

Effective utilization of agricultural waste for reducing marine plastic litter in Africa

アフリカにおける海洋プラスチックごみ削減に向けた
農業廃棄物の有効利用

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Research Project of Marine Plastic Litter

The research project for solving the problem of marine plastic litter was started this year (2019) in the University of Tokyo (UTokyo) with financial support from the Nippon Foundation.

Main Research Topics

- 1. Understanding of the current situation of marine plastic litter in ocean**
- 2. Evaluation of influence of micro plastics on living organisms**
- 3. Comprehensive study on reduction of plastic waste from terrestrial areas**

In addition, this project aims to **offer information related to marine plastic litter based on the construction of collaborative network in the world.**

Collaboration with UNIDO

UTokyo Ocean Alliance has conducted the overseas internship project since 2014.

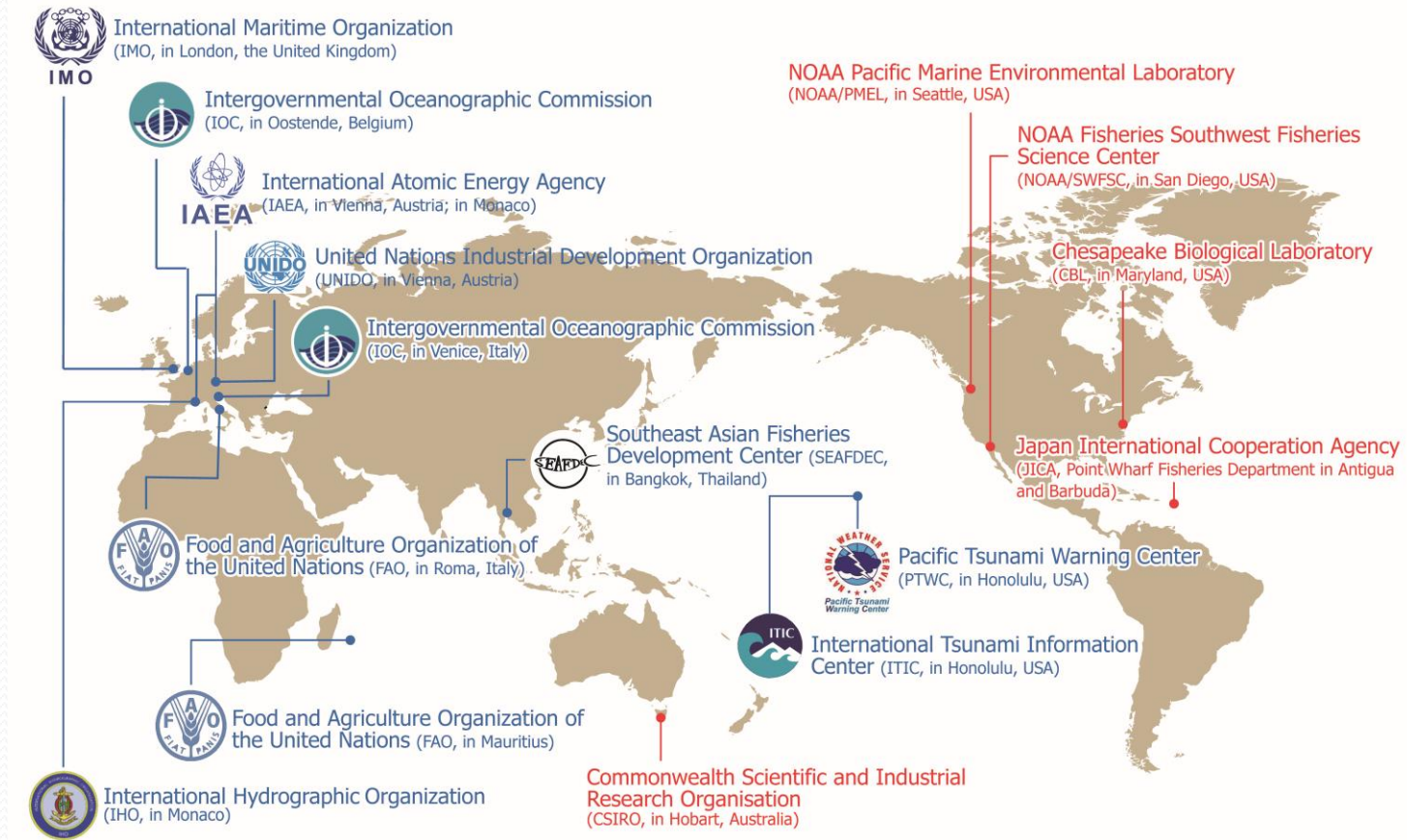


Fig International organizations and research institutions to which students were sent.

This internship project continues in the Interdisciplinary Education Program on Ocean Science and Policy with financial support from the Nippon foundation (<https://www.oa.u-tokyo.ac.jp/program/internship.html>).

UTokyo Ocean Alliance has a strong relationship with UNIDO and concluded the internship agreement with UNIDO in July 2018.

IPADS

- International Program in Agricultural Development Studies (IPADS) is an English-language MSc and PhD Program inaugurated in the academic year 2010/2011, sole at the Graduate School of Agricultural and Life Sciences, the University of Tokyo. (<http://ipads.a.u-tokyo.ac.jp/>)
- IPADS offers its students the opportunity to develop the requisite expertise and skills across discipline and country boundaries to tackle agricultural and environmental problems.
- Both regular course and IPADS students take some lectures in English together and engage in their research in Department of Global Agricultural Sciences.



Research in IPADS

Research area

Environmental Science, Environmental Chemical Engineering

- *One of the main studies is to utilize unused resources effectively for environmental conservation.*

Outline of IPADS research related to marine plastic litter

- Development of alternative materials to plastic, such as biodegradable plastic, is crucial for reducing plastic waste.
- Reduction of plastic waste from terrestrial areas in African countries are very important.
 - Using alternative plastic made from agricultural waste is one of the effective method.

Research topics

1. Investigation of the amount of agricultural wastes which can be used for bioplastic and plastic alternative production in African countries.
2. Consideration of technological installation for producing bioplastic and alternative materials made from those agricultural wastes
3. System design and economic efficiency evaluation from the agricultural waste collection to alternative material production.



UTokyo (IPADS) tackles these topics collaborating with UNIDO.

Research Plan

- Our research group has already started the project.

- We will visit Egypt and other African countries for collecting agricultural data and information, if needed.

- Some of the students will be sent to UNIDO in Vienna for promoting this collaboration smoothly and effectively.

- We can conduct comprehensive investigation because researchers in many fields including plant material science belong to our department (<http://www.ga.a.u-tokyo.ac.jp/English/>).