



Social perceptions on climate change and coastal risks: engaging local stakeholders for efficient adaptation strategies

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Climate change and coasts

- Coast risk as one of the impacts of climate change: rise in sea level and erosion
- International bibliography - studies on:
 - Institutional responses to coastal management
 - Participatory governance
 - Vulnerability and resilience to coastal disasters
 - Individual risk awareness/perception and decision-making

Project CHANGE

CHANGE is a research project from the Institute of Social Sciences, in collaboration with a research team from the Faculty of Sciences of the University of Lisbon. The project runs until 2013 and is funded by the Foundation for Science and Technology (PTDC/CS-SOC/100376/2008).

CHANGE explores the interactions between global climate change, social and territorial dynamics in the coastline and the impact of local risk practices in coastal erosion processes.

<http://www.changeproject.ics.ul.pt/>

Coastal issues in Portugal

- 1,230 km of coast (Atlantic Ocean)
- 85% of population and GDP in coastal areas
- Coastal erosion is being caused mainly by lack of sediment (dams in rivers and hard coastal defences)
- “semi-peripheral” situation:
 - financial and technical resources to protect the coast **vs.** economic crisis
 - centralised, hierarchical and secretive administrative practices **vs.** European regulations

Coastal issues in Portugal

Policies are routinely discontinued, institutional responsibilities overlap and conflict, legislation fails to be implemented, regulations that forbid construction within 500m from the shore are consistently ignored, coastal risk maps do exist but are far from accessible (Schmidt et al, forthcoming).

Attitudes towards the inclusion of stakeholders in decision-making processes are hindered by a perception of the public as poorly qualified to participate, ignorant, and irrational.

Three case studies

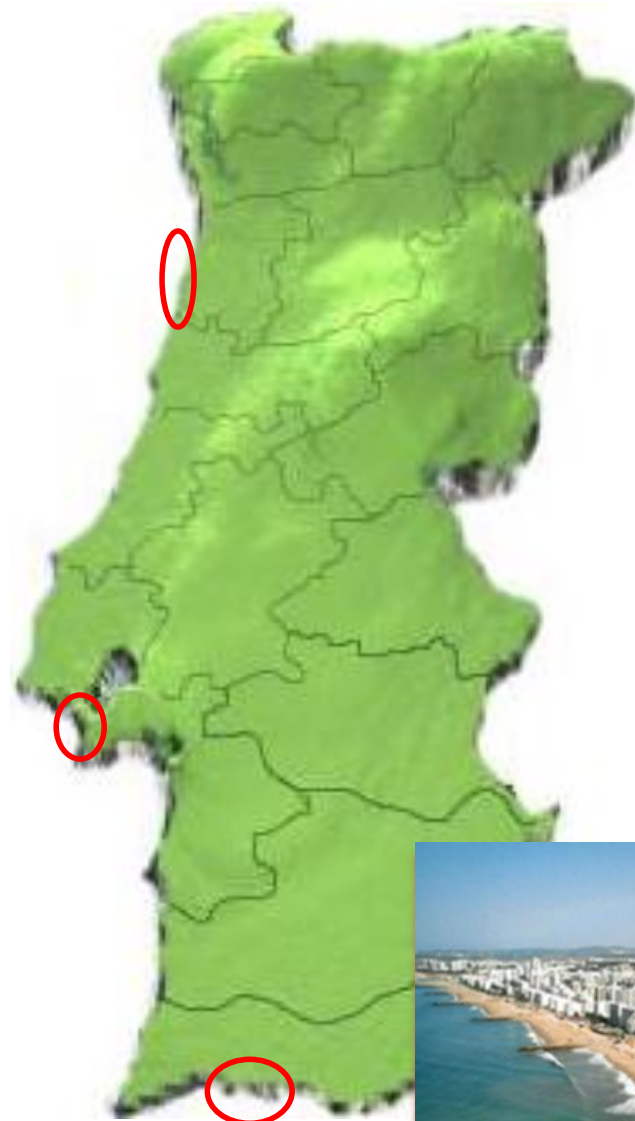


Vagueira:
24.6k inhabitants
16.6k dwellings
64% seasonal
occupancy



Costa da Caparica:
13.5k inhabitants
14k dwellings
53% seasonal
occupancy

Quarteira:
21.8k inhabitants,
31.5k dwellings
59% seasonal
occupancy



Issues in this paper

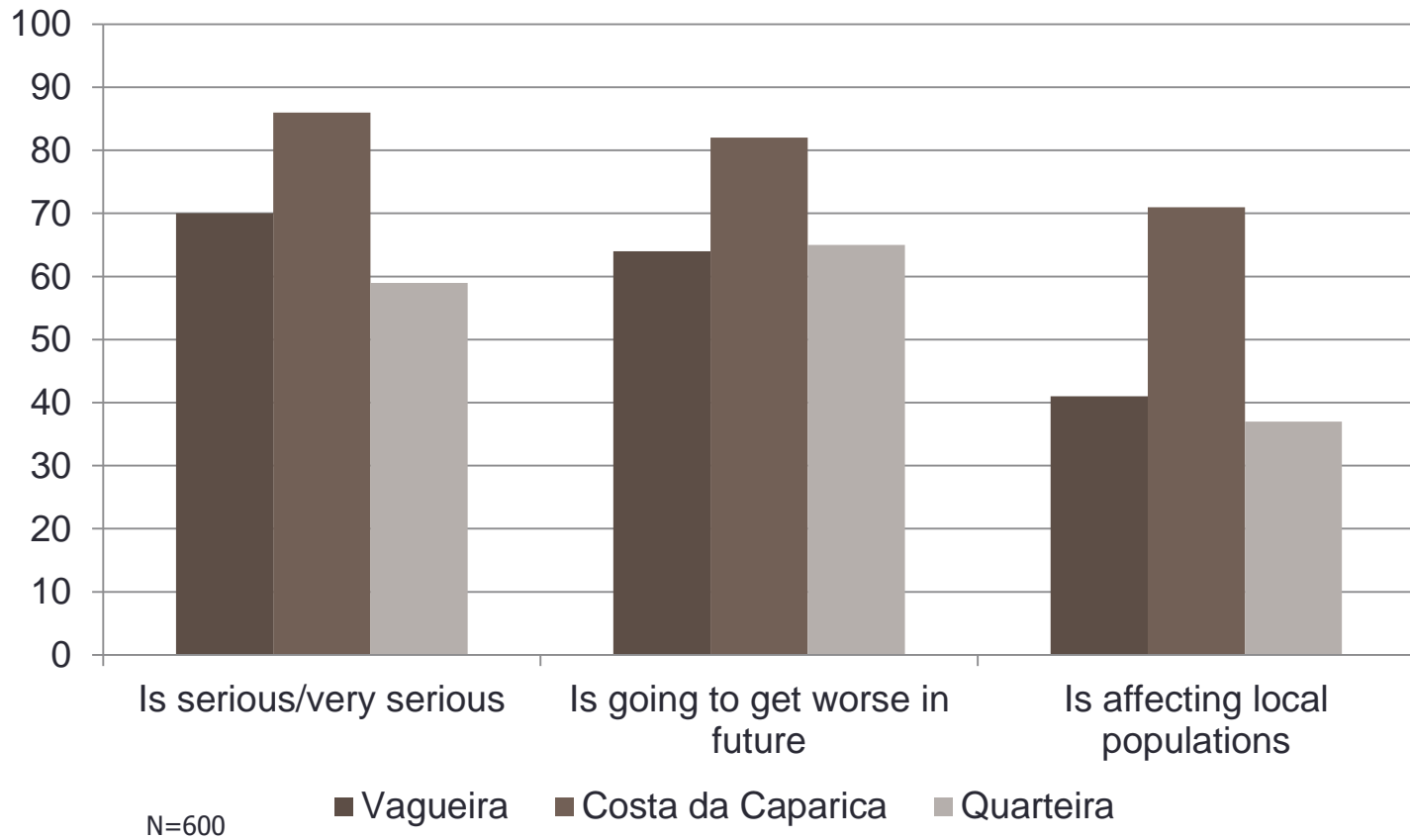
- public perceptions of coastal risks and climate change,
- trust in management policies and institutions
- public participation in decision-making

