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1G-MED08-515



“Sustainable Water Management through
Common Responsibility enhancement in
Mediterranean River Basins”

Opinion Survey Results on Water Management
in the River Basin Area 8 of Cyprus



May 2012



TABLE OF CONTENTS

1. INTRODUCTION.....	2
2. METHODOLOGY.....	3
3. CONCLUSIONS.....	6
3.1. SIGNIFICANT ENVIRONMENTAL ISSUES	6
3.2. SIGNIFICANT WATER ISSUES IN CYPRUS.....	7
3.3. SIGNIFICANT WM ISSUES IN CYPRUS	10
3.4. WILLINGNESS TO IMPLEMENT AN ENVIRONMENTAL AGREEMENT.	19
4. PROPOSALS	21

1. INTRODUCTION

The drafting of a Local Agenda 21 (**LA21**) is globally a new tool for Local and Central Administration in promoting sustainable development.

In this framework the Water Development Department (WDD) of the Ministry of Agriculture, Natural Resources and Environment of Cyprus, implements the project **1G-MED08-515/WATERinCORE**.

The WATERinCORE project is aiming at the design, application and dissemination of a methodological frame for the integration of LA21 principles in Water Resources Management in Mediterranean River Basins. The project concerns management of water resources by strengthening the sense of shared responsibility of stakeholders. The project is done in cooperation with institutions from Greece, Italy and Spain.

The project includes 5 components/phases:

1. Communication- Publicity
2. Project Management and coordination
3. Water management in the regions of stakeholders in pilot river basins
4. Analysis of LA21 application in stakeholders' regions
5. Strengthening of the Shared Responsibility in water management

The project is at the **core of negotiations** during **phase 5.1** so that the questions and proposals from local authorities will be taken into account and the final action plan for the water will be shaped in **phase 5.4**.

In particular during the **phase 5.1** of the project the mobilization of the stakeholders is carried out through a properly planned process of selection and evaluation so that ultimately a targeted audience will occur. The choice of appropriate and most effective publicity means is also purpose of the same phase.

Respectively during **phase 5.2** the social dialogue is developed in the strategic plan to enrich the social responsibility of citizens in water management.

Afterwards, during **phase 5.3** a poll is carried out regarding the water resources management and state in the selected river basin. The survey and the applied public participation process will be assessed and an additional plan will be proposed to further enrich local authorities and social responsibility in water management.

Finally during the **phase 5.4**, as mentioned, the final Action Plan on Water for the pilot river basins is developed.

2. METHODOLOGY

The opinion survey was conducted over the period November-December 2011 by the polling company NOVERNA Consulting & Research.

The survey has covered 3 different target audiences

- General Public residing in the River Basin 8 Area, aged 18 years +
- General Stakeholders
- Community Boards

For the survey 1 analyst, 1 fieldwork manager, 1 call centre supervisor and 15 interviewers have been employed. In the opinion survey 110 stakeholders have participated, out of which:

- 53 institutions and organizations (out of 105 in total in the HR8)
- 57 representatives of community boards (out of 64¹ registered in the list of stakeholders)

In the case of the general stakeholders a total of 105 contacts have been made with such stakeholders, of whom 53 have accepted to be interviewed

In the case of the general public a total of 451 contacts have been made. Out of these, 85 refused to answer the questions, 98 were not been approached, while 15 stopped the interview. Finally 253 full questionnaires were completed.

At the end, the survey involved 363 people including 110 representatives of institutions, organizations and Community boards and 253 people (general public). In the general public women participated at a higher percentage than men (52% vs. 48%)

The survey was conducted by telephone using CATI from the call centre of NOVERNA.

In the case of the Community Boards the questionnaires have been self-completed by the respondents and have subsequently been analysed by NOVERNA, having been provided to NOVERNA by the Water Development Department.

Regarding the sampling method:

- The general public, has been randomly sampled using the most recent telephone directories
- In the case of stakeholders contacts have been made with the total of 105 such entities, out of which a total of 53 were interviewed.

The largest percentage of all respondents was aged 46-65 years (42%). The percentage of young people who participated in the survey is low, which probably should be attributed to the low representation of young people in community boards and stakeholders.

¹ H.R 8 has, in total, 67 municipalities and small communities. However, Louroukina has no permanent population, Klouari has a few residents and St. Barbara is only partially in H.R.8 while the center of the village is outside HR8).

The majority of participants are high school graduates (31%), while the percentage of holders of a postgraduate qualification (21%) is very high. Overall, secondary school graduates account for 73% while the national average is 47%.

At the national level (vl. www.mof.gov.cy/mof/cystat/statistics.nsf/populationcondition_24main_gr/) significant proportion not attended / not completed primary school is recorded, while this is not represented to the survey. In terms of employment, the highest percentage belongs to the employees (private and public-49%) while only 2.5% of the participants are farmers. Nationally the percentage of farmers is 4% (www.cystat.gov.cy/mof/cystat/statistics.nsf).

Table 1. Characteristics of respondents

Total	363				
Stakeholders	53				
Community Boards	57				
General Public	253				
Male	121	Elementary School	56	Farmer	9
Female	132	Partial Secondary	55	Freelance Professional	30
18 – 25 years	25	Lyceum	114	Business Person	13
26 – 45 years	110	College	60	Student	12
46 – 65 years	154	Post-graduate	78	Civil Servant	72
65 years +	74			Private Sector Employee	106
				Housewife	32
				Pensioner	72
				Unemployed	15
				Other	2



The major environmental issues which were considered by the survey respondents were categorized into the following categories.

