

Implications of organotins and their ban for global coastal and marine ecology

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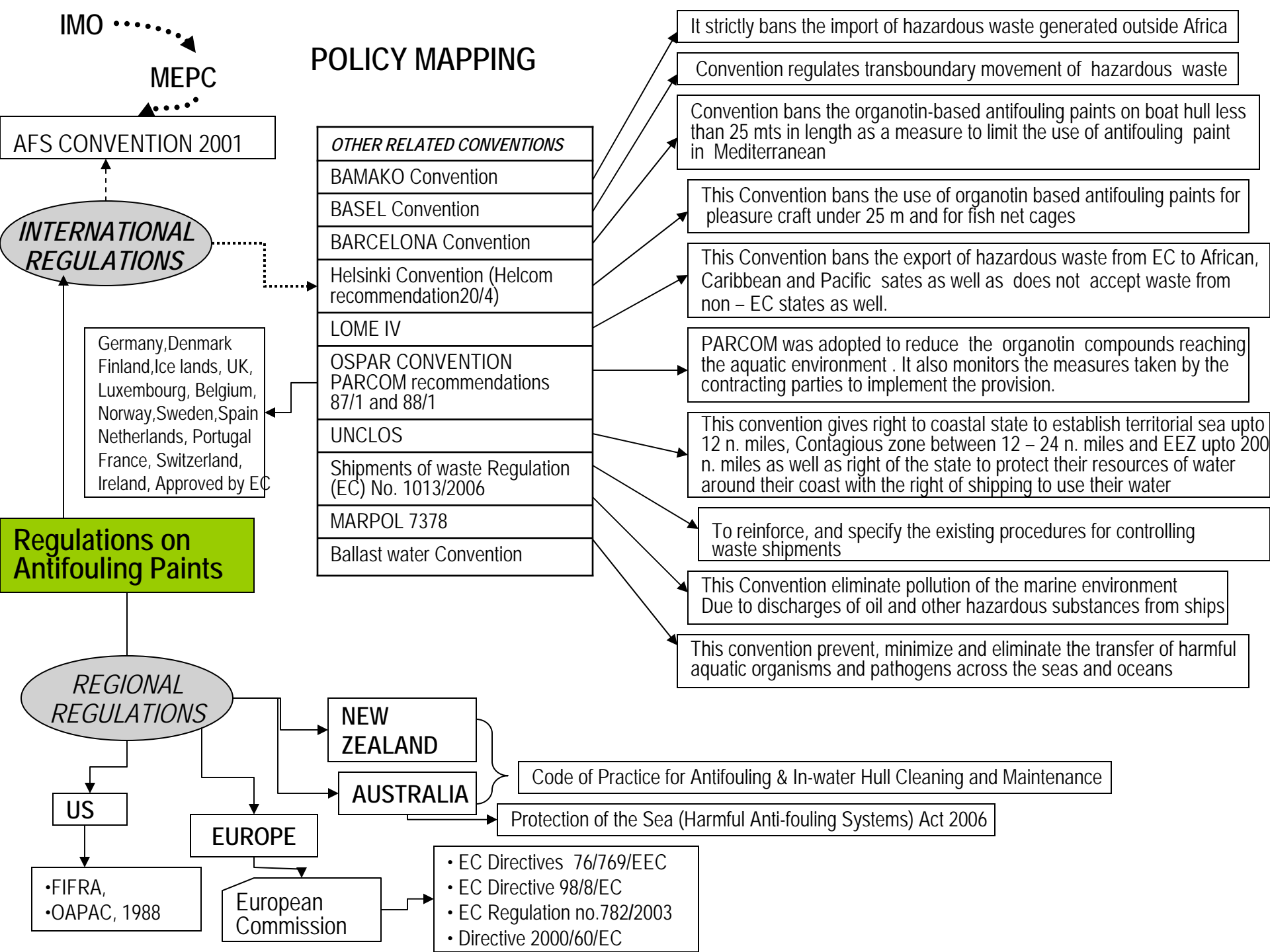