Methodology:

- Quantitative survey: Summer 2011, N= 643, local inhabitants, business holders and owners of second homes in the 3 locations
- Qualitative interviews with local stakeholders: Spring/Summer 2011, N=62, local authorities, NGO representatives, scientists, fisherman, surfers, business owners, and resident associations

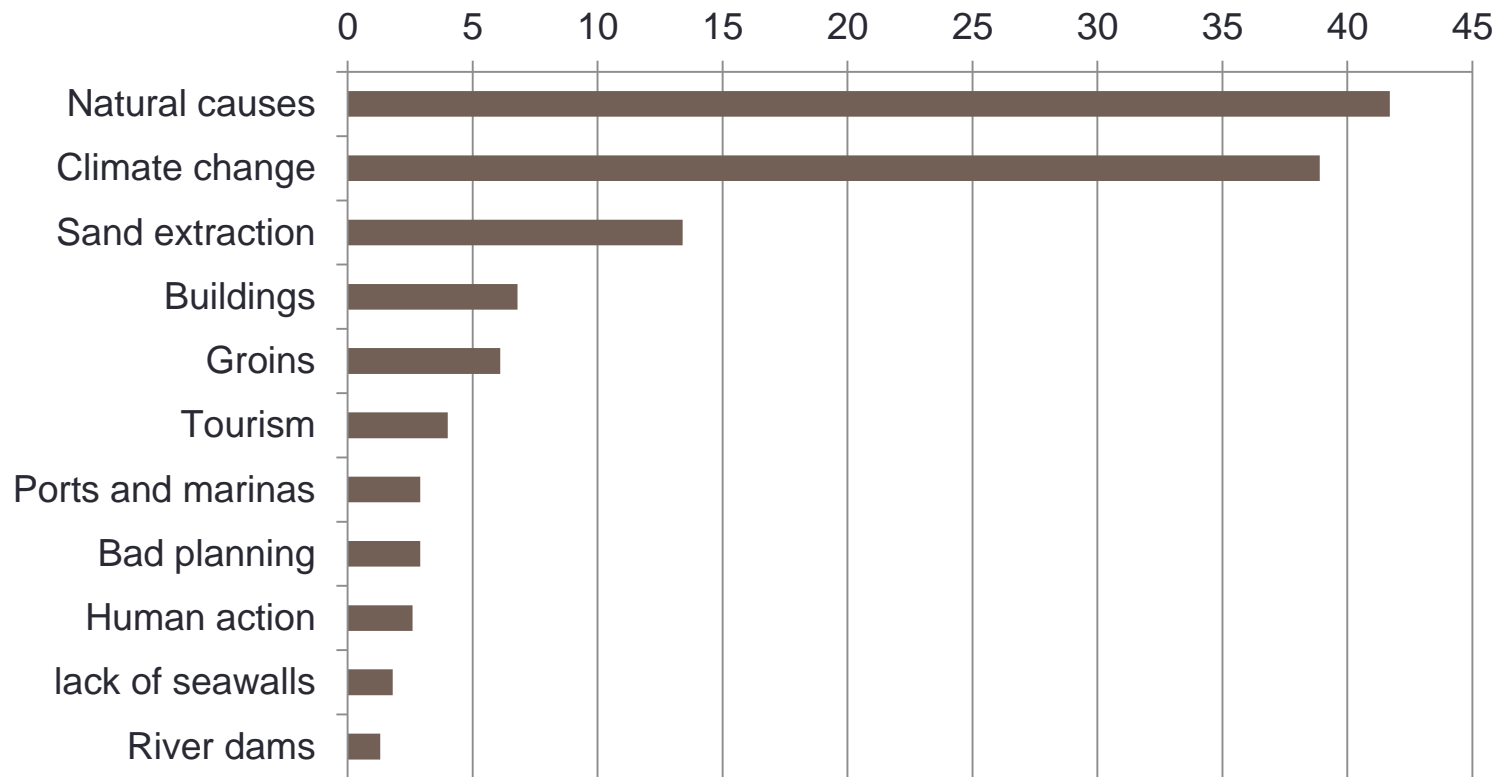
Risk perceptions

Fig 1 Perception of coastal erosion (%)