1. Urbanization
2. Loss of biodiversity
3. Soil pollution
4. Desertification
5. Air pollution
6. Uncontrolled waste
7. Destruction of forests and coastal/river-bed areas
8. Water (sea) pollution
9. Drought
10. Reduction of ozone layer in the atmosphere
11. Global warming

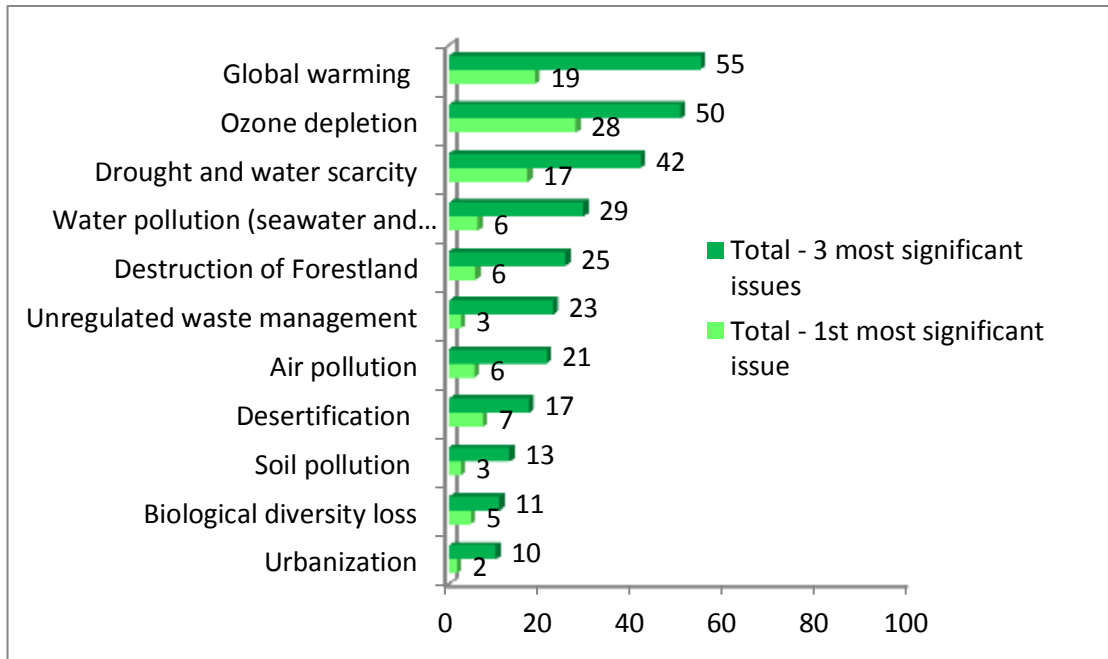
These environmental issues associated with different environmental media. But if grouped by primary and prevailing environmental medium, these issues are classified as follows:

	Environmental Issues	Environmental Media
1	Urbanization	Air quality, climatic changes, Water
2	Loss of biodiversity	Biodiversity
3	Soil pollution	Soil
4	Desertification	Water
5	Air pollution	Air quality, climatic changes
6	Uncontrolled waste	Water
7	Destruction of forests and coastal/river-bed areas	Biodiversity
8	Water (sea) pollution	Water
9	Drought	
10	Reduction of ozone layer in the atmosphere	Air quality, climatic changes
11	Global warming	

3. CONCLUSIONS

3.1. SIGNIFICANT ENVIRONMENTAL ISSUES

The most important environmental issue is considered by the majority of participants (52%), the issue of **air pollution and greenhouse gas emissions**.



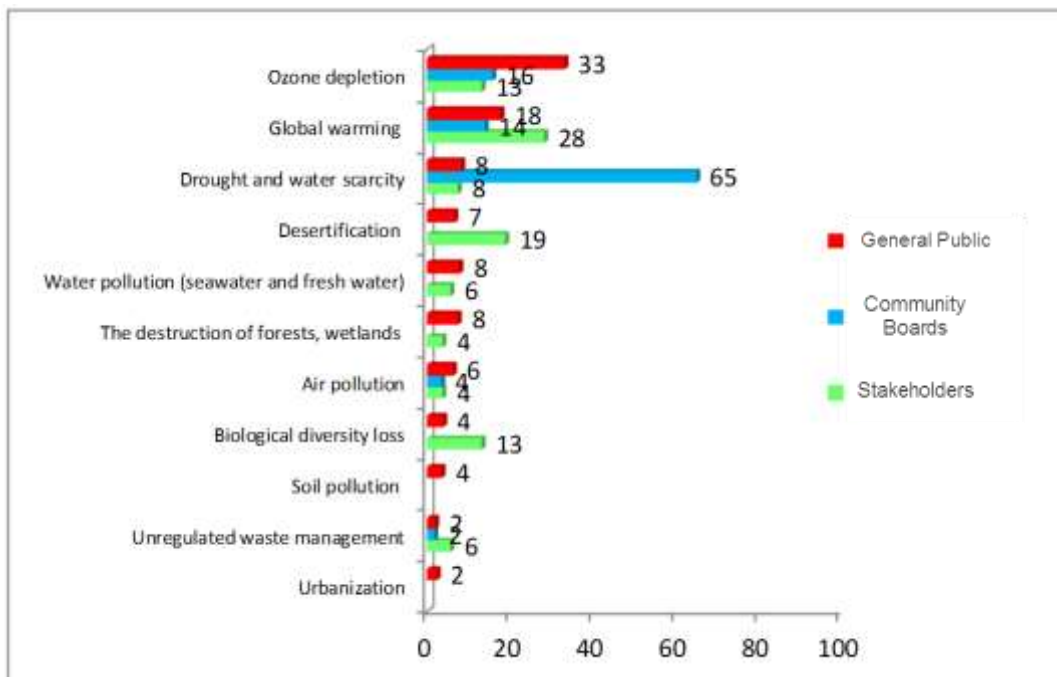
Most important environmental issue

It is noted that this result is similar to the results that were collected in a recent (October 2011) survey at European level (<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/11/>). In this survey the majority of Europeans consider that climate change is a serious problem. Moreover it was revealed that European public opinion is more concerned about climate change compared to 2009 while climate change is considered as a more serious reason to worry about than the economic situation.

