



Developing a Regional Research Network on pollution from marine plastics

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Outline

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Part 4: Next steps

Part 1 - Background in the development of the network

Part 1.1 *An ongoing effort since 2016*

- Several research grants application processes and some research projects that followed received by NUS-CIL and NUS-TMSI have provided the basis for a joint effort within NUS to identify other researchers and research institutions in the region that would also be working on marine plastic research;
- COBSEA provided two grants to amplify and further develop this effort in 2019 and 2020, as well as developing particular outputs to support COBSEA's mission;
- Other key funders have included the UK High Commission in Singapore, CIL SMI-MPA and core grants and NERC-NFR SEAP project
- A coordinated effort led by Youna Lyons (NUS-CIL) and Neo Mei Lin (NUS-TMSI) with colleagues from NUS and the support of a large regional research team

Part 1 - Background in the development of the network

Part 1.2. TOR under COBSEA

Activity

2021

Create the foundation for a regional research network of academic and research institutions on marine litter

2022

Marine Litter Research Network of the Regional Node is set-up for launch in 2023



*September-November (3 months) 2022
contract with COBSEA + NUS own funding*

Actions and Deliverables

- Concept note for the development of a research network with a draft skeleton ToR
- Summary of recommendations for pilot activities (4 webinar series)
- Consultation with academia and research institutions involved in research on marine plastic pollution to ascertain interest in joining the Research Network and priority areas for collaboration
- TOR (building on existing concept note) for the Research Network, detailing purpose, functions, governance, financing, an activity plan, and initial membership
- Compilation of recent interdisciplinary research and presentation to COBSEA WGML with recommendations on gaps and opportunities to invest in research for evidence-based decision making.

Part 2 – Current role and composition

Part 2.1. The development of the research inventory as first function: nature of the contribution

Network: Region-wide collaboration



Compilation of 703 **science and humanities publications** on marine plastic pollution on the ASEAN+3 region.

Publications written in **English, Thai, Indonesian, Vietnamese, Chinese, Korean**

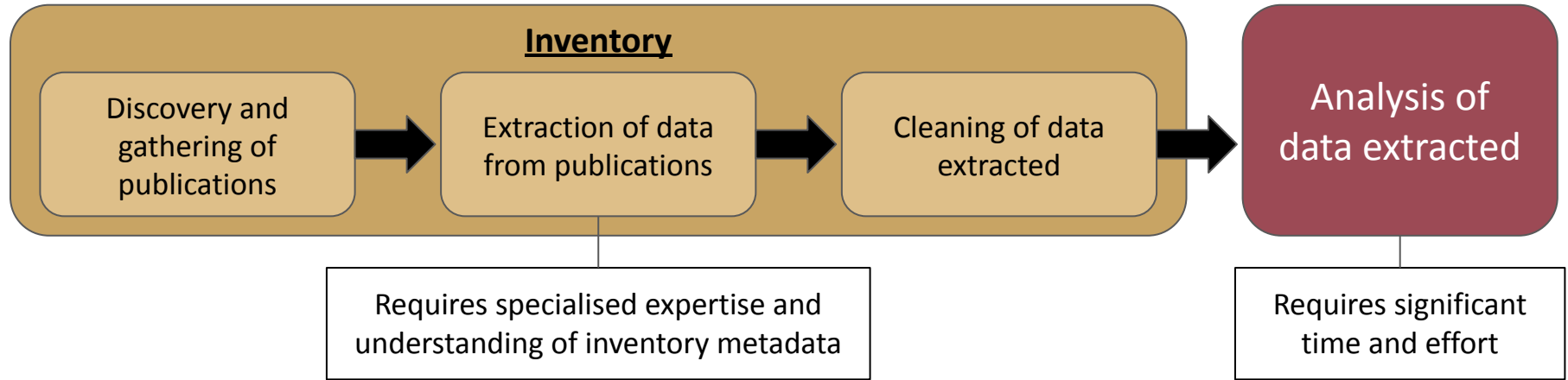
Inventory of regional research on marine plastic pollution in ASEAN+3, developed in 2021

The image shows a screenshot of a large spreadsheet or database table. The table has multiple columns, with some headers visible such as 'Title', 'Author', 'Year', and 'Journal'. The rows contain detailed bibliographic information for numerous publications related to marine plastic pollution in the ASEAN+3 region.

Extraction of relevant essential information (82 input fields) from publications using designed metadata (details in the next slide)

Part 2 - Current role and composition

Part 2.1. *The development of the research inventory as first function: nature of the contribution*



Inventory methodology currently in preparation for publication in scientific peer-reviewed literature for scientific visibility and also global visibility of this regional work.

