 1 | 6101.96 | 0.28 |
| PADUA | 1 | 1979.48 | 1979.48 |
| | 3 | 12428.12 | 2008.39 |

Table 191: Distribution of Seasonal water bodies and their water spread area in Koraput district for C I

| Koraput Block-wise Total Seasonal Water Bodies of C I | | | |
|---|---------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| BHAIRABSINGIPUR | 3 | 2.11 | |
| BOIPARIGUDA | 4 | 3.31 | |
| BORIGUMA | 2 | 2.33 | |
| DAMANJODI | 2 | 3.56 | |
| DASAMANTAPUR | 1 | 0.55 | |
| JEYPUR | 4 | 3.63 | |
| КОТРАД | 11 | 10.68 | |
| KUNDURA | 2 | 4.59 | |
| NANDAPUR(P) | 1 | 5.71 | |
| PADUA | 11 | 42.77 | |
| POTTANGI | 1 | 1.66 | |
| SUNABEDA | 1 | 2.27 | |
| | 43 | 83.17 | |

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Table 192: Distribution of Seasonal water bodies and their water spread areain Koraput district for C II

| Koraput Block-wise Total Seasonal Water Bodies of C II | | | |
|--|------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| PADUA | 1 | 61.43 | |

In Koraput District no parrenial waterbodies and their water spread areas on C IV and no seasonal water bodies and their water spread areas on C III, C IV and C V are available

Malkangiri

Table 193: Distribution of the total number of water bodies and their area in Malkangiri district

| Malkangiri block-wise Total Water Bodies | | | | |
|--|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| CHITRAKONDA | 29 | 327.45 | 144.69 | |
| KALIMELA | 80 | 1337.73 | 120.90 | |
| M.V. 79 | 43 | 55.93 | 16.74 | |
| MADULIPADA | 11 | 12446.88 | 3.14 | |
| MALKANGIRI | 148 | 1423.39 | 566.13 | |
| MATHILI | 107 | 128.92 | 12.73 | |
| ΜΟΤυ | 55 | 95.57 | 60.75 | |
| ORKEL | 33 | 164.94 | 45.13 | |
| | 506 | 15980.83 | 970.20 | |

Table 194: Season wise distribution of water spread area in Malkangiri district for the different water body categories

| | Perennial | | | Sea | sonal |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 167 | 362.14 | 240.40 | 325 | 352.05 |
| CII | 9 | 234.46 | 118.22 | 1 | 77.09 |
| CIII | 1 | 140.96 | 86.20 | 0 | 0.00 |
| CIV | 2 | 2377.32 | 524.79 | 0 | 0.00 |
| CV | 1 | 12436.80 | 0.60 | 0 | 0.00 |
| | 180 | 15551.68 | 970.20 | 326 | 429.14 |

 Table 195: Distribution of perennial water bodies and their water spread area in Malkangiri district

| Malkangiri block-wise Total Perennial Water Bodies | | | | |
|--|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| CHITRAKONDA | 11 | 279.83 | 144.69 | |
| KALIMELA | 26 | 1276.13 | 120.90 | |
| M.V. 79 | 12 | 23.53 | 16.74 | |
| MADULIPADA | 4 | 12439.58 | 3.14 | |
| MALKANGIRI | 69 | 1346.08 | 566.13 | |
| MATHILI | 8 | 36.06 | 12.73 | |
| ΜΟΤυ | 27 | 71.79 | 60.75 | |
| ORKEL | 23 | 78.68 | 45.13 | |
| | 180 | 15551.68 | 970.20 | |

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| Malkangiri Tehsil wise Total Seasonal Water Bodies | | | |
|--|------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| CHITRAKONDA | 18 | 47.62 | |
| KALIMELA | 54 | 61.60 | |
| M.V. 79 | 31 | 32.40 | |
| MADULIPADA | 7 | 7.30 | |
| MALKANGIRI | 79 | 77.31 | |
| MATHILI | 99 | 92.86 | |
| ΜΟΤυ | 28 | 23.79 | |
| ORKEL | 10 | 86.26 | |
| | 326 | 429.14 | |

Table 196: Distribution of seasonal water bodies and their water spread areain Malkangiri district

Table 197: Distribution of perennial water bodies and their water spread areain Malkangiri district for C I

| Malkangiri Block wise Total Perennial Water Bodies of C I | | | | |
|---|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| CHITRAKONDA | 7 | 42.35 | 22.82 | |
| KALIMELA | 22 | 38.75 | 23.25 | |
| M.V. 79 | 12 | 23.53 | 16.74 | |
| MADULIPADA | 3 | 2.78 | 2.55 | |
| MALKANGIRI | 68 | 132.70 | 89.69 | |
| MATHILI | 7 | 10.90 | 8.88 | |
| ΜΟΤυ | 26 | 55.93 | 45.84 | |
| ORKEL | 22 | 55.20 | 30.63 | |
| | 167 | 362.14 | 240.40 | |

Table 198: Distribution of perennial water bodies and their water spread areain Malkangiri district for C II

| Malkangiri Block wise Total Perennial Water Bodies of C II | | | | |
|--|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| CHITRAKONDA | 3 | 96.52 | 35.67 | |
| KALIMELA | 3 | 73.44 | 49.30 | |
| MATHILI | 1 | 25.16 | 3.85 | |
| ΜΟΤυ | 1 | 15.86 | 14.91 | |
| ORKEL | 1 | 23.48 | 14.49 | |
| | 9 | 234.46 | 118.22 | |

Table 199: Distribution of perennial water bodies and their water spread areain Malkangiri district for C III

| Malkangiri Block wise Total Perennial Water Bodies of C III | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| CHITRAKONDA | 1 | 140.96 | 86.20 |

Table 200: Distribution of perennial water bodies and their water spread areain Malkangiri district for C IV

| Malkangiri Block wise Total Perennial Water Bodies of C IV | | | | | |
|--|---|---------|--------|--|--|
| Block Name | Number of water bodiesMaximum areaMinimum area | | | | |
| KALIMELA | 1 | 1163.94 | 48.35 | | |
| MALKANGIRI | 1 | 1213.38 | 476.43 | | |
| | 2 | 2377.32 | 524.79 | | |

Table 201: Distribution of perennial water bodies and their water spread area in Malkangiri district for C V

| Malkangiri Block wise Total Perennial Water Bodies of C V | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| MADULIPADA | 1 | 12436.80 | 0.60 |

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Table 202: Distribution of Seasonal water bodies and their water spread areain Malkangiri district for C I

| Malkangiri Block wise Total Seasonal Water Bodies of C I | | | |
|--|------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| CHITRAKONDA | 18 | 47.62 | |
| KALIMELA | 54 | 61.60 | |
| M.V. 79 | 31 | 32.40 | |
| MADULIPADA | 7 | 7.30 | |
| MALKANGIRI | 79 | 77.31 | |
| MATHILI | 99 | 92.86 | |
| ΜΟΤυ | 28 | 23.79 | |
| ORKEL | 9 | 9.17 | |
| | 325 | 352.05 | |

Table 203: Distribution of Seasonal water bodies and their water spread areain Malkangiri district for C II

| Malkangiri Block wise Total Seasonal Water Bodies of C II | | | |
|---|------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| ORKEL | 1 | 77.09 | |

In Malkangiri District no seasonal water bodies and their water spread areas on C III, C IV and C V are available

Mayurbhanj

Table 204: Distribution of the total number of water bodies and their area inMayurbhanj district

| Mayurbhanj block-wise Total Water Bodies | | | |
|--|---------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| BADAMPAHAR | 40 | 51.89 | 23.72 |
| BAHALDA | 115 | 143.32 | 68.43 |
| BAISINGA | 103 | 102.99 | 30.11 |
| BANGIRIPOSI | 53 | 79.37 | 34.04 |
| BARIPADA | 9 | 12.18 | 7.21 |
| BARIPADA SADAR | 27 | 120.01 | 54.79 |
| BARIPADA TOWN | 1 | 1.51 | 0.00 |
| BARSAHI | 82 | 249.45 | 104.16 |
| BETANATI | 42 | 213.88 | 98.23 |
| BISOI | 46 | 1510.39 | 1130.27 |
| CHANDUA | 24 | 515.79 | 305.75 |
| GORUMAHISANI | 17 | 15.56 | 6.03 |
| JASHIPUR | 90 | 233.89 | 131.54 |
| JHARPOKHARIA | 86 | 104.90 | 26.27 |
| KAPTIPADA | 32 | 518.68 | 97.09 |
| KARANJIA | 71 | 123.17 | 85.40 |
| KHUNTA | 74 | 133.30 | 70.03 |
| KOLIANA | 16 | 261.64 | 52.66 |
| MAHULDIHA | 6 | 2421.68 | 20.97 |
| MURUDA | 42 | 66.29 | 23.54 |
| RAIRANGPUR | 65 | 79.81 | 32.23 |
| RAIRANGPUR TOWN | 24 | 22.91 | 10.05 |
| RARUAN | 148 | 191.18 | 96.28 |
| RASAGOBINDAPUR | 85 | 121.78 | 36.27 |
| SHARATA | 4 | 647.93 | 633.81 |
| SULIAPADA | 32 | 101.11 | 34.76 |
| THAKURMUNDA | 17 | 27.77 | 16.30 |
| TIRINGI | 109 | 274.28 | 185.31 |
| UDALA | 42 | 55.50 | 27.91 |
| | 1502 | 8402.14 | 3443.14 |

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| Table 205: Season wise distribution of water spread area in Mayurbh | anj district for |
|---|------------------|
| the different water body categories | |

| | | Perennial | | S | easonal |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 875 | 1440.59 | 900.18 | 597 | 537.83 |
| CII | 20 | 481.69 | 256.32 | 0 | 0 |
| CIII | 6 | 1438.62 | 547.58 | 0 | 0 |
| CIV | 3 | 2105.39 | 1738.616 | 0 | 0 |
| CV | 1 | 2398.02 | 0.4582 | 0 | 0 |
| | 905 | 7864.31 | 3443.15 | 597 | 537.83 |

| Mayurbhanj block-wise Total Perennial Water Bodies | | | |
|--|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| BADAMPAHAR | 18 | 35.45 | 23.72 |
| BAHALDA | 55 | 94.06 | 68.43 |
| BAISINGA | 33 | 40.36 | 30.11 |
| BANGIRIPOSI | 39 | 63.66 | 34.04 |
| BARIPADA | 6 | 9.71 | 7.21 |
| BARIPADA SADAR | 17 | 112.55 | 54.79 |
| BARSAHI | 64 | 230.97 | 104.16 |
| BETANATI | 18 | 193.34 | 98.23 |
| BISOI | 32 | 1498.70 | 1130.27 |
| CHANDUA | 14 | 507.26 | 305.75 |
| GORUMAHISANI | 7 | 8.40 | 6.03 |
| JASHIPUR | 76 | 222.45 | 131.54 |
| JHARPOKHARIA | 28 | 49.68 | 26.27 |
| KAPTIPADA | 24 | 505.62 | 97.09 |
| KARANJIA | 61 | 115.53 | 85.40 |
| KHUNTA | 63 | 126.82 | 70.03 |
| KOLIANA | 15 | 261.01 | 52.66 |
| MAHULDIHA | 5 | 2421.15 | 20.97 |
| MURUDA | 16 | 40.72 | 23.54 |
| RAIRANGPUR | 26 | 48.50 | 32.23 |
| RAIRANGPUR TOWN | 10 | 12.59 | 10.05 |
| RARUAN | 132 | 179.46 | 96.28 |
| RASAGOBINDAPUR | 30 | 57.09 | 36.27 |
| SHARATA | 3 | 646.86 | 633.81 |
| SULIAPADA | 11 | 81.83 | 34.76 |
| THAKURMUNDA | 14 | 25.96 | 16.30 |
| TIRINGI | 59 | 232.50 | 185.31 |
| UDALA | 29 | 42.09 | 27.91 |
| | 905 | 7864.31 | 3443.14 |

Table 206: Distribution of perennial water bodies and theirwater spread area in Mayurbhanj district

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Table 207: Distribution of seasonal water bodies and their water spread area in Mayurbhanj district

| Mayurbhanj Tehsil wise Total Seasonal Water Bodies | | | |
|--|------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| BADAMPAHAR | 22 | 16.43 | |
| BAHALDA | 60 | 49.27 | |
| BAISINGA | 70 | 62.62 | |
| BANGIRIPOSI | 14 | 15.71 | |
| BARIPADA | 3 | 2.47 | |
| BARIPADA SADAR | 10 | 7.46 | |
| BARIPADA TOWN | 1 | 1.51 | |
| BARSAHI | 18 | 18.47 | |
| BETANATI | 24 | 20.54 | |
| BISOI | 14 | 11.70 | |
| CHANDUA | 10 | 8.54 | |
| GORUMAHISANI | 10 | 7.15 | |
| JASHIPUR | 14 | 11.44 | |
| JHARPOKHARIA | 58 | 55.22 | |
| KAPTIPADA | 8 | 13.06 | |
| KARANJIA | 10 | 7.63 | |
| KHUNTA | 11 | 6.48 | |
| KOLIANA | 1 | 0.63 | |
| MAHULDIHA | 1 | 0.53 | |
| MURUDA | 26 | 25.57 | |
| RAIRANGPUR | 39 | 31.31 | |
| RAIRANGPUR TOWN | 14 | 10.32 | |
| RARUAN | 16 | 11.72 | |
| RASAGOBINDAPUR | 55 | 64.68 | |
| SHARATA | 1 | 1.08 | |
| SULIAPADA | 21 | 19.28 | |
| THAKURMUNDA | 3 | 1.81 | |
| TIRINGI | 50 | 41.78 | |
| UDALA | 13 | 13.41 | |
| | 597 | 537.83 | |