An important percentage of respondents consider as the most important environmental issue one of the four issues that were considered and it is directly related to water (33%). Among these issues the issue of drought is far ahead. In the category of three major environmental issues this percentage increases to 37%

For the different categories of participants, water issues are considered as the major environmental issues for the 38% of the stakeholders, the 67% of the representatives of community boards and only for the 25% of the general public. The majority (65%) of the representatives of the Community boards considers as the most important environmental issue, the issue of drought. From the above mentioned it follows that:

- ✓ *The issue of drought has become a priority issue for the representatives of community boards of HR8.*
- ✓ *The general public does not recognize water issues as particularly important. This requires further investigation at least in relation to the intended public participation in environmental agreements.*

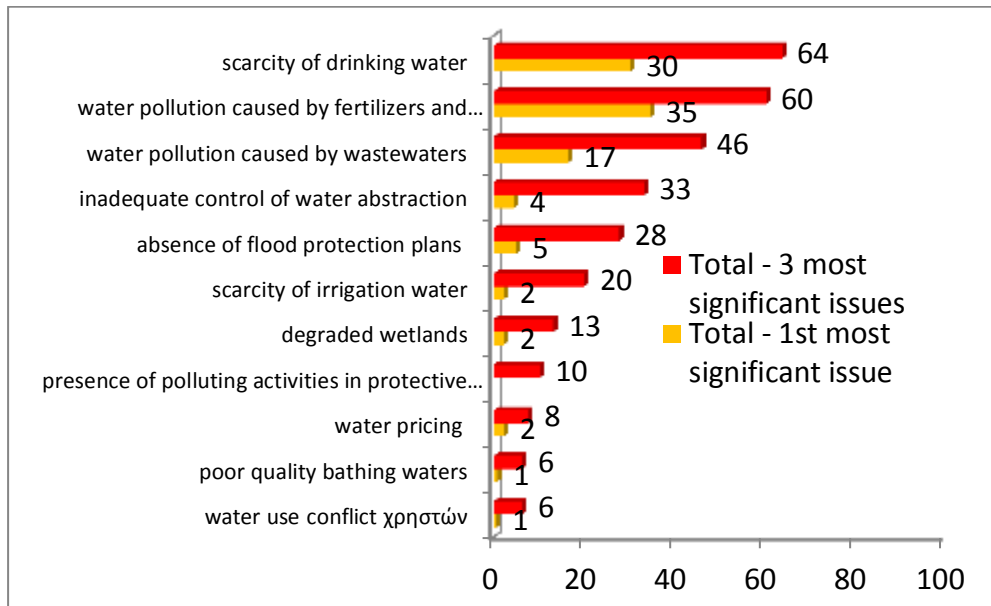


Significant Environmental Issues

In the general public water issues are assessed as minor and fall short of the cumulative importance that the public attaches to issues of air pollution and greenhouse gas emissions. The reduction of ozone layer in the atmosphere in the atmosphere is evaluated as very important for 33% of the general public, while the water issues are evaluated as important for the 25% of the public. These rates do not vary significantly by level of education. There is considerable variation in age classes, where the water issues are considered important for the 29% of over 46 years and only for the 19% of people under 46 years.

3.2. SIGNIFICANT WATER ISSUES IN CYPRUS

The responses of participants to more targeted questions related to water management issues in Cyprus, have considerable interest.



Significant Water Issues in Cyprus

More specifically, **water pollution is considered the most important WM issue in Cyprus (52%)**, followed by the issue of lack of drinking water (30%). The issue of lack of drinking water is by far the most important for the representatives of Community boards (51%) followed by the issue of pollution from agricultural sources (37%).

In contrast, a very small percentage of participants considered the issue of lack of irrigation water as important (just 2%). Another small percentage (7%) ranked the lack of irrigation water to three significant water issues in Cyprus

Another small percentage of respondents consider as important the issue of uncontrolled pumping (10% of respondents placing it in one of the 3 major issues).

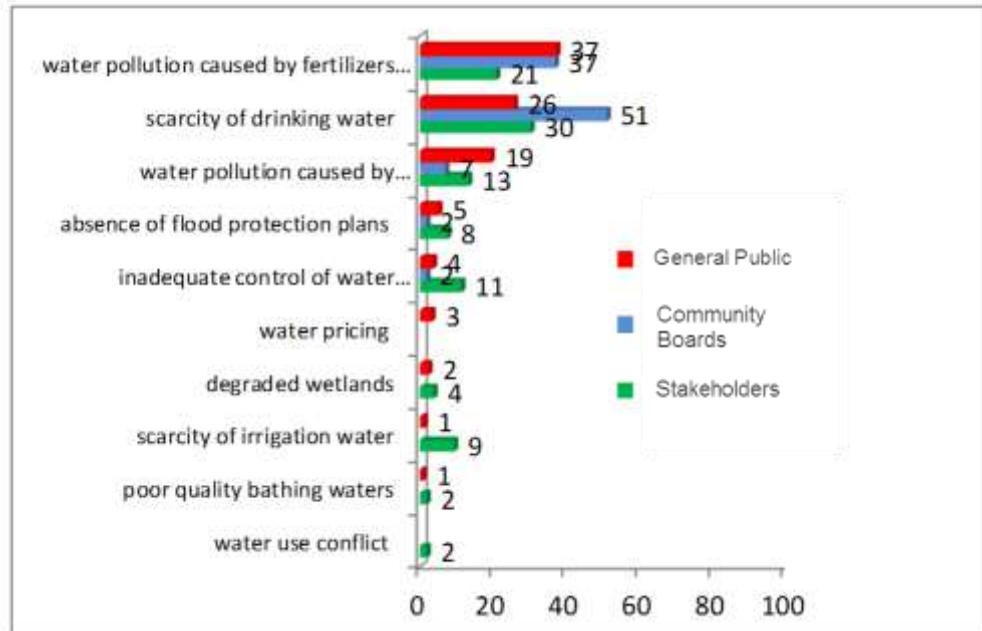
Similarly the issue of water pricing is considered as the most important or one of the three most important issues for only 2% of the participants.

✓ *The issues of lack of irrigation water, irrigation water pricing and unauthorized boreholes, do not seem to be ranked as particularly important by the respondents.*

✓ *These, after confirmation, possibly on a larger sample population should be taken into account in future management decisions of the WDD.*

Per group of participants:

In the general public, the issues of pollution are considered the most significant, at rates exceeding 55%, followed by the issue of lack of potable water to about 25%. These rates do not vary by age group or education level.



Significant Water Issues in Cyprus per Group of Participants

The vast majority of both stakeholders and the public consider the WM issues, as national level issues.

The major obstacle in dealing with WM issues is the lack of coordination among relevant authorities (28%). A very large proportion of representatives of community boards (49%) believes that there is lack of application of laws and also a significant proportion (11%) of both the representatives of stakeholders and the Community boards considers as important, the lack of water management plans.

