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Results of the TNA study in Sri Lanka

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SRI LANKA

TOWARDS MICROPLASTIC MONITORING AND
EVIDENCE-BASED POLICY MEASURES IN SRI LANKA

Training Needs Assessment Report (TNA)

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Acknowledgement

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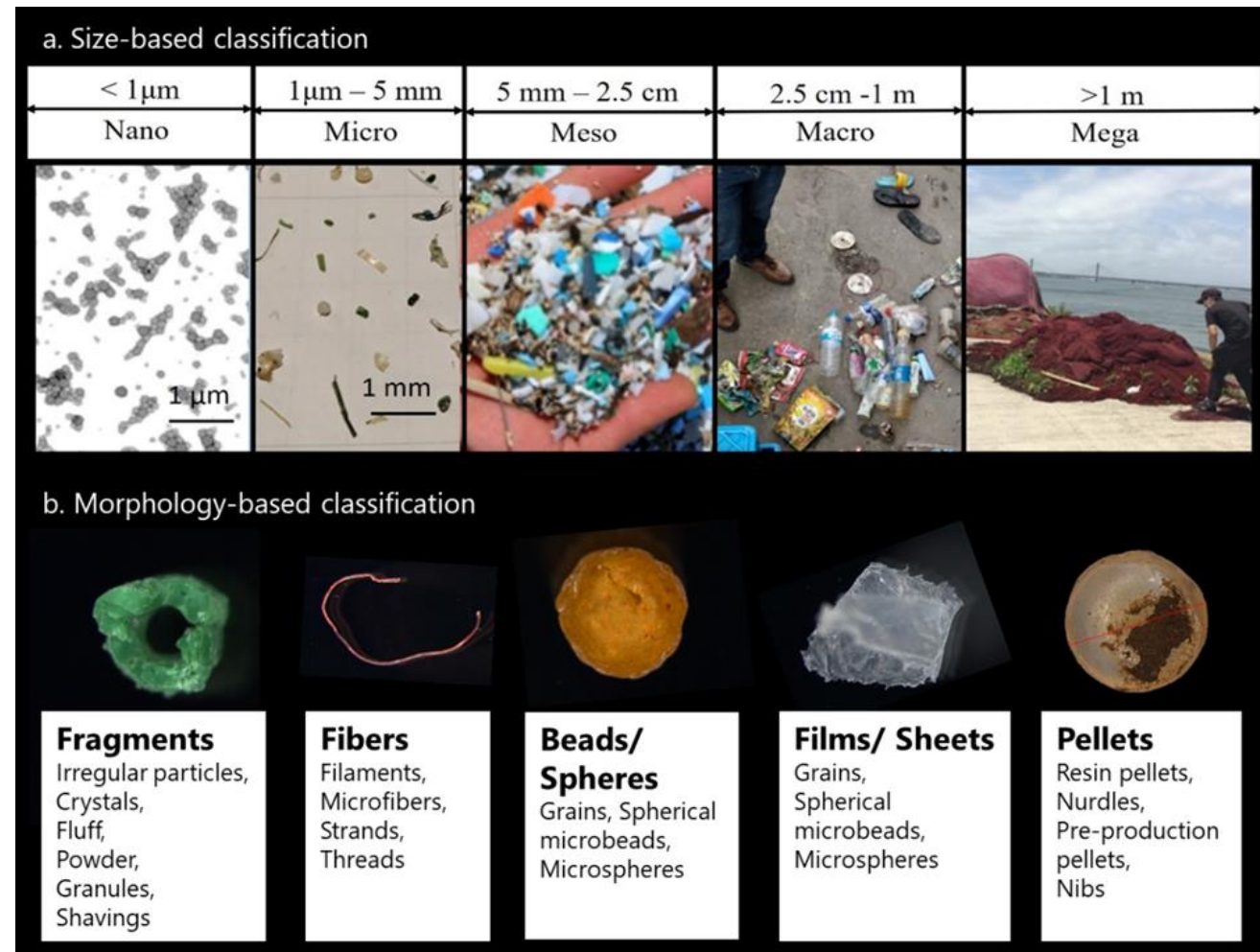
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Introduction: Needs for a Study on MPs