Signatories to the AFS Convention

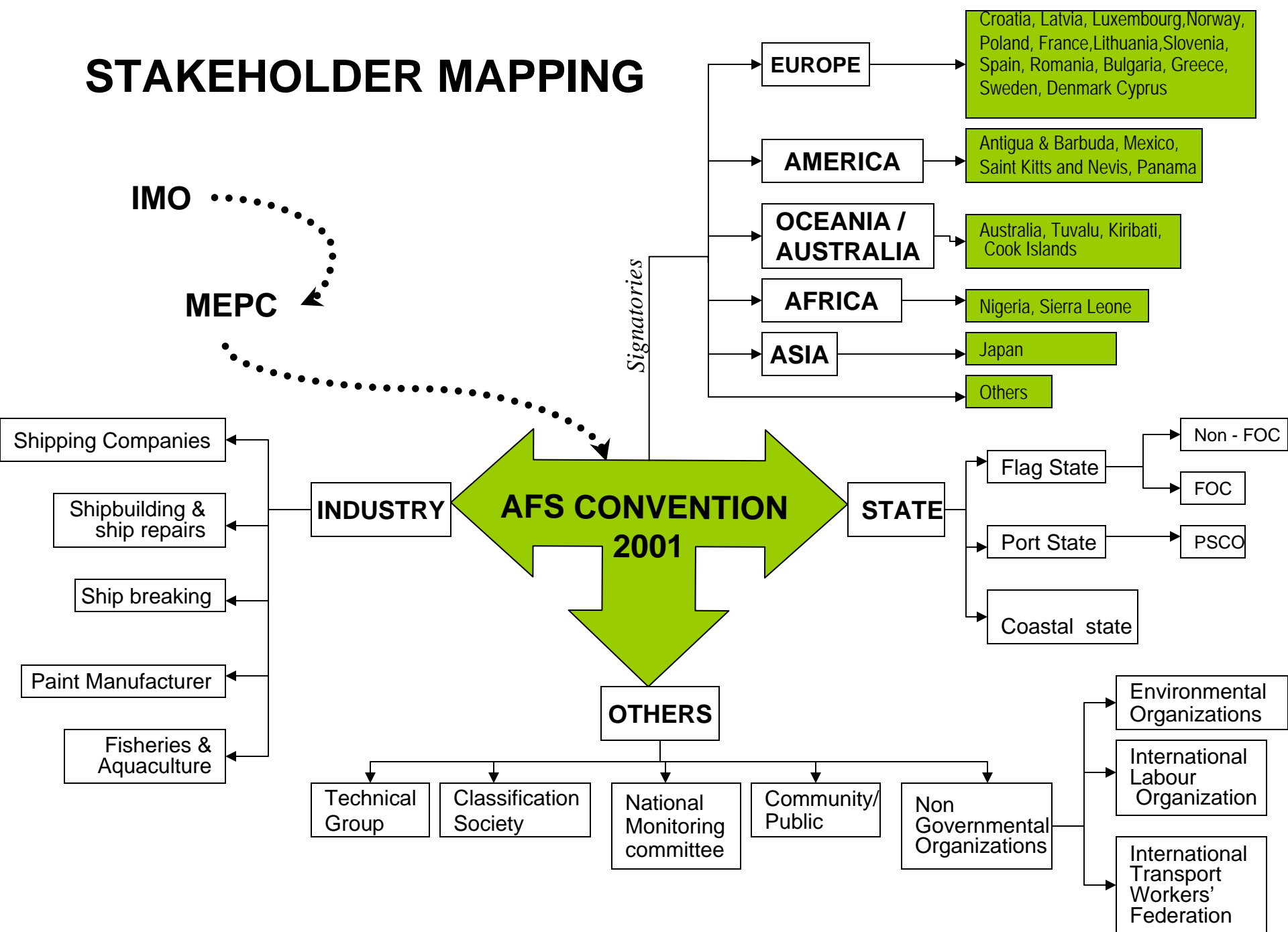
Antigua & Barbuda, Australia, Bahamas, Bulgaria, Cook Islands, Croatia, Cyprus, Denmark, France, Greece, Iceland, Japan, Kiribati, Latvia, Lithuania, Luxembourg, Marshall Islands, Mexico, Netherlands, Nigeria, Norway, Panama, Romania, Saint Kitts and Nevis, Sierra Leone, Slovenia, Spain, Sweden and Tuvalu.