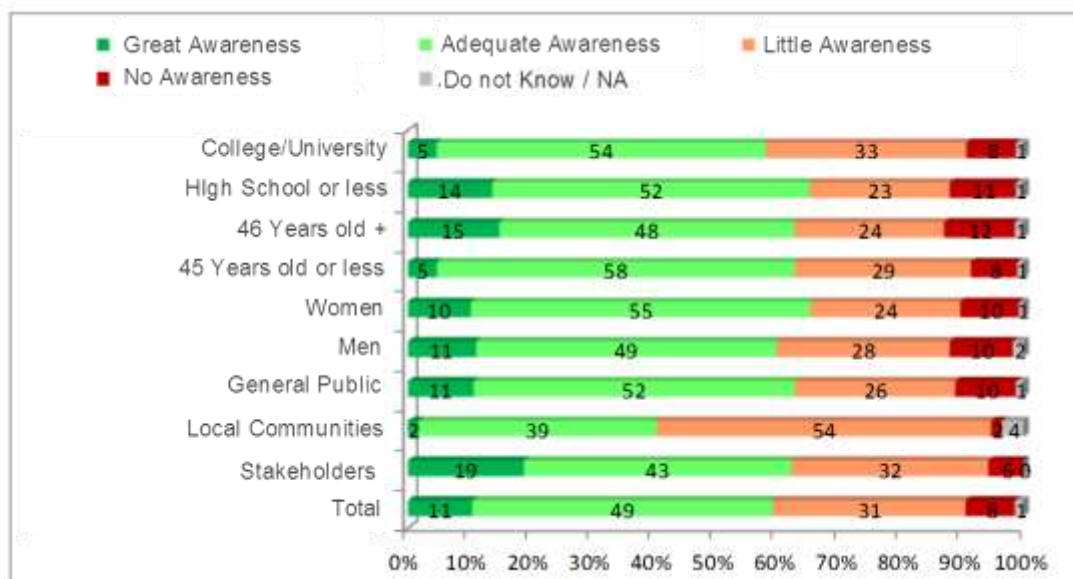
To resolve the WM issues:

- The majority (31%) considered that it is important to increase the participation of local communities. This percentage increases significantly among the representatives of community boards. 79% of the representatives of community boards consider the participatory processes as the most significant means to resolve WM issues.
- In the general public, increasing the participation of local communities is important for 22% of participants. This percentage does not vary significantly by age class and education level.
- It is interesting that increasing participatory processes evaluated and considered significant at a higher rate in participants with low education level than in high education.

✓ To resolve the WM issues, the largest proportion of respondents considered that it is important, to increase the participation of local communities. This percentage increases dramatically among the representatives of community boards.

3.3. SIGNIFICANT WM ISSUES IN CYPRUS

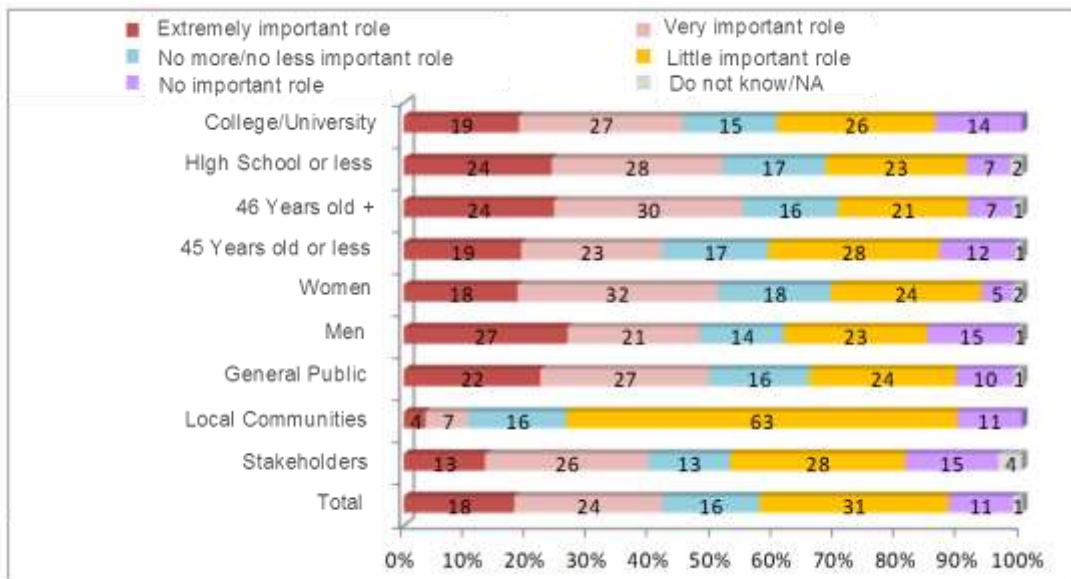
The overwhelming majority of participants (80%) believe that the public has low or moderate awareness on environmental issues.



Estimate for

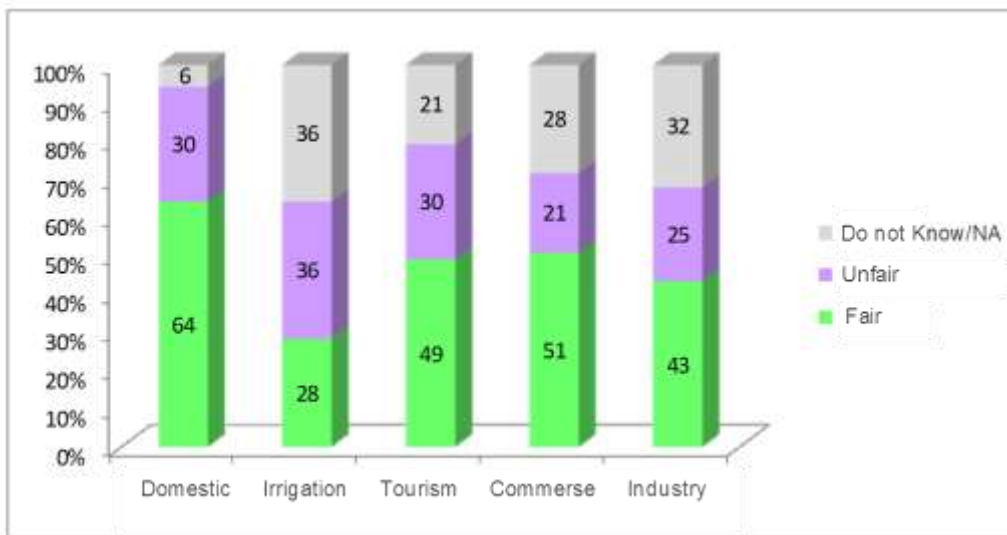
the Participant's Level of Awareness for Environmental Issues