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| Mayurbhanj Block wise Total Perennial Water Bodies of C I | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| BADAMPAHAR | 18 | 35.45 | 23.72 |
| BAHALDA | 55 | 94.06 | 68.43 |
| BAISINGA | 33 | 40.36 | 30.11 |
| BANGIRIPOSI | 39 | 63.66 | 34.04 |
| BARIPADA | 6 | 9.71 | 7.21 |
| BARIPADA SADAR | 14 | 37.57 | 21.78 |
| BARSAHI | 61 | 95.60 | 57.99 |
| BETANATI | 14 | 49.58 | 24.06 |
| BISOI | 30 | 38.38 | 23.83 |
| CHANDUA | 12 | 23.68 | 16.44 |
| GORUMAHISANI | 7 | 8.40 | 6.03 |
| JASHIPUR | 73 | 134.70 | 84.72 |
| JHARPOKHARIA | 28 | 49.68 | 26.27 |
| KAPTIPADA | 21 | 27.17 | 17.30 |
| KARANJIA | 61 | 115.53 | 85.40 |
| KHUNTA | 62 | 85.27 | 53.29 |
| KOLIANA | 14 | 17.91 | 9.08 |
| MAHULDIHA | 3 | 2.88 | 2.84 |
| MURUDA | 16 | 40.72 | 23.54 |
| RAIRANGPUR | 25 | 33.80 | 22.67 |
| RAIRANGPUR TOWN | 10 | 12.59 | 10.05 |
| RARUAN | 131 | 163.66 | 90.73 |
| RASAGOBINDAPUR | 30 | 57.09 | 36.27 |
| SHARATA | 2 | 1.79 | 1.64 |
| SULIAPADA | 10 | 48.24 | 20.29 |
| THAKURMUNDA | 14 | 25.96 | 16.30 |
| TIRINGI | 57 | 85.07 | 58.27 |
| UDALA | 29 | 42.09 | 27.91 |
| | 875 | 1440.59 | 900.18 |

Table 208: Distribution of perennial water bodies and their water spread area in Mayurbhanj district for C I

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Table 209: Distribution of perennial water bodies and their water spread areain Mayurbhanj district for C II

| Mayurbhanj Block wise Total Perennial Water Bodies of C II | | | | |
|--|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| BARIPADA SADAR | 3 | 74.98 | 33.01 | |
| BARSAHI | 2 | 45.47 | 21.88 | |
| BETANATI | 3 | 54.99 | 23.62 | |
| CHANDUA | 1 | 14.39 | 9.18 | |
| JASHIPUR | 3 | 87.74 | 46.82 | |
| KAPTIPADA | 2 | 34.68 | 33.62 | |
| KHUNTA | 1 | 41.55 | 16.74 | |
| MAHULDIHA | 1 | 20.24 | 17.67 | |
| RAIRANGPUR | 1 | 14.71 | 9.57 | |
| RARUAN | 1 | 15.80 | 5.55 | |
| SULIAPADA | 1 | 33.59 | 14.47 | |
| TIRINGI | 1 | 43.55 | 24.19 | |
| | 20 | 481.69 | 256.32 | |

Table 210: Distribution of perennial water bodies and their water spread areain Mayurbhanj district for C III

| Mayurbhanj Block wise Total Perennial Water Bodies of C III | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| BARSAHI | 1 | 89.91 | 24.29 |
| BETANATI | 1 | 88.77 | 50.55 |
| CHANDUA | 1 | 469.19 | 280.14 |
| KAPTIPADA | 1 | 443.77 | 46.17 |
| KOLIANA | 1 | 243.10 | 43.58 |
| TIRINGI | 1 | 103.88 | 102.85 |
| | 6 | 1438.62 | 547.58 |

Table 211: Distribution of perennial water bodies and their water spread areain Mayurbhanj district for C IV

| Mayurbhanj Block wise Total Perennial Water Bodies of C IV | | | |
|--|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| BISOI | 2 | 1460.32 | 1106.44 |
| SHARATA | 1 | 645.07 | 632.17 |
| | 3 | 2105.39 | 1738.62 |

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Table 212: Distribution of perennial water bodies and their water spread areain Mayurbhanj district for C V

| Mayurbhanj Block wise Total Perennial Water Bodies of C V | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| MAHULDIHA | 1 | 2398.02 | 0.46 |

Table 213: Distribution of Seasonal water bodies and their water spread areain Mayurbhanj district for C I

| Mayurbhanj | Block wise Total Seasonal ` | Water Bodies of C I |
|------------------------|-----------------------------|---------------------|
| Block Name | Number of water bodies | Maximum |
| BADAMPAHAR | 22 | 16.43 |
| BAHALDA | 60 | 49.27 |
| BAISINGA | 70 | 62.62 |
| BANGIRIPOSI | 14 | 15.71 |
| BARIPADA | 3 | 2.47 |
| BARIPADA SADAR | 10 | 7.46 |
| BARIPADA TOWN | 1 | 1.51 |
| BARSAHI | 18 | 18.47 |
| BETANATI | 24 | 20.54 |
| BISOI | 14 | 11.70 |
| CHANDUA | 10 | 8.54 |
| GORUMAHISANI | 10 | 7.15 |
| JASHIPUR | 14 | 11.44 |
| JHARPOKHARIA | 58 | 55.22 |
| KAPTIPADA | 8 | 13.06 |
| KARANJIA | 10 | 7.63 |
| KHUNTA | 11 | 6.48 |
| KOLIANA | 1 | 0.63 |
| MAHULDIHA | 1 | 0.53 |
| MURUDA | 26 | 25.57 |
| RAIRANGPUR | 39 | 31.31 |
| RAIRANGPUR TOWN | 14 | 10.32 |
| RARUAN | 16 | 11.72 |
| RASAGOBINDAPUR | 55 | 64.68 |
| SHARATA | 1 | 1.08 |
| SULIAPADA | 21 | 19.28 |
| THAKURMUNDA | 3 | 1.81 |
| TIRINGI | 50 | 41.78 |
| UDALA | 13 | 13.41 |
| | 597 | 537.83 |

In Mayurbhanj District no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are availabl

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Nabarangpur

Table 214: Distribution of the total number of water bodies and their areain Nabarangpur district

| Nabarangpur block-wise Total Water Bodies | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| DABUGAN | 62 | 69.40 | 28.52 |
| JHARIGAN | 141 | 171.65 | 85.85 |
| KHATIGUDA | 9 | 2801.13 | 15.23 |
| KODINGA | 66 | 98.37 | 43.24 |
| NABARANGPUR | 50 | 205.85 | 38.91 |
| PAPARAHANDI | 43 | 63.57 | 30.46 |
| RAIGHAR | 108 | 165.49 | 56.67 |
| TENTULIKHUNTI | 48 | 48.79 | 27.93 |
| UMARKOTE | 142 | 699.26 | 111.62 |
| | 669 | 4323.52 | 438.43 |

Table 215: Season wise distribution of water spread area in Nabarangpur district for the different water body categories

| | | Perennial | | Sea | sonal |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 469 | 719.15 | 425.33 | 195 | 219.41 |
| CII | 3 | 121.53 | 12.15 | 0 | 0.00 |
| CIII | 1 | 490.28 | 0.00 | 0 | 0.00 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| CV | 1 | 2773.14 | 0.95 | 0 | 0.00 |
| | 474 | 4104.10 | 438.43 | 195 | 219.41 |

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| Nabarangpur block-wise Total Perennial Water Bodies | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| DABUGAN | 46 | 59.46 | 28.52 |
| JHARIGAN | 105 | 134.11 | 85.85 |
| KHATIGUDA | 6 | 2793.77 | 15.23 |
| KODINGA | 53 | 85.07 | 43.24 |
| NABARANGPUR | 40 | 181.02 | 38.91 |
| PAPARAHANDI | 33 | 56.25 | 30.46 |
| RAIGHAR | 39 | 94.08 | 56.67 |
| TENTULIKHUNTI | 44 | 44.95 | 27.93 |
| UMARKOTE | 108 | 655.40 | 111.62 |
| | 474 | 4104.10 | 438.43 |

Table 216: Distribution of perennial water bodies and their water spread areain Nabarangpur district

Table 217: Distribution of seasonal water bodies and their water spread area in Nabarangpur district

| Nabarangpur Tehsil wise Total Seasonal Water Bodies | | | |
|---|---------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| DABUGAN | 16 | 9.95 | |
| JHARIGAN | 36 | 37.54 | |
| KHATIGUDA | 3 | 7.36 | |
| KODINGA | 13 | 13.30 | |
| NABARANGPUR | 10 | 24.83 | |
| PAPARAHANDI | 10 | 7.32 | |
| RAIGHAR | 69 | 71.42 | |
| TENTULIKHUNTI | 4 | 3.83 | |
| UMARKOTE | 34 | 43.86 | |
| | 195 | 219.41 | |

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| Nabarangpur Block wise Total Perennial Water Bodies of C I | | | |
|--|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| DABUGAN | 46 | 59.46 | 28.52 |
| JHARIGAN | 105 | 134.11 | 85.85 |
| KHATIGUDA | 4 | 7.56 | 4.64 |
| KODINGA | 53 | 85.07 | 43.24 |
| NABARANGPUR | 38 | 72.55 | 36.40 |
| PAPARAHANDI | 33 | 56.25 | 30.46 |
| RAIGHAR | 39 | 94.08 | 56.67 |
| TENTULIKHUNTI | 44 | 44.95 | 27.93 |
| UMARKOTE | 107 | 165.11 | 111.62 |
| | 469 | 719.15 | 425.33 |

Table 218: Distribution of perennial water bodies and their water spread areain Nabarangpur district for C I

Table 219: Distribution of perennial water bodies and their water spread areain Nabarangpur district for C II

| Nabarangpur Block wise Total Perennial Water Bodies of C II | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| KHATIGUDA | 1 | 13.06 | 9.64 |
| NABARANGPUR | 2 | 108.47 | 2.50 |
| | 3 | 121.53 | 12.15 |

Table 220: Distribution of perennial water bodies and their water spread areain Nabarangpur district for C III

| Nabarangpur Block wise Total Perennial Water Bodies of C III | | | |
|--|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| UMARKOTE | 1 | 490.28 | 0.00 |

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Table 221: Distribution of perennial water bodies and their water spread areain Nabarangpur district for C V

| Nabarangpur Block wise Total Perennial Water Bodies of C III | | | |
|--|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| KHATIGUDA | 1 | 2773.14 | 0.95 |

Table 222: Distribution of Seasonal water bodies and their water spread areain Nabarangpur district for C I

| Nabarangapur Block wise Total Seasonal Water Bodies of C I | | |
|--|------------------------|-----------------|
| Block Name | Number of water bodies | Maximum area |
| DABUGAN | 16 | 9.95 |
| JHARIGAN | 36 | 37.54 |
| KHATIGUDA | 3 | 7.36 |
| KODINGA | 13 | 13.30 |
| NABARANGAPUR | 10 | 24.83 |
| PAPARAHANDI | 10 | 7.32 |
| RAIGHAR | 69 | 71.42 |
| TENTULIKHUNTI | 4 | 3.83 |
| UMARKOTE | 34 | 43.86 |
| | 195 | 219.41 |

In Nabarangpur District no parrenial waterbodies and their water spread areas on C IV and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

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GIS MAPPING OF INLAND WATER BODIES OF ODISHA

Nayagarh

Table 223: Distribution of the total number of water bodies and their area in Nayagarh district

| Nabarangpur Block wise Total Perennial Water Bodies of C I | | | | | | |
|--|------------------------|-----------------|---------|--|--|--|
| Block Name | Number of water bodies | Minimum area | | | | |
| DASAPALLA | 89 | 1356.58 | 364.11 | | | |
| FATEGARH | 204 | 296.35 | 136.66 | | | |
| GANIA | 28 | 62.39 | 34.91 | | | |
| KHANDAPADA | 67 | 325.32 | 166.31 | | | |
| NAYAGARH | 173 | 304.47 | 143.79 | | | |
| NUAGAON | 45 | 59.60 | 34.59 | | | |
| ODAGAON | 163 | 663.44 | 360.42 | | | |
| RANAPUR | 155 | 233.29 | 90.41 | | | |
| SARANKUL | 148 | 271.03 | 138.03 | | | |
| | 1072 | 3572.47 | 1469.23 | | | |

 Table 224: Season wise distribution of water spread area in Nayagarh district for the different water body categories

| | Perennial | | | S | easonal |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 851 | 1108.22 | 684.72 | 197 | 176.53 |
| CII | 17 | 630.78 | 219.27 | 0 | 0.00 |
| CIII | 7 | 1656.94 | 565.24 | 0 | 0.00 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| CV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| | 875 | 3395.94 | 1469.23 | 197 | 176.53 |