- Magnitude of negative impacts of MPs on ecosystems and the implications of MPs toxicity on human health are not completely-understood,
- Basic knowledge about the occurrences and status of MPs pollution, particularly riverine MPs pollution, and its impacts on the ecosystems and human health is quite limited
- A multi-disciplinary expertise such as plastic and related chemical toxicology, fate analysis, plastic degradation etc is required
- Addressing the environmental and health impacts of microplastics requires open collaboration between diverse sectors



Source: Abeynayaka et al., 2021

Introduction: Need for a TNA

- Recent research evidence shows that aquatic environments are contaminated from microplastics (MPs)
- Specially tested in seafoods, sugar, beer, honey, and salt
- Moreover, MPs were found in the air, and may enter to body via inhalation.
- Sri Lankan society is lack of this knowledge,
- Importance of reduce, recycling and reuse of plastic products not understood clearly,
- Heavy use of plastic products and improper waste disposal increase the MPs contents,
- No any proper investigation on background levels of MPs in different environments,
- Knowledge gap created lots of different problems in MP management and reduction,
- Urgent awareness and training programs on adverse impacts on MPs and assessing methods to different society levels of Sri Lanka is essential.

Introduction: Aim and Objectives

- **Aim**: To minimize the potential health effects due to MPs and plastic-related chemicals by assessing their fate in the environmental systems, and develop rigorous awareness programs for pollution prevention.

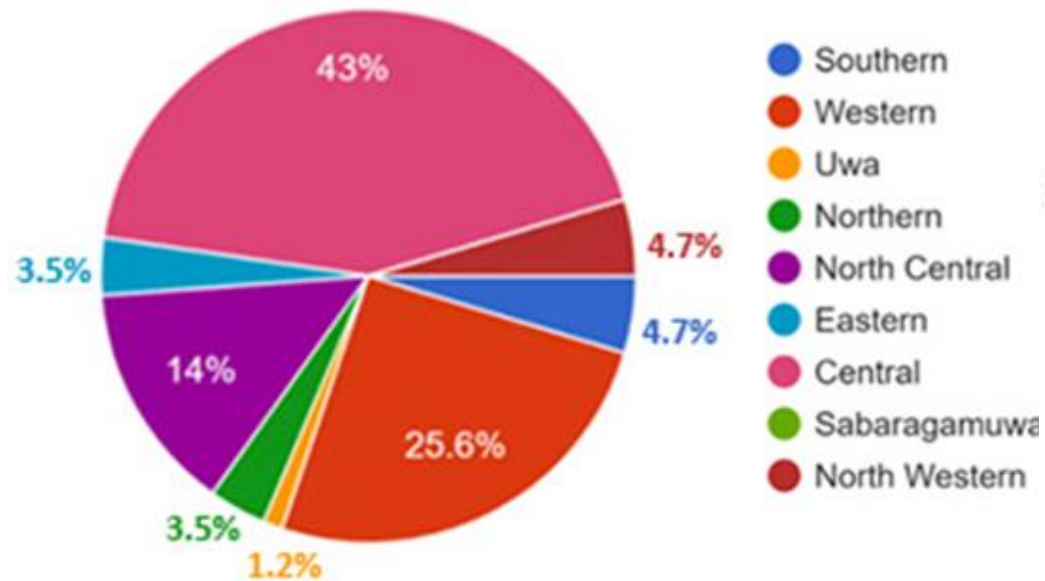
- **Objectives**:
 - 1) To assess the know-how of the MPs spread and mitigation measures adapted in the total environment,
 - 2) To determine the current status of MPs pollution research in national institutes,
 - 3) To assess the available facilities for MPs pollution monitoring,
 - 4) To develop a curriculum on the origin, fate, and mitigation of MPs in the environment. The curriculum will develop to address the knowledge gap at the foundation and professional levels, and
 - 5) To assess the need for a centralized MPs monitoring facility in water under the purview of the Ministry of Water Supply.