In relation to **the importance of local communities in decision making** at national level in the water sector, the percentage who consider that communities have an important or very important role is equal to the percentage who consider that they have little or no significant role (42%). This percentage varies considerably among the representatives of community boards of whom only 11% believe that local communities play an important or very important role. Unlike 74% believes that local communities have little or no significant role.

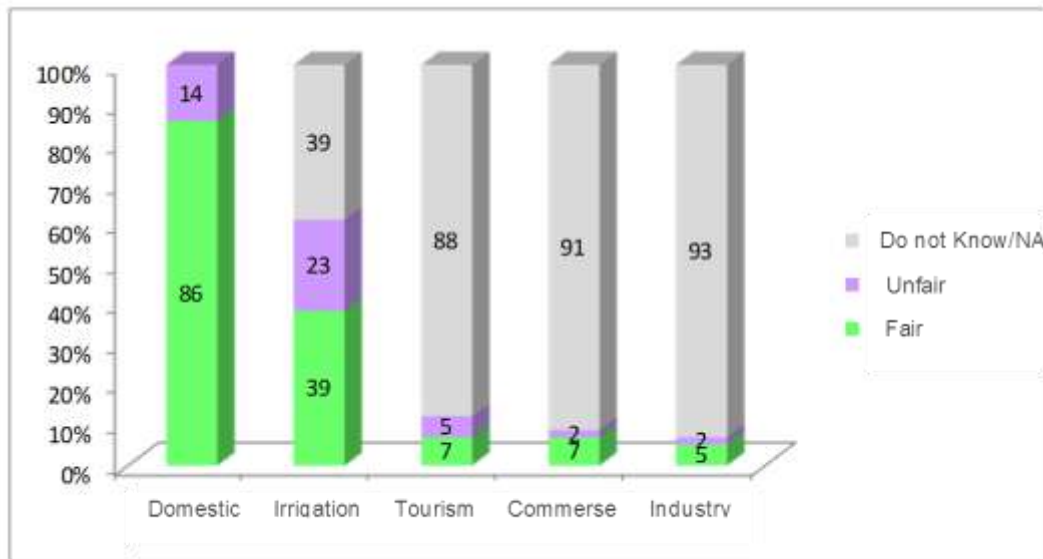


Importance of Local Communities in Decision-Making in the Water Sector at National Level

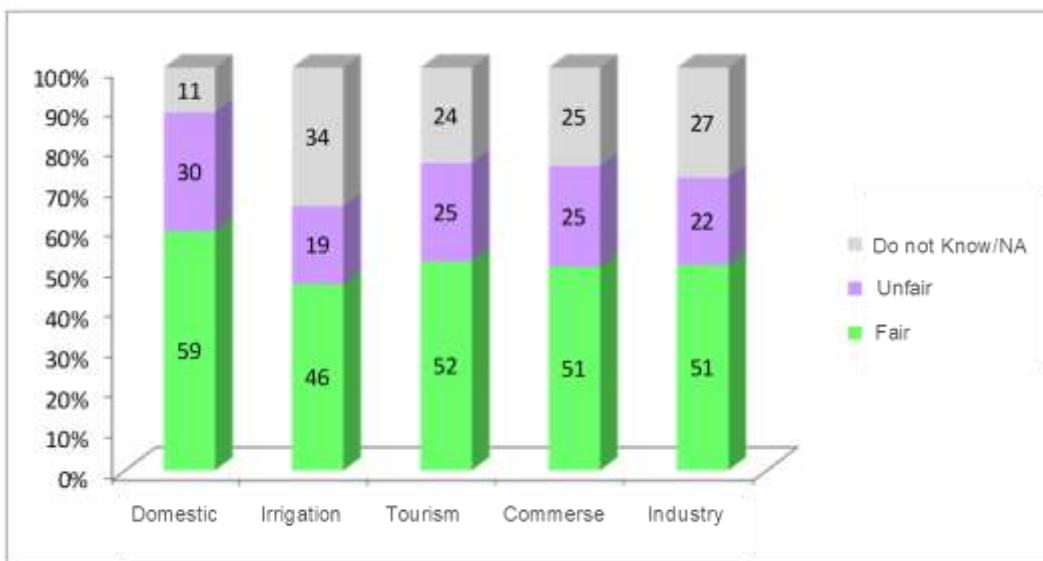
Regarding **the water pricing issues**, the majority of stakeholders consider that this is fair for all uses except irrigation where a greater proportion perceived as unfair (36% vs. 28%). Representatives of Community boards consider that water pricing is fair for all uses including irrigation. A similar picture applies to the general public who also included the categories of tourist / commercial / industrial use in their answers, whereas the representatives of Community boards expressed no opinion, for these water uses.



