

M.SC. • THESIS DEFENCE

Microplastics in Urban Lakes: Sources and Seasonal Trends

M.Sc. Dissertation Viva

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Agenda

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Background

02

Research questions

03

Methodology

04

Findings

05

Contribution

Background and motivation

- Microplastics are now found in most freshwater bodies
- Urban lakes receive runoff and untreated wastewater
- Local data on concentrations is scarce

RESEARCH GAP

No seasonal study exists for lakes in our city.

Research questions

1

RQ1

What are the concentrations across seasons?

2

RQ2

Which sources contribute most?

3

RQ3

Do concentrations differ by lake use?

Related work

Theme	Key findings	What is missing
Theme A	Established baseline methods	Limited to lab settings
Theme B	Recent data-driven approaches	Small, narrow datasets
Theme C	Field studies	No comparative evaluation

Summarise your literature here.

Research design



Sample

Monthly water and sediment
samples



Extract

Density separation and
filtration



Identify

Microscopy and
spectroscopy



Analyse

Statistics by season and site

Data and sample

4

lakes studied

144

samples

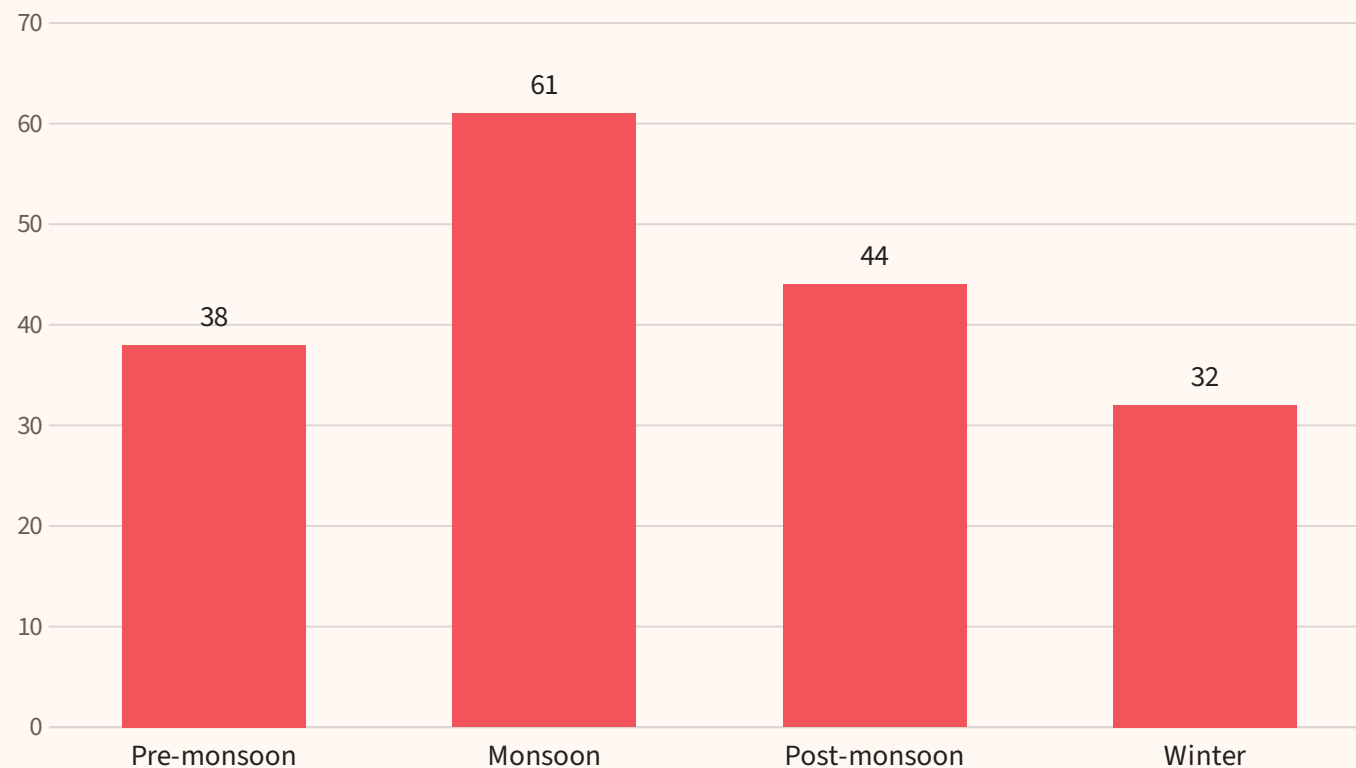
12

months

Describe your own dataset.

FINDINGS

Key result



Concentrations peaked in the monsoon as runoff increased (sample data).

Sample data for illustration — replace with your own figures.

Findings vs hypotheses

Hypotheses

- ✓ Monsoon raises counts
- ✓ Fibres dominate
- ✓ Recreational lakes worse

What we found

- Confirmed monsoon peak
- Fibres and fragments equal
- Inlet sites worst

Contributions

1

Baseline

First seasonal baseline for the city.

2

Method

Low-cost lab protocol.

3

Policy

Evidence for drain screening.

Limitations and future work

- One year of data
- Limited particle-size range
- Source tracing is indicative

Publications

- Paper 1 — journal name, year (published)
- Paper 2 — conference name, year (accepted)
- Paper 3 — journal name (under review)

Thank you

I welcome your questions.

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