Table 225: Distribution of perennial water bodies and their water spread area in Nayagarh district

| Nayagarh block-wise Total Perennial Water Bodies | | | | | |
|--|------------------------|-----------------|-----------------|--|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | | |
| DASAPALLA | 73 | 1342.83 | 364.11 | | |
| FATEGARH | 164 | 236.17 | 136.66 | | |
| GANIA | 19 | 55.80 | 34.91 | | |
| KHANDAPADA | 54 | 314.60 | 166.31 | | |
| NAYAGARH | 146 | 283.74 | 143.79 | | |
| NUAGAON | 38 | 55.15 | 34.59 | | |
| ODAGAON | 139 | 646.49 | 360.42 | | |
| RANAPUR | 121 | 208.32 | 90.41 | | |
| SARANKUL | 121 | 252.85 | 138.03 | | |
| | 875 | 3395.94 | 1469.23 | | |

| Nayaga | rh Tehsil wise Total Seasonal W | Vater Bodies |
|------------|---------------------------------|-----------------|
| Block Name | Number of water bodies | Maximum area |
| DASAPALLA | 16 | 13.75 |
| FATEGARH | 40 | 60.18 |
| GANIA | 9 | 6.59 |
| KHANDAPADA | 13 | 10.73 |
| NAYAGARH | 27 | 20.73 |
| NUAGAON | 7 | 4.46 |
| ODAGAON | 24 | 16.95 |
| RANAPUR | 34 | 24.97 |
| SARANKUL | 27 | 18.18 |
| | 197 | 176.53 |

Table 226: Distribution of seasonal water bodies and their water spread area in Nayagarh district

Table 227: Distribution of perennial water bodies and their water spread areain Nayagarh district for C I

| Nayagarh Block wise Total Perennial Water Bodies of C I | | | | | |
|---|------------------------|-----------------|-----------------|--|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | | |
| DASAPALLA | 66 | 81.58 | 62.77 | | |
| FATEGARH | 162 | 204.29 | 123.01 | | |
| GANIA | 18 | 22.05 | 13.99 | | |
| KHANDAPADA | 50 | 63.93 | 36.14 | | |
| NAYAGARH | 145 | 221.68 | 129.92 | | |
| NUAGAON | 38 | 55.15 | 34.59 | | |
| ODAGAON | 135 | 172.58 | 114.71 | | |
| RANAPUR | 120 | 135.17 | 80.96 | | |
| SARANKUL | 117 | 151.80 | 88.63 | | |
| | 851 | 1108.22 | 684.72 | | |

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| Nayagarh Block wise Total Perennial Water Bodies of C II | | | | | | |
|--|------------------------|-----------------|-----------------|--|--|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | | | |
| DASAPALLA | 3 | 104.53 | 28.94 | | | |
| FATEGARH | 2 | 31.88 | 13.65 | | | |
| GANIA | 1 | 33.75 | 20.92 | | | |
| KHANDAPADA | 3 | 145.95 | 57.26 | | | |
| NAYAGARH | 1 | 62.06 | 13.87 | | | |
| ODAGAON | 2 | 78.40 | 25.79 | | | |
| RANAPUR | 1 | 73.15 | 9.45 | | | |
| SARANKUL | 4 | 101.05 | 49.40 | | | |
| | 17 | 630.78 | 219.27 | | | |

Table 228: Distribution of perennial water bodies and their water spread areain Nayagarh district for C II

Table 229: Distribution of perennial water bodies and their water spread areain Nayagarh district for C III

| Nayagarh Block wise Total Perennial Water Bodies of C III | | | | | |
|---|------------------------|-----------------|-----------------|--|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | | |
| DASAPALLA | 4 | 1156.71 | 272.40 | | |
| KHANDAPADA | 1 | 104.72 | 72.91 | | |
| ODAGAON | 2 | 395.51 | 219.93 | | |
| | 7 | 1656.94 | 565.24 | | |

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| Nayagarh B | Nayagarh Block wise Total Seasonal Water Bodies of C I | | | | |
|------------|--|-----------------|--|--|--|
| Block Name | Number of water bodies | Maximum area | | | |
| DASAPALLA | 16 | 13.75 | | | |
| FATEGARH | 40 | 60.18 | | | |
| GANIA | 9 | 6.59 | | | |
| KHANDAPADA | 13 | 10.73 | | | |
| NAYAGARH | 27 | 20.73 | | | |
| NUAGAON | 7 | 4.46 | | | |
| ODAGAON | 24 | 16.95 | | | |
| RANAPUR | 34 | 24.97 | | | |
| SARANKUL | 27 | 18.18 | | | |
| | 197 | 176.53 | | | |

Table 230: Distribution of Seasonal water bodies and their water spread areain Nayagarh district for C I

In Nayagarh District no parrenial waterbodies and their water spread areas on C IV and C V and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

Nuapada

Table 231: Distribution of the total number of water bodies and their area inNuapada district

| Nabarangpur Block wise Total Perennial Water Bodies of C I | | | | | | |
|--|------------------------|-----------------|-----------------|--|--|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | | | |
| BODEN | 199 | 254.47 | 168.30 | | | |
| JONK | 172 | 567.81 | 245.39 | | | |
| KHARIAR | 200 | 398.94 | 226.56 | | | |
| KOMANA | 247 | 1250.68 | 635.18 | | | |
| NUAPADA | 165 | 1534.15 | 805.55 | | | |
| SINAPALI | 242 | 498.57 | 310.21 | | | |
| | 1225 | 4504.63 | 2391.19 | | | |

Table 232: Season wise distribution of water spread area in Nuapada district for the different water body categories

| | | Perennial | Seasonal | | |
|------------|------------------------|-----------------|-----------------|------------------------|-----------------|
| Categories | Number of water bodies | Maximum area | Minimum area | Number of water bodies | Maximum area |
| CI | 664 | 1244.33 | 836.90 | 546 | 499.19 |
| CII | 10 | 257.45 | 154.54 | 0 | 0 |
| CIII | 3 | 911.54 | 473.66 | 0 | 0 |
| CIV | 2 | 1592.12 | 926.09 | 0 | 0 |
| CV | 0 | 0.00 | 0 | 0 | 0 |
| | 679 | 4005.44 | 2391.19 | 546 | 499.19 |

Table 233: Distribution of perennial water bodies and their water spread area in Nuapada district

| Nuapada block-wise Total Perennial Water Bodies | | | | | | |
|---|------------------------|-----------------|-----------------|--|--|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | | | |
| BODEN | 134 | 200.85 | 168.30 | | | |
| JONK | 66 | 461.06 | 245.39 | | | |
| KHARIAR | 116 | 322.60 | 226.56 | | | |
| KOMANA | 91 | 1115.25 | 635.18 | | | |
| NUAPADA | 72 | 1449.46 | 805.55 | | | |
| SINAPALI | 200 | 456.22 | 310.21 | | | |
| | 679 | 4005.43 | 2391.19 | | | |

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| Table 234: Distribution of | f seasonal | water | bodies | and | their | water | spread | area in |
|----------------------------|------------|-------|----------|-----|-------|-------|--------|---------|
| | Nua | pada | district | | | | | |

| Nuapada Tehsil wise Total Seasonal Water Bodies | | | |
|---|------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| BODEN | 65 | 53.63 | |
| JONK | 106 | 106.75 | |
| KHARIAR | 84 | 76.34 | |
| KOMANA | 156 | 135.43 | |
| NUAPADA | 93 | 84.69 | |
| SINAPALI | 42 | 42.35 | |
| | 546 | 499.19 | |

Table 235: Distribution of perennial water bodies and their water spread areain Nuapada district for C I

| Nuapada Block wise Total Perennial Water Bodies of C I | | | |
|--|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| BODEN | 134 | 200.85 | 168.30 |
| JONK | 65 | 149.57 | 77.08 |
| KHARIAR | 111 | 222.50 | 148.29 |
| KOMANA | 87 | 185.22 | 93.14 |
| NUAPADA | 69 | 150.72 | 76.46 |
| SINAPALI | 198 | 335.48 | 273.63 |
| | 664 | 1244.33 | 836.90 |

Table 236: Distribution of perennial water bodies and their water spread areain Nuapada district for C II

| Nuapada Block wise Total Perennial Water Bodies of C II | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| KHARIAR | 5 | 100.10 | 78.27 |
| KOMANA | 3 | 85.49 | 36.91 |
| NUAPADA | 1 | 56.07 | 31.28 |
| SINAPALI | 1 | 15.79 | 8.08 |
| | 10 | 257.45 | 154.54 |

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Table 237: Distribution of perennial water bodies and their water spread areain Nuapada district for C III

| Nuapada Block wise Total Perennial Water Bodies of C III | | | |
|--|--------------|---------|---------|
| Block Name | Number of | Maximum | Minimum |
| | water bodies | area | area |
| JONK | 1 | 311.50 | 168.31 |
| NUAPADA | 1 | 495.08 | 276.86 |
| SINAPALI | 1 | 104.96 | 28.49 |
| | 3 | 911.54 | 473.66 |

Table 238: Distribution of perennial water bodies and their water spread areain Nuapada district for C IV

| Nuapada Block wise Total Perennial Water Bodies of C IV | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| KOMANA | 1 | 844.54 | 505.13 |
| NUAPADA | 1 | 747.58 | 420.96 |
| | 2 | 1592.12 | 926.09 |

Table 239: Distribution of Seasonal water bodies and their water spread areain Nuapada district for C I

| Nuapada Block wise Total Seasonal Water Bodies of C I | | | |
|---|------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| BODEN | 65 | 53.63 | |
| JONK | 106 | 106.75 | |
| KHARIAR | 84 | 76.34 | |
| KOMANA | 156 | 135.43 | |
| NUAPADA | 93 | 84.69 | |
| SINAPALI | 42 | 42.35 | |

In Nuapada District no parrenial waterbodies and their water spread areas on C V and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

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Puri

Table 240: Distribution of the total number of water bodies and their area in Puri district

| Puri block-wise Total Water Bodies | | | |
|------------------------------------|------------------------|--------------|--------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| BRAHMAGIRI(P) | 31 | 86.63 | 35.74 |
| CHANDANPUR | 16 | 16.31 | 0.00 |
| DELANGA | 4 | 3.21 | 0.00 |
| GOP(P) | 49 | 55.59 | 0.00 |
| KAKATPUR | 16 | 33.30 | 10.47 |
| KONARK(P) | 14 | 13.66 | 0.00 |
| KRUSHNA PRASAD | 164 | 46996.87 | 28779.96 |
| NIMAPADA(P) | 64 | 67.32 | 0.00 |
| PIPILI | 46 | 63.18 | 0.00 |
| PURI(M) | 2 | 1.74 | 0.00 |
| SADAR(P) | 29 | 29.24 | 0.00 |
| SATYABADI(P) | 38 | 43.39 | 0.00 |
| | 473 | 47410.44 | 28826.17 |

Table 241: Season wise distribution of water spread area in Puri district for the different water body categories

| | | Perennial | | | easonal |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 10 | 20.50 | 18.81 | 412 | 861.11 |
| CII | 2 | 67.43 | 30.32 | 32 | 1234.50 |
| CIII | 2 | 341.35 | 47.77 | 13 | 3167.03 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0.00 |
| CV | 2 | 41718.51 | 28729.27 | 0 | 0.00 |
| | 16 | 42147.79 | 28826.17 | 457 | 5262.65 |

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| Puri block-wise Total Perennial Water Bodies | | | | |
|--|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| BRAHMAGIRI(P) | 3 | 39.56 | 35.74 | |
| KAKATPUR | 2 | 10.64 | 10.47 | |
| KRUSHNA PRASAD | 11 | 42097.60 | 28779.96 | |
| | 16 | 42147.79 | 28826.17 | |

Table 242: Distribution of perennial water bodies and their water spread area in Puri district

Table 243: Distribution of seasonal water bodies and their water spread area in Puri district

| Puri Tehsil wise Total Seasonal Water Bodies | | | |
|--|---------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| BRAHMAGIRI(P) | 28 | 47.07 | |
| CHANDANPUR | 16 | 16.31 | |
| DELANGA | 4 | 3.21 | |
| GOP(P) | 49 | 55.59 | |
| KAKATPUR | 14 | 22.66 | |
| KONARK(P) | 14 | 13.66 | |
| KRUSHNA PRASAD | 153 | 4899.27 | |
| NIMAPADA(P) | 64 | 67.32 | |
| PIPILI | 46 | 63.18 | |
| PURI(M) | 2 | 1.74 | |
| SADAR(P) | 29 | 29.24 | |
| SATYABADI(P) | 38 | 43.39 | |
| | 457 | 5262.65 | |

Table 244: Distribution of perennial water bodies and their water spread area in Puri district for C I

| Puri Block wise Total Perennial Water Bodies of C I | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| BRAHMAGIRI(P) | 2 | 7.59 | 6.62 |
| KAKATPUR | 2 | 10.64 | 10.47 |
| KRUSHNA PRASAD | 6 | 2.26 | 1.72 |
| | 10 | 20.50 | 18.81 |

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| their water spread area in Puri district for CII | | | | | |
|---|---|-------|-------|--|--|
| Puri Block wise Total Perennial Water Bodies of C II | | | | | |
| Block NameNumber of water bodiesMaximum areaMinimum area | | | | | |
| BRAHMAGIRI(P) | 1 | 31.96 | 29.12 | | |
| KRUSHNA PRASAD | 1 | 35.47 | 1.20 | | |
| | 2 | 67.43 | 30.32 | | |

Table 245: Distribution of perennial water bodies andtheir water spread area in Puri district for CII