Part 2 – Current role and composition

Part 2.1. *The development of the research inventory as first function: nature of the contribution*

Article Information

20 elements of general information on the publication, such as:

- Language
- Author(s)
- Research Group(s)
- Funding Information

Research Scope

16 elements of high-level substantive information on the research, such as:

- Aim of research
- Location of work
- Plastic sizes examined
- Coastal or offshore study

Research Topics

25 different research topics, such as:

- Movement of plastics in water bodies
- Fragmentation and degradation
- Microbial assemblages
- Human health/ food safety
- Laws, administrative measures
- Communication and coverage of marine plastic

Research Methodology

21 elements of methodology, including technical information, such as:

- Methodologies Used
- Depth of sediment sampling
- Field sampling frequency
- Species name of biota studied

Research Findings

25 elements of the research findings, such as:

- Key Findings
- Research Topics
- Source of Plastics
- Shape and type of plastic polymers found

Part 2 - Current role and composition

Part 2.2. Composition and good will

- National team collects publications relating to their country in english and local language
- It is a time-consuming task with no academic recognition in a competitive environment - therefore requiring good will and commitment to the protection of the marine environment, as well as national and regional interests
- Missing full expert engagement in Brunei, Cambodia, Japan, RO Korea



Part 3 – Proposed vision shared by the current team

Part 3.1. Overall purpose

Goal 1. Improve understanding of pollution from marine plastics in East Asian Seas through enhancement of exchange and collaboration between regional and national research efforts

Goal 2. Analyse and communicate findings from marine plastic research in East Asian Seas to support science-based policy making (e.g. sources, pathways, behaviour, distribution and impacts, effectiveness of response measures including in behavioural sciences, economics, etc.)

Goal 3. Enable and facilitate greater use of peer-reviewed data on pollution from marine plastics in East Asian Seas (e.g. through the research inventory and development of the online database)

Goal 4. Facilitate science-policy interface by bridging the gap between the needs of policy-makers and the constraints faced by research institutions

Proposal was made in a concept note to COBSEA following the consideration of a comparative analysis of existing marine environmental research networks that advise intergovernmental bodies. We found GESAMP to be a relevant model in that context.

Part 3 – Proposed vision shared by the current team

Part 3.2. Strong support from regional partners

Ongoing exchange with and consultation of the members of the regional team developed for the inventory for further development

- Full support of the regional contributors to the inventory whose overall perspective is that the inventory is a useful tool for the research network and that there can be immense potential benefits from additional exchange and collaboration building on the work done at (i) research individual/institutional levels, (ii) potentially national level as a subset of the regional effort, and (iii) regional level
- Renewed commitment expressed by the regional contributors to the inventory for the update and further discussion for expansion in numbers and substantive scope - feedbacks received being discussed

Part 3 – Proposed vision shared by the current team

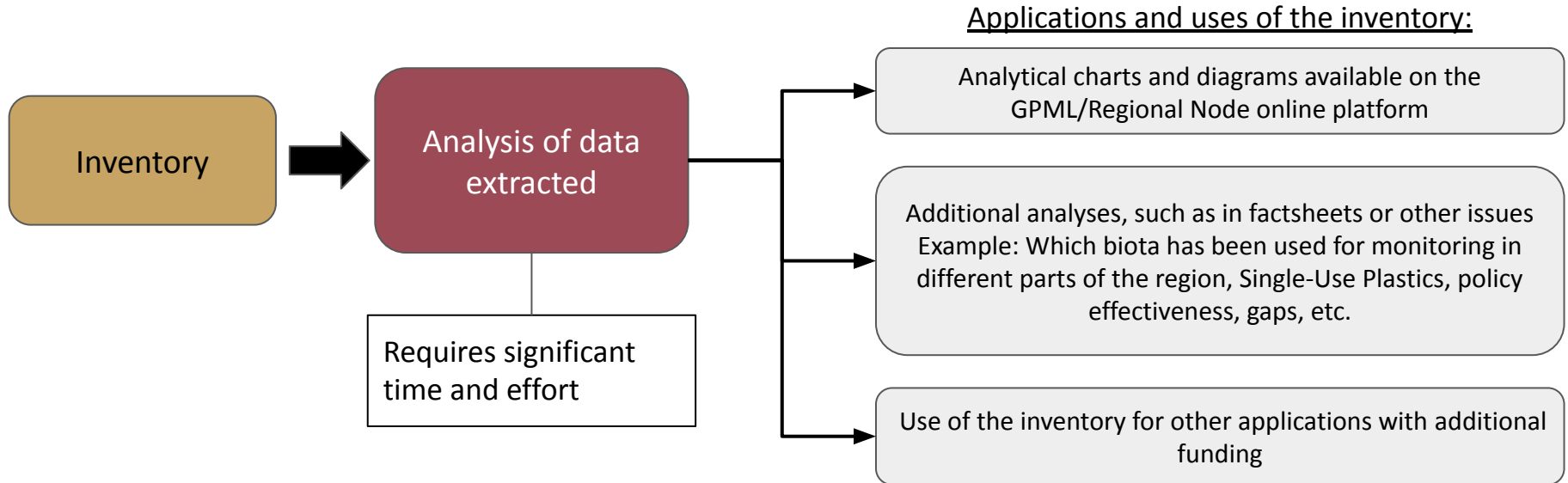
Part 3.3. Plan for the updating and maintenance of the inventory