View on the Existing Water-Pricing on Various Uses Authorities



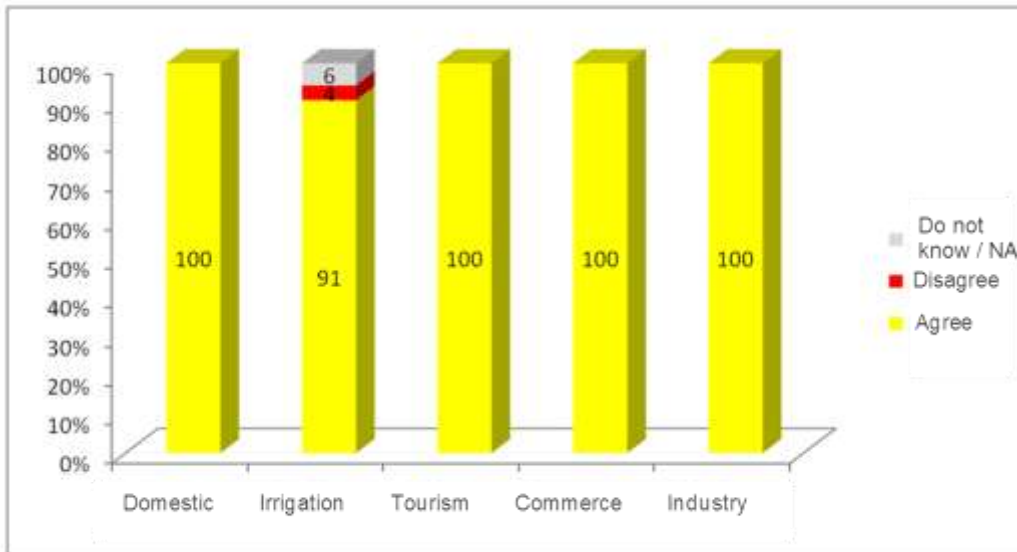
View on the Existing Water-Pricing on Various Uses - Community Councils



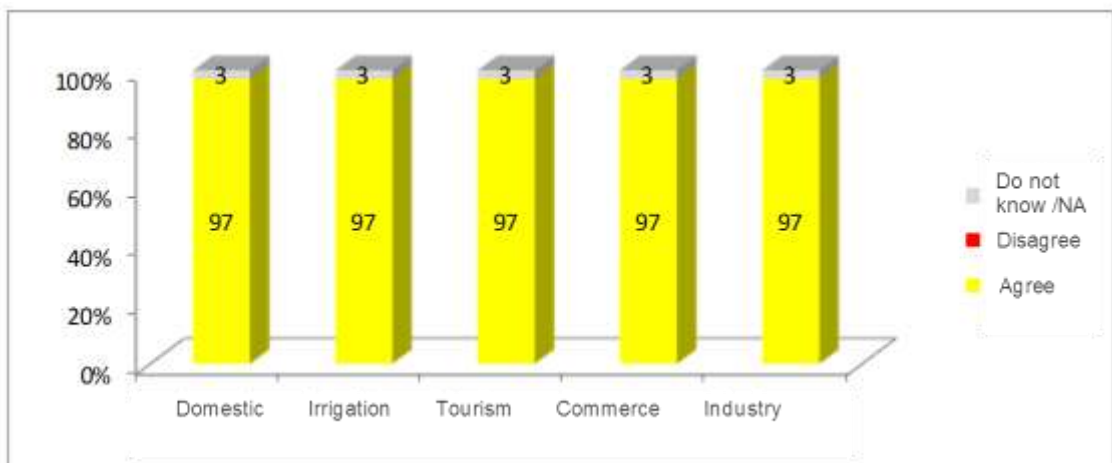
View on the Existing Water-Pricing on Various Uses – General Public

Level of Agreement with the Installation of Water-Meters in their Area for Various Uses

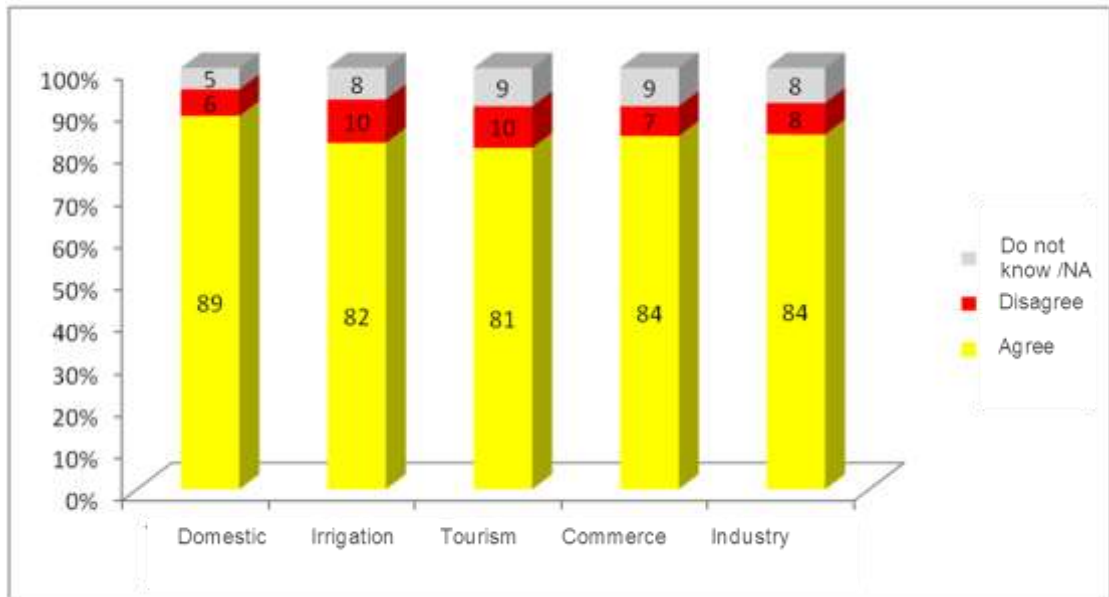
The vast majority of stakeholders agreed with the **Installation of Water-Meters** in their area for various uses, with the exception of a very small percentage of the order of 4%, who disagreed with the installation of water meters for agriculture. A similar picture applies to the representatives of Community boards. 10% of the general public disagrees with the installation of water meters for almost all uses including domestic water supply.



