



## WP5. Public and political attitudes

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- **CONCLUSIONS.**

# WP 5 OBJECTIVES AND SCOPE

- ✓ **Objectives:** to explore public and political attitudes towards high level radioactive waste (HLW) and spent nuclear fuel (SNF) multinational repositories.
- ✓ **Scope:**
  - Literature review, including the results of the Eurobarometer surveys;
  - National legislation and position of national agencies and international institutions;
  - Results of a questionnaire handed out to mayors of municipalities hosting nuclear facilities (GMF members).
  - Recommendations for the EDO communication strategy

# PUBLIC AND POLITICAL ATTITUDES TOWARDS SHARED REPOSITORIES

- ✓ Most studies looking at public and political attitudes towards geological repositories are focused on the national level or on comparisons between public acceptance in different siting programmes
- ✓ Little published information is available on public and political acceptance regarding shared repositories.
- ✓ Discussion is needed.

# IAEA REPORT (2004) (I)

	Advantages	Disadvantages
<b>Security</b>	<ul style="list-style-type: none"> <li>✓ Global increase in security since there will be fewer facilities; these can be closely guarded and they can be sited in trusted countries.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Increased attractiveness of larger inventories of radioactive wastes for potential terrorist.</li> <li>✓ Higher consequences of a possible attack.</li> <li>✓ Larger transport distances</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li>✓ Increase of environmental protection.</li> <li>✓ Lower total number of future repositories.</li> <li>✓ Reduction of environmental risks associated to inadequately funded repositories.</li> <li>✓ Environmental improvements if part of the revenues obtained are used for environmental remediation.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Construction of larger facilities.</li> <li>✓ Higher doses gathered from the handling of larger waste volumes for host country.</li> <li>✓ Larger environmental risk due to the multinational transport.</li> <li>✓ Construction and operation of potentially more extensive road or rail infrastructure.</li> </ul>

# IAEA REPORT (2004) (II)

	<b>Advantages</b>	<b>Disadvantages</b>
<b>Economic</b>	<ul style="list-style-type: none"> <li>✓Reduction of costs for all countries due to scale economies.</li> <li>✓Economic benefits for the host country.</li> <li>✓Creation of employment opportunities, infrastructure improvements and increased taxes for the host country</li> </ul>	<ul style="list-style-type: none"> <li>✓Higher costs for longer transport distances.</li> <li>✓Additional administrative costs.</li> <li>✓Decade-long economic risks associated with failure or delays, as well as with inflation and changes of regulatory requirements.</li> </ul>
<b>Technical</b>	<ul style="list-style-type: none"> <li>✓More expertise.</li> <li>✓More funding available for developing robust engineered systems.</li> <li>✓Broader choice for potentially suitable sites</li> </ul>	<ul style="list-style-type: none"> <li>✓Greater variety of waste sources and possible differences in the conditioning technologies and waste packaging</li> </ul>

# IAEA REPORT (2004) (III)

✓ It will be difficult to obtain public support for a multinational repository

✓ The main reasons:

- the linkage to nuclear power;
- the general distaste for waste;
- the fear of radioactivity.

✓ These aspects also apply to national repositories, but would be amplified for international disposal.

✓ To facilitate public acceptance:

- advantages and costs should be equally shared among the host and partner countries
- international standards for security should be respected

# THE EUROBAROMETER (1998-2001)

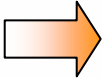
Country	National 1998	National 2001	Regional 1998	Regional 2001	Don't know 1998	Don't know 2001
<b>B</b>	79.7	63.5	11.4	19.5	8.9	17.0
<b>DK</b>	67.7	52.8	26.1	37.4	6.3	9.8
<b>D-W</b>	63.4	61.0	20.7	18.4	14.7	20.7
<b>D-total</b>	62.7	60.2	22.0	18.8	14.2	21.0
<b>D-E</b>	59.9	57.4	27.0	20.5	12.4	22.2
<b>GR</b>	88.4	72.6	7.8	13.3	3.8	14.1
<b>E</b>	81.4	61.9	5.1	14.6	13.5	23.5
<b>F</b>	82.6	68.3	9.4	18.2	8.0	13.5
<b>IRL</b>	65.2	52.0	7.9	14.4	26.8	33.6
<b>I</b>	78.8	69.2	6.8	11.9	14.4	18.9
<b>L</b>	68.8	63.1	16.6	26.1	14.5	10.8
<b>NL</b>	69.2	48.1	24.2	35.7	6.6	16.2
<b>A</b>	65.1	60.9	15.9	18.2	19.0	20.9
<b>P</b>	81.6	61.9	6.5	11.9	11.9	26.2
<b>FIN</b>	72.0	60.2	19.0	26.9	9.0	12.9
<b>S</b>	73.9	72.2	19.9	21.3	6.2	6.5
<b>UK</b>	75.6	61.1	8.4	18.9	16.0	20.0
<b>EU 15</b>	<b>74.8</b>	<b>63.3</b>	<b>12.4</b>	<b>17.9</b>	<b>12.5</b>	<b>18.8</b>

The question was not asked in EB 2005 and the question proposed by Sapierr2 consortium for EB 2008 will not be included.



# THE SURVEY THE EUROBAROMETER (1998-2001)

Between 1998 and 2001:

✓ 75%  63% EU citizens think that radioactive wastes should be disposed of within the national borders of the producing country

✓ 12%  18% EU citizens think that regional wastes should be disposed of in multinational repositories

✓ 12%  19% EU citizens do not have an opinion on that

# THE EUROBAROMETER (1998-2001)

- ✓ Countries with a higher share of opinions in favour of multinational repository: **Denmark** (37% in 2001) and the **Netherlands** (36% in 2001).
- ✓ **Luxembourg** share increased from 17% in 1998 to 26% in 2001.
- ✓ Countries with a higher share of opinions in favour of national disposal: **Greece** (73% in 2001), **Sweden** (72% in 2001) and **Italy** (69% in 2001).

# A SURVEY IN GERMANY (2003)

✓ In Germany, the Institute for Technology Assessment and Systems Analysis in Karlsruhe carried out in 2003 a survey on international disposal:

- **55.6%** of the respondents preferred international solutions
- **31.5%** were in favour of a national solution
- **70%** of those in favour of an international solution were in favour of a repository located in the EU
- **40%** of the respondents accepted the idea of a multinational repository located in Germany
- **40%** were against
- **80%** were against the repository being sited in their own region of Germany (NIMBY effect)

✓ One possible explanation of the difference with the Eurobarometer: the way the question was formulated

# ARGUMENTS IN FAVOUR

- ✓ Since a large share of the cost is fixed, multinational repositories would allow reducing the cost per unit of waste treated;
- ✓ Countries with small nuclear programmes could afford a deep geological repository;
- ✓ Improved global security (because safeguarding a single multinational repository may be easier than various national ones);
- ✓ Lower environmental impact (due to the lower number of repositories to be built) and the higher number of possible sites;
- ✓ Collaboration among scientists of different countries

# ISSUES THAT MAY RAISE OPPOSITION

(MORE THAN FOR NATIONAL REPOSITORIES)

Ethical reason: *is it unfair to ask a country to make itself responsible for wastes produced in other countries?*

Marshall (2005) and Nirex (2005): in order to avoid protests in the European countries, the radioactive wastes may end up in countries with a less developed democratic system and less opposition.

**Need to show that this is not the case.**

**Counter-argument: option to solve the radioactive waste problem now (especially for small countries), without leaving it unsolved for future generations**

# OTHER POSSIBLE REASON FOR CRITICISM

✓ **Increased costs** (and opposition) for international transport

✓ Possible higher **difficulty to find agreements** among countries on cost allocation, schedule, legal mechanisms, allocation of responsibility and liabilities, classification of waste, etc.