 Table 246: Distribution of perennial water bodies and their water spread area in Puri district for C III

| Puri Block wise Total Perennial Water Bodies of C III | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| KRUSHNA PRASAD | 2 | 341.35 | 47.77 |

Table 247: Distribution of perennial water bodies and their water spread area in Puri district for C V

| Puri Block wise Total Perennial Water Bodies of C V | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| KRUSHNA PRASAD | 2 | 41718.51 | 28729.27 |

Table 248: Distribution of Seasonal water bodies and their water spread areain Puri district for C I

| Puri Block wise Total Seasonal Water Bodies of C I | | | |
|--|------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| BRAHMAGIRI(P) | 27 | 25.90 | |
| CHANDANPUR | 16 | 16.31 | |
| DELANGA | 4 | 3.21 | |
| GOP(P) | 49 | 55.59 | |
| KAKATPUR | 14 | 22.66 | |
| KONARK(P) | 14 | 13.66 | |
| KRUSHNA PRASAD | 109 | 518.91 | |
| NIMAPADA(P) | 64 | 67.32 | |
| PIPILI | 46 | 63.18 | |
| PURI(M) | 2 | 1.74 | |
| SADAR(P) | 29 | 29.24 | |
| SATYABADI(P) | 38 | 43.39 | |
| | 412 | 861.11 | |

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Table 249: Distribution of Seasonal water bodies and their water spread areain Puri district for C II

| Puri Block wise Total Seasonal Water Bodies of C II | | | |
|---|------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| BRAHMAGIRI(P) | 1 | 21.17 | |
| KRUSHNA PRASAD | 31 | 1213.33 | |
| | 32 | 1234.50 | |

Table 250: Distribution of Seasonal water bodies and their water spread area in Puri district for C III

| Puri Block wise Total Seasonal Water Bodies of C III | | | |
|--|------------------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | |
| KRUSHNA PRASAD | 13 | 3167.03 | |

In Puri District no parrenial waterbodies and their water spread areas on C IV and no seasonal water bodies and their water spread areas on C IV and C V are available

Rayagada

Table 251: Distribution of the total number of water bodies and their area inRayagada district

| Rayagada block-wise Total Water Bodies | | | |
|--|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| AMBADALA | 10 | 8.01 | 3.05 |
| BISHAMAKATAK | 27 | 35.42 | 19.56 |
| GUDARI | 46 | 64.59 | 18.77 |
| GUNUPUR | 69 | 133.61 | 65.63 |
| KALYANASINGPUR | 12 | 13.40 | 5.85 |
| KASHIPUR | 2 | 5.82 | 4.61 |
| MUNIGUDA(P) | 23 | 34.00 | 18.34 |
| PADMAPUR | 63 | 3268.86 | 384.06 |
| PUTTASING | 8 | 10.37 | 4.02 |
| RAYAGADA | 35 | 96.35 | 39.75 |
| TIKIRI | 1 | 20.64 | 17.81 |
| | 296 | 3691.07 | 581.45 |

 Table 252: Season wise distribution of water spread area in Rayagada district for the different water body categories

| Perennial | | | | Seasonal | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 170 | 252.96 | 199.02 | 113 | 138.27 |
| CII | 3 | 98.69 | 35.23 | 0 | 0 |
| CIII | 10 | 3201.15 | 347.2 | 0 | 0 |
| CIV | 0 | 0.00 | 0 | 0 | 0 |
| CV | 0 | 0.00 | 0 | 0 | 0 |
| | 183 | 3552.80 | 581.45 | 113 | 138.27 |

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| Rayagada block-wise Total Perennial Water Bodies | | | | |
|--|------------------------|-----------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | Minimum area | |
| AMBADALA | 3 | 3.05 | 3.05 | |
| BISHAMAKATAK | 20 | 28.39 | 19.56 | |
| GUDARI | 19 | 24.85 | 18.77 | |
| GUNUPUR | 47 | 109.81 | 65.63 | |
| KALYANASINGPUR | 9 | 8.16 | 5.85 | |
| KASHIPUR | 1 | 5.07 | 4.61 | |
| MUNIGUDA(P) | 15 | 24.82 | 18.34 | |
| PADMAPUR | 46 | 3247.04 | 384.06 | |
| PUTTASING | 4 | 7.53 | 4.02 | |
| RAYAGADA | 18 | 73.43 | 39.75 | |
| TIKIRI | 1 | 20.64 | 17.81 | |
| | 183 | 3552.80 | 581.45 | |

Table 253: Distribution of perennial water bodies and their water spread area inRayagada district

Table 254: Distribution of seasonal water bodies and their water spread area in
Rayagada district

| Rayagada Tehsil wise Total Seasonal Water Bodies | | | |
|--|------------------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | |
| AMBADALA | 7 | 4.96 | |
| BISHAMAKATAK | 7 | 7.03 | |
| GUDARI | 27 | 39.74 | |
| GUNUPUR | 22 | 23.79 | |
| KALYANASINGPUR | 3 | 5.24 | |
| KASHIPUR | 1 | 0.74 | |
| MUNIGUDA(P) | 8 | 9.18 | |
| PADMAPUR | 17 | 21.82 | |
| PUTTASING | 4 | 2.84 | |
| RAYAGADA | 17 | 22.93 | |
| | 113 | 138.27 | |

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| Rayagada Block wise Total Perennial Water Bodies of C I | | | | |
|---|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| AMBADALA | 3 | 3.05 | 3.05 | |
| BISHAMAKATAK | 20 | 28.39 | 19.56 | |
| GUDARI | 19 | 24.85 | 18.77 | |
| GUNUPUR | 46 | 71.23 | 59.46 | |
| KALYANASINGPUR | 9 | 8.16 | 5.85 | |
| KASHIPUR | 1 | 5.07 | 4.61 | |
| MUNIGUDA(P) | 15 | 24.82 | 18.34 | |
| PADMAPUR | 36 | 45.89 | 36.87 | |
| PUTTASING | 4 | 7.53 | 4.02 | |
| RAYAGADA | 17 | 33.96 | 28.50 | |
| | 170 | 252.96 | 199.02 | |

Table 255: Distribution of perennial water bodies and their water spread area inRayagada district for C I

Table 256: Distribution of perennial water bodies and their water spread area inRayagada district for C II

| Rayagada Block wise Total Perennial Water Bodies of C II | | | | |
|--|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| GUNUPUR | 1 | 38.58 | 6.17 | |
| RAYAGADA | 1 | 39.46 | 11.25 | |
| TIKIRI | 1 | 20.64 | 17.81 | |
| | 3 | 98.69 | 35.23 | |

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Table 257: Distribution of perennial water bodies and their water spread area inRayagada district for C III

| Rayagada Block wise Total Perennial Water Bodies of C III | | | |
|---|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| PADMAPUR | 10 | 3201.15 | 347.20 |

Table 258: Distribution of Seasonal water bodies and their water spread area inRayagada district for C I

| Rayagada Block wise Total Seasonal Water Bodies of C I | | | |
|--|---------------------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | |
| AMBADALA | 7 | 4.96 | |
| BISHAMAKATAK | 7 | 7.03 | |
| GUDARI | 27 | 39.74 | |
| GUNUPUR | 22 | 23.79 | |
| KALYANASINGPUR | 3 | 5.24 | |
| KASHIPUR | 1 | 0.74 | |
| MUNIGUDA(P) | 8 | 9.18 | |
| PADMAPUR | 17 | 21.82 | |
| PUTTASING | 4 | 2.84 | |
| RAYAGADA | 17 | 22.93 | |
| | 113 | 138.27 | |

In Rayagada District no parrenial waterbodies and their water spread areas on C IV and C V and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

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Sambalpur

Table 259: Distribution of the total number of water bodies and their area inSambalpur district

| Sambalpur block-wise Total Water Bodies | | | |
|---|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| AMTHAPALI | 39 | 56.48 | 46.47 |
| BURLA | 87 | 808.84 | 711.34 |
| CHARAMAL | 52 | 3891.53 | 1129.29 |
| DHAMA | 83 | 120.04 | 75.23 |
| DHANUPALI | 10 | 13.07 | 9.09 |
| GOVINDPUR | 70 | 97.75 | 41.51 |
| HIRAKUD | 4 | 4.94 | 2.46 |
| JAMANKIRA | 135 | 369.40 | 115.20 |
| JUJOMURA | 108 | 301.50 | 133.79 |
| KATARBAGA | 229 | 13299.57 | 195.83 |
| KISINDA | 8 | 16.68 | 3.80 |
| KOCHINDA | 193 | 280.62 | 143.62 |
| MAHULPALLI | 183 | 298.97 | 138.26 |
| NAKTIDEUL | 17 | 29.39 | 9.68 |
| RAIRAKHOL | 48 | 68.65 | 27.04 |
| SADAR | 74 | 128.50 | 95.88 |
| SAMBALPUR | 1 | 2.17 | 2.15 |
| SASAN | 130 | 248.73 | 153.57 |
| | 1471 | 20036.84 | 3034.19 |

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| | Perenni | S | easonal | | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 1187 | 2032.83 | 1212.62 | 262 | 254.70 |
| CII | 11 | 270.21 | 157.11 | 0 | 0.00 |
| CIII | 8 | 2861.24 | 588.15 | 0 | 0.00 |
| CIV | 2 | 1683.05 | 1075.17 | 0 | 0.00 |
| CV | 1 | 12934.80 | 1.15 | 0 | 0.00 |
| | 1209 | 19782.13 | 3034.2 | 262 | 254.70 |

Table 260: Season wise distribution of water spread area in Sambalpur district for the different water body categories

Table 261: Distribution of perennial water bodies and their water spread area inSambalpur district

| Sambalpur block-wise Total Perennial Water Bodies | | | |
|---|------------------------|-----------------|-----------------|
| Block name | Number of water bodies | Maximum area | Minimum area |
| AMTHAPALI | 38 | 55.37 | 46.47 |
| BURLA | 63 | 772.75 | 711.34 |
| CHARAMAL | 26 | 3867.76 | 1129.29 |
| DHAMA | 77 | 114.33 | 75.23 |
| DHANUPALI | 9 | 12.49 | 9.09 |
| GOVINDPUR | 48 | 79.16 | 41.51 |
| HIRAKUD | 3 | 4.32 | 2.46 |
| JAMANKIRA | 108 | 344.94 | 115.20 |
| JUJOMURA | 99 | 293.79 | 133.79 |
| KATARBAGA | 196 | 13262.69 | 195.83 |
| KISINDA | 4 | 11.72 | 3.80 |
| KOCHINDA | 169 | 262.70 | 143.62 |
| MAHULPALLI | 142 | 261.42 | 138.26 |
| NAKTIDEUL | 9 | 20.66 | 9.68 |
| RAIRAKHOL | 29 | 52.03 | 27.04 |
| SADAR | 71 | 126.81 | 95.88 |
| SAMBALPUR | 1 | 2.17 | 2.15 |
| SASAN | 117 | 237.02 | 153.57 |
| | 1209 | 19782.14 | 3034.19 |

| Sambalpur Tehsil wise Total Seasonal Water Bodies | | | |
|---|---------------------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | |
| AMTHAPALI | 1 | 1.11 | |
| BURLA | 24 | 36.08 | |
| CHARAMAL | 26 | 23.77 | |
| DHAMA | 6 | 5.71 | |
| DHANUPALI | 1 | 0.58 | |
| GOVINDPUR | 22 | 18.59 | |
| HIRAKUD | 1 | 0.62 | |
| JAMANKIRA | 27 | 24.46 | |
| JUJOMURA | 9 | 7.71 | |
| KATARBAGA | 33 | 36.88 | |
| KISINDA | 4 | 4.96 | |
| KOCHINDA | 24 | 17.92 | |
| MAHULPALLI | 41 | 37.55 | |
| NAKTIDEUL | 8 | 8.73 | |
| RAIRAKHOL | 19 | 16.63 | |
| SADAR | 3 | 1.69 | |
| SASAN | 13 | 11.71 | |
| | 262 | 254.70 | |

Table 262: Distribution of seasonal water bodies and their water spread area inSambalpur district

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| Sambalpur Block wise Total Perennial Water Bodies of C I | | | |
|--|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| AMTHAPALI | 38 | 55.37 | 46.47 |
| BURLA | 56 | 125.29 | 89.83 |
| CHARAMAL | 21 | 35.66 | 25.93 |
| DHAMA | 77 | 114.33 | 75.23 |
| DHANUPALI | 9 | 12.49 | 9.09 |
| GOVINDPUR | 48 | 79.16 | 41.51 |
| HIRAKUD | 3 | 4.32 | 2.46 |
| JAMANKIRA | 106 | 183.22 | 101.46 |
| JUJOMURA | 97 | 219.12 | 123.54 |
| KATARBAGA | 195 | 327.89 | 194.68 |
| KISINDA | 4 | 11.72 | 3.80 |
| KOCHINDA | 168 | 247.49 | 134.46 |
| MAHULPALLI | 141 | 242.72 | 126.40 |
| NAKTIDEUL | 9 | 20.66 | 9.68 |
| RAIRAKHOL | 29 | 52.03 | 27.04 |
| SADAR | 70 | 113.78 | 86.31 |
| SAMBALPUR | 1 | 2.17 | 2.15 |
| SASAN | 115 | 185.40 | 112.58 |
| | 1187 | 2032.83 | 1212.62 |

Table 263: Distribution of perennial water bodies and their water spread area inSambalpur district for C I