Methodology: Research Approach

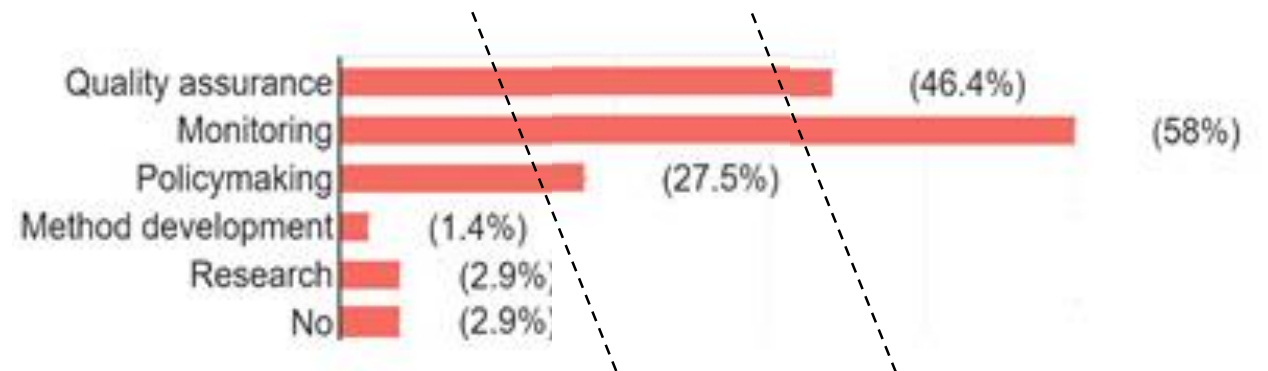
- Used a quantitative approach for data collection from the scientific community based on a structured questionnaire
- The following steps have been followed to complete this project;
 1. Conduct a detailed literature survey in indexed journals
 2. Determine and design the survey on data collection
 3. Collect the empirical information through a questionnaire, field visit, workshops and expert opinion (KII and FGD)
 4. Analyze information using statistical software
 5. Produce a preliminary report, and
 6. Validate information via stakeholder consultations and inputs from the subject experts (national, regional, and international experts)