✓ **Lack of an international authority** with the competence of controlling and enforcing the international agreements

✓ **Set-back for national disposal programmes?**

# NATIONAL LEGISLATIONS

- ✓ Only few countries explicitly accept the possibility of importing or exporting radioactive wastes.
- ✓ Many countries ban import of wastes (i.e. Austria, Bulgaria, Croatia, Czech Republic, Hungary, Italy, Latvia, Lithuania, Romania, Slovakia, Finland and France)
- ✓ Few countries legally ban export (i.e. Finland)
- ✓ Various countries experienced transboundary shipments

# THE OFFICIAL POSITION OF THE NATIONAL AGENCIES

- ✓ Only few agencies mention in their official strategies the possibility of considering a multinational repository:
  - RATA (Lithuania) states that the multinational repository options should be further analysed;
  - RAWRA (Czech Republic) has a critical position and indicates the existence of numerous technical, economic, legislative and political problems;
  - ENRESA (Spain) underlines the possible problems related to public acceptance;
  - COVRA (the Netherlands): the idea of a shared repository was recognised by Parliament in 1984;
  - ARAO (Slovenia) is the only one with an openly favourable position;



# INTERNATIONAL INSTITUTIONS

- ✓ IAEA's 2004 report: *“The global advantages of multinational repositories are clear and the benefits can be significant for all parties, if they are equitably shared”*
- ✓ The EU „Nuclear Package“ allowed the possibility of shipments of nuclear waste from one Member State to another or to a third country, provided that they meet EU and international norms and standards
- ✓ The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (signed by 42 countries) allows transboundary shipments, provided that they respect some safety requirements.

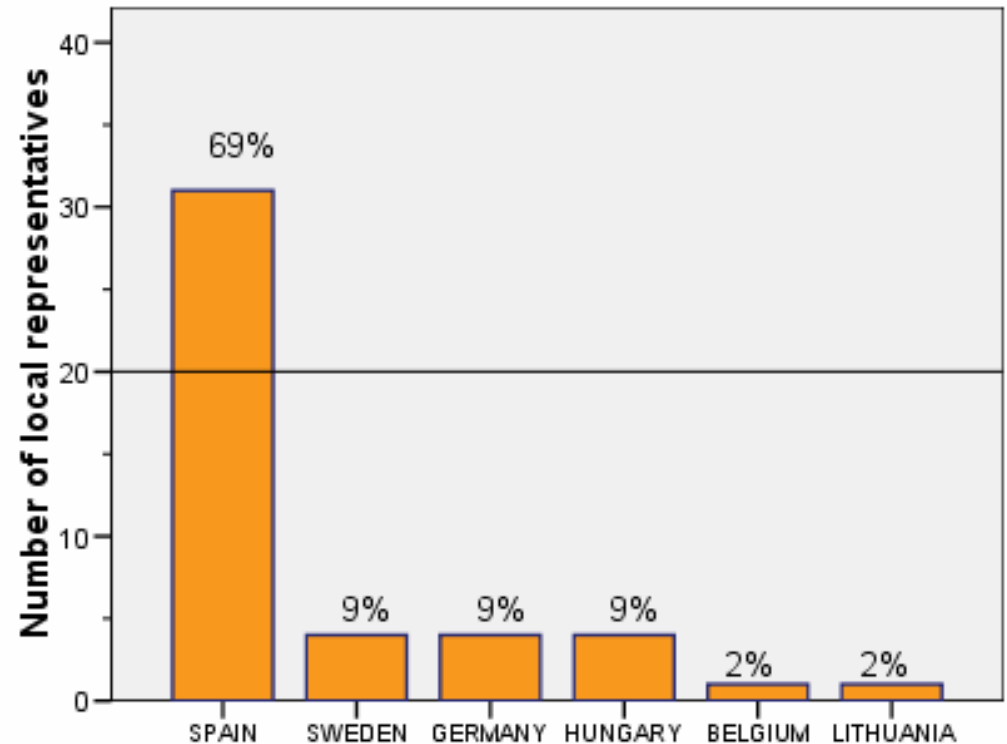
# THE SURVEY

- ✓ A questionnaire was handed out to local representatives of the Group of European Municipalities hosting nuclear Facilities (GMF)
- ✓ The objective was to assess their opinions regarding a possible shared solution for RW disposal
- ✓ The local representatives filled out the survey during two workshop of the EU project “*Local Competence Building and Public Information in European Nuclear Territories*”:
  - ✓ Germany, September 2007
  - ✓ Belgium, October 2007

# THE SAMPLE

45 local representatives from different municipalities of six European countries:

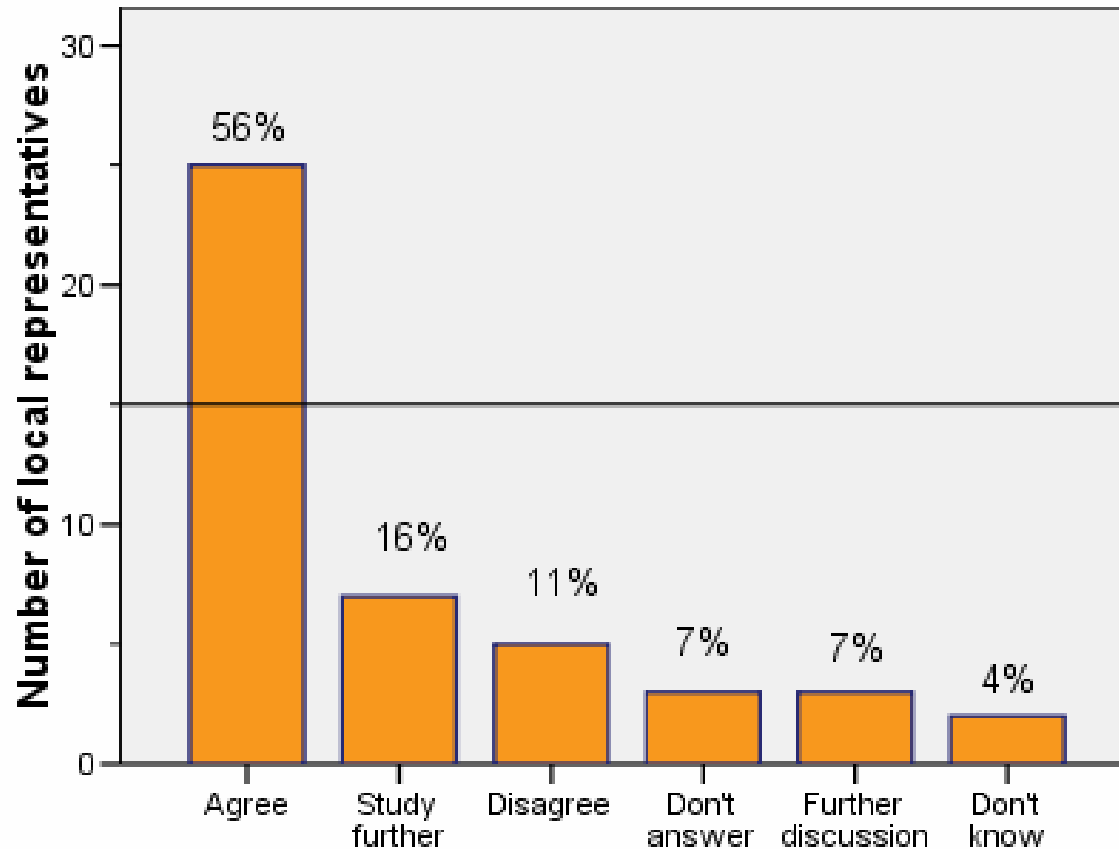
Spanish mayors are the most represented members in the GMF ([www.gmfeurope.org](http://www.gmfeurope.org))