Risk perceptions

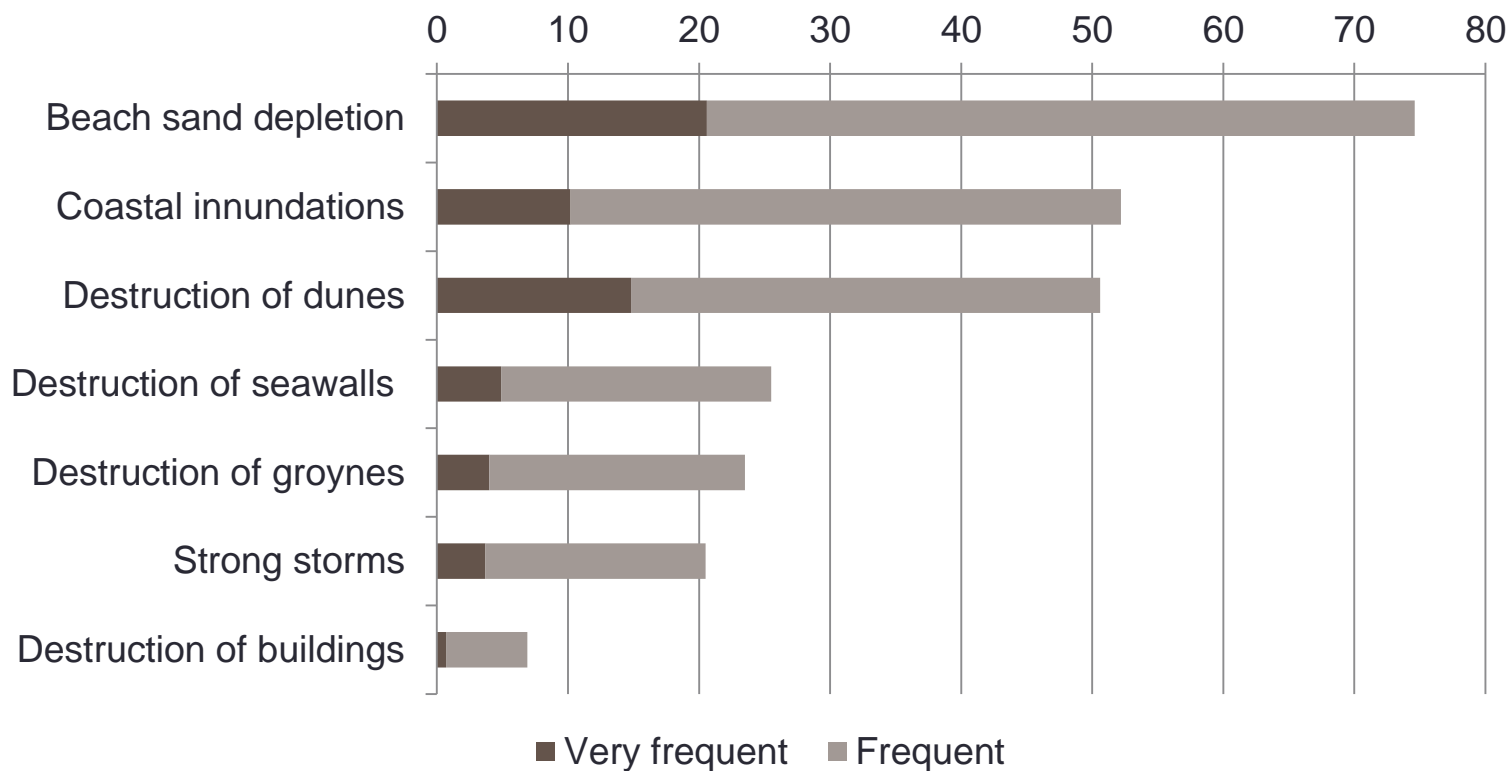
Fig 2 Causes of coastal erosion (%)



N=619

Risk perceptions

Fig 3 Perceived frequency of events in the last 20 years (%)



N=618

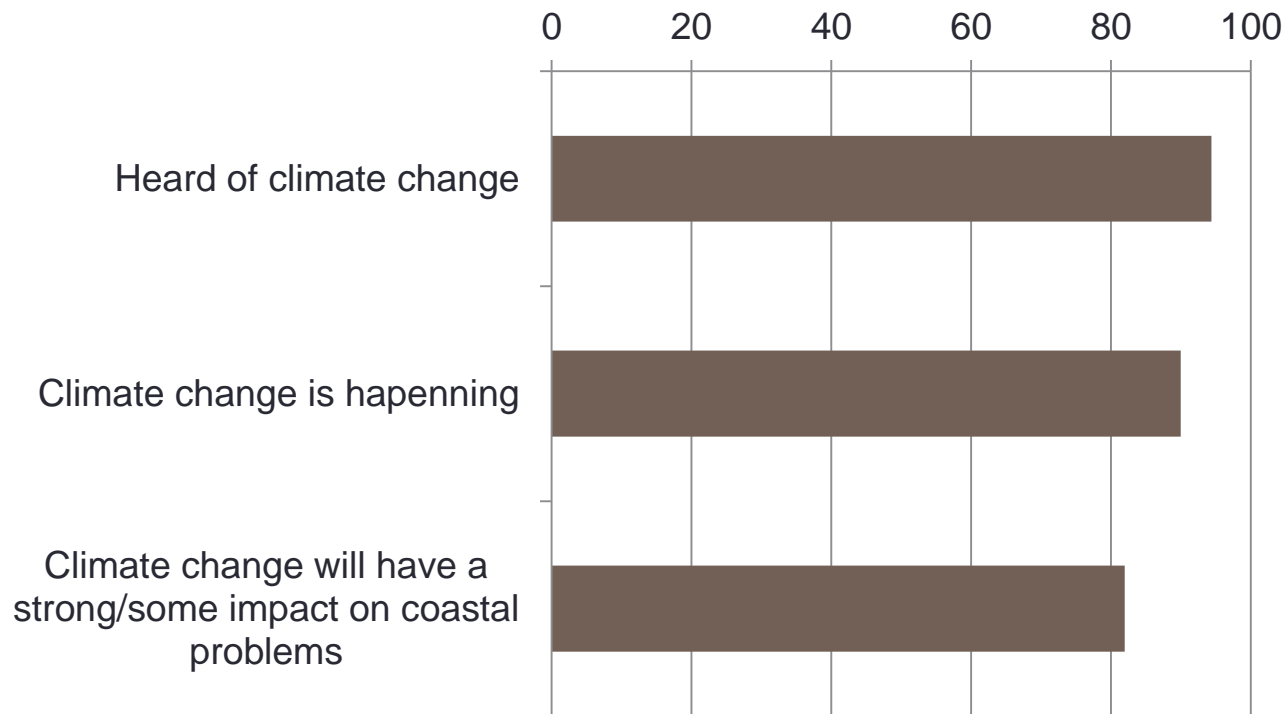
Risk perceptions

“in 30 years the beach receded a lot, to go down to collect a bucket of water it used to take me 15 minutes, now it takes 5 minutes” (representative of a local association, Costa da Caparica)