Methodology: Research Context and Samples

RESEARCH CONTEXT AND RESPONDENT GEOGRAPHIC DISTRIBUTION



ORGANIZATIONAL ROLES OF THE RESPONDENTS

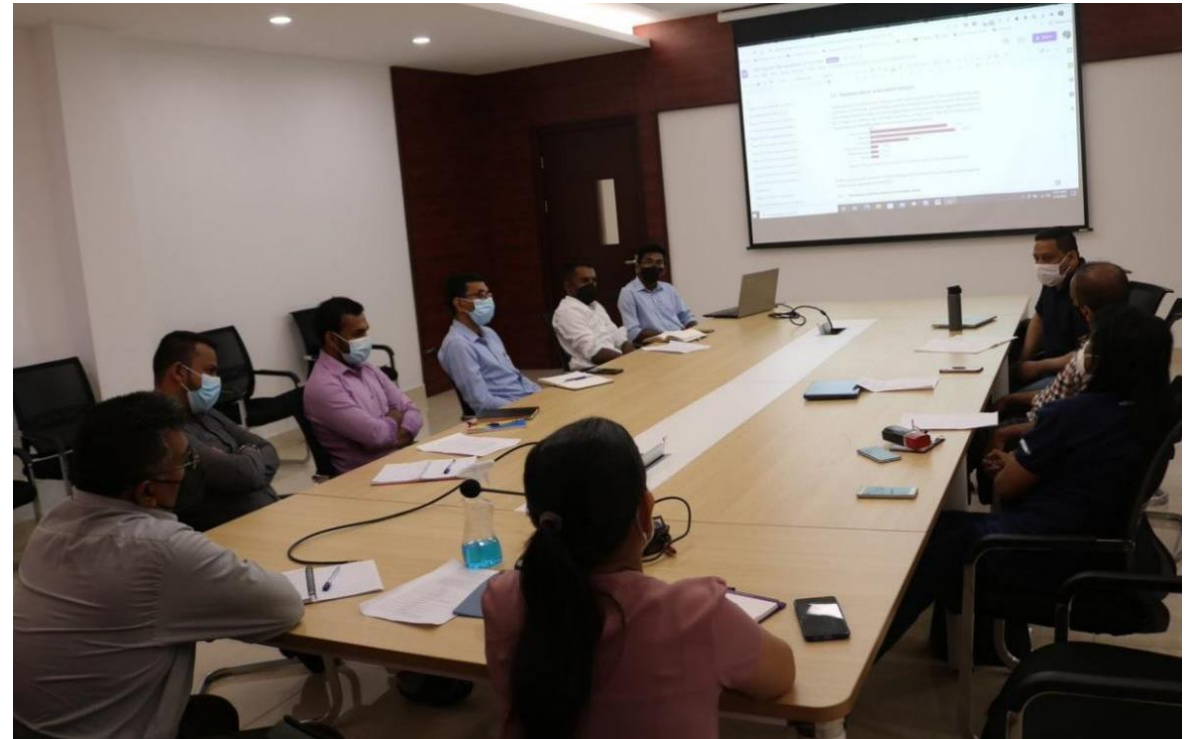


