“LAKES” – A NECESSITY FOR OUR SURVIVAL

STUDY OF TOPOGRAPHICAL, PHYSICAL, AND CHEMICAL PARAMETERS OF LAKES IN AECS LAYOUT AND KUNDALAHALLI

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Introduction

A lake is a body of relatively still liquid which can ease the impact of floods and droughts by storing large amounts of water and releasing it during shortages.

- **We studied three lakes Munnekolalu Lake, Chinnapanahalli Lake and Kundalahalli Lake .**

- **Munnekolalu lake and Kundalahalli lake appeared dumping places for sewage from residential complexes and office buildings.**

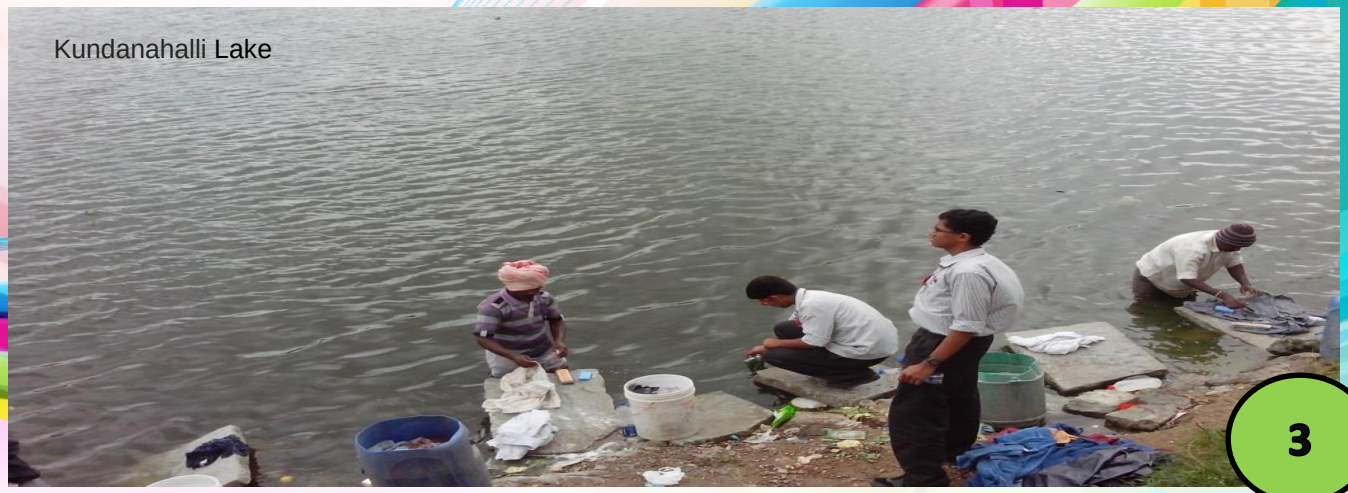
- **Chinnapanahalli lake, though is well maintained with a jogging track and an aesthetic look, the water quality is found to be bad.**