“when I was a boy I had to walk half an hour to get to the sea, now I don’t have enough beach to run my boat aground. (...) There were dunes so large you could hide in there and in half a day I wouldn’t find you” (fisherman, Vagueira)

Risk perceptions

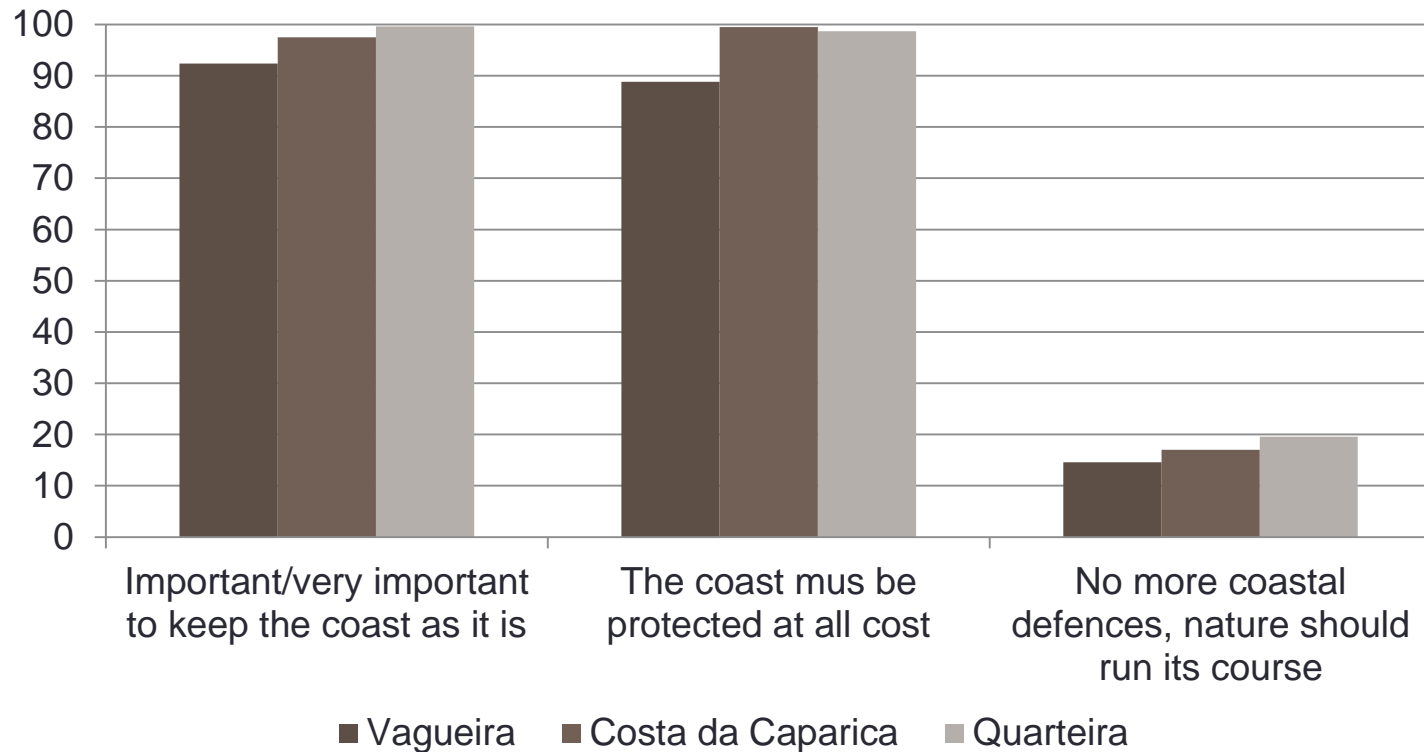
Fig 4 Perception of climate change(%)



N=643, 608, 566

Trust in coastal management

Fig 5 Opinion regarding coastal protection (%)



N=625, 618, 607

Trust in coastal management

“That’s what technology is for: to keep the town as it always was”

(representative from a local association)

“we have sea fossils up in the mountains, it means that the sea was once up there. (...) When it rises again it will be complicated”