Methodology: Field Investigation and FDGs

WASTEWATER TREATMENT PLANT: KANDY



FOCAL GROUP DISCUSSION

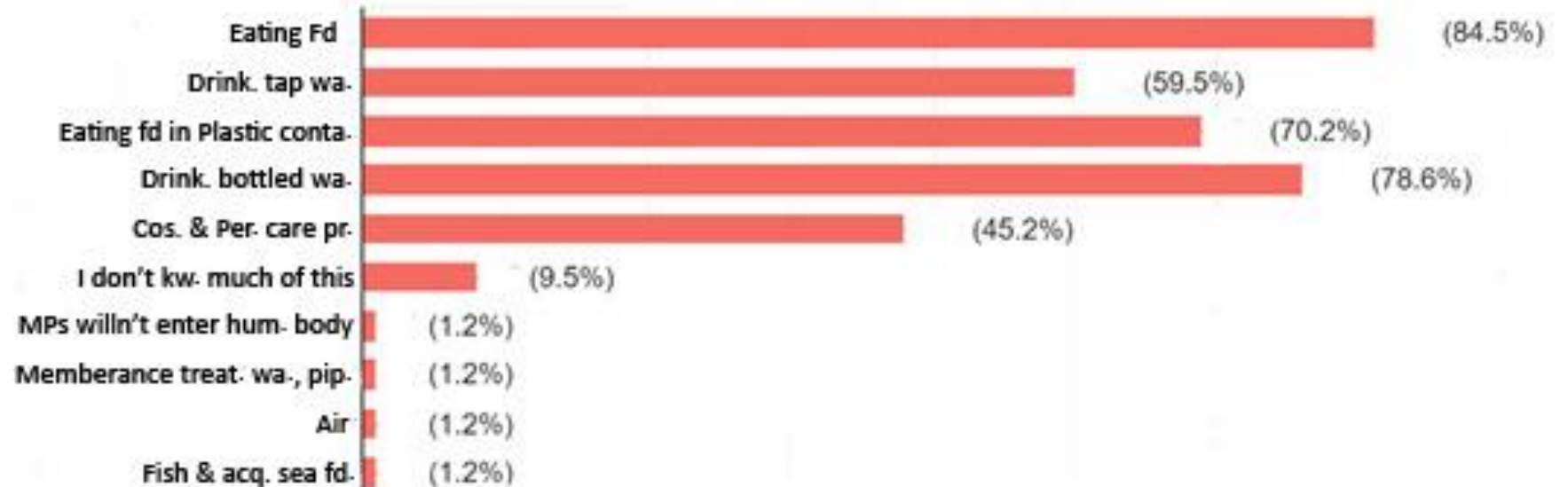


Outputs of the Study



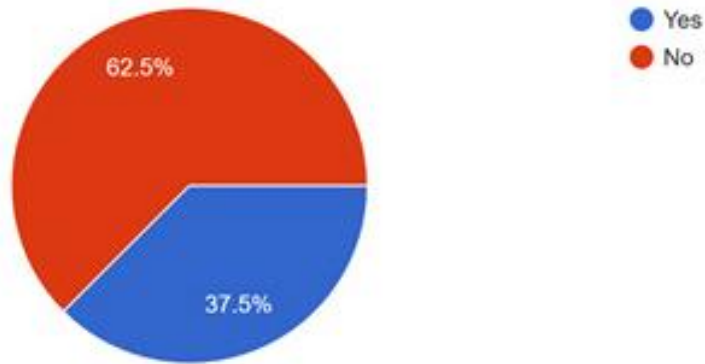