# WARNING

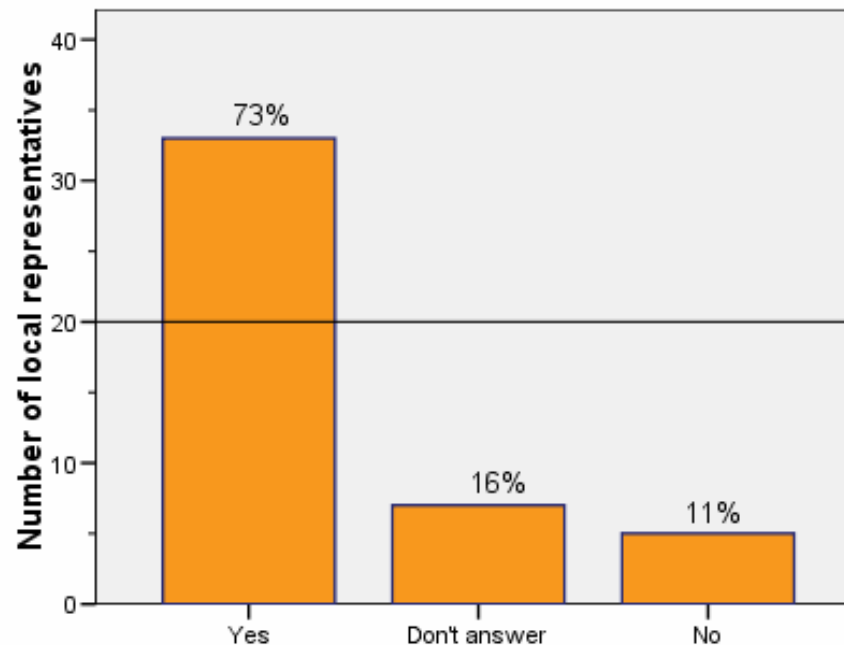
- ✓ The sample is not representative of the European population:
  - The sample was not sufficiently large
  - The geographical origin of the surveyed local authorities did not reflect European population (70% Spanish)
  - The municipalities surveyed already host nuclear facilities
  - The opinion of local authorities does not necessarily reflect the opinion of the population in their municipalities
- ✓ However, the survey provides interesting insights on public perception of multinational repositories

# 1. OPINION ON A POSSIBLE COLLABORATION AMONG EU COUNTRIES TO DEVELOP SHARED REPOSITORIES



## 2. SUPPORT TO A EUROPEAN ORGANIZATION TO STUDY FURTHER

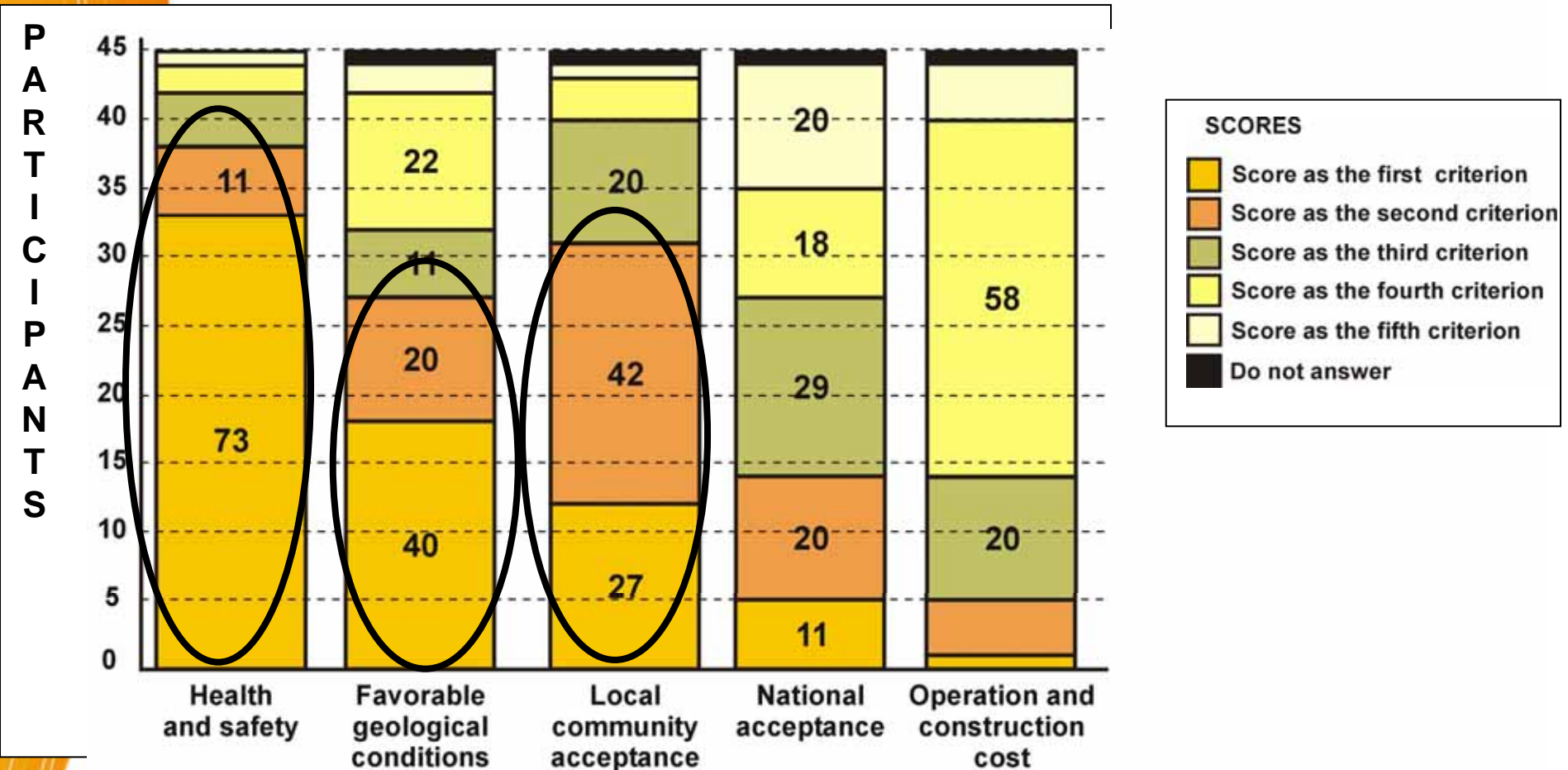
**A EUROPEAN ORGANIZATION COULD BE SUPPORTED BY MOST OF THE INTERVIEWED LOCAL REPRESENTATIVES**



