Irrigation tanks becoming *Important Bird Areas*
Study of three tanks in Mysore city:
Kukkarahalli, Ligambudhi, Karanji lakes

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1. Context
   - Location of Mysore
   - Climate in Mysore
   - Lakes built for irrigation

2. Problematics

3. Chronology of birds protection in India

4. The Kukkarahalli lake
   The Karanji lake
   The Lingambudhi lake

5. Perspectives
1. Context: location of Mysore

- In Karnataka State.

- Before: the capital of Mysore Kingdom. Ruled by the Maharajas Wodeyar. Today the maharajas have no political power anymore.

- 1956: the State Reorganization Act \(\rightarrow\) Mysore State.


- 914 919 people living in Mysore. (source: Mysore city corporation, census of 2011). Mysore is the second biggest city in Karnataka. This is the headquarters of Mysore District.

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1. **Context**: climate in Mysore

From March to May, the temperature varies from 21 to 34°C. From November to February, it varies from 12°C to 30°C (source: Mysore City Corporation).

![Average Temperature Graph for Mysore](image)

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1. Context: climate in Mysore

The annual average of precipitation variates from 670 mm to 888.6 mm. The water is a ressource rare because of the precipitations are concentrated during 6 months.
2. Lakes built for irrigation: the role of the Maharaja

- The **traditional** system: build bunds to form **reservoirs inter connected** with **canals**.

- In Mysore, this traditional system had been renovated in the **19th century** by the Maharaja **Krishna Raja Wodeyar III** in collaboration with a **British engineer**.

- These reservoirs are called **tanks** and **Kere** in kannada.

- Kukkarahalli lake, Karanji lake, Lingambudhi lake.
2. Lakes built for irrigation: multi function areas

- **Recharge** the *groundwater* reservoirs. Borewell and wells.

- **Cattle.**

- Cutting **grass** to feed the cows.

- **Washing cloth** in *dhobhi ghat.*

- Activities remain in Kukkarahalli lake and Lingambudhi lake.
2. Lakes built for irrigation: multi function areas

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2. Lakes built for irrigation: multi function areas
2. Lakes built for irrigation: replaced by the KRS dam reservoir

- **Irrigation** of fields all the year.
- **23%** of the cultivable fields of Mysore district are irrigated *(source: Mysore District).*
- Because of the **growing** of the population and the growing of the city, these lakes became **not sufficient**.
2. Lakes built for irrigation: replaced by the KRS dam

- **1933** a dam has been built on the **Cauvery River** (source: Mysore District Gazeteer). **Krishna Raj Sagara** or **KRS** dam.

  Electrical pumps on the Cauvery river.
2. Lakes built for irrigation: replaced by the KRS dam

- Provides water for the city and for irrigation around Mysore.

- Lakes in Mysore became dry or constructed areas: Jayanagara lake; Dasara exhibition ground.
3. problematics

- Artificial tanks built hundred years ago to provide water to the city of Mysore.
- The use change along the years.
- Now this lakes become interesting for the conservation of biodiversity in the growing city of Mysore.

How to maintain biodiversity and use of natural ressources?
3. Chronology of birds protection in India

• **1972**: the *Wildlife Protection Act* → sanctuaries and national parks to protect wildlife (tigers sanctuaries, elephants sanctuaries, birds sanctuaries...). The aim: to protect habitats of wild animals.

• **1971**: the *International Convention on protection of wetland* signed in *Ramsar* (Iran). *India* signed the convention in **1982**. The aim: to protect the environment of the wetland birds. And to insure the use of wetland to the benefice of populations.


• **2004**: publication of the book *Important bird areas in India: priority sites for conservation* (Rahmani A.R., Islam Z.-U., eds.).
3. Chronology of birds protection rules in India

• The program *Important Bird Areas* is an initiative of the British NGO called *Birdlife International*, after a request of *European Union* in 1985.

The aim: to census the sites that are important for birds: nesting sites, breeding sites, or migration spots. To create a world inventory and make a network of sites.

• I study three lakes in Mysore city. *Lingambudhi, Karanji, Kukkarahalli*. This three lakes are very different one from each other. The three lakes are recorded as *Important Bird Areas of India*.