Structure of the presentation

- **Regulations concerning organotins**
- **Related international conventions**
- **Stakeholder mapping**
- **Concerns regards the AFS convention**
- **Implications of the AFS convention**



STAKEHOLDER MAPPING

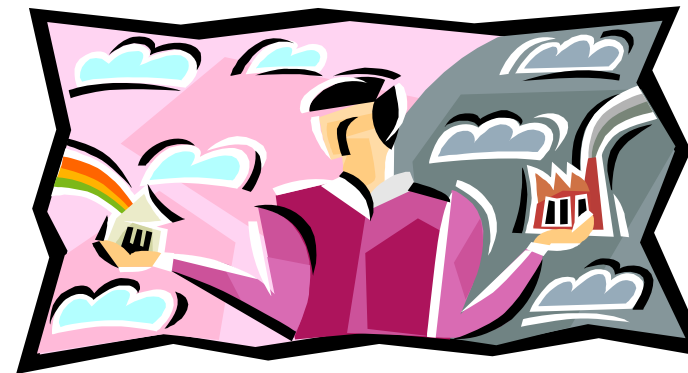


Implications of the AFS Convention

- *Safer and effective alternatives to organotin*
- *Environmental benefits ignored*
- *Indicator for monitoring TBT impacts*
- *Regulations against the use of organotins on ships are applicable to ship hulls or external parts or surfaces only*
- *No restrictions on the production and sale of organotin based compounds*
- *Disposal and treatment of organotin Waste*
- *Shift of pollution to developing nations*
- *Implications for tropical water*
- *Open Registries and laxity of regulations*
- *Lack of capabilities and financial resources with economically developing countries*
- *Loss of interest by academicians*

Implications of the AFS Convention

- ***Safer and effective alternatives to organotin***
 - Long term environmental impacts of alternatives not evaluated
 - Safer to shift to alternatives
 - AFS Convention bans only organotin compounds
 - Provision in the AFS Convention to prohibit more compounds



- ***Unintended consequences of organotin prohibition***

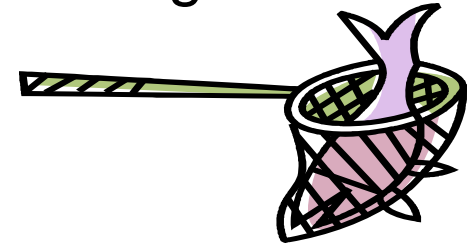
- o Environmental benefits as those provided by the organotin based paints will be provided by the alternatives
- o AFS Convention is a Convention to control the harmful effects of the antifouling system and not to control biofouling itself.
- o The introduction of non-indigenous species through ship fouling needs to be regulated through a separate international regime.

- **Restrictions on organotin compounds are applicable to ship hulls or external surfaces only**

- o Ballast water may contribute to the re-buildup of TBT contamination



- o Application of antifouling paints to fish nets and cages is not regulated through the AFS Convention.



- o Application of antifouling paints to most *in-situ* oceanographic research monitoring instruments, navigation buoys not regulated



- o Helsinki, PARCOM and OSPAR Conventions prohibit use of organotin-based paints on fish nets and cages.

- **No restrictions on the production and sale of organotin based compounds**

- o There are restrictions on the sale of paints through national legislations in U.K., Sweden and some other European countries.



- o PARCOM and OSPAR Conventions adopt ban on the retail sale or use of organotin paints for the pleasure boats and fish net cage.
- o Global and liberalized trade provides incentives to market these compounds to less developed and less regulated countries
- o Shift from local to global environmental problems

- **No provision for the disposal and treatment of existing organotin waste**

- o There are no technical guidelines for the disposal of waste generated during dry-docking activities, under the AFS Convention



- o Provision for the use of organotin based compounds with a coating



- o No responsibility of disposal assigned to any one particular stakeholder

- o No financial resources have been globally earmarked for disposal of existing TBT



- **Implications for tropical water**

- Tropical waters may have lesser contamination of organotins due to higher biodegradation of TBT
- Climate in tropical countries favours introduction of alien species through ship fouling
- Tropical countries would be doubly disadvantaged from economic as well as environmental impacts of organotin prohibition.