Table 264: Distribution of perennial water bodies and their water spread area inSambalpur district for C II

| Sambalpur Block wise Total Perennial Water Bodies of C II | | | |
|---|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| BURLA | 3 | 74.70 | 66.54 |
| JAMANKIRA | 1 | 22.29 | 8.75 |
| JUJOMURA | 2 | 74.68 | 10.25 |
| KOCHINDA | 1 | 15.21 | 9.16 |
| MAHULPALLI | 1 | 18.70 | 11.86 |
| SADAR | 1 | 13.03 | 9.56 |
| SASAN | 2 | 51.62 | 40.99 |
| | 11 | 270.21 | 157.11 |

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| Sambalpur Block wise Total Perennial Water Bodies of C III | | | |
|--|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| BURLA | 4 | 572.76 | 554.97 |
| CHARAMAL | 3 | 2149.06 | 28.19 |
| JAMANKIRA | 1 | 139.43 | 4.99 |
| | 8 | 2861.24 | 588.15 |

Table 265: Distribution of perennial water bodies and their water spread area inSambalpur district for C III

Table 266: Distribution of perennial water bodies and their water spread area in
Sambalpur district for C IV

| Sambalpur Block wise Total Perennial Water Bodies of C IV | | | |
|---|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| CHARAMAL | 2 | 1683.05 | 1075.17 |

Table 267: Distribution of perennial water bodies and their water spread area in Sambalpur district for C V

| Sambalpur Block wise Total Perennial Water Bodies of C V | | | |
|--|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| KATARBAGA | 1 | 12934.80 | 1.15 |

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Table 268: Distribution of Seasonal water bodies and their water spread area in
Sambalpur district for C I

| Sambalpur Block wise Total Seasonal Water Bodies of C I | | | |
|---|---------------------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | |
| AMTHAPALI | 1 | 1.11 | |
| BURLA | 24 | 36.08 | |
| CHARAMAL | 26 | 23.77 | |
| DHAMA | 6 | 5.71 | |
| DHANUPALI | 1 | 0.58 | |
| GOVINDPUR | 22 | 18.59 | |
| HIRAKUD | 1 | 0.62 | |
| JAMANKIRA | 27 | 24.46 | |
| JUJOMURA | 9 | 7.71 | |
| KATARBAGA | 33 | 36.88 | |
| KISINDA | 4 | 4.96 | |
| KOCHINDA | 24 | 17.92 | |
| MAHULPALLI | 41 | 37.55 | |
| NAKTIDEUL | 8 | 8.73 | |
| RAIRAKHOL | 19 | 16.63 | |
| SADAR | 3 | 1.69 | |
| SASAN | 13 | 11.71 | |
| | 262 | 254.70 | |

In Sambalpur District no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available



Sonapur

Table 269: Distribution of the total number of water bodies and their area inSonapur district

| Sonapur block-wise Total Water Bodies | | | |
|---------------------------------------|------------------------|-----------------|-----------------|
| Block Name | Number of water bodies | Maximum area | Minimum area |
| BINIKA | 112 | 188.17 | 106.86 |
| BIRAMAHARAJPUR | 367 | 1346.19 | 266.31 |
| DUNGURIPALI(P) | 160 | 294.20 | 180.41 |
| RAMPUR | 48 | 87.37 | 60.08 |
| SONAPUR | 126 | 223.81 | 112.02 |
| TARBHA | 281 | 469.87 | 218.02 |
| ULUNDA | 137 | 215.56 | 98.40 |
| | 1231 | 2825.17 | 1042.10 |

Table 270: Season wise distribution of water spread area in Sonapur district for the different water body categories

| Perennial | | | Sea | sonal | |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 807 | 1622.41 | 1020.75 | 421 | 461.68 |
| CII | 2 | 24.73 | 20.54 | 0 | 0 |
| CIII | 1 | 716.35 | 0.81 | 0 | 0 |
| CIV | 0 | 0.00 | 0 | 0 | 0 |
| CV | 0 | 0.00 | 0 | 0 | 0 |
| | 810 | 2363.49 | 1042.102 | 421 | 461.68 |

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| Sonapur block-wise Total Perennial Water Bodies | | | | | |
|---|------------------------|-----------------|-----------------|--|--|
| Block name | Number of water bodies | Maximum area | Minimum area | | |
| BINIKA | 74 | 145.22 | 106.86 | | |
| BIRAMAHARAJPUR | 220 | 1165.23 | 266.31 | | |
| DUNGURIPALI(P) | 120 | 257.12 | 180.41 | | |
| RAMPUR | 36 | 76.81 | 60.08 | | |
| SONAPUR | 93 | 190.95 | 112.02 | | |
| TARBHA | 183 | 371.56 | 218.02 | | |
| ULUNDA | 84 | 156.61 | 98.40 | | |
| | 810 | 2363.50 | 1042.10 | | |

Table 271: Distribution of perennial water bodies and their water spread area inSonapur district

Table 272: Distribution of seasonal water bodies and their water spread area inSonapur district

| Sonapur Tehsil wise Total Seasonal Water Bodies | | | | | |
|---|------------------------|-----------------|--|--|--|
| Block name | Number of water bodies | Maximum area | | | |
| BINIKA | 38 | 42.96 | | | |
| BIRAMAHARAJPUR | 147 | 180.96 | | | |
| DUNGURIPALI(P) | 40 | 37.08 | | | |
| RAMPUR | 12 | 10.56 | | | |
| SONAPUR | 33 | 32.85 | | | |
| TARBHA | 98 | 98.31 | | | |
| ULUNDA | 53 | 58.95 | | | |
| | 421 | 461.68 | | | |

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| Sonapur Block wise Total Perennial Water Bodies of C I | | | | | |
|--|---------------------------|-----------------|-----------------|--|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | | |
| BINIKA | 73 | 133.61 | 96.99 | | |
| BIRAMAHARAJPUR | 219 | 448.88 | 265.50 | | |
| DUNGURIPALI(P) | 119 | 243.99 | 169.74 | | |
| RAMPUR | 36 | 76.81 | 60.08 | | |
| SONAPUR | 93 | 190.95 | 112.02 | | |
| TARBHA | 183 | 371.56 | 218.02 | | |
| ULUNDA | 84 | 156.61 | 98.40 | | |
| | 807 | 1622.41 | 1020.75 | | |

Table 273: Distribution of perennial water bodies and their water spread area inSonapur district for C I

Table 274: Distribution of perennial water bodies and their water spread area inSonapur district for C II

| Sonapur Block wise Total Perennial Water Bodies of C II | | | | | | |
|---|---|-------|-------|--|--|--|
| Block Name | Number ofMaximumMinimumWater Bodiesareaarea | | | | | |
| BINIKA | 1 | 11.60 | 9.87 | | | |
| DUNGURIPALI(P) | 1 | 13.13 | 10.67 | | | |
| | 2 | 24.73 | 20.54 | | | |

Table 275: Distribution of perennial water bodies and their water spread area inSonapur district for C III

| Sonapur Block wise Total Perennial Water Bodies of C III | | | | | |
|--|---------------------------|-----------------|-----------------|--|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | | |
| BIRAMAHARAJPUR | 1 | 716.35 | 0.81 | | |

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Table 276: Distribution of Seasonal water bodies and their water spread area inSonapur district for C I

| Sonapur Block wise Total Seasonal Water Bodies of C I | | | | | |
|---|---------------------------|-----------------|--|--|--|
| Block Name | Number of Water Bodies | Maximum area | | | |
| BINIKA | 38 | 42.96 | | | |
| BIRAMAHARAJPUR | 147 | 180.96 | | | |
| DUNGURIPALI(P) | 40 | 37.08 | | | |
| RAMPUR | 12 | 10.56 | | | |
| SONAPUR | 33 | 32.85 | | | |
| TARBHA | 98 | 98.31 | | | |
| ULUNDA | 53 | 58.95 | | | |
| | 421 | 461.68 | | | |

In Sonapur District no parrenial waterbodies and their water spread areas on C IV and C V and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

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Sundargarh

Table 277: Distribution of the total number of water bodies and their area in Sundargarh district

| Sundargarh block-wise Total Water Bodies | | | | |
|--|------------------------|-----------------|-----------------|--|
| Block Name | Number of water bodies | Maximum area | Minimum area | |
| BANEI | 93 | 101.07 | 41.38 | |
| BANKI | 5 | 8.51 | 3.87 | |
| BARAGAON | 120 | 264.00 | 100.98 | |
| BHASMA | 162 | 294.71 | 123.14 | |
| BIRAMITRAPUR | 62 | 174.34 | 117.90 | |
| BISRA | 42 | 69.05 | 31.66 | |
| BONDAMUNDA | 4 | 8.66 | 6.97 | |
| BRAHMANI TARANG | 16 | 325.40 | 203.57 | |
| GURUNDIA | 11 | 11.66 | 6.31 | |
| HATIBARI | 20 | 55.25 | 38.27 | |
| HEMGIR | 117 | 263.37 | 131.94 | |
| KAMARPOSH BALANG | 18 | 30.53 | 12.70 | |
| KINJIRKELA | 69 | 138.30 | 55.62 | |
| KOIDA | 3 | 3.60 | 0.74 | |
| KUTRA | 60 | 99.41 | 40.49 | |
| LAHUNIPARA | 54 | 104.05 | 40.32 | |
| LATHIKATA | 14 | 15.58 | 5.15 | |
| LEPHRIPARA | 132 | 475.37 | 243.91 | |
| MAHULPADA | 8 | 17.09 | 4.55 | |
| RAGHUNATHAPALI | 2 | 1.85 | 1.63 | |
| RAIBOGA | 45 | 2907.13 | 152.60 | |
| RAJAGANGAPUR | 68 | 646.90 | 457.56 | |
| RAURKELA INDURSTRIAL TOWNSHIP | 13 | 42.92 | 28.40 | |
| SUNDARGARH | 135 | 270.08 | 118.40 | |
| TALASARA | 69 | 404.56 | 257.08 | |
| TANGARAPALI | 8 | 23.58 | 14.56 | |
| TIKAETPALI | 26 | 96.85 | 40.96 | |
| | 1376 | 6853.83 | 2280.66 | |

Table 278: Season wise distribution of water spread area in Sundargarh district for the different water body categories

| Perennial | | | | Seas | sonal |
|------------|---------------------------|-----------------|-----------------|---------------------------|-----------------|
| Categories | Number of Water Bodies | Maximum Area | Minimum Area | Number of Water Bodies | Maximum Area |
| CI | 982 | 1942.01 | 1042.25 | 369 | 417.9 |
| CII | 19 | 442.82 | 247.99 | 0 | 0 |
| CIII | 5 | 1322.67 | 943.52 | 0 | 0 |
| CIV | 0 | 0.00 | 0.00 | 0 | 0 |
| CV | 1 | 2728.42 | 46.90 | 0 | 0 |
| | 1007 | 6435.93 | 2280.66 | 369 | 417.9 |

| Sundargarh block-wise Total Perennial Water Bodie | | | | |
|---|------------------------|-----------------|-----------------|--|
| Block name | Number of water bodies | Maximum area | Minimum area | |
| BANEI | 71 | 85.89 | 41.38 | |
| BANKI | 3 | 7.34 | 3.87 | |
| BARAGAON | 79 | 220.54 | 100.98 | |
| BHASMA | 128 | 263.54 | 123.14 | |
| BIRAMITRAPUR | 49 | 162.49 | 117.90 | |
| BISRA | 28 | 53.62 | 31.66 | |
| BONDAMUNDA | 4 | 8.66 | 6.97 | |
| BRAHMANI TARANG | 11 | 319.97 | 203.57 | |
| GURUNDIA | 7 | 9.40 | 6.31 | |
| HATIBARI | 14 | 50.69 | 38.27 | |
| HEMGIR | 93 | 224.15 | 131.94 | |
| KAMARPOSH BALANG | 15 | 28.52 | 12.70 | |
| KINJIRKELA | 50 | 122.23 | 55.62 | |
| KOIDA | 2 | 2.90 | 0.74 | |
| KUTRA | 36 | 75.96 | 40.49 | |
| LAHUNIPARA | 40 | 95.40 | 40.32 | |
| LATHIKATA | 5 | 9.99 | 5.15 | |
| LEPHRIPARA | 108 | 440.00 | 243.91 | |
| MAHULPADA | 5 | 14.50 | 4.55 | |
| RAGHUNATHAPALI | 2 | 1.85 | 1.63 | |
| RAIBOGA | 30 | 2883.93 | 152.60 | |
| RAJAGANGAPUR | 45 | 580.09 | 457.56 | |
| RAURKELA INDURSTRIAL TOWNSHIP | 10 | 40.44 | 28.40 | |
| SUNDARGARH | 92 | 225.78 | 109.91 | |
| SUNDARGARH TOWN | 10 | 16.38 | 8.49 | |
| TALASARA | 44 | 380.48 | 257.08 | |
| TANGARAPALI | 5 | 19.50 | 14.56 | |
| TIKAETPALI | 21 | 91.69 | 40.96 | |
| | 1007 | 6435.93 | 2280.66 | |

Table 279: Distribution of perennial water bodies and their water spread area inSundargarh district