• India is the *seventh biggest country* in the world area. The country belongs to the *top ten* of countries rich in *biodiversity*. For this reason it is an interesting case study.
4. Kukkarahalli lake
4. Kukkarahalli lake: history

- The Kukkarahalli lake has been built in 1864.
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4. Kukkarahalli lake: in a chain of lakes

- Water came before from **west** side.
4. Kukkarahalli lake: in a chain of lakes

- The overflow was directing via a canal to the south.
4. Kukkarahalli lake: industrial purpose

• This water was used to bring water for the industry of sandal wood and silk factories.

• Government Sandalwood Oil Factory was established in 1916 for distillation of sandalwood oil.

• Government Silk Factory was established in 1932.

• Today the canal are not anymore in use. The sewage water is what principally feed the lake. That brings pollution.
4. Kukkarahalli lake: a urban park

- Since **1954** the lake belongs to Mysore University.
4. Kukkarahalli lake: a urban park

• Area is **54 ha**.

• This is a place of high frequentation early morning and in the evening for **joggers, walkers, lovers, nature lovers** and **birdwatchers**. And gave inspiration for many **poets** and **writers**.
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• This lake is now fitted out like a urban park. With children park, pavilion, benches:
4. Kukkarahalli lake : a urban park

• This lake is now fitted out like a urban park. A fence has been settled in the beginning of the year:
4. Kukkarahalli lake: agricultural purpose

- Still people are coming to **cattle** or to **cut grass** to feed the cows later.
4. Kukkarahalli lake: an Important Bird Area

• This lake is an **Important Bird Area**

• Breeding of **Spot-Billed Pelican**.

• There is an **island** that is a refuge for a lot of birds.
4. Lingambudhi lake
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• The Lingambudhi kere has been built in **1828**.
4. Lingambudhi lake: in a chain of lakes

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- Till the 20th century, this lake was supplied by the overflow of Kukkarahalli lake.

- The overflow of the lake is directing to the south. In direction of Kabini river.
4. Lingambudhi lake: a wild outside place

- Area is **73 ha**.

- There is a **forest** around the lake and a **path** for walkers, joggers, birdwatchers.
4. Lingambudhi lake: a people’s movement to protect the lake

- **1990 people’s movement** to save Lingambudhi lake was initiated.

- The lake was transferred to the **Forest Department** in **1994**.

- In **1997** a ring road was proposed to Mysore, that threatened the lake. A public pressure was mounted making the authorities realign the ring road by 2001.

- In the year **2008** the lake premises is declared a **reserve forest** under notification **12(E)**.
4. Lingambudhi lake: a people’s movement to protect it

- Now it is registered as **Important Bird Area**. It is an Important staging ground for migratory waders.
4. Karanji lake
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The **main gate** of Karanji lake:

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4. Karanji lake: in a chain of lakes

- Area is **65 ha.**
- Water is supplied from **east** side and from the **chamundi hill** streaming water.
4. Karanji lake: in a chain of lakes

- Area is **65 ha**.

- Water is supplied from **east** side and from the **chamundi hill** streaming water.

- The water streams to the **south**.
4. Karanji lake: a part of Mysore Zoo

- Since **1985**, the lake belongs to the Chamarajendra Zoological Gardens of Mysore.
4. Karanji lake: an Important Bird Area

- Many **islands** have been built to attract the birds.
- Significant number of **spot-billed pelican**.
- Near threatened **black-headed ibis** breed here.
4. Karanji lake: an Important Bird Area

An island in the lake

Children park

A second island in the lake
5. Perspectives

• Becoming rare, now the lakes are more concern by the public as a result it is protected in its current status.

• Before the lakes had an agricultural or domestic purpose, now it is mainly a recreation and nature watching purpose.

• As a result of the change of the utility of the lakes, there is a transition of the ownership of lakes.

• Each owner has a different framework (objectives, expertise, finance, and the will to do).


• So the questions remains : how to make the transition.
References


• Karnataka Urban Infrastructure Development Project, Draft final report, *concept plan for rehabilitation of five numbers of lakes in Mysore city*, may 2002, 84p.


• Meeting with Ravi Kumar Sir, who took part of the Karnataka Urban Infrastructure Development Project *Concept plan for rehabilitation of five numbers of lakes in Mysore city*.

• Meeting with Manu K. Sir, who is engaged in lake conservation and nature conservation. Of Mysore Amateur Naturalist.
Irrigation tanks becoming Important Birds Areas

Thank You!