BASIC AWARENESS ON IMPACTS OF THE MPS RELATED POLLUTION

BASIC AWARENESS ON HUMAN EXPOSURE OF MPS

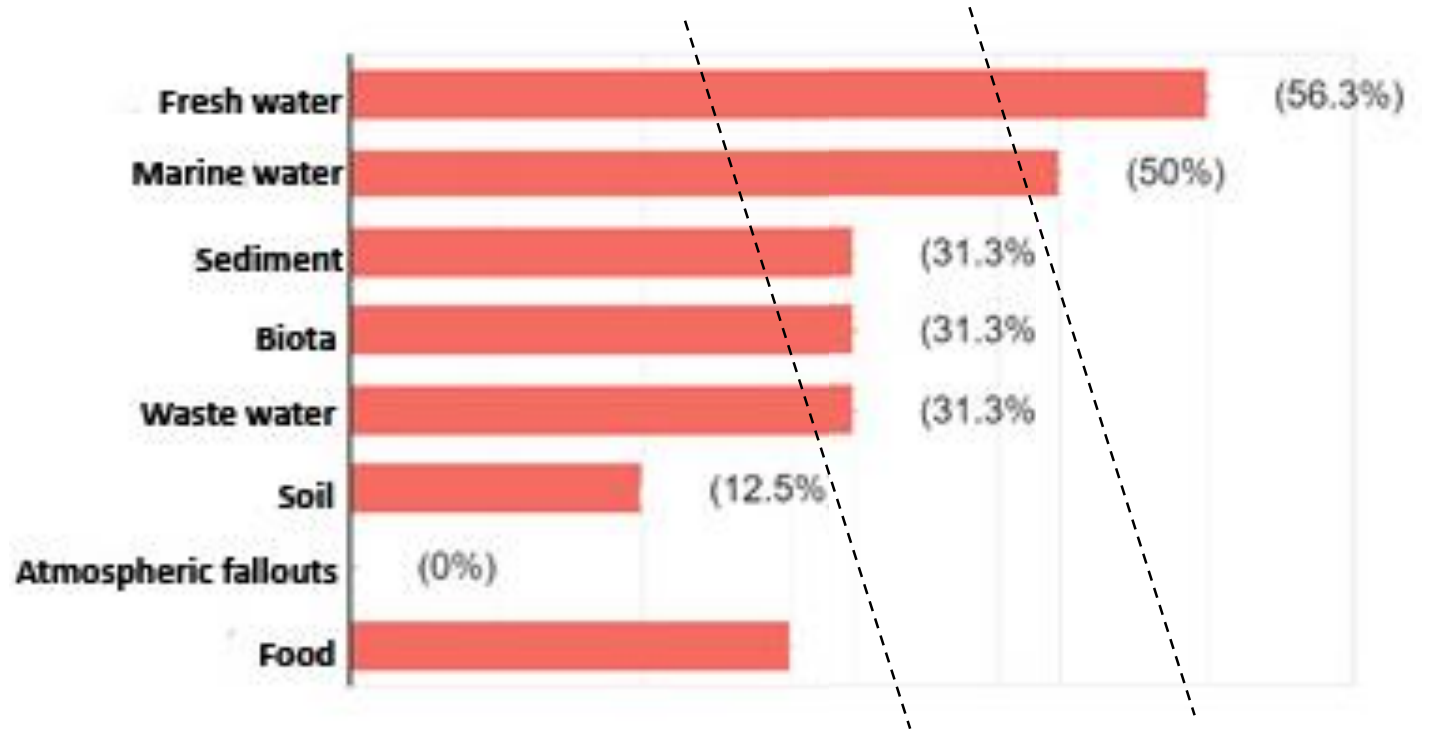
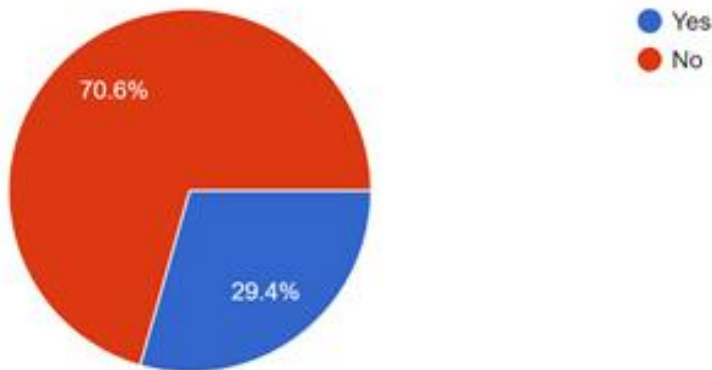


