

OHM Estarreja : an experience of scientific activity in a sensitive environmental context

A.M. Guihard-Costa

A territory contaminated for a long time by intense industrial activity

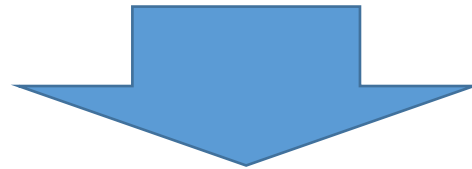
- Begins in the 30s : production of chlorine and caustic soda, then ammonia..
- 1952 : production of ammonium sulphate and sulphuric acid (by roasting of pyrite = **ARSENIC***);
- 1959 : production of Cl and Na from ammonium sulphate and sulphuric acid (by roasting of pyrite = **ARSENIC***); electrolyte procedure using **MERCURY CATHODES***;
- 1963 : start of PVC and VCM production using **HG CATALYSTS***;
- 1970 : production of fertilizers and aromatic compounds (**MONONITROBENZENE AND ANILINE***)
- 1980s: new industrial unit for the production of **POLYURETHANES***



*sources of persistent environmental contamination

The rupture of the 90s = founding event EF

- Decade 1990: new method for the production of aniline using less sulfuric acid, and in lower concentrations
- End of 1990: Hg cells are gradually replaced by membrane cells
- Stricter legislative framework (Portugal joined the EEC in 1986)



- Significantly **reduced releases** of potentially toxic substances
- However, **Land and lagoon ecosystems remain impacted** by the ancient contamination, despite the **remediation processes** that were undertaken by the various social actors (ERASE project for waste containment , BIORIA project of tourism development of the Ria)

Local actors interacting with the OHM

- The **local population**
- The **municipality**
- **Schools**, teachers and students
- **Health facilities** (« Centro de Saude », Hosptila, medical staff)
- **Associations** (ecologists...)
- **Industries/ PACOPAR**
- **BIORIA**



The local population and the OHM Estarreja

- Participation in almost all OHM projects
- Population aware of industrial risks related to factories:
 - chemical incident alert exercises
 - history of occupational accidents
 - concerns about pollution
- Active participation in the data collection (apparatus, observations...)



Main actors in two OHM-funded films : « La lagune et l'usine » et « Vues et voix d'Estarreja »

Ambivalent feelings about factories: sources of wealth but also of possible pollution of air and food



The Municipality and The OHM

- **Relations** with the Municipality have varied according to the personality of successive mayors.
- Strained relations at the beginning of the OHM, **BUT collaborative at this moment** with joint initiatives (next OHM Estarreja – 6 November will happen in Estarreja with the collaboration of the municipality).
- **No direct funding** from the municipality **BUT** collaboration with the initiatives **providing access** to the Estarreja Municipal Theatre for meetings and in the organizations of local visits



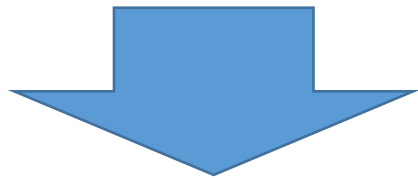
Educational institutions and the OHM

- Students in Estarreja schools (from primary school to high school) are **involved in different observation or remediation programs**, with or outside the framework of OHM projects
- Several OHM projects have been made possible thanks to **close collaboration** between researchers and teachers.