• Flag of Convenience or Open Registries

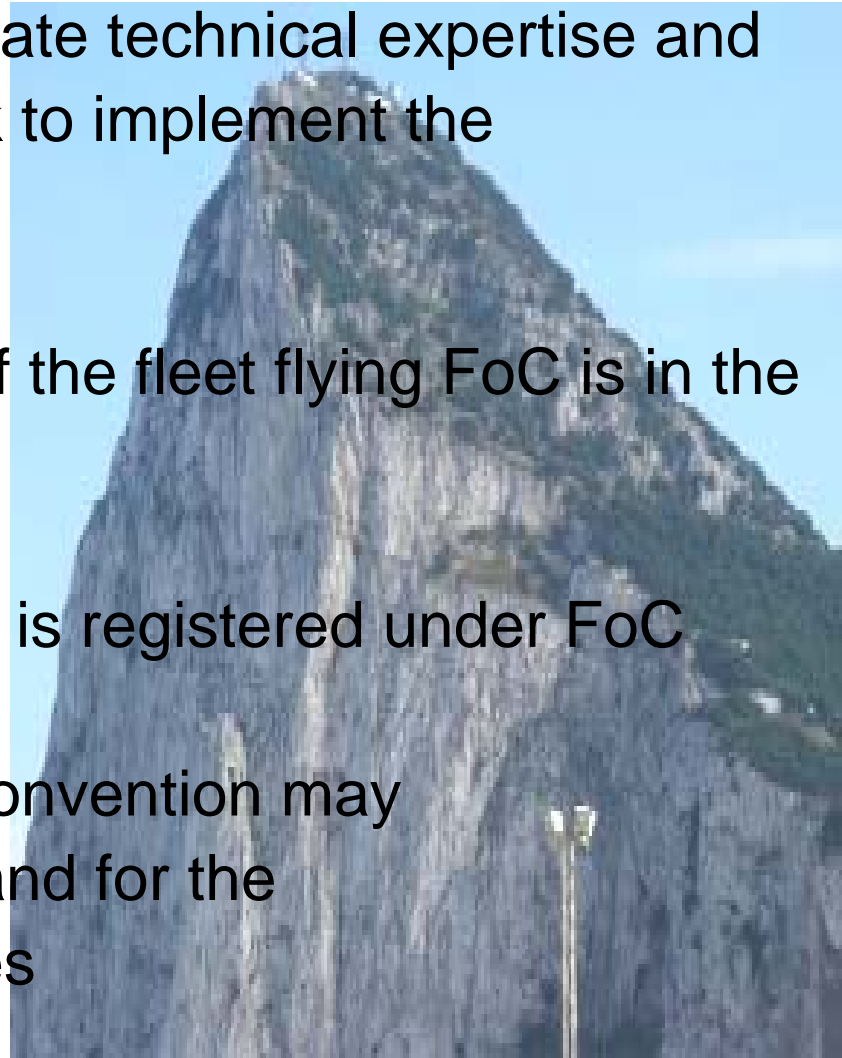
- o Different regulatory regimes

- o Many ORs do not have the adequate technical expertise and lack the required legal framework to implement the International conventions

- o Ownership of a large proportion of the fleet flying FoC is in the industrialized countries.

- o About 54% of the world's tonnage is registered under FoC

- o Implications of signing the AFS Convention may be different for OECD countries and for the economically developing countries



- ***Lack of capabilities and financial resources with economically developing countries***

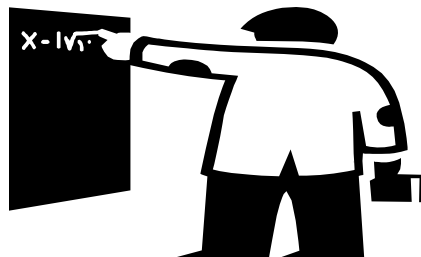


- Immense awareness about the serious impacts organotin in industrialized world

- Not adequate research on capacity building of personnel, flag states, etc



- No data are available in offshore waters around Asian developing countries such as the Indian Ocean



- ***Loss of interest by academicians***

- o Shift from organotin research



- o No need perceived by scientists or environmental managers to generate data

- o No plans and programmes in place by many national governments to generate and update data



- o Organotin monitoring need to be a part of routine monitoring

Conclusion

- **List of substances that are approved for use rather than those prohibited**
- **A separate environmental regime needs to be in place to control introduction of non-indigenous species through ship fouling**
- **Regulations to control organotin contamination through other sources such as fish nets and cages**
- **Production and sale of organotin compounds should be regulated**
- **Guidelines for disposal of organotin waste need to be formulated**
- **Onus for disposal of organotin waste need to be defined**
- **Transportation of vessels with organotins for dry-docking need to be regulated**
- **Need for capacity building of economically developing countries**
- **International monetary compensation fund should be considered**
- **Programmes in place for routine monitoring of organotins by national governments**
- **Dissemination of research findings to all relevant stakeholders and awareness raising necessary**