# HOW TO READ THE NEXT GRAPHS

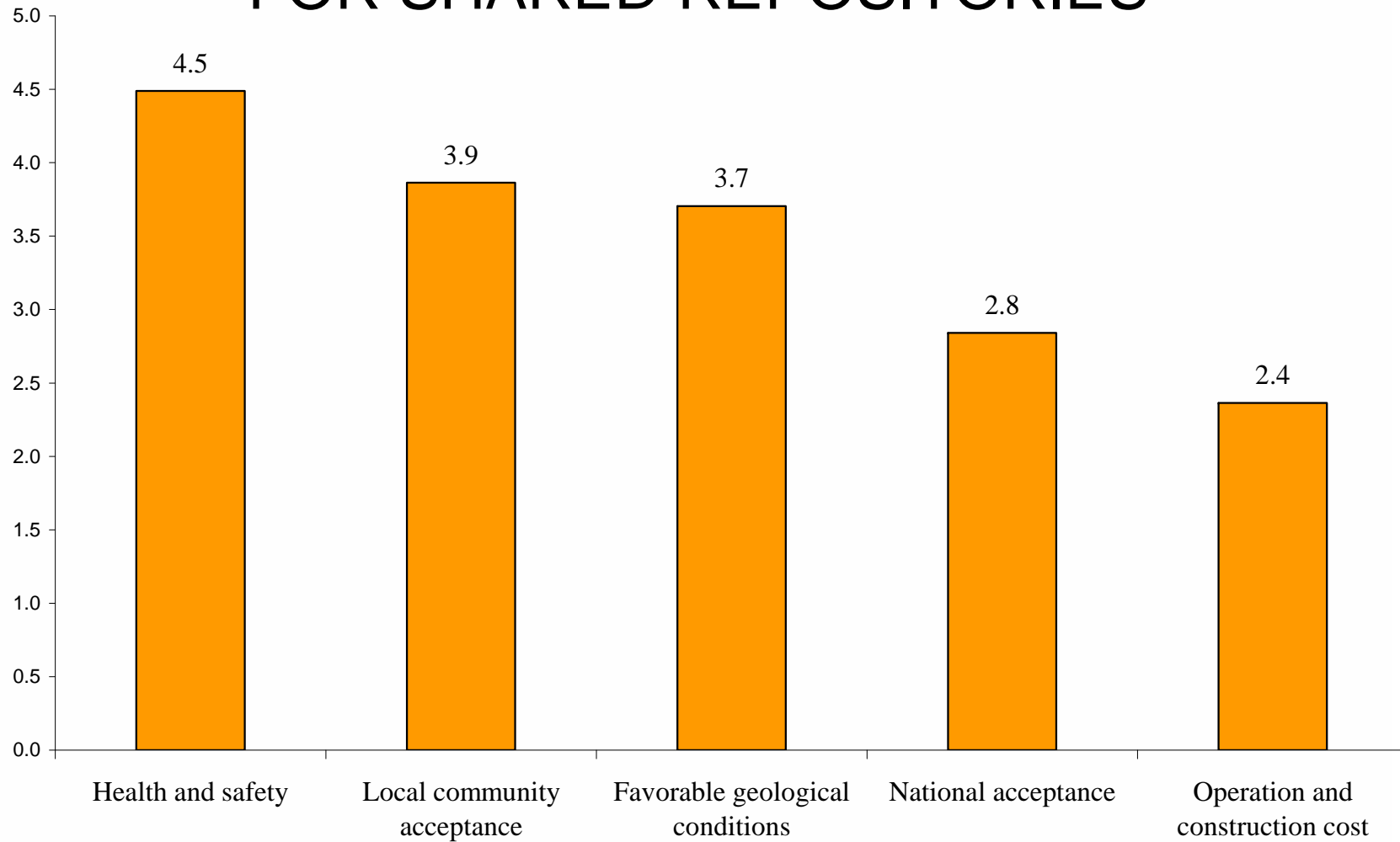
- For each criterion, the local representatives could choose a score, which indicated the importance they gave to it with respect to other criteria.
- The following graphs are syntheses of the statistical distributions of the scores given to the individual criteria, i.e. as the first, second, ..., last criterion.
- The criteria are not exclusive (for this reason the total is not 100).