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Table 280: Distribution of seasonal water bodies and their water spread area inSundargarh district

| Sundargarh Tehsil wise Total Seasonal Water Bodies | | | | |
|--|------------------------|-----------------|--|--|
| Block name | Number of water bodies | Maximum area | | |
| BANEI | 22 | 15.18 | | |
| BANKI | 2 | 1.17 | | |
| BARAGAON | 41 | 43.46 | | |
| BHASMA | 34 | 31.17 | | |
| BIRAMITRAPUR | 13 | 11.85 | | |
| BISRA | 14 | 15.43 | | |
| BRAHMANI TARANG | 5 | 5.43 | | |
| GURUNDIA | 4 | 2.27 | | |
| HATIBARI | 6 | 4.56 | | |
| HEMGIR | 24 | 39.22 | | |
| KAMARPOSH BALANG | 3 | 2.01 | | |
| KINJIRKELA | 19 | 16.07 | | |
| KOIDA | 1 | 0.70 | | |
| KUTRA | 24 | 23.46 | | |
| LAHUNIPARA | 14 | 8.65 | | |
| LATHIKATA | 9 | 5.59 | | |
| LEPHRIPARA | 24 | 35.38 | | |
| MAHULPADA | 3 | 2.58 | | |
| RAIBOGA | 15 | 23.20 | | |
| RAJAGANGAPUR | 23 | 66.81 | | |
| RAURKELA INDURSTRIAL TOWNSHIP | 3 | 2.47 | | |
| SUNDARGARH | 33 | 27.93 | | |
| TALASARA | 25 | 24.07 | | |
| TANGARAPALI | 3 | 4.08 | | |
| TIKAETPALI | 5 | 5.16 | | |
| | 369 | 417.90 | | |

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| Sundargarh Block wise Total Perennial Water Bodies of C I | | | | |
|---|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| BANEI | 71 | 85.89 | 41.38 | |
| BANKI | 3 | 7.34 | 3.87 | |
| BARAGAON | 77 | 186.60 | 84.65 | |
| BHASMA | 127 | 237.05 | 113.01 | |
| BIRAMITRAPUR | 48 | 97.10 | 66.92 | |
| BISRA | 28 | 53.62 | 31.66 | |
| BONDAMUNDA | 4 | 8.66 | 6.97 | |
| BRAHMANI TARANG | 10 | 19.66 | 11.85 | |
| GURUNDIA | 7 | 9.40 | 6.31 | |
| HATIBARI | 13 | 34.07 | 21.92 | |
| HEMGIR | 90 | 156.20 | 97.36 | |
| KAMARPOSH BALANG | 15 | 28.52 | 12.70 | |
| KINJIRKELA | 49 | 90.00 | 42.40 | |
| KOIDA | 2 | 2.90 | 0.74 | |
| KUTRA | 36 | 75.96 | 40.49 | |
| LAHUNIPARA | 38 | 51.09 | 23.21 | |
| LATHIKATA | 5 | 9.99 | 5.15 | |
| LEPHRIPARA | 106 | 231.16 | 121.27 | |
| MAHULPADA | 5 | 14.50 | 4.55 | |
| RAGHUNATHAPALI | 2 | 1.85 | 1.63 | |
| RAIBOGA | 27 | 76.69 | 51.39 | |
| RAJAGANGAPUR | 44 | 94.03 | 60.78 | |
| RAURKELA INDURSTRIAL TOWNSHIP | 9 | 26.38 | 16.55 | |
| SUNDARGARH | 91 | 206.71 | 93.73 | |
| SUNDARGARH TOWN | 10 | 16.38 | 8.49 | |
| TALASARA | 42 | 72.57 | 47.09 | |
| TANGARAPALI | 5 | 19.50 | 14.56 | |
| TIKAETPALI | 18 | 28.20 | 11.64 | |
| | 982 | 1942.01 | 1042.25 | |

Table 281: Distribution of perennial water bodies and their water spread area inSundargarh district for C I

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| Sundargarh Block wise Total Perennial Water Bodies of C II | | | | |
|--|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| BARAGAON | 2 | 33.94 | 16.33 | |
| BHASMA | 1 | 26.49 | 10.13 | |
| HATIBARI | 1 | 16.62 | 16.36 | |
| HEMGIR | 3 | 67.94 | 34.58 | |
| KINJIRKELA | 1 | 32.23 | 13.22 | |
| LAHUNIPARA | 2 | 44.31 | 17.11 | |
| LEPHRIPARA | 1 | 19.33 | 15.30 | |
| RAIBOGA | 2 | 78.82 | 54.31 | |
| RAURKELA INDURSTRIAL TOWNSHIP | 1 | 14.06 | 11.84 | |
| SUNDARGARH | 1 | 19.07 | 16.18 | |
| TALASARA | 1 | 26.52 | 13.30 | |
| TIKAETPALI | 3 | 63.49 | 29.32 | |
| | 19 | 442.82 | 247.99 | |

Table 282: Distribution of perennial water bodies and their water spread area in
Sundargarh district for C II

Table 283: Distribution of perennial water bodies and their water spread area inSundargarh district for C III

| Sundargarh Block wise Total Perennial Water Bodies of C III | | | | |
|---|---------------------------|-----------------|-----------------|--|
| Block Name | Number of Water Bodies | Maximum area | Minimum area | |
| BIRAMITRAPUR | 1 | 65.39 | 50.98 | |
| BRAHMANI TARANG | 1 | 300.32 | 191.72 | |
| LEPHRIPARA | 1 | 189.52 | 107.34 | |
| RAJAGANGAPUR | 1 | 486.06 | 396.79 | |
| TALASARA | 1 | 281.39 | 196.69 | |
| | 5 | 1322.67 | 943.52 | |

Table 284: Distribution of perennial water bodies and their water spread area inSundargarh district for C V

| Sundargarh Block wise Total Perennial Water Bodies of C V | | | |
|---|---------------------------|-----------------|-----------------|
| Block Name | Number of Water Bodies | Maximum area | Minimum area |
| RAIBOGA | 1 | 2728.42 | 46.90 |

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| Sundargarh Block wise Total Seasonal Water Bodies of C I | | | | |
|--|---------------------------|-----------------|--|--|
| Block Name | Number of Water Bodies | Maximum area | | |
| BANEI | 22 | 15.18 | | |
| BANKI | 2 | 1.17 | | |
| BARAGAON | 41 | 43.46 | | |
| BHASMA | 34 | 31.17 | | |
| BIRAMITRAPUR | 13 | 11.85 | | |
| BISRA | 14 | 15.43 | | |
| BRAHMANI TARANG | 5 | 5.43 | | |
| GURUNDIA | 4 | 2.27 | | |
| HATIBARI | 6 | 4.56 | | |
| HEMGIR | 24 | 39.22 | | |
| KAMARPOSH BALANG | 3 | 2.01 | | |
| KINJIRKELA | 19 | 16.07 | | |
| KOIDA | 1 | 0.70 | | |
| KUTRA | 24 | 23.46 | | |
| LAHUNIPARA | 14 | 8.65 | | |
| LATHIKATA | 9 | 5.59 | | |
| LEPHRIPARA | 24 | 35.38 | | |
| MAHULPADA | 3 | 2.58 | | |
| RAIBOGA | 15 | 23.20 | | |
| RAJAGANGAPUR | 23 | 66.81 | | |
| RAURKELA INDURSTRIAL TOWNSHIP | 3 | 2.47 | | |
| SUNDARGARH | 33 | 27.93 | | |
| TALASARA | 25 | 24.07 | | |
| TANGARAPALI | 3 | 4.08 | | |
| TIKAETPALI | 5 | 5.16 | | |
| | 369 | 417.90 | | |

Table 285: Distribution of Seasonal water bodies and their water spread area in Sundargarh district for C I

In Sundargarh District no parrenial waterbodies and their water spread areas on C IV and no seasonal water bodies and their water spread areas on C II, C III, C IV and C V are available

Description of Major Inland Water Resources of Odisha

1. Mahanadi Estuarine system

The Mahanadi estuarine system is one of the major estuaries in India and the largest estuary in Odisha. It is spread over a wide area in the Cuttack and Purl districts of about 165 kilometers of coastline along the coast of Bay of Bengal. It is located within latitudes 19°47' N. and 20°30' N and longitudes 85°33' E and 86°49' E. It extends from the northern end of Hukitola lake in the north in Cuttack district, to the north-eastern extremity of Chilka Lake in the south in Puri district. The Mahanadi originates from Amarkantaka region of Madhya Pradesh and flows through Madhya Pradesh and Odisha state. The river enters Odisha through Sambalpur district followed by Balangir district and then through Boudh-Phulbani district border areas, finally into Cuttack district. After Cuttack district, the river Mahanadi divides into two main rivers Devi River & Mahanadi proper. The main river opens into the Bay of Bengal at Paradeep in Cuttack District. Devi river opens .into sea near Astaranga in Puri District.

The entire area is full of mangrove vegetation together with mudflats traversed by a network of tidal creeks except for some areas like Paradeep mouth region and Astaranga mouth region which are Sandy shoreline. The main flora of mangroves are fonned of *Avicennia officinalis, A. alba, A. marina, Rhizophora mucronate* which are more abundant on the banks of the river mouth and are characterized by reddish and jointed pneumatophores. The other flora of these mangrove swamps are *Bruguiera conjugata, Ceriops roxburghiana, Sonneratia apetala, Lumnitzera racemesa. Aegiceras corinculatum, Excoecaria agallocha, Arthoenemum indicum, Salicornia brachiata, Saueda maritima and Suaeda mudijlora.*

A large part of mangrove swamps is submerged during the monsoon months. It is an intricate network of canals and creeks interspersed with islands of alluvium and detritus brought down from the forests. This detritus from the mangrove forests provides food for fishes, prawns and other animals. The mangrove plays a vital role in the economy of the area

both for human beings as well as for the fauna. The mangroves are used generally as fuel and a red dye extracted from the bark of *Ceriops roxburghiana* is used for preserving fishing nets. For the animals, the mangrove provides rich detritus and shelters. The mangrove forests also check soil erosion due to tidal effects.

In the estuary, fishing crafts used are mainly ordinary and mechanized boats. No trawler is used within the estuary but are seen to be used in the sea. The various fishing gears used in fishing can be grouped mainly into nine different categories, namely Seines, gill nets, bag nets, drag nets, set barriers, cast nets, scoop nets, hooks and line, and spears. Of these, the first five are more predominant than the rest.

| Sl. No. | Villages | Sl. No. | Villages | Sl. No. | Villages |
|---------|-------------|---------|-----------------------|---------|---------------|
| 1 | Gohal | 14 | Tentol | 27 | Pipili |
| 2 | Bentapur | 15 | Naiguan | 28 | Motari |
| 3 | Saharadia | 16 | Nembal | 29 | Konark |
| 4 | Jaipur | 17 | Dighi | 30 | Nuagarh |
| 5 | Boitarakuda | 18 | Naradagaudagaon | 31 | Nua Hata |
| 6 | Talapada | 19 | Radhanagar | 32 | Jagatsinghpur |
| 7 | Bilipada | 20 | Gobindpur | 33 | Ersama |
| 8 | Singiri | 21 | Kalakha (Mahisagotha) | 34 | Katara |
| 9 | Kanipara | 22 | Sakhigopal | 35 | Naugaon |
| 10 | Basupur | 23 | Rupadeipur | 36 | Paradip |
| 11 | Raichand | 24 | Niali | 37 | Balisahi |
| 12 | Kuanrpal | 25 | Gop | 38 | Cuttack |
| 13 | Goja Bandha | 26 | Puri | 39 | Barang |

Table 286: List of major villages around the Mahanadi estuarine system

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2. Chilika Lake

Chilika Lake is a brackish water lagoon, spread over the Puri, Khurda and Ganjam districts of Odisha state on the east coast of India, at the mouth of the Daya River, flowing into the Bay of Bengal, covering an area of over 1,100 km. It is the largest coastal lagoon in India and the second largest brackish water lagoon in the world after The New Caledonian barrier reef. It has been listed as a tentative UNESCO World Heritage site. A fossil found on the south-western edge of the respect indicates the formation of the lake about 3500 to 4000 years ago.

It is one of the hotspots of biodiversity in the country, and some rare, vulnerable and endangered species listed in the IUCN Red List of threatened Animals inhabit the Lake area for at least part of their life cycle. On account of its rich bio-diversity, Chilika lake was designated as a "Ramsar Site", i.e. a wetland of International Importance. The Nalaban Island within the lake is notified as a Bird Sanctuary under Wildlife (Protection) Act, 1972. The National Wetlands, Mangroves and Coral Reefs Committee of the Ministry of Environment & Forests, Government of India, have also identified the lake as a priority site for conservation and management. The Lake is a highly productive ecosystem, with rich fishery resources. The rich fishing grounds sustain the livelihood of more than 0.2 million fisherfolk who live in and around the lake. It has great heritage value and maritime trade to the far east countries used to take place from here.

It is also the largest wintering ground for migratory birds on the Indian sub-continent and supports some of the largest congregation of migratory birds from large parts of Asia, particularly during the winters that arrive from as far as the Caspian Sea, Lake Baikal, Aral Sea, remote parts of Russia, Kirghiz steppes of Mongolia, Central and Southeast Asia, Ladakh and the Himalayas to feed and breed in its fertile waters. The health of the ecosystem as per the assessment made by Chilika Development Authority in collaboration with Maryland University, USA, is considered as excellent. The seagrass meadows of the lake are expanding despite anthropogenic pressure, which is a sign of a healthy ecosystem. Thus the lake contains the most important and significant actual habitat for in situ conservation of biological diversity including rare species of birds and animals. Thus it is an outstanding example representing a significant ecological and biological process in the evolution of marine, brackish and freshwater ecosystems.