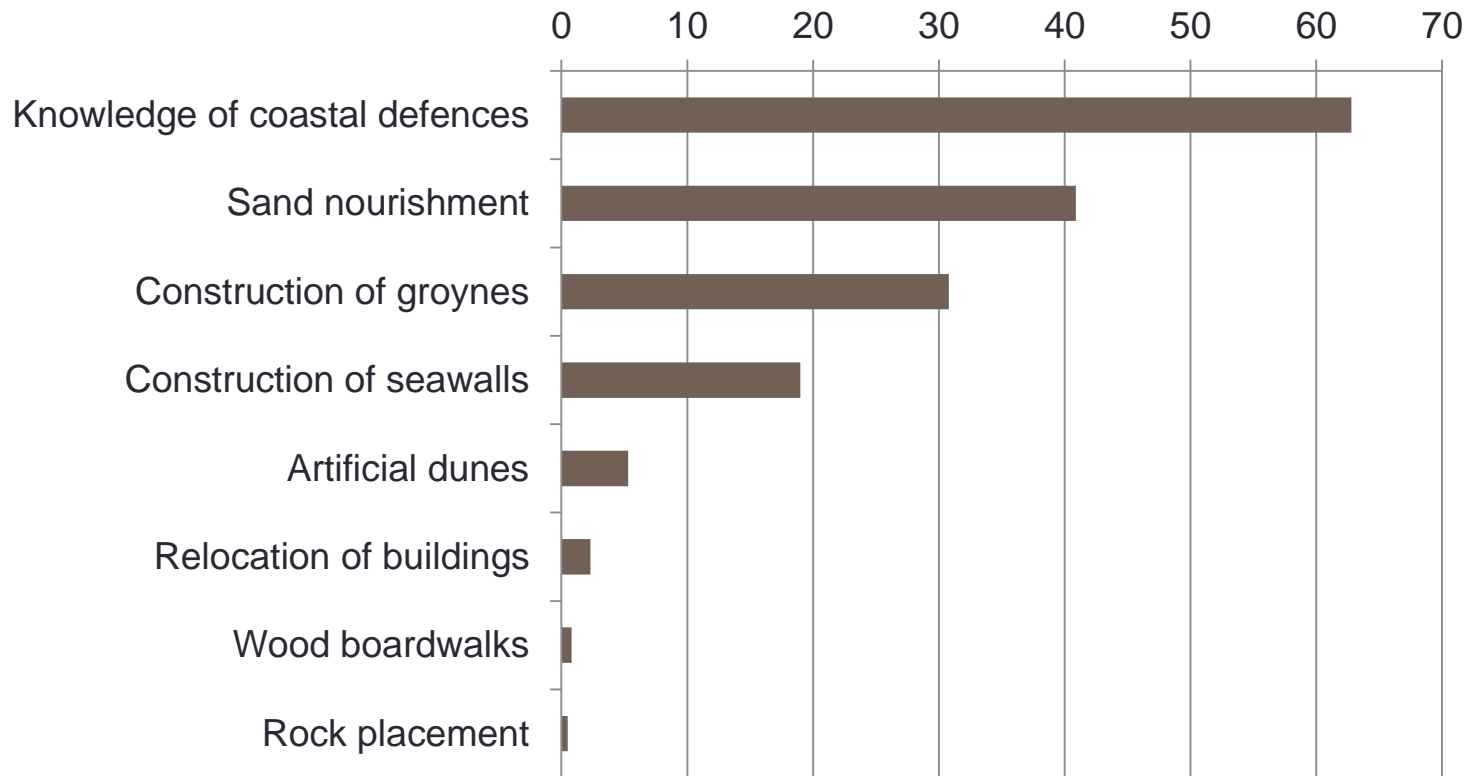
(business owner, Quarteira)

“nature is nature (...) we are on land that belongs to the sea, when the sea wants it will advance and take what belongs to it. We just don’t know when” (representative from a local association, Costa da

Caparica)

Trust in coastal management

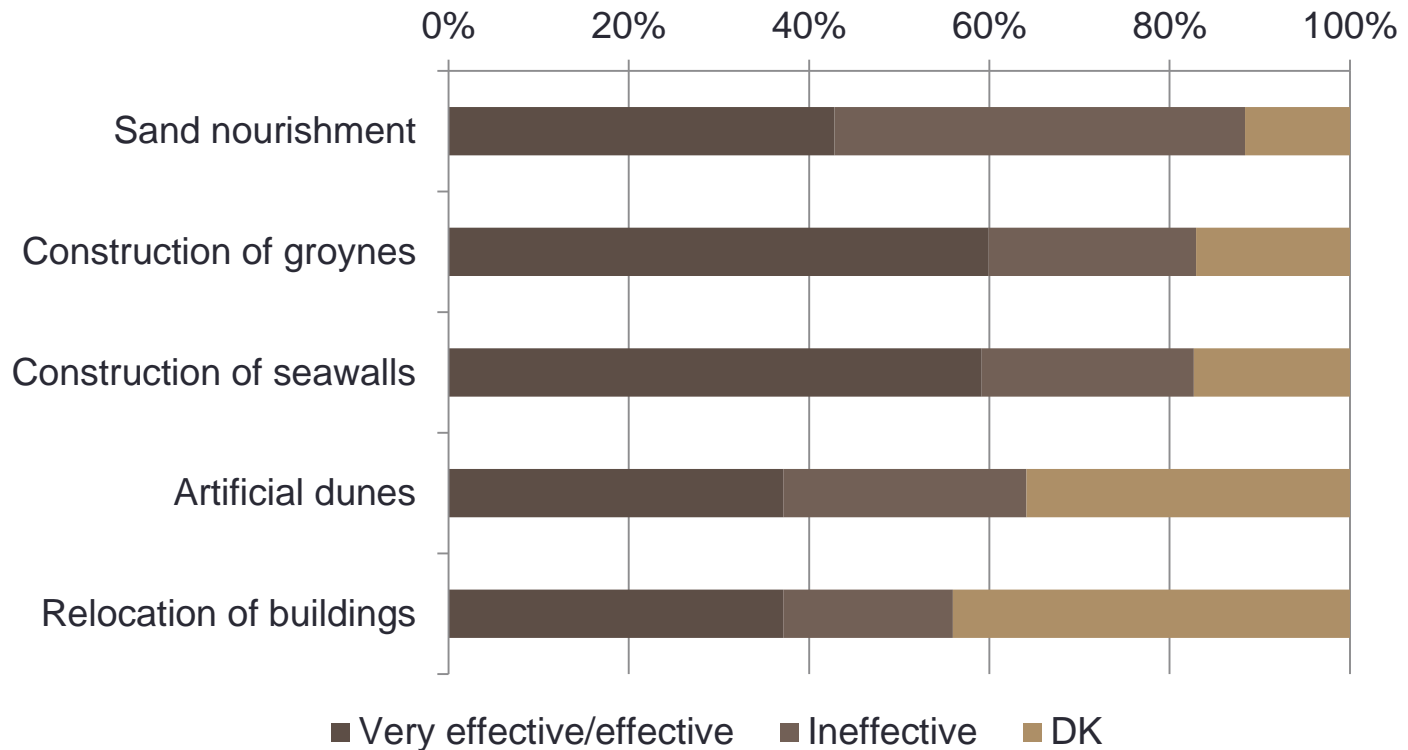
Fig 6 Knowledge about coastal defences (%)