# 3. CRITERIA FOR SELECTING POSSIBLE SITES FOR SHARED REPOSITORIES

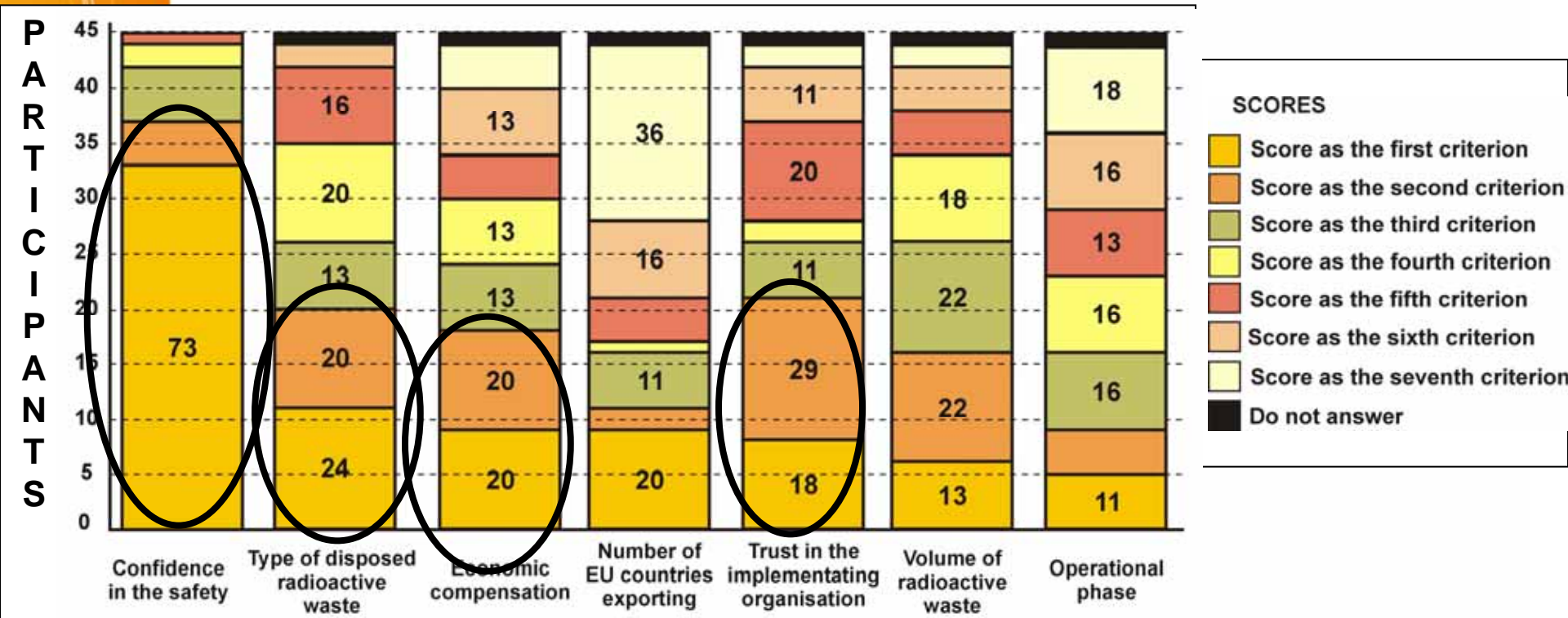




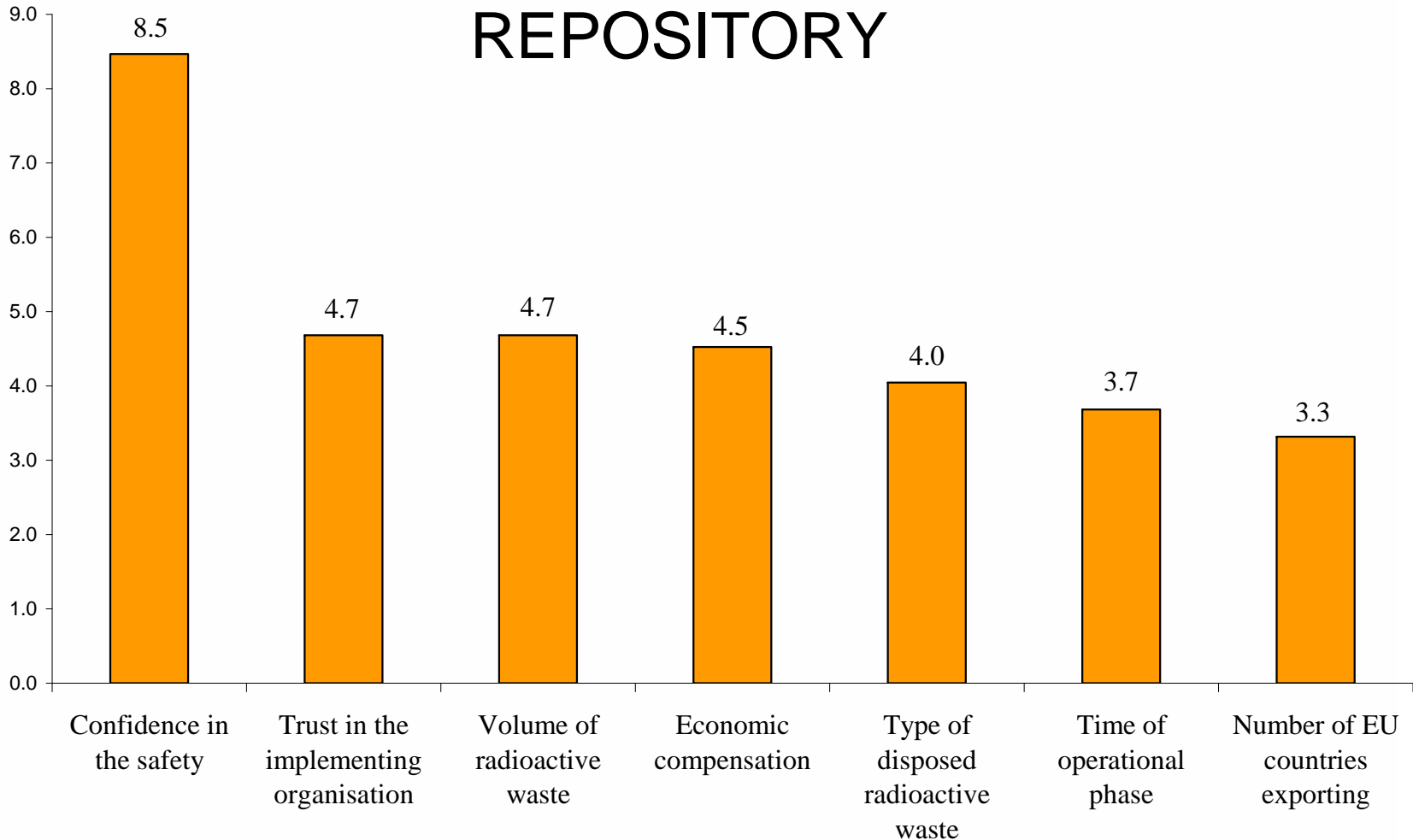
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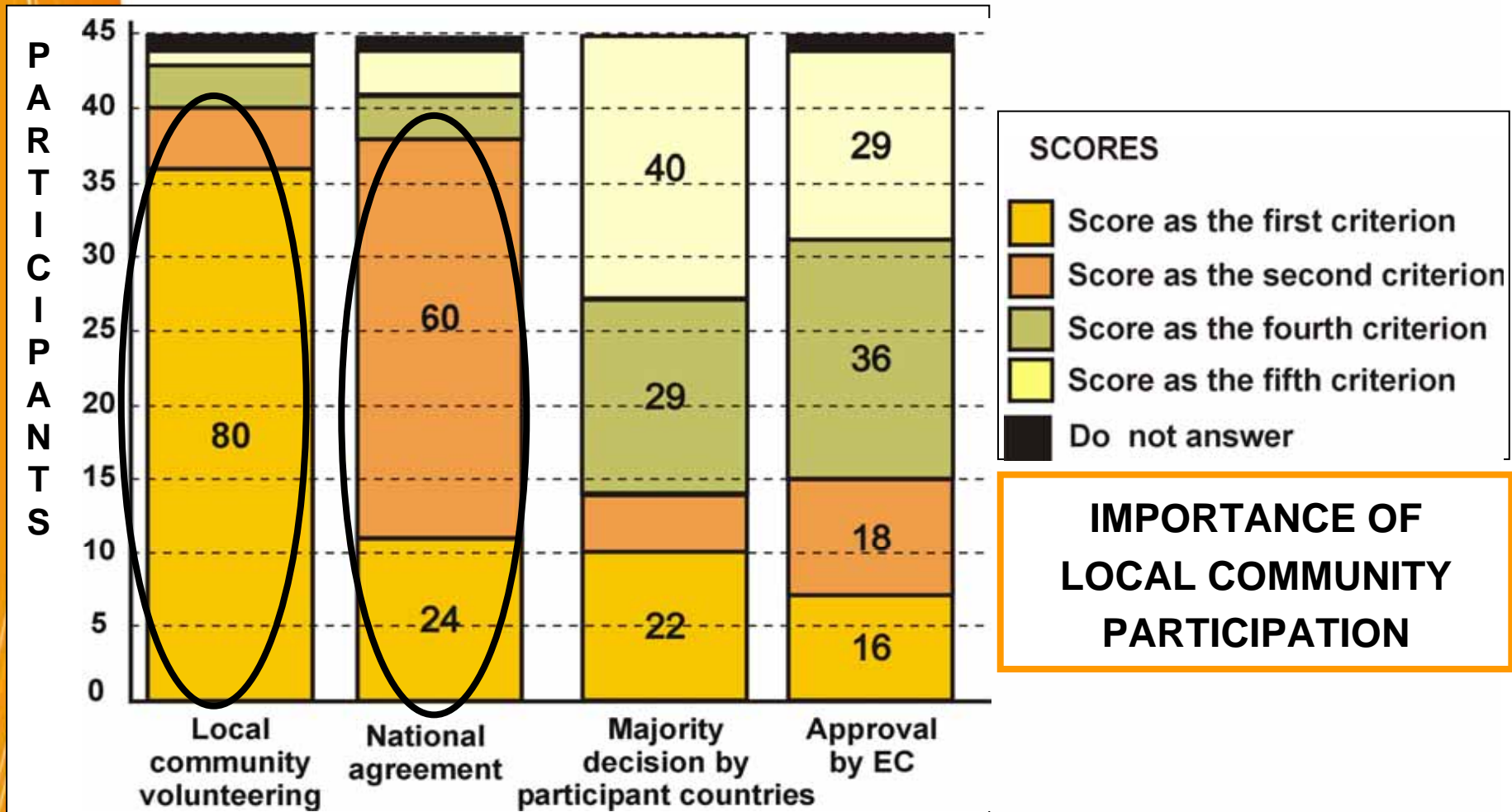
# 4. ISSUES THAT AFFECT WILLINGNESS OF A LOCAL COMMUNITY TO ACCEPT A SHARED REPOSITORY