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Table 287: List of major villages around Chilika Lake

| SI No | Villages | SI No | Villages | Sl No | Villages |
|-------|----------------------|-------|------------------|-------|--------------------------|
| 1. | Rambha | 36. | Bandhatalanuagam | 71. | Kandigaon |
| 2. | Kanaka | 37. | Kadakani | 72. | Mohanpur |
| 3. | Nirmalajhara | 38. | Santarapur | 73. | Odiaalapur |
| 4. | Langaleswar | 39. | Hunjan | 74. | Uparabalan Tarakhara |
| 5. | Pathara | 40. | Udayagiri | 75. | Keshpur |
| 6. | Barkul | 41. | Patanasi | 76. | Pathar |
| 7. | Balugaon | 42. | Bajrakote | 77. | Gurapalli |
| 8. | Banapur | 43. | Rasidgaon | 78. | Karapadar |
| 9. | Maludkhas | 44. | Talatala | 79. | Bhejiput |
| 10. | Krushnaprasad | 45. | Talangir | 80. | Kalijai Station |
| 11. | Kandakhai College | 46. | Pitisal | 81. | Patharakata |
| 12. | Titipa | 47. | Bramhanadeo | 82. | Langaleswar |
| 13. | Chilika Nuapara | 48. | Ramatenka | 83. | Pendurapalli |
| 14. | Baulabandha | 49. | Arakhakuda | 84. | Dungamal |
| 15. | Sunakhala | 50. | Malakuda | 85. | Akhupokhara |
| 16. | Mansingpur | 51. | Prayagi | 86. | Gadadwar |
| 17. | Satapada | 52. | Bhramarakudi | 87. | Kharibandha |
| 18. | Sipakuda | 53. | Jrg Pur | 88. | Pathara |
| 19. | Panasapada | 54. | Madhusudanpur | 89. | Aswaripatana |
| 20. | Brahmagiri | 55. | Kalapur | 90. | Nuagada |
| 21. | Kuhudi | 56. | Poluru | 91. | Ashwari |
| 22. | Tangi | 57. | Madhuruchua | 92. | Boriasahi |
| 23. | Sandarpur | 58. | Sabulia | 93. | Bidharpur |
| 24. | Bhusandapur | 59. | Jagannathapatna | 94. | Atharbatia |
| 25. | Nirakarpur | 60. | Kumbhidhepa | 95. | Subudhipatna |
| 26. | Dibyasinghpur | 61. | Ambathapalli | 96. | Chhedapadar |
| 27. | Gorual | 62. | Chelikuda | 97. | Bheleri |
| 28. | Kapileswarpur | 63. | Barakuda | 98. | Injanapur |
| 29. | Naraharipur | 64. | Samalnasi | 99. | Banamalipur |
| 30. | Puri | 65. | Dhakabali | 100. | Nimikheta |
| 31. | Chandanpur | 66. | Kankadakuda | 101. | Raghunathpur (Habitation |
| | | | | | surrounded by water) |
| 32. | Sakhigopal | 67. | Hajapata | 102. | Balugaon College |
| 33. | Indipur College | 68. | Kanakei | 103. | Patasanipur |
| 34. | Dayabihar College | 69. | Phasidi | 104. | Mathapur |
| 35. | Pratap Purusottampur | 70. | Singadapalli | 105. | Singheshwar |

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| SI No | Vilages | Sl No | Villages | Sl No | Villages |
|-------|------------------------------------|-------|------------------------------------|-------|----------------------------|
| 106. | Koduapur | 142. | Jatiapatna | 178. | Sahajanpur |
| 107. | Ghiakhala | | Putana | 179. | Manikapatna |
| 108. | Khandualkot | 144. | Panchupatia | 180. | Siandi |
| 109. | Jayapur | 145. | Dadhibabanpur | 181. | Subhadrapur |
| 110. | Dhuanla | 146. | Raghunathpur | 182. | Kankanadip |
| 111. | Gobardhanpur | 147. | Nathpur | 183. | Adhaghai |
| 112. | Sikharapadar | 148. | Khadipadar | 184. | Nadipur |
| 113. | Lambodarpur | 149. | Karatiasahi | 185. | Dharanikudi |
| 114. | Srichandanpur | 150. | Kalupara Ghat Station | 186. | Naharabali |
| 115. | Durgapur | 151. | Mangalajodi Bird Watching Tower | 187. | Karimpur |
| 116. | Champatipur | 152. | Siripur | 188. | Keutakudi |
| 117. | Rahanabelli | 153. | Raulasahi | 189. | Jadupur |
| 118. | Harapur | 154. | Jaganathpur | 190. | Siara |
| 119. | Kumandola | 155. | Sitarampur | 191. | Rameswarapur |
| 120. | Nidhipur | 156. | Balugaon Ghat | 192. | Bhagabanpur |
| 121. | Kumandala patna | 157. | Mangalajodi | 193. | Padanapur |
| 122. | Santarapur | 158. | Kantalabai | 194. | Jharada Radhakrishnapur |
| 123. | Charibatia | 159. | Benta | 195. | Basantapur |
| 124. | Hariharpur | 160. | Bhusandpur Railway Station | 196. | Alibada |
| 125. | Sananairi | 161. | Badaora | 197. | Jamilagoda |
| 126. | Nairi | 162. | Jagdal | 198. | Jagulaipadar |
| 127. | Badanairi | 163. | Kusubenti | 199. | Paikamara |
| 128. | Ichhapur Defence Estate | 164. | Khetandi | 200. | Sahaspur |
| 129. | Nimuna | 165. | Sanabenakudi | 201. | Dochhian |
| 130. | Amaraoli | 166. | Bhubanapur | 202. | Talamala |
| 131. | Balliya | 167. | Hasimpur | 203. | Aphiti |
| 132. | Begunia | 168. | Jenapur | 204. | Chhatapara |
| 133. | Hatabaradiha | 169. | Gopinathpur | 205. | Gedeiswainpatna |
| 134. | Gainada | 170. | Arakhakuda | 206. | Bhandarigadia |
| 135. | Chhakadipur | 171. | Gangadharapur | 207. | Bidharpurpatna |
| 136. | Tarapi | 172. | Haripur | 208. | Shashimukhi |
| 137. | Soran | 173. | Gadishagoda | 209. | Bajapadar |
| 138. | Katilagotha | 174. | Katakpada | 210. | Sanrautapada |
| 139. | Matiapada | 175. | Palanka | 211. | Kusumi |
| 140. | Radhamohanpur | 176. | Chapamanik | | |
| | (Habitation surrounded by wetland) | | | | |
| 141. | Naligadia | 177. | Salepur | | |



3. Hirakud reservoir

Hirakud Dam is built across the Mahanadi River, about 15 kilometers (9.3 mi) from Sambalpur in the state of Odisha in India. Behind the dam extends a lake, Hirakud Reservoir holding 743 km² (287 sq mi) at full capacity. It is one of the first major multipurpose river valley projects that started after India's independence. In the upper drainage basin of the Mahanadi River, centered on the Chhattisgarh Plain, periodic droughts contrast with the situation in the lower delta region where floods may damage crops. The dam was constructed to help alleviate these problems by creating a reservoir and controlling river flow through the drainage system. The dam regulates the flow of the Mahanadi River and produces hydroelectricity through several hydroelectric plants. Chiplima has gained prominence as the second hydroelectric project of the Hirakud Dam. A natural fall of 80 to 120 ft (24 to 37 m) in the river Mahanadi is used to generate electricity. The place is mostly inhabited by fishermen, whose deity Ghanteswari is revered in the neighboring area. The state livestock breeding farm and agricultural farm are located here.

| SI. No. | Villages | Sl No. | Villages | SI No. | Villages | SI No. | Villages |
|------------|--------------|-----------|--------------|-----------|------------------|-----------|----------------|
| 1 | Amapali | 32 | Sunari | 63 | Khinda | 94 | Hirakud |
| 2 | Luhabaga | 33 | Pandari | 64 | Talabira | 95 | Sadeipali |
| 3 | Chueepali | 34 | Patrapali | 65 | Lapanga | 96 | Burla |
| 4 | Badimal | 35 | Kutripali | 66 | Dhubenchhaper | 97 | Nuabatimunda |
| 5 | Pujharipali | 36 | Bankmura | 67 | Aryanispat | 98 | Lahanda |
| 6 | Jharupali | 37 | Balanda | 68 | Bamloi | 99 | Silat |
| 7 | Chhuipali | 38 | Binika | 69 | Tilaimal | 100 | Forest village |
| 8 | Panchpudugia | 39 | Chhadarma | 70 | Gurupali | 101 | Rengali |
| 9 | Jharupada | 40 | Telenpali | 71 | Pudapada | 102 | Dhemsa |
| 10 | Katarbaga | 41 | Barangamal | 72 | Thunthikatarbaga | 103 | Sodhapali |
| 11 | Panchgaon | 42 | Singhaipali | 73 | Bansimal | 104 | Birjapara |
| 12 | Bhikampali | 43 | Ramela | 74 | Sapne | 105 | Paharsrigida |
| 13 | Kadamghat | 44 | Tilia | 75 | Jugipali | 106 | Jagatipali |
| 14 | Jamgaon | 45 | Bhatli | 76 | Salad | 107 | Amjhar |
| 15 | Samarbaga | 46 | Rampela | 77 | Jharmunda | 108 | Runipali |
| 16 | Kudabaga | 47 | Barpali | 78 | Babuchakuli | 109 | Jhagadabehera |
| 17 | Jharapara | 48 | Sahajbahal | 79 | Rengali | 110 | Lohara behera |
| 18 | Duanmunda | 49 | Kumbharbandh | 80 | Nishanbhanga | 111 | Chakramal |
| 19 | Govindpur | 50 | Sartang | 81 | Kilasama | 112 | Khola |
| 20 | Parsian | 51 | Batlaga | 82 | Nuarampela | 113 | Banjipali |
| 21 | Kadamdihi | 52 | Bhejikud | 83 | Sangulpali | 114 | Babebari |
| 22 | Bhaunrkhol | 53 | Solpali | 84 | Gourpali | 115 | Tilaimal |
| 23 | Patara pali | 54 | Pipilikani | 85 | Balbas pur | 116 | Hatikhoja |
| 24 | Sagarpali | 55 | Basupali | 86 | Talba | 117 | Lakhanpur |
| 25 | Bija dihi | 56 | Dalgaon | 87 | Tihura | 118 | Lelehar |
| 26 | Singhar pur | 57 | Badimal | 88 | Pandripali | 119 | Udhepali |
| 27 | Bachmunda | 58 | Gudiali | 89 | Jamadarpali | 120 | Rengali |
| 28 | Beheramal | 59 | Dudulsingha | 90 | Larbanga | 121 | Uttam |
| 29 | Barihapali | 60 | Dumermunda | 91 | Solabandh | 122 | Tamdei |
| 30 | Remda | 61 | Patrapali | 92 | Gadmunda | 123 | Lether |
| 31 | Sadera | 62 | Bhurusund | 93 | Solpali | 124 | Dumgri |

Table 288: List of major villages around Hirakud reservoir

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4. Upper Kolab reservoir

Kolab Dam is a gravity dam situated near Jeypore town in Koraput district of Odisha, India. The dam impounds Kolab river which is a tributary of the Godavari river. Upper Kolab Hydro Electric Project, Located in the district of Koraput (Odisha) was taken up for excavation in the year 1976 by the Irrigation and Power Department, Govt. of Odisha at an estimated cost of Rs. 74.63 Crores. This Project is utilizing the water potential of river 'KOLAB'a tributary of river Godavari. It is a multipurpose project aimed at the generation of 95MW(firm) Hydro Electric Power, providing irrigation facilities to 47,985 H.A. by lift canal irrigation and supplying drinking water to Damonjodi, Koraput, Sunabeda and Jeypore town.

| SI .No. | Villages |
|---------|--|
| 1 | Jeypore L/R |
| 2 | Upper Kolab |
| 3 | Narapadabagra |
| 4 | Lauriguda |
| 5 | Vivekananda Rock |
| 6 | BSF Quarters, Jeypore |
| 7 | Puki |
| 8 | Putkeranga |
| 9 | DAV College |
| 10 | Kechala |
| 11 | Telephone Bhawan |
| 12 | Sunabeda |
| 13 | Sadguru Sainath International College |
| 14 | Samanta Chandrasekhar Institute of Technology and Management |
| 15 | Tikra Pada |
| 16 | Asha Kiran Hospital |

| Table 289: List o | f major | villages | around | Upper | Kolab | reservoir |
|-------------------|---------|----------|--------|-------|-------|-----------|
|-------------------|---------|----------|--------|-------|-------|-----------|

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5. Salia reservoir

Salia Irrigation Project is a medium irrigation project meant primarily for irrigation purposes. It is proposed across the river Sialia or locally called Salia, a tributary of river Salia, an eastflowing river between Mahanadi and Pennar basin in Odisha. It's situated 15 kms from Banpur town under the Khordha Irrigation Division of water resources department, Government of Odisha. Here one can enjoy the beauty of nature. The total length of the river is about 30 miles with mean water spread area 180 Ha. The dam has been constructed in the catchment area which is about 69,000 acres connecting two hills on both sides and serves as a medium irrigation project. The project work started during the IInd Five-year plan and was completed during the Vth Five year plan during the year 1977. The state Fisheries Department emphasized on organizing a registered Fishermen society entitled "Diankoli Primary Fishermen Cooperative Society" during the late 70s. The fisher communities in the periphery of the Salia reservoir were involved to enhance fish production and provide self- employment. After the implementation of State Reservoir Policy, the society members are depositing the total lease value of Rs.61,200/- every financial year within the stipulated time period. The society members are also abided by the OCS Act & Rules. The annual general body meeting is held on 2nd week of April every year followed by at least one Board of Directors Meeting every month for the betterment of their business and society. The members voluntarily started cage culture in the Salia reservoir during the year 2010-11 out of their own funds and created a milestone among the reservoir based Fisheries Cooperative Societies of the State. The Fisheries department further put ample emphasis on the implementation of Cage Culture practice during 2013-14 under RKVY scheme. The fry and fingerlings are collected from the Government fish farms and reared in captive nurseries and pens near the reservoir for stocking. The Society is now harvesting 225Kg/Ha which is quite encouraging. The fish harvested is supplied to the markets of Beguniapada, Kholikote, Balugaon, Banapur and even to Bhubaneswar on peak harvest during Rainy season. Profit per member of the society has shown a six-fold increase from Rs.13560 to Rs.83517. They have deposited an amount of Rs.3,00,000 in the society savings account excluding all the expenditures and share distribution among stakeholders.