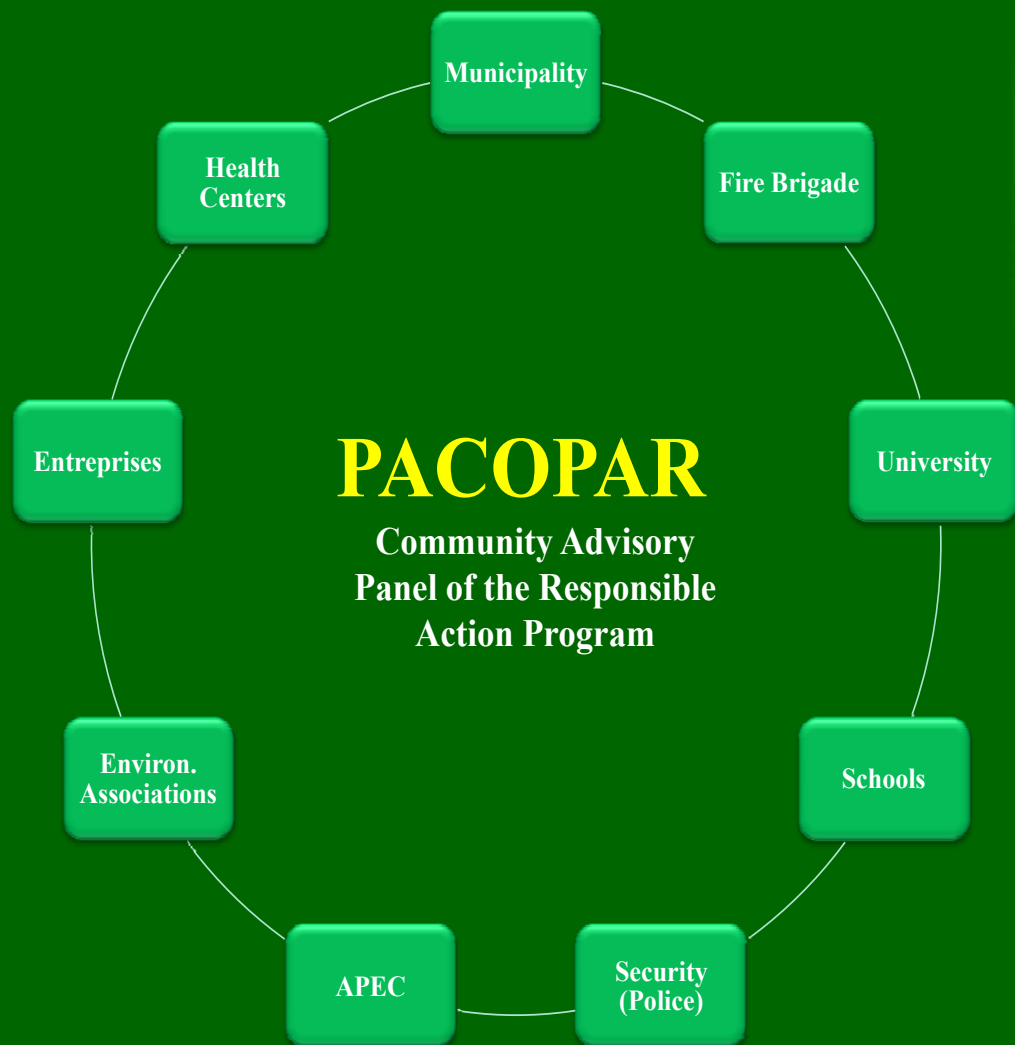
Health institutions and the OHM

- Health institutions have been involved **since the first preliminary study** before the creation of the OHM : « POLLPRENAT »
- A **large majority of OHM projects** are directly or indirectly concerned with animal and human health