Do they agree to install water meters in their area for various uses ?- Authorities



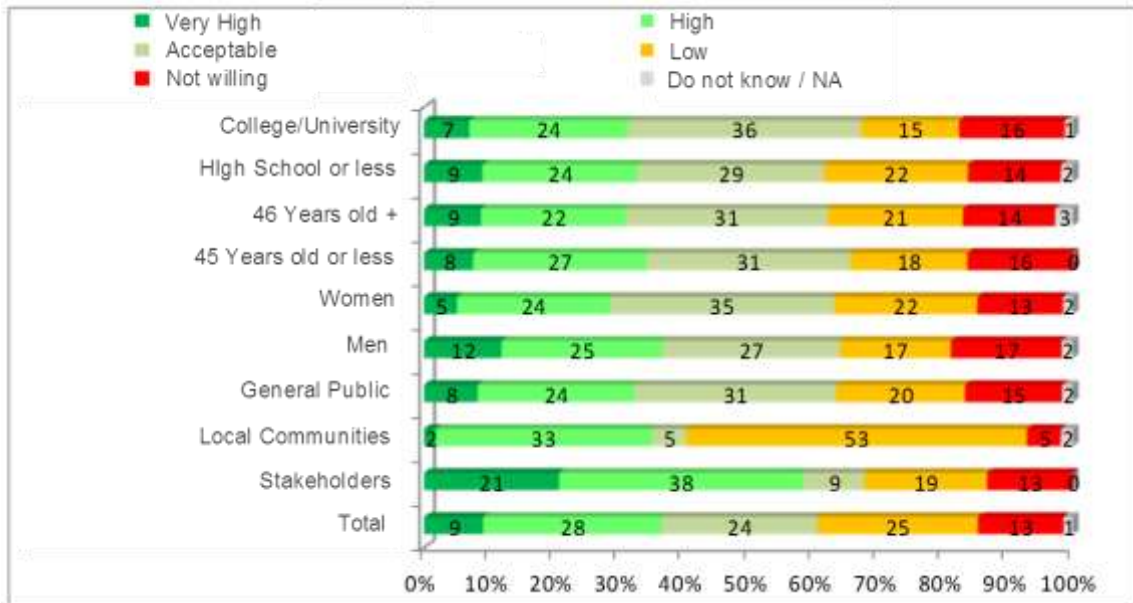
Do they agree to install water meters in their area for various uses ? - Community Councils



Do they agree to install water meters in their area for various uses ? – General Public

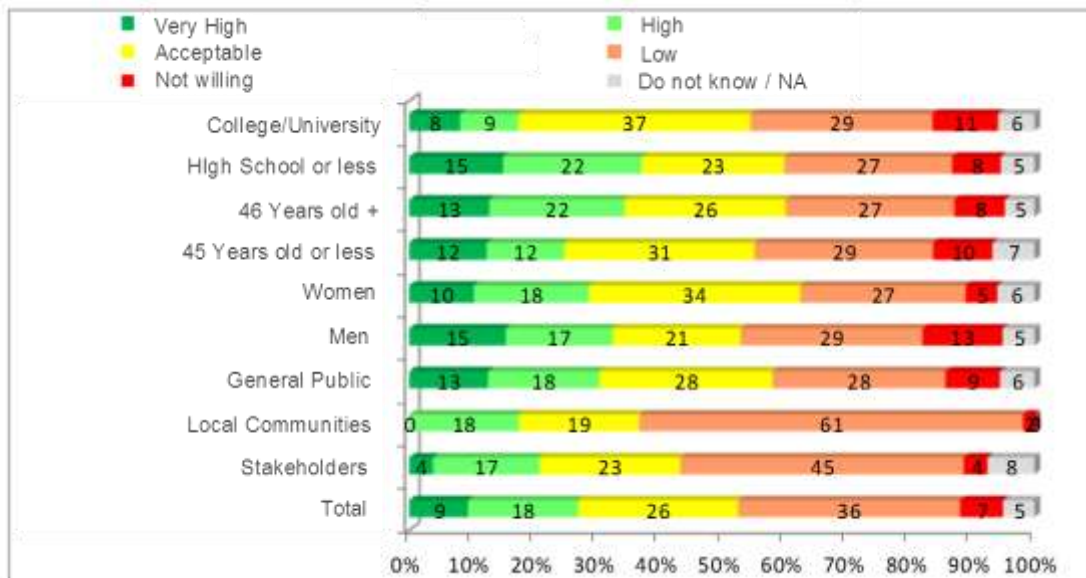
Regarding the willingness to pay more for water in order to restore the quality and quantity of water, the investigation gave the following results:

- The percentage of those extremely and very willing to pay more money is equal to those declared little or no willingness (36%). This figure shows no differentiation among respondents with different age or education or gender characteristics.
- However this figure varies considerably among the representatives of community boards in which the proportion of those indicating little or no willingness is 58%. Similarly among the stakeholders, the percentage of those extremely and very willing to pay more money is 59%.



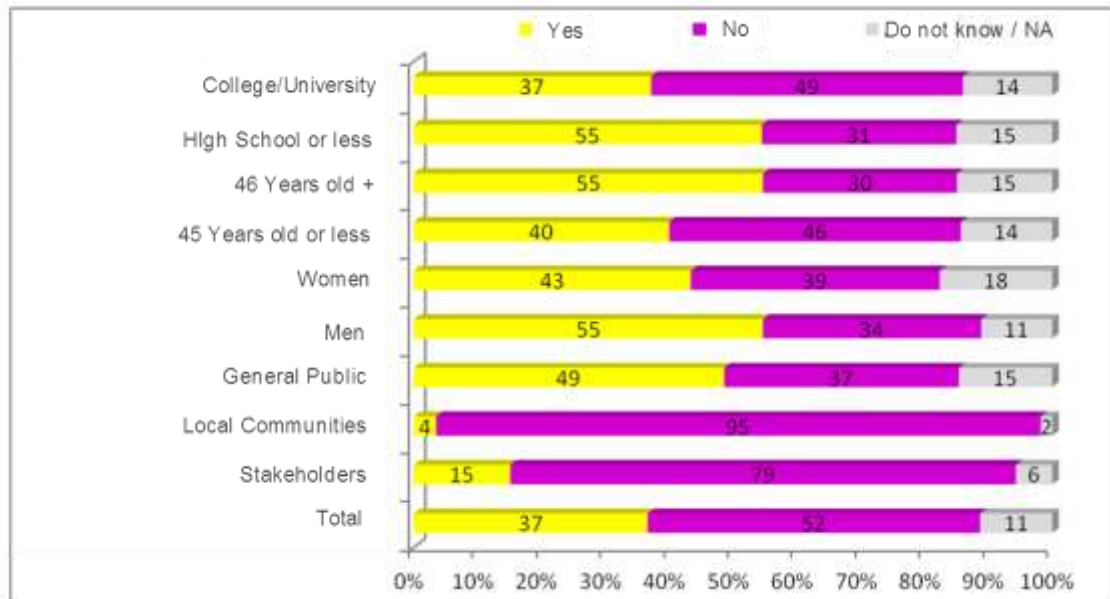
Willingness to pay more for the water they consume so that we will be able to restore the quality and quantity of our waters

Regarding the **effectiveness of Current Water-Saving Measures**, **27% of all respondents** considers that these are extremely and very effective while 43% considers that the measures are a little or not at all effective. In the same direction, although worse, is the picture among the stakeholders and the representatives of community boards. Representatives of community boards the Councils consider at a percentage of 63% that the water saving measures are a little or not at all effectively while only 18% consider that these measures are extremely effectively.