N=643

Trust in coastal management

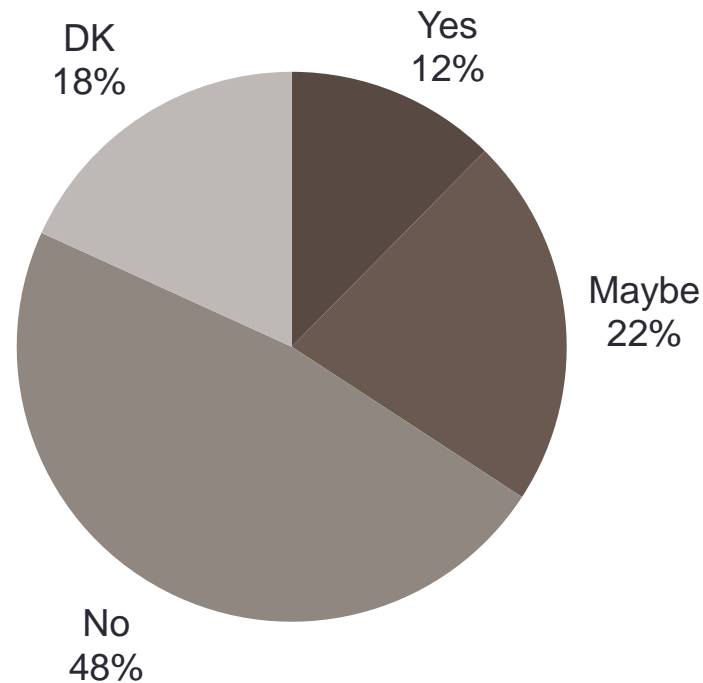
Fig 7 Perceived efficacy of coastal defences



N=404

Trust in coastal management

Fig 8 Current coastal management has been able to solve the problems of the shore



N=643

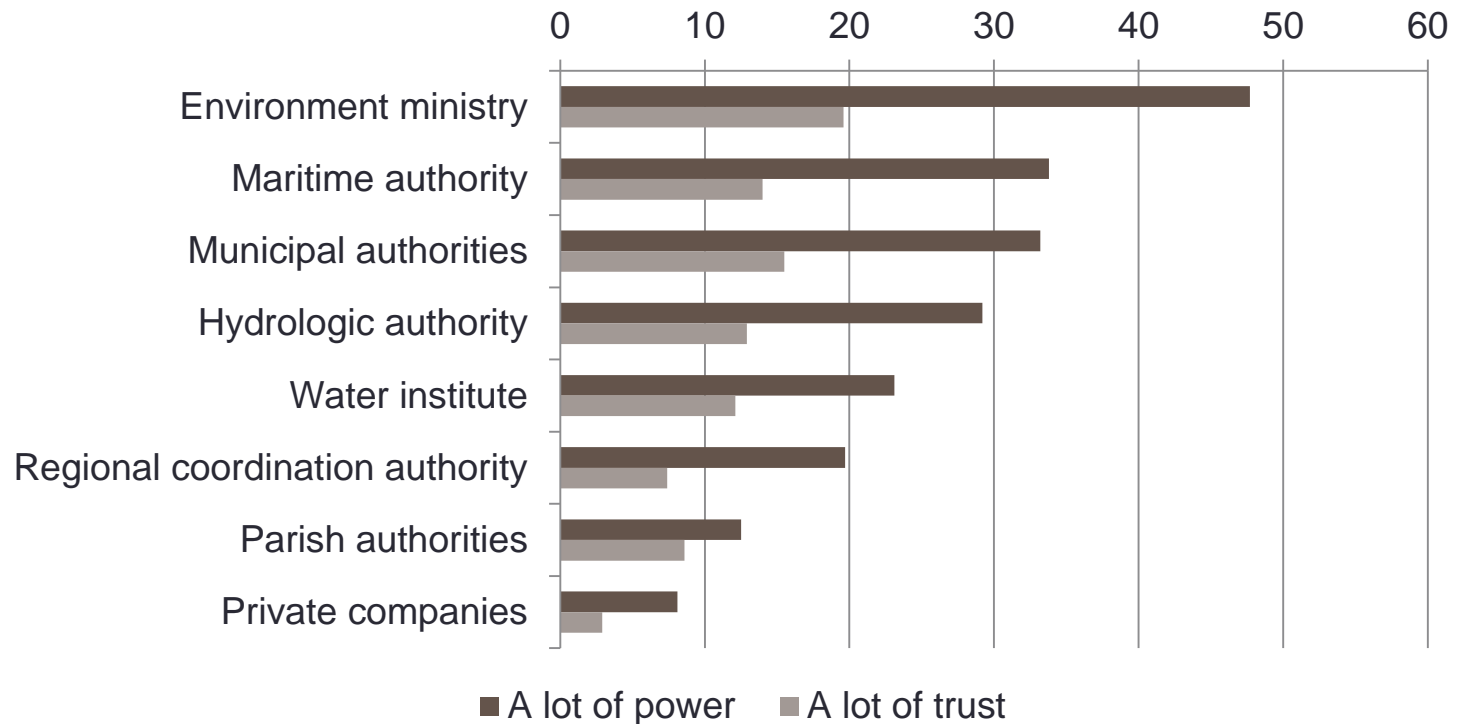
Trust in coastal management

Stakeholders:

- hard coastal defences are considered by the majority as necessary: “otherwise we wouldn’t have a beach anymore”
- criticism on hard defences: lack of maintenance of groynes, orientation, insufficient length, short distance between them
- preference for soft defences, such as restricting access and building wood boardwalks for protecting the natural dunes
- Sand nourishment is not consensual: waste of money, that should be better spent on hard defences or other engineering solutions; time of year when is carried out (summer), closing down the beaches and hindering economic activities based on tourism; type of sand that is used