- Responsibility to be shared by the network
- Update every 6 months with an opt-out to 1 year possible for teams that would be unable to meet the 6 month timeline
- Update managed in each country through master and PhD students under the supervision of a senior researcher
- Data entry verification and cleaning (to ensure smooth data extraction for visualisation and analytics)
- Possible rotational leadership for coordination - NUS to prepare training materials based on the methodology
- Financial support is needed for research assistants (amount and structure depends on institutions), coordination and data cleaning for visualisation)

Part 3 - Proposed vision

Part 3.4. Support the work of COBSEA and its WGML as well as other regional institutions

- Provide regional data to inform COBSEA's plan of work
- Provide data analyses that talk to policy
- Data sharing and availability to other regional efforts such as ASEAN



Part 4 - Next steps

Build on the regional research network engaged with the development of the regional research inventory to develop a ToR proposal for consideration, that will include:

- Membership to the Regional Network:
 - Aim for adequate geographic coverage of the East Asian Seas region
i.e. Cambodia, Laos, Brunei, South Korea and Japan
 - Expand socio-economic part of the network
 - Build up ties via institutional agreements and fill-in gaps (e.g. MoUs)
- Governance and financing of the Regional Network:
 - Ongoing consultation with the regional team
 - Appropriate funding will be dependent on the proposed activities
- Planning of activities (phased approach):
 - Regular webinars for presentation of on-going research findings
 - In-person workshops
 - Joint research projects, etc.



Thank you for your attention!

Comments and suggestions are welcomed
at younalyons@nus.edu.sg

[DRAFT] List of ongoing projects

National efforts:

Philippines - Led by UKNERC - DST (Plastic count Philippines)

https://www.plasticcount.ph/index.php/c_home/map

Thailand (would be under DMCR)

GOT / Pollution & Control Dept (same ministry as DMCR) on distribution of MP in the GOT. Looking for hotspots of plastic debris and trying to integrate oceanography to predict transport and movement. Distribution

(Apple involved)

Other research projects.

PH

On MPs : Mindanao State Uni + Legan Institute of Technology + MSI (possibly govt-led? DST)

Check also Western Palawan University (Jambek might have tighs there) = Negros State Uni

TH

Nationally-funded. Lots of funding for instrumentalisation at Chula

Not much teaming-up with other unis

Lack of coordination at national level. Fragmented

Thamasat Uni might have a grant.

(APM?)

Money in research by Japan. Apple spearheading centre in Chula for research on MP.

+ Ocean clean-up to quantify plastic in main river feeding into GOT (for work with the Interceptor)

Myanmar:

On-going Surveys with gillnet fishers (in contact with FAO but can't be official).

Not aware of any other.

One more paper

List of questions

Feedback from last meetings:

<https://docs.google.com/document/d/1zVsDjCx9WT4lDgeQGWFvqic2WWmqpr4DFxK76TpDWU4/edit>

Ongoing projects:

https://docs.google.com/spreadsheets/d/1kn1MPtCdqilfCnVNiwdYXJtSYf6dgVFypOXEwmnrMJ0/edit?usp=drive_web&oid=111819451793160740576

<https://docs.google.com/document/d/1CNRBbYw2CFUgVcsXCOCmfFn6hfHiXif3ImEtgC23ZU0/edit>

Comparative database:

<https://docs.google.com/spreadsheets/d/1EyjwyYEObH2xX03IBAnogCA0MqjZ-BkxjKPJZDSv3fM/edit#gid=1059462880>