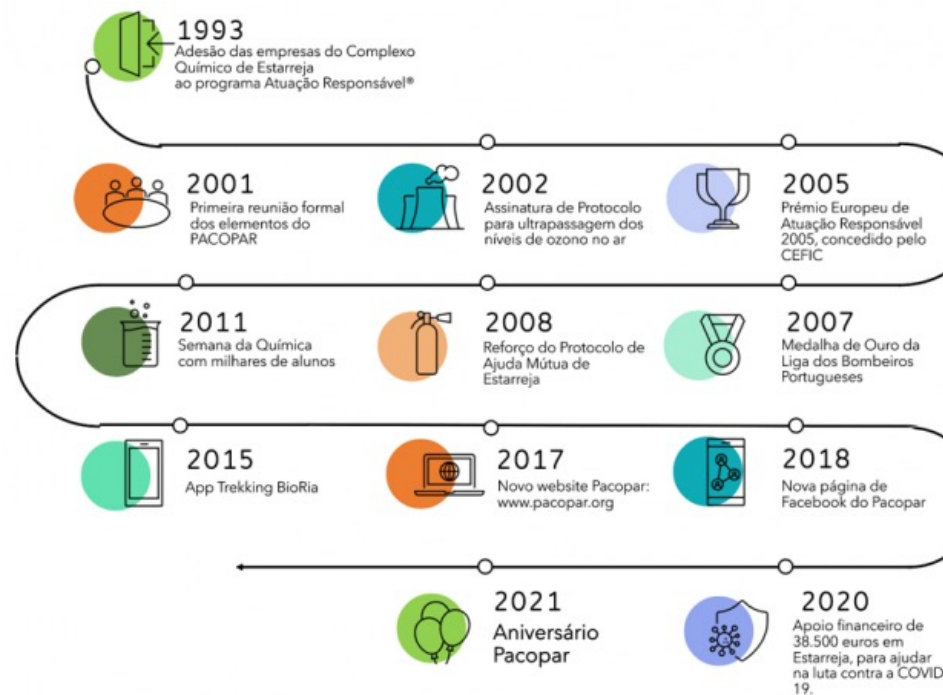


Many health organizations and professionals are involved in our projects :
doctors, nurses, health centre managers, public health researchers, veterinarians, medical and health school students

Relationship with industries: the group PACOPAR



pacopar



PACOPAR and OHM

- The OHM is **not represented as such** in PACOPAR, but through a representative of **the University** of Aveiro
- Industry representative attends **annual OHM Seminar** Meetings
- PACOPAR has **financed** four OHM projects : one concerning urine arsenic in school children (10k), three concerning the contamination near the Chemical Complex.
- Collaborations also took place for two projects concerning CQE workers and a press review of the factories

BIORIA

Project for the **enhancement and conservation** of the lagoon natural heritage

Created in 2005 at the initiative of the municipality, the BIORIA **protected area** currently includes **8 hiking trails**, an interpretation center, and organizes many activities to discover the natural environment

- The creation of Bioria contributed to the **change of image** of Estarreja in the country. Previously synonymous with pollution, Estarreja wants to be today a land of sustainable development



10ª BIO MARATONA
BTT
Rota dos Estarreja
ESTARREJA 2017

MARATONA 90KM
1/2 MARATONA 50KM
PARTIDA/CHEGADA: CENTRO DE ESTARREJA.
INÍCIO DA PROVA: 09H30.

PRÉMIOS

- 3 CLASSIFICADOS DA MARATONA E 1/2 MARATONA, POR ESCALÕES
- EQUIPA MAIS NUMEROSA
- ATLETA MAIS VELHO E MAIS NOVO

INSCRIÇÃO EM
WWW.TRILHOPERDIDO.COM

- 17,50 RODAS COM ALMOÇO
- 12,50 RODAS SEM ALMOÇO
- 12,50 RODAS SÓ ALMOÇO

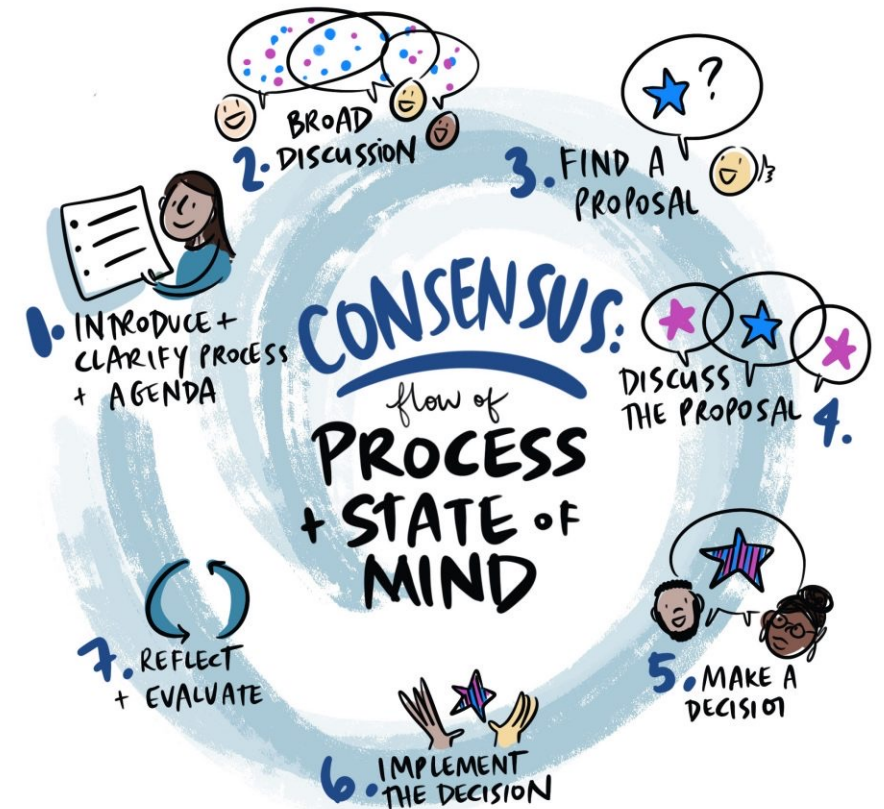
INSCRIÇÃO INCLUI: BANHO, LEMBRANÇA LAVAGEM DE BICICLETA E SEGURO DESPORTIVO.