Trust in coastal management

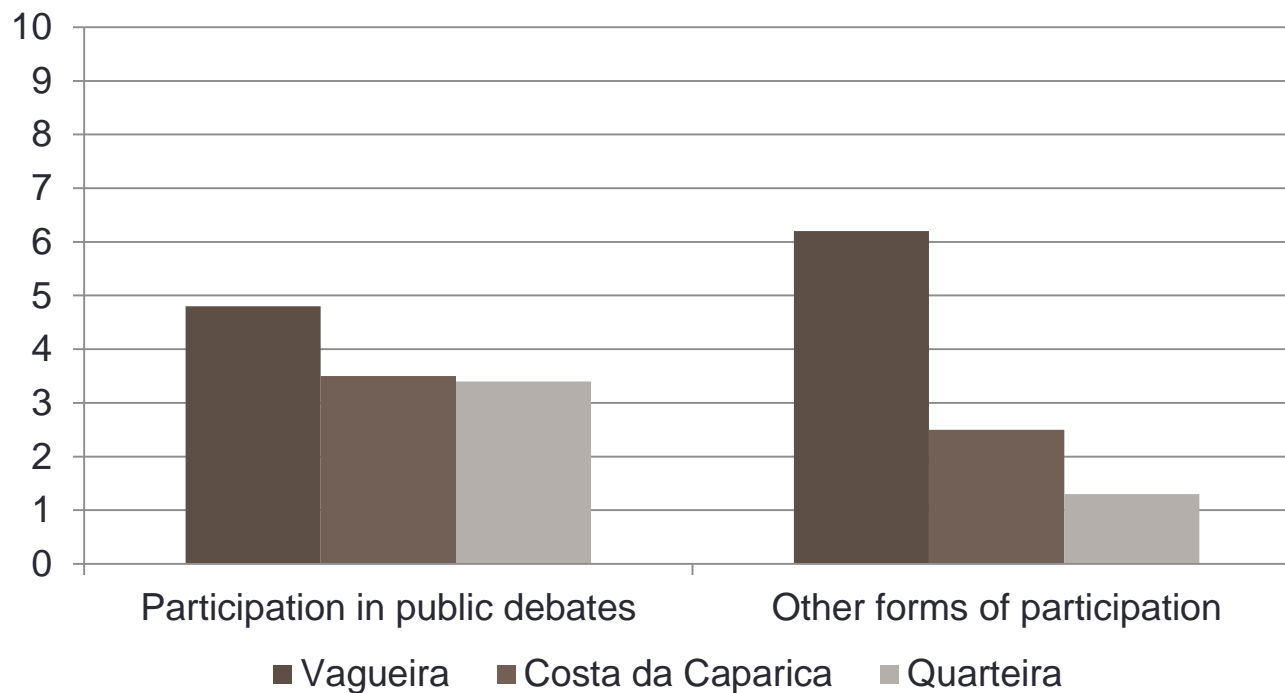
Fig 9 Allocation of power and trust in coastal management institutions (%)



N=585

Public participation

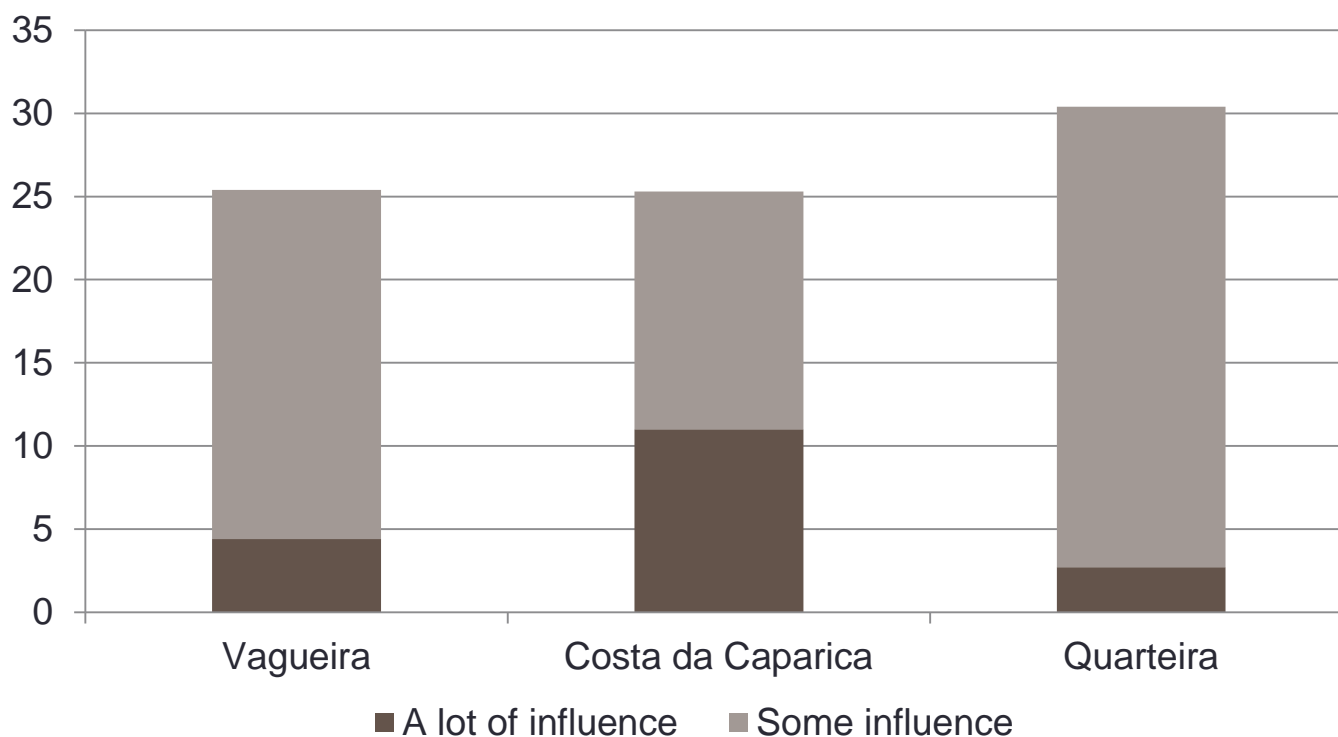
Fig 10 Participation in public debates and other forms regarding coastal management (%)