Outputs of the Study

publish international papers on microplastics

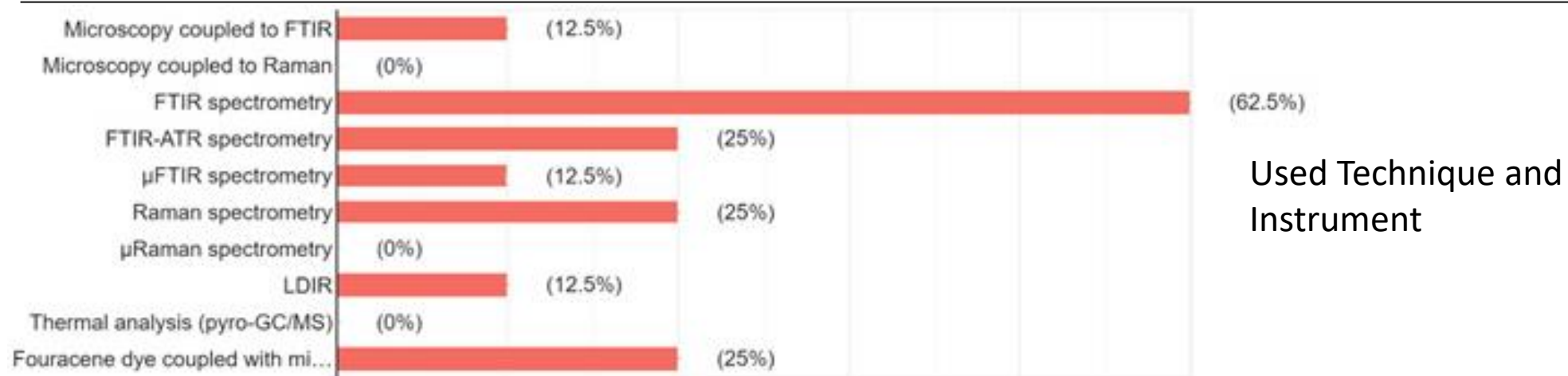


publish national papers on microplastics

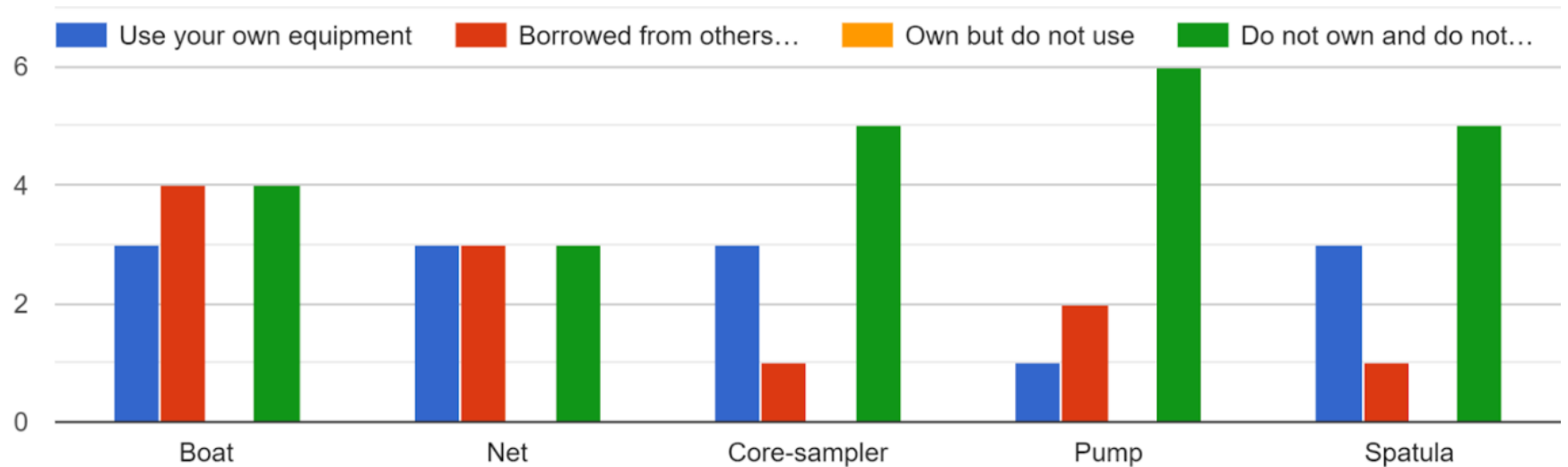


Areas of measuring or studying in Sri Lankan Institutions

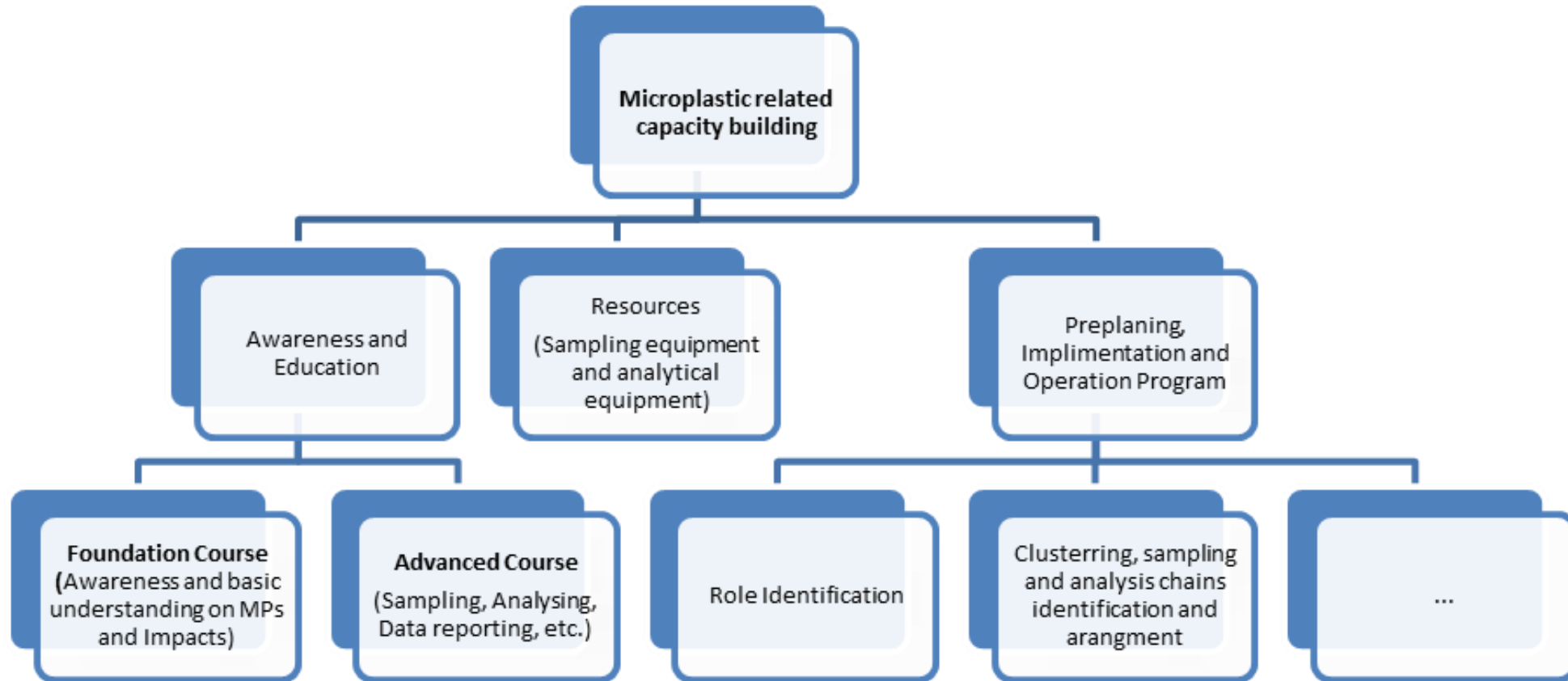
Outputs of the Study



Usage and ownership of the equipment



Outcomes of the Study



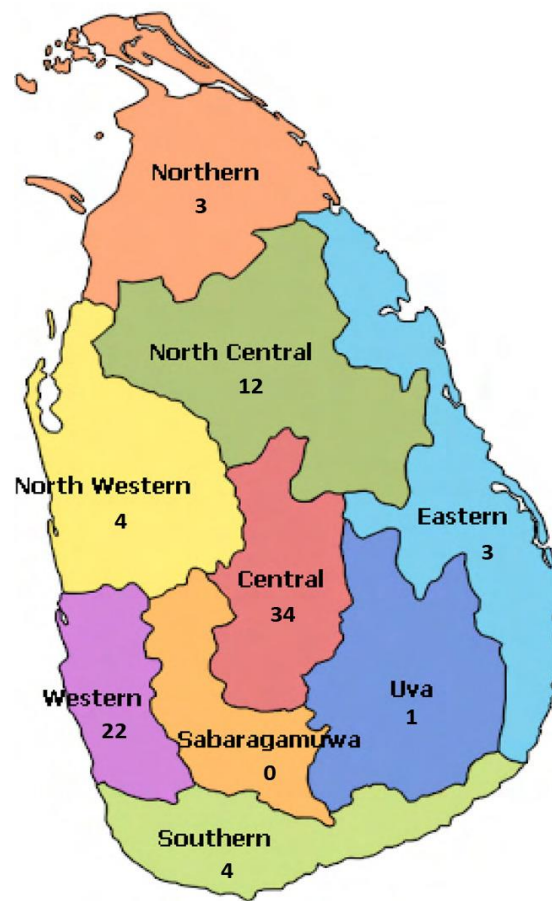
Conceptual model for capacity building

Conclusions

Based on the above finding, following can be recommended;

1. Develop a curriculum on the origin, fate, and mitigation of MPs in the environment addressing the knowledge gap at the foundation and professional levels
2. Establish centralized MPs monitoring facility in water under the purview of the Ministry of Water Supply.
3. Conduct public awareness program on MPs.
4. Facilitate sufficient amount of equipment for the regional centers.
5. Facilitate proper institutionalization of the monitoring and policy-making activities.
6. The human exposure pathways of MPs and the knowledge on potential health impacts are needed to be addressed. For that, a foundation course curriculum and supporting material shall be prepared.
7. Foundation curriculum on MPs; awareness, threats and investigation shall be developed.
8. Collaboration between institutes, sharing instrument facilities and knowledge, providing training programs recommended.

Thank you



Reference:

<https://ccet.jp/publications/training-needs-assessment-report-tna-towards-microplastic-monitoring-and-evidence>