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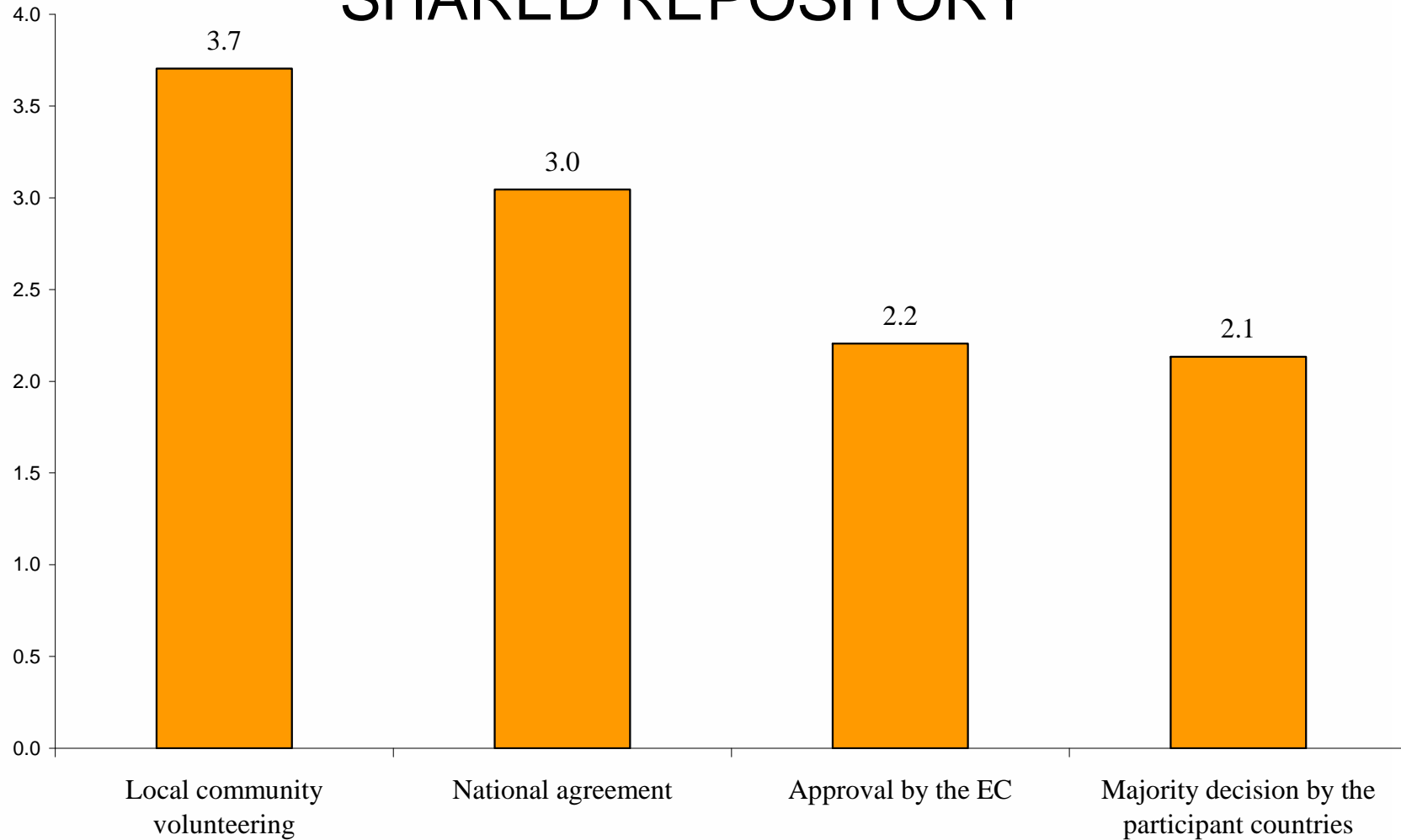


# 5. PROCEDURE TO DECIDE THE SITE OF A SHARED REPOSITORY

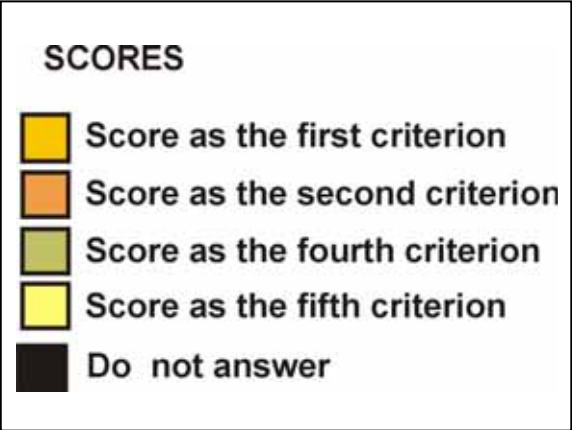
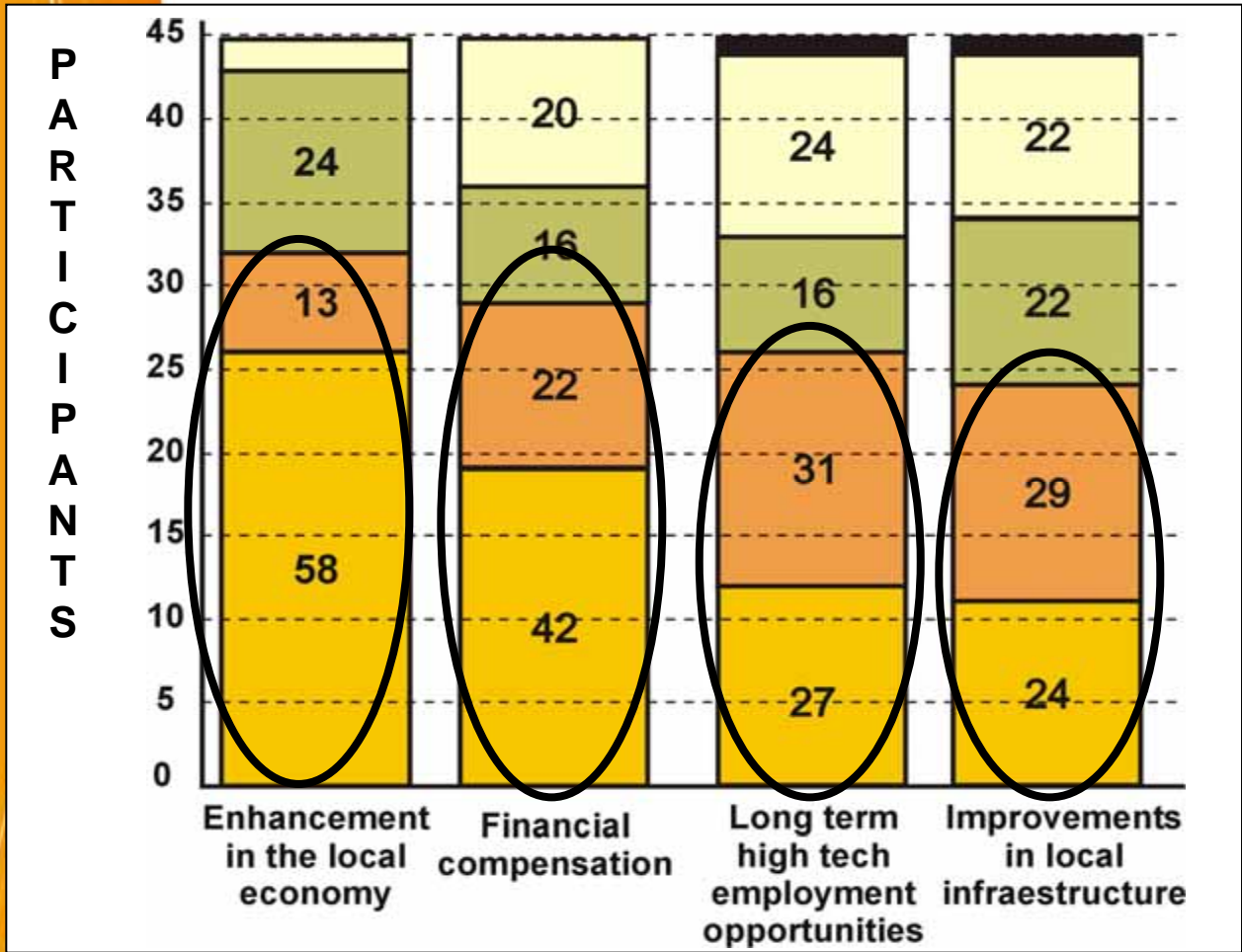