Chinnapanahalli Lake

Munnekolalu Lake

Kundalahalli Lake

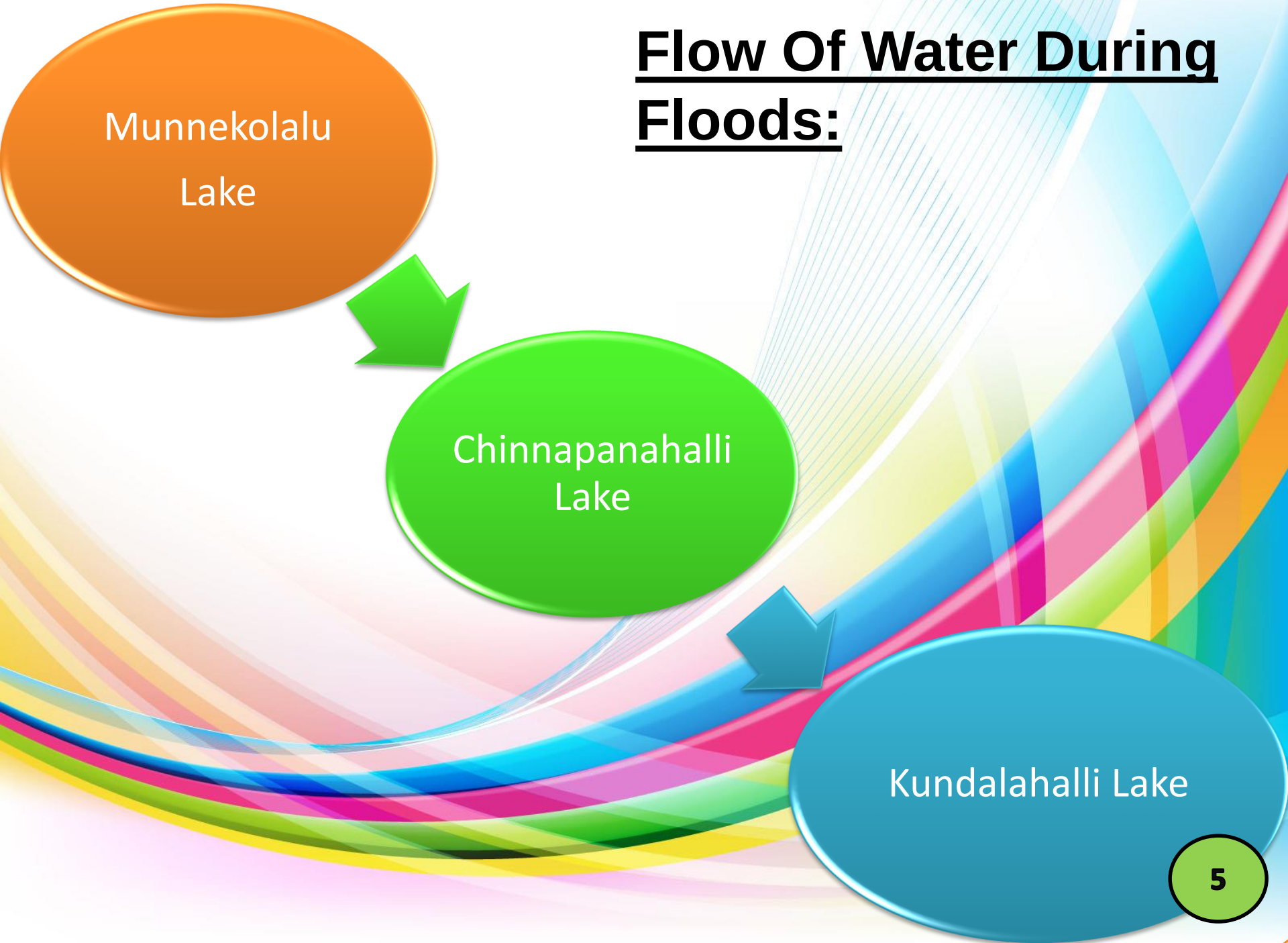
Munnekolalu Lake



Kundanahalli Lake


Gopalan Millennium Tower
Marathahalli
Brookefield

Flow Of Water During Floods:



Observation

1.Global Positioning of the lakes

S.No	Name of the lake	Global Positioning System Readings			
		Inlet		Outlet	
		East	North	East	North
1.	Munnekolalu Lake	12.96056 ° N and 77.70751 ° E			
2.	Chinnapanahalli Lake	77.70625 ° E	12.96544° N	77.70810 ° E	12.96519° N
3.	Kundalahalli Lake	77.71934 °E	12.97253° N	77.71929 ° E	12.97045 ° N

Physical and Chemical parameters of Lakes :

Procedure

Collecting Water samples

- Grab and Catch method

- Four bottles of samples were collected from each lake.

- Physical parameters
- Chemical parameters

Analysis of Physical parameters

- Colour
- Odour
- Temperature

Analysis of Chemical parameters

- pH ,
- Electrical Conductivity(EC),
- Total Dissolved Solids(TDS),
- Total Hardness,
- Calcium Hardness,
- Magnesium Hardness,
- Dissolved Oxygen(DO),
- Biological Oxygen Demand(BOD)
- Chemical Oxygen Demand(COD)
- Free Carbon dioxide

Parameter	Chinnapanahalli Outlet	Chinnapanahalli Inlet	Kundalahalli Inlet	Kundalahalli Outlet	Munnekolalu
Wtemperature (^{0}C)	25.6	24.3	27.1	26.6	27.2
TDS (mg/l)	556	950	822	746	321
EC (µS)	886	1292	1226	1113	574
pH	8.95	7.9	7.4	8.03	8.07
DO (mg/l)	12.11	4.88	0	5.53	8.13
COD (mg/l)	18	52	100	14	22
BOD (mg/l)	14.23	50.81	81.3	10.16	14.23
Alkalinity (mg/l)	172	576	440	296	192
Chloride (mg/l)	291.1	357.84	352.16	350.74	102.24
Total Hardness (mg/l)	166	496	434	374	200
Ca Hardness (mg/l)	25.65	135.47	133.07	92.99	62.52
Mg Hardness (mg/l)	34.11	87.61	73.13	68.29	33.41
Phosphate (mg/l)	0.063	1.647	1.546	0.473	0.111
Nitrate (mg/l)	0.231	0.255	0.667	0.245	0.322
Sodium (mg/l)	216.4	260.4	544	762.4	108
Potassium (mg/l)	32.8	42.4	50.4	51.2	17.6

Result Analysis

Physical Quality Analysis

Chinnapanahalli Lake

- The lake is well maintained with containment throughout the lake and a locked gate.
- There is a beautiful jogging track
- The West side of the lake has many Macrophytes like Alligator weed and Cattail predominantly.
- On the whole, physical appearance of Chinnapanahalli Lake is pleasant

Physical Quality Analysis

Munnekolalu Lake

- The Munnekolalu lake is a dirty, foul smelling place with lots of clutter and garbage dumped.

- Though the lake has a fence throughout its circumference, it is in a very bad shape with less accumulated water.

- The Inlet and outlet could not be clearly seen as the whole place with water was filled with Macrophytes majorly Cattail.

- Heap of disposed plastic waste around.

Physical Quality Analysis

Kundalahalli Lake

- This is comparatively bigger lake than the other two.
- There are three inlets to the lake.
- The lake is rich in fishes and many types of plankton on the edges.
- We observed that people taking bath and washing clothes.
- The inlets were shallow and slurry kind with very foul smell.
- All the plastic waste were floating all over the lake.

CONCLUSION

After our survey and study of various parameters of water sample from these lakes, we could understand that all the three lakes are almost in the same condition as far as water quality is concerned.

- If urbanization proceeds with same intensity , there will be sever extreme conditions to meet water and food demand for future generation.

- Late though, we can still collectively rejuvenate all our lakes and manage our water wealth wisely

References:

Resource People:

- Residents of AESC Layout
- Residents of Brooke Fields
- Dhobhis at Dhobhi ghat
- Fisher men
- R&D Facilitators in Vagdevi Vilas School
- Research Associates from IISC
- Social Studies Teachers Sri. Gopal and his friends (WAT Committee members of Brookefields

Books and Websites

- Newspapers (Archives)
- www.Google.com
- www.Wikipedia.com


Thank you.