ALMOÇO: SEDE G.R.E.S. TREPA DE ESTARREJA.

INFOLINE
968 432 600 / 967 878 816
INFOTRILHOPERDIDO@GMAIL.COM

An apparent societal consensus

- There are many citizen action programs concerning **sustainable development** (recycling, protection of biodiversity, etc.). The environmental liabilities of **factories are little or not taken** into account
- Two environmental **associations** are present: "Cegonha" and the local branch of the national association "Quercus". Their actions are not spectacular and little known by the population.
- Persistent contamination is **not a major topic** of conversation. A past that citizens want to forget ?



Via Rhizome Network UK
drawn: sambradd

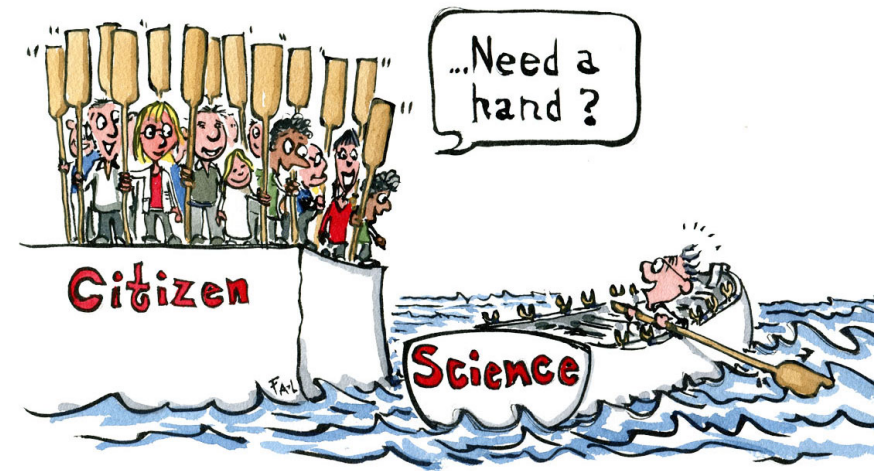
Scientists and stakeholders

- Excellent contact with **local populations** who are used to participating in community projects
- More distant, but non-confrontational contact with **chemical companies**. Mainly via PACOPAR
- Good contacts currently with the **municipality** (e.g. organization of part of the annual seminar of the OHM in municipal buildings in November)



Ethical positioning of OHM members

- Scientists are **also citizens** who have their own socio-political approaches to ecological problems
- Personal sensitivity versus **collective responsibility**
- **Dissemination of research results:**
 - At what level?
 - By what means (scientific journals, media, social networks ...)?
 - What are the societal consequences?



- **No specific collective discussion** on these topics within the OHM.
- Attitude of "**neutrality**" of researchers regarding their subject of study (?)

Scientific involvement/societal involvement: a difficult situation for the OHMs?

- The **scientific requirement** must not be subordinated to the **societal requirement**: the choice of subjects of study were freely chosen by the scientific community.
- The dissemination of the results must take into account the **type of audience** :
 - Detailed publications in specialised scientific reviews.
 - Simplified (but not truncated) communications for the general public, avoiding caricatural interpretation of the results.

Personal conclusion...

« Bien faire et laisser dire » (Do well and let it be said)

- Scientific **complexity** creates **conflicts** of interpretation... it must be assumed !
- In a science-society partnership, the OHM brings the **scientific expertise** (and only scientific expertise) on which decision-makers can rely

Thank you for your attention