N=643

Public participation

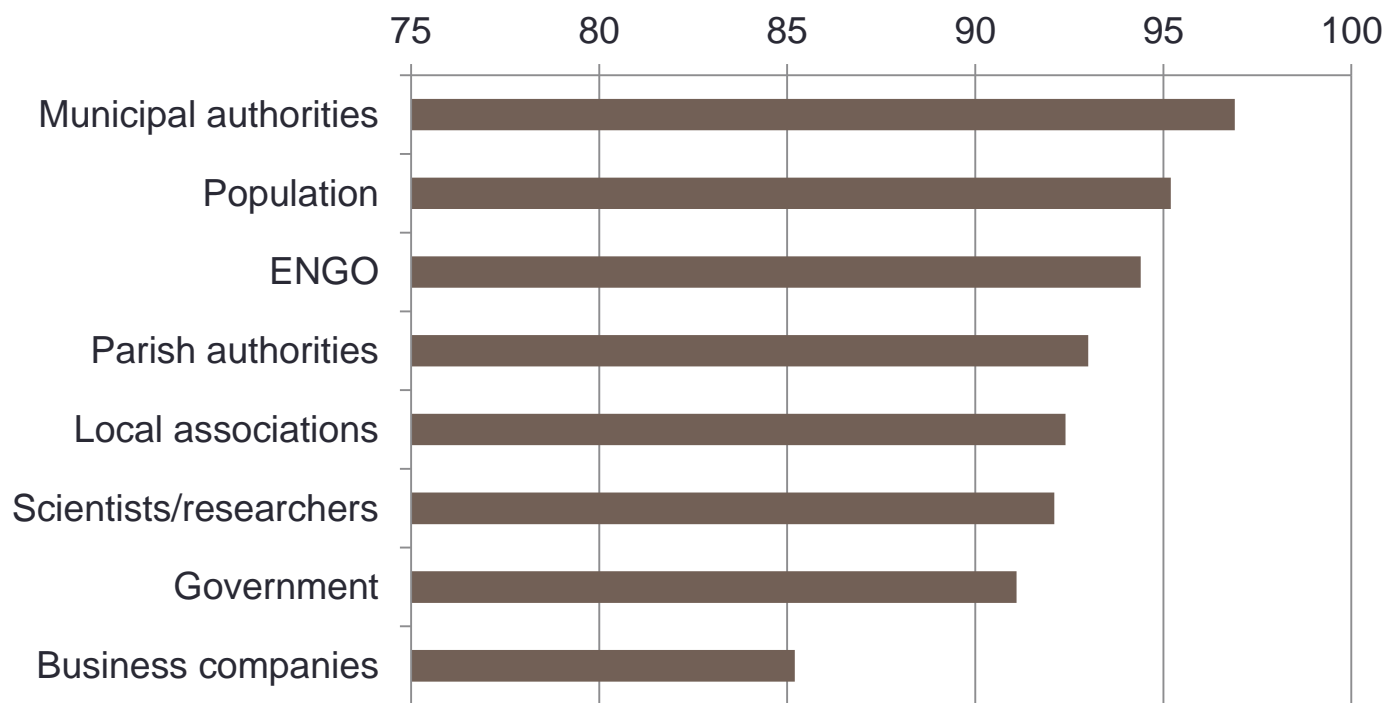
Fig 11 Assessment of the influence of the population in decisions regarding coastal management (%)



N=551

Public participation

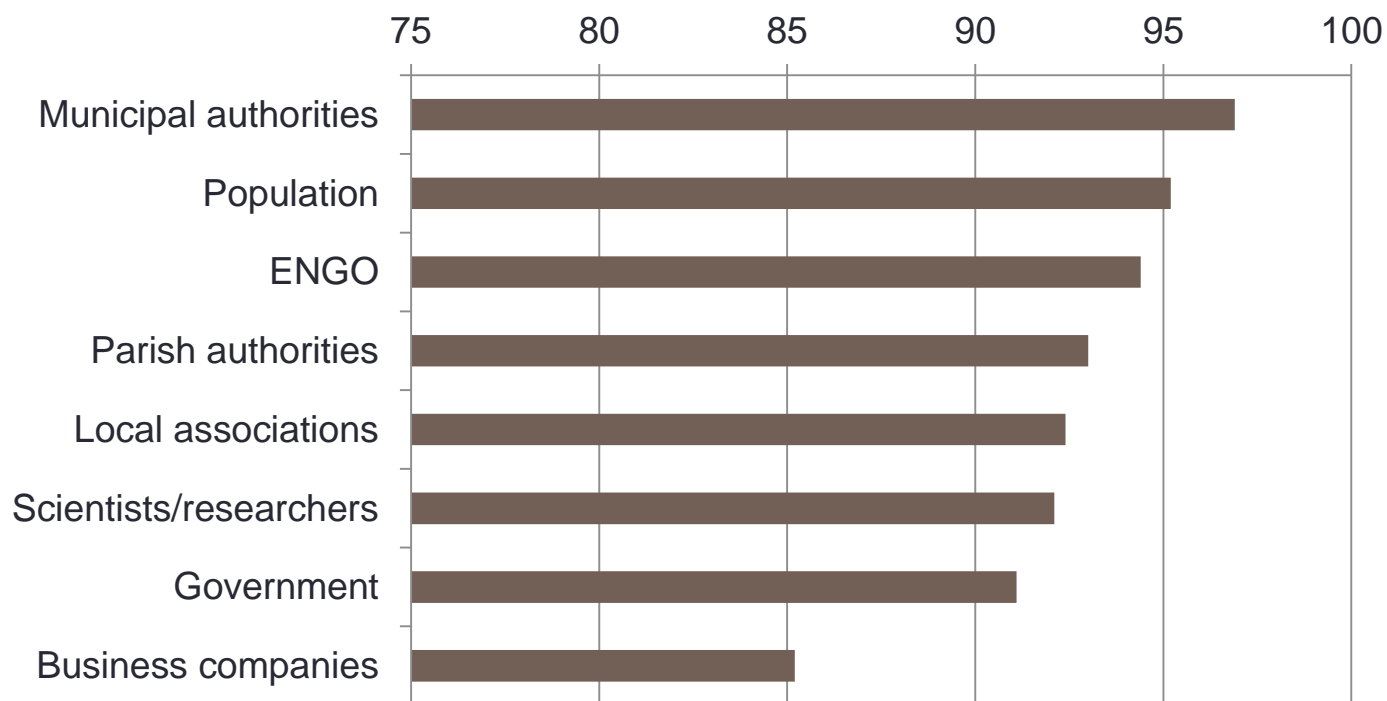
Fig 12 Who should take part in coastal management decisions (%)



N=643

Public participation

Fig 12 Who should take part in coastal management decisions (%)



N=643

Public participation

“People in this area lack civic culture. Most of the people don’t get involved in local issues, don’t read, don’t seek information.” (representative from the parish authority, Vagueira)

“Normally you don’t hear local voices. (...) people take an interest, there were around 30 people at the discussion [of the local coastal plan], they participated, then they close the book and say goodbye” (representative from a local business association, Quarteira)

“People were invited and watched presentations, but once it is built it’s quite different, on paper everything looks very nice” (local business owner, Costa da Caparica)

“they listen but they don’t care” (local business owner, Costa da Caparica)

Final remarks

There is no “public”, but instead a multitude of “**publics**”.

Public engagement is seldom done with “ordinary citizens” but rather with “engaged citizens”, directly affected by the issues.

And whereas the **general public** can seem concerned with coastal risks but also uninformed, passive and disfranchised, **local stakeholders** show themselves as relevant partners in decision-making. They have first-hand experience of the problems, valuable local knowledge and willingness to collaborate in the defence of their (individual and collective) interests.