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| Sl. No. | Villages |
|---------|------------------|
| 1 | Rigidisima |
| 2 | Tabhadihi |
| 3 | Bankadagada |
| 4 | Kasipada |
| 5 | Khariapali |
| 6 | Bighnaput |
| 7 | Barakoli |
| 8 | Chandrama |
| 9 | Kalapata |
| 10 | Karanjapalli |
| 11 | Bankiapali |
| 12 | Bodhakapali |
| 13 | Nakitutha |
| 14 | Haradama |
| 15 | Nakulapalli |
| 16 | Mardabadi |
| 17 | Janteswar |
| 18 | Badasula |
| 19 | Krushnapalli |
| 20 | Sundaria |
| 21 | Podakhai |
| 22 | Kusarada |
| 23 | Nuagaon Sanamala |
| 24 | Champagada |
| 25 | Panasadihi |
| 26 | Gurupada |
| 27 | Malabelapada |
| 28 | Kalamatia |
| 29 | Nipania |

Table 290: List of major villages around Salia reservoir

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6. Rengali reservoir

Rengali dam is a dam located in Odisha, India. It is constructed across the Brahmani River in Rengali village, located 70 km from Angul in Angul district. The dam was constructed in 1985. The reservoir formed by the dam is the second-largest reservoir in Odisha, with 37,840 hectares at full level and 28,000 hectares at the mean level. The reservoir has a catchment area of 25,250 km², mostly forests, and wasteland. The dam holds 3412 million cubic meters of water at Full Reservoir Level (FRL).

Table 291: List of major villages around Rengali reservoir

| SI N | lo Name |
|------|---|
| 1 | Rengali Reservoir |
| 2 | Khemela (Habitat surrounded on all sides |
| | by water) |
| 3 | Sibagrampur |
| 4 | Siarimalia |
| 5 | Kansar |
| 6 | Kasipur (Habitat surrounded on all sides by |
| | water) |
| 7 | Ranjo |
| 8 | Saharagurujang |
| 9 | Barkote |
| 10 | Bamparda |
| 11 | Kanjia |
| 12 | Ballam |
| 13 | Khamar |
| 14 | Kadalipal |
| 15 | Ganganan |
| 16 | Asananali |
| 17 | Balamjore |
| 18 | Kundapitha |
| 19 | Asananali |
| 20 | Badachhapal |
| 21 | Bemur |
| 22 | Kushpanga |
| 23 | Kantimal |
| 24 | Podapara |
| 26 | Kollohapali |
| 27 | Sradhakarpur |
| 28 | Baghamari |
| 29 | Gadadharpur (Habitat surrounded on all |
| 20 | sides by water) |
| 30 | Jadagola (Habitat surrounded on all sides |
| 21 | Talimunda (Habitat surrounded on all sides |
| 51 | hywater) |
| 32 | Nuagoudsuguda |
| 33 | Dandasingha |
| 34 | Balinali |
| 35 | Padianali |
| 36 | Iatianali |
| 37 | Gadia |
| 38 | Baliroi |
| - 50 | Duniol |

| SI N | o Name |
|------|---|
| 39 | Kuhntadiha |
| 40 | Jarakot |
| 41 | Kalia |
| 42 | Nuambakata |
| 43 | Kansar (Habitat surrounded on all sides by |
| | water) |
| 44 | Nuapetpura |
| 45 | Golimara |
| 46 | Samantapali |
| 47 | Chintamanipur |
| 48 | Khairbania |
| 49 | Bandhanbania |
| 50 | Derapathar |
| 51 | Badabagdari |
| 52 | Chuakhol |
| 53 | Tangianisa |
| 54 | Khagadasmunda |
| 55 | Charmancha |
| 56 | Chhatipuada |
| 57 | Godabhanga |
| 58 | Kasulibahal |
| 59 | Bhagabanpur |
| 60 | Kuberchandrapur (Habitat surrounded on all |
| | sides by water) |
| 61 | Dalbeheramunda |
| 62 | Panchupali (Habitat surrounded on all sides |
| | by water) |
| 63 | Ranjabahal |
| 64 | Chhatripita |
| 65 | Kushakhalia |
| 66 | Dhiramunda |
| 67 | Jualibhanga |
| 68 | Badamunda (Habitat surrounded on all |
| () | Sides by water) |
| 09 | Baddhauragotha (Habitat surrounded on |
| 70 | Dindhanur (Habitat surrounded on all sides |
| /0 | billulapui (Habitat suffounded on an sides |
| 71 | Baia (Habitat surrounded on all sides by |
| | water) |
| 72 | Bonor (Habitat surrounded on all sides by |
| | water) |
| 73 | Rengali Project Town |
| | |

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7. Ansupa lake

The 141-hectare Ansupa Lake is a horseshoe-shaped freshwater lake on the left bank of the Mahanadi river, opposite Banki in Cuttack district, Odisha, India. Ansupa Lake in Banki is 40 km from the city of Cuttack, which also acts as a shelter for the migratory birds in the wintry weather season. It is a freshwater lake situated amidst the Saranda Hills and enclosed by bamboo tree greenery and mango trees. Situated near the bank of River Mahanadi, it is surrounded by Saranda hills on the western side and Bishnupur hills on its northern side, both being a part of the Eastern Ghats. The lake is of national importance due to its unique biodiverse flora and fauna. It is home to 9 species of submerged, 12 and 26 species of floating and emergent aquatic plants. It is also home to 33 species of fish, 3 species of prawns, 10 species of reptiles and 50 species of migrant and resident birds. It is linked directly with the Mahanadi by a channel (Kabula Nalla), which acts as both an inlet and outlet, through which flood water enters the lake and excess water goes out after the flood.

| SI. No. | Villages |
|---------|----------------------------|
| 1 | Podapada |
| 2 | Haridamada |
| 3 | Kadalibadi |
| 4 | Ostia |
| 5 | Fulabadi |
| 6 | Paikamal |
| 7 | Nuaostia |
| 8 | Bishnupur |
| 9 | Kantapahara |
| 10 | Saranda Garh |
| 11 | Anandapur |
| 12 | Chakuleswar |
| 13 | Santarapur Alias Subarnpur |
| 14 | Ghodabar |

Table 292: List of major villages around Ansupa lake

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8. Bada Ghagara Waterfall

The Badaghagara Waterfall is a waterfall of the Kendujhar district in the Indian state of Odisha situated amidst in a lush green forest environment. Badaghagara is located at a distance of 9 km from the district headquarters (Kendujhar) of Kendujhar district. Being a perennial source of water, a dam has been constructed on the downstream side. It is a perennial waterfall. The Machha Kandana, a small river, plunges from a height of 60 metres (200 ft) in a single drop. Badaghagra reservoir which was raised on the Machakandana river during the Kingdom era is the major source of water supplies to the Keonjhar town. The spot is rich in exotic flora & fauna and rare place for the study of tribal life.

| Sl. No. | Villages |
|---------|---------------|
| 1 | Bada Ghaghara |
| 2 | Uparakaipur |
| 3 | Balidiha |
| 4 | Tafakaipur |
| 5 | Sarukudara |
| 6 | Ichinda |
| 7 | Gopinathpur |

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9. Taptapani

The name "Taptapani" also suggests that. "Tapta" means hot and "pani" means water. Taptapani is famous for its hot sulfur water spring with the nearest town Mohana, which is about 16 km away in the Gajapati district. It is on the State Highways that connects Berhampur with Western Odisha. The hot water from the natural spring of Taptapani is attributed to medicinal properties and can be bathed in at the pond created next to the hot spring. The hot spring is situated at the eastern slope of the eastern ghat at a crest of the hill within the lush green forest having a wide range of flora and fauna.

| Sl. No. | Villages |
|---------|-------------------|
| 1 | Palukhola |
| 2 | Gobindapur |
| 3 | Belagada |
| 4 | Taptapani |
| 5 | Kamalpur |
| 6 | Dutiyagundiriguda |
| 7 | Kandhagani |

Table 294: List of major villages around Taptapani

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10. Atria (Hot spring)

Atri hot spring is located in a small village called Atri, 15 km west of Khurda. It is about 42 km from Bhubaneswar which is the nearest airport. The nearest railhead is Khurda Road Junction Railway Station. There is a Bathing Complex of Govt. of Odisha at Atri. Not far from the Hot spring there is a shrine of Lord Hattakeswar Mahadev. The temple is the venue of a grand annual fair, Makar Jatra, on the day of Makar Sankranti (mid-January). On this day the visitors congregate in large numbers to worship Lord Hatakeswar to fulfill their desires and they also bath in the ponds to get cured of their diseases.

| Sl No | Villages |
|-------|----------------|
| 1 | Simor |
| 2 | Parikheta |
| 3 | Kathakhuntia |
| 4 | Champatisahi |
| 5 | Hatasahi |
| 6 | Baghamari |
| 7 | Loknathpur |
| 8 | Kuranga |
| 9 | Jaganathpur |
| 10 | Atria |
| 11 | Sarua |
| 12 | Baandi |
| 13 | Sikharada |
| 14 | Saradhapur |
| 15 | Panasbasta |
| 16 | Kesarada |
| 17 | Sananuagan |
| 18 | Karadagadia |
| 19 | Botalama |
| 20 | Chandiapala |
| 21 | Godisahi |
| 22 | Phulachhachuni |
| 23 | Godisahi |
| 24 | Chutipalanga |
| 25 | Bhuasunipatana |
| 26 | Godi |

Table 295: List of major villages around Atria (Hot spring)

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11. Kalo reservoir

Kala Dam is in Mayurbhanj District and it is 55 km from Balasore. The truth is that many people living just 50 kilometers from the spots have not visited the spots once in their lifetime. Of course, bad communication is the main reason to be blamed. It is the dam on the Suno river. The river Suno is the tributary of River Budhabalanga. The main purpose of the dam is for the control of flood and irrigation. Here electricity is not generated. ICAR-CIFRI has recently intervened in collaboration with the State fisheries department of Odisha to enhance the fish production from the reservoir under TSP program. Pen culture was demonstrated in this reservoir for in-situ raising of fish seed for stocking of fish seed in the reservoir.

| Sl.No | Villages |
|-------|----------------------|
| 1 | Nuasahi |
| 2 | Debala |
| 3 | Chhanua |
| 4 | Chuinposi |
| 5 | Hill Block No-0161 |
| 6 | Phulbadia Hill Block |
| 7 | Phulbadia |

Table 296: List of major villages around Kalo reservoir

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Conclusion

The report was prepared with the help of state of the art resources and it reveals a satisfactory identification of water bodies. The existence of perennial and seasonal water bodies were observed at the category levels of C I, C II, C III, C IV and C V.

The PAN – sharpened MSS images revealed 9805 units of C I category water bodies for the perennial type with an average area of The PAN – sharpened MSS images revealed 21777 units of C I category water bodies for the perennial type with an average area of 30880.77 ha. The same category nurtured 13030 units of seasonal type's water bodies with an area of 6861.71 ha.

The C II category had 416 number of perennial water bodies and 67 number of seasonal water bodies. Their respective areas were 7936.29 ha and 1329.33 ha. Water bodies of the C III category perennial type identified from these fused images numbered at 110 while the seasonal ones numbered at 14. The area of perennial water bodies in this category was estimated at 17857.77 ha. That of seasonal water bodies was estimated at 1679.61 ha.

The results estimated for C IV and CV stages were revealed at 13 and 16 number of perennial water bodies. Their area were 8459.60 ha and 80026.98 ha respectively for C IV and CV stages in case of perennial water bodies. And in case of C IV and C V there are no seasonal water bodies are identified.

In view of the significance to improve socio-economic condition fisherman community and to achieve sustainable utilization of resources for fisheries development, optimum production of fish from water bodies, employment generation, availability of protein-rich food, appropriate planning for conservation and management strategies are of utmost importance. The report is just a fraction of the required tactics to achieve essential objectives and only a small step towards the future implementation of organizational policies.

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