**IMPORTANCE OF LOCAL COMMUNITY PARTICIPATION**

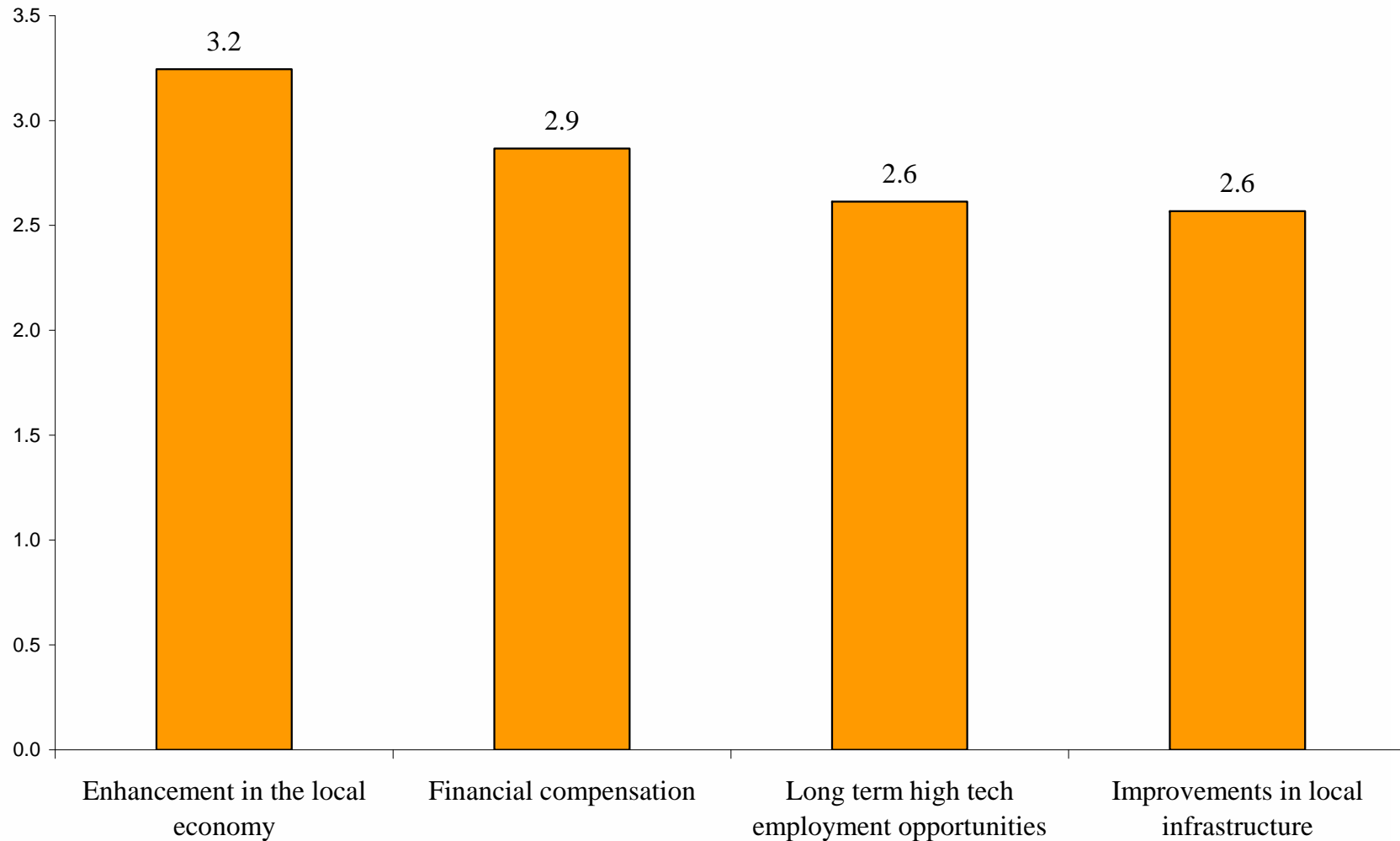
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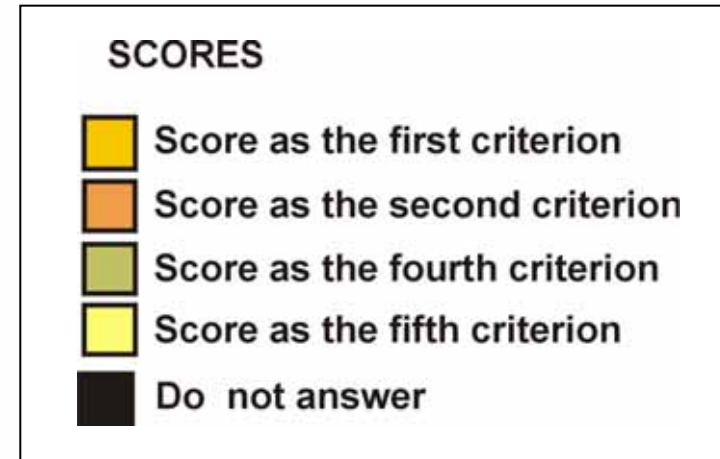
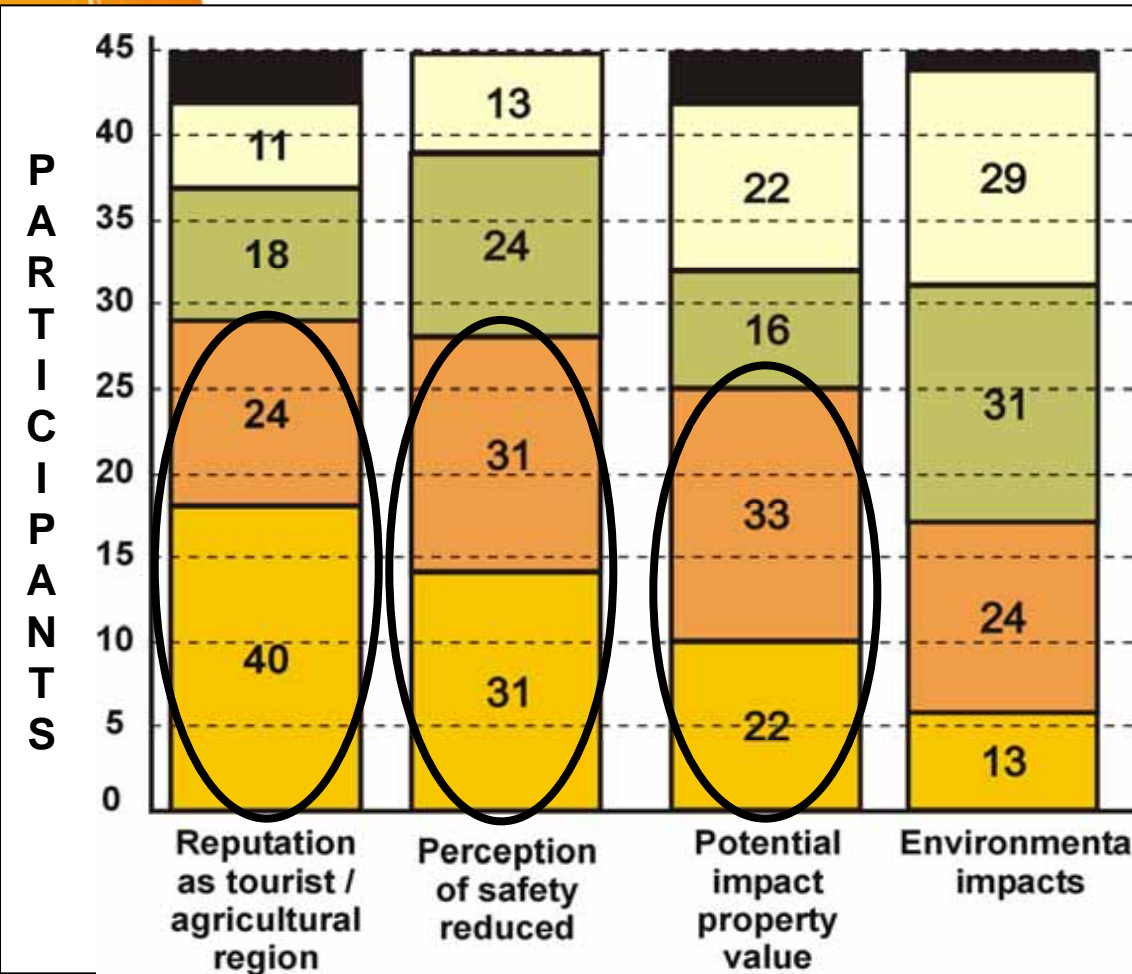
# 6. ADVANTAGES FOR LOCAL COMMUNITIES



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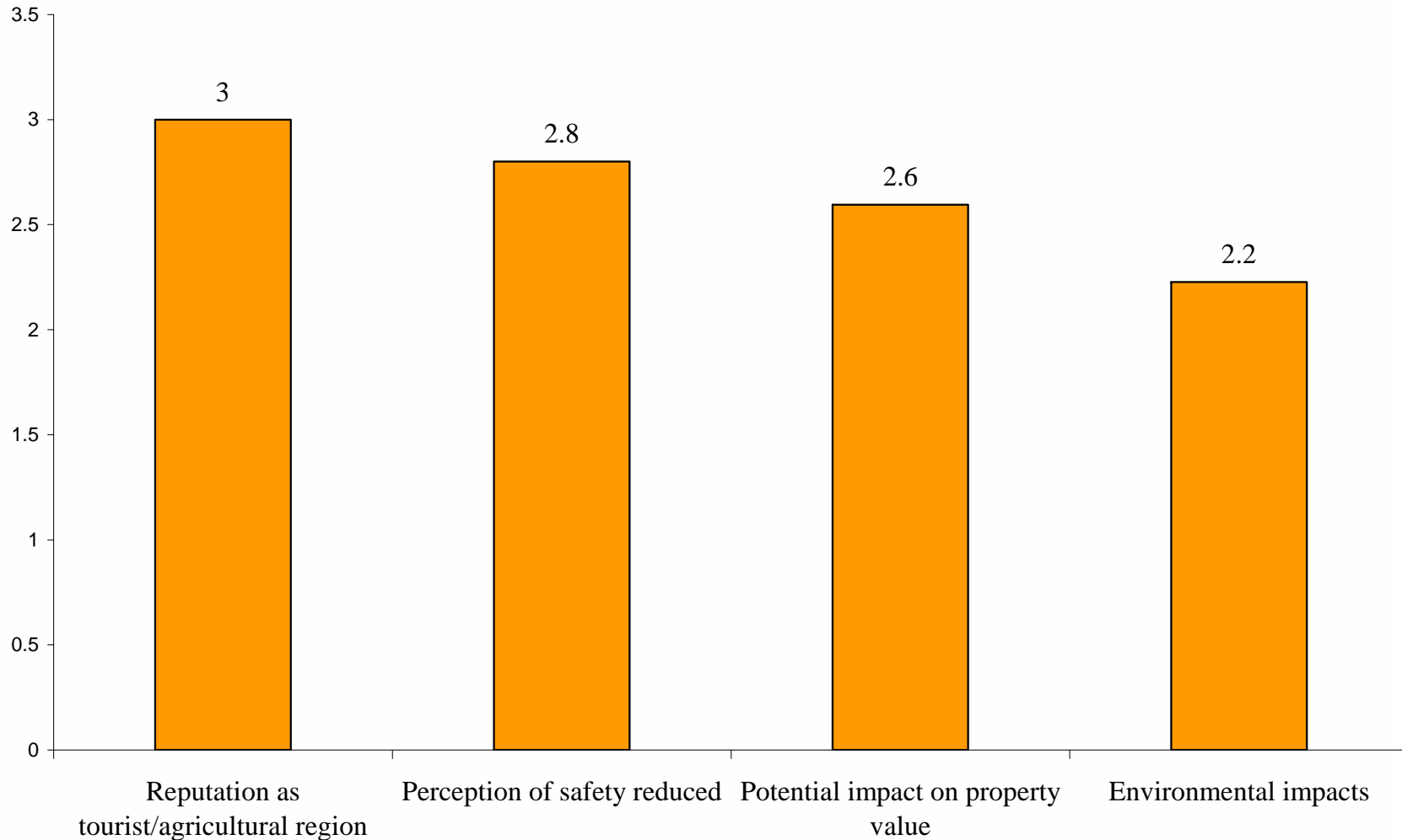


# 7. DRAWBACKS FOR LOCAL COMMUNITIES





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# DISCUSSION (I)

Local representatives seem to be more favourable to shared RW disposal than population in general:

- *Eurobarometer*: 18% of EU population and 5% of Spanish citizens in favour
- *Our survey*: 56% of local representatives in favour

## Possible explanations:

- The surveyed local authorities live in nuclear areas and are more familiar with the problems related with RWs: multinational disposal as a possible way out
- The question was asked with a more positive language

## DISCUSSION (II)

- ✓ **Safety** is crucial to obtain local acceptance
- ✓ Local community volunteering is seen as the best procedure to choose a possible site ⇒ **necessity of involving local authorities in the decision-making process**
- ✓ **Improvement of the local economy** and financial compensation are seen as the most important advantages for a local community
- ✓ The possible **economic loss** for the tourist and agricultural sector is seen as the most important disadvantage ⇒ these possible losses should be adequately compensated

# Recommendations for the EDO communication strategy (I)

- ✓ **Stakeholder analysis** at national and European level:
  - Map of the relevant social groups and their opinion on the multinational repository possibility;
  - Collaboration with GMF, to explore the point of view of municipalities already hosting a nuclear installation;
  - Analysis of the opinions and perceptions of a representative sample of the population (Eurobarometer?).

# Recommendations for the EDO communication strategy (II)

## ✓ Communication plan. Main aspects:

- FAQ background document to reply to the concerns individuated through the stakeholder analysis
- Communication should be directed both to key actors and to the public in general
- Plan of meetings with national and international institutions
- Potential hosts for the shared repository will only be defined in a second phase among the countries participating in the EDO
- **Dissemination activities:** workshops, conferences, books and articles in a lay language.

# Key principles for the communication policy of the EDO

- ✓ Information exchange in a credible, timely and accurate manner
- ✓ Information tailored to specific stakeholder groups
- ✓ Tools to establish a constructive two-way dialogue
- ✓ Communication not restricted to national boundaries and in different languages
- ✓ Transparency
- ✓ Active involvement of the stakeholders

# CONCLUSIONS (I)

- ✓ **Introducing the idea of multinational/regional repository will be a major political challenge;**
- ✓ **The survey shows that a local community volunteering approach is the preferred way for the choice of the candidate site;**
- ✓ **This approach requires that the advantages (mainly economic development) should outweigh in the eye of local communities the disadvantages;**

# CONCLUSIONS (II)

- ✓ It is important to reassure local population on their **safety**;
- ✓ In order to be accepted, multinational repositories **should not be perceived as a way to take unfair advantage of politically weak or poor countries**, and a **fair compensation** should be given to hosting population;



# CONCLUSIONS (III)

- ✓ Important: a **high degree of trust in the national and international institutions** is essential;
- ✓ In order to obtain trust from population, **transparency, early involvement** of local communities and **equity** should be strongly pursued.