Effectiveness of Current Water-Saving Measures

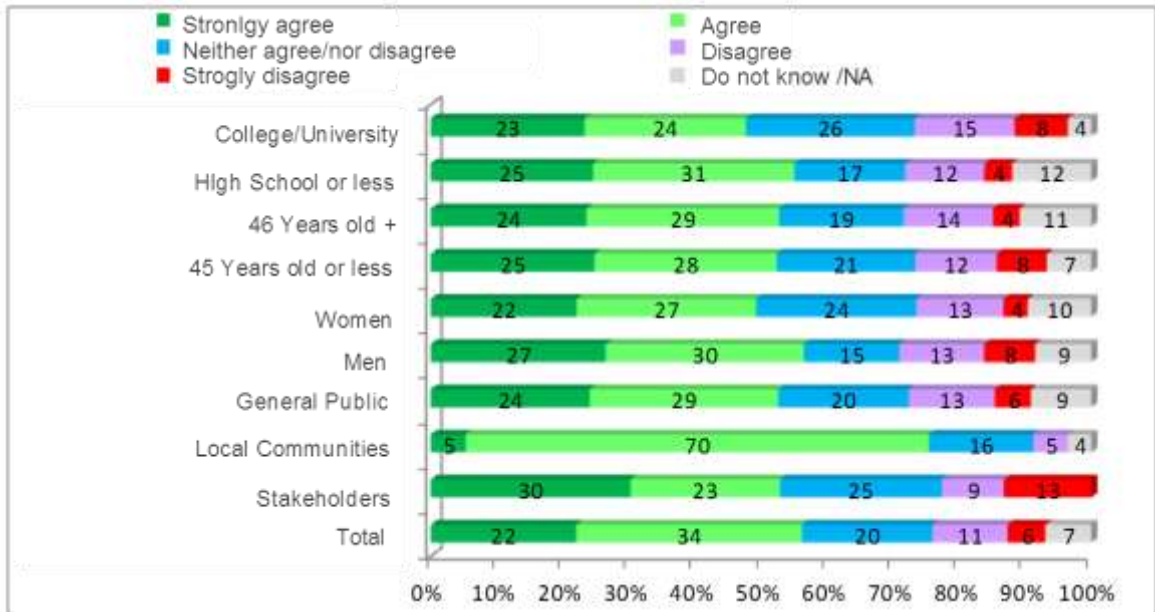
When asked whether the water made available is sufficient to preserve the water ecosystems, the greater proportion (52%) responded negatively. This rate is dramatically higher in community boards (95%) and stakeholders (79%). Interestingly, in the general public this picture is reversed with the majority believing that the water available for the conservation of ecosystems is enough. In lower education, men and older participants this proportion is growing.



Water made available is sufficient to preserve the water ecosystems?

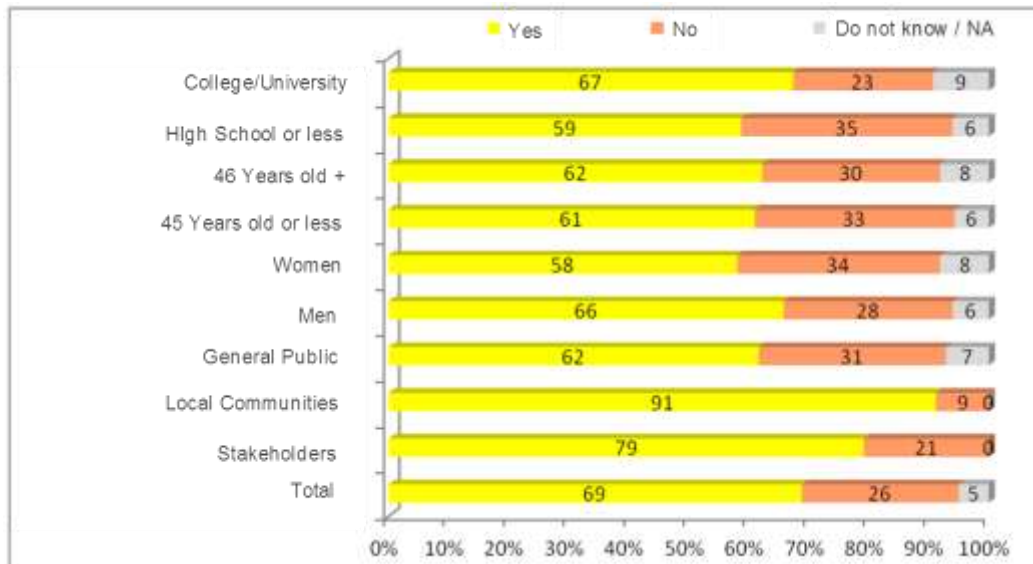
Another interesting question posed, was concerning the level of agreement with the **restoration of under-mined ecosystems at any cost** (e.g. Postponing Development).

In this question, the percentage of answers I completely agree and I agree is higher than 50% in all categories. There are no significant differences in age, educational level or gender. This percentage among the representatives of community boards is 75%. The percentage of answers I disagree and I completely disagree is between 15 and 20%. The highest percentage of disagreement recorded in high education respondents (23%). In agreement with the above, most respondents (albeit at lower rates than the previous question) seems willing to pay more in order to rehabilitate under-mined ecosystems. The biggest difference is recorded among representatives of community boards, who, although believe that it is imperative to restore degraded ecosystems (75%), only 53% among them seems that it intends to impose or promote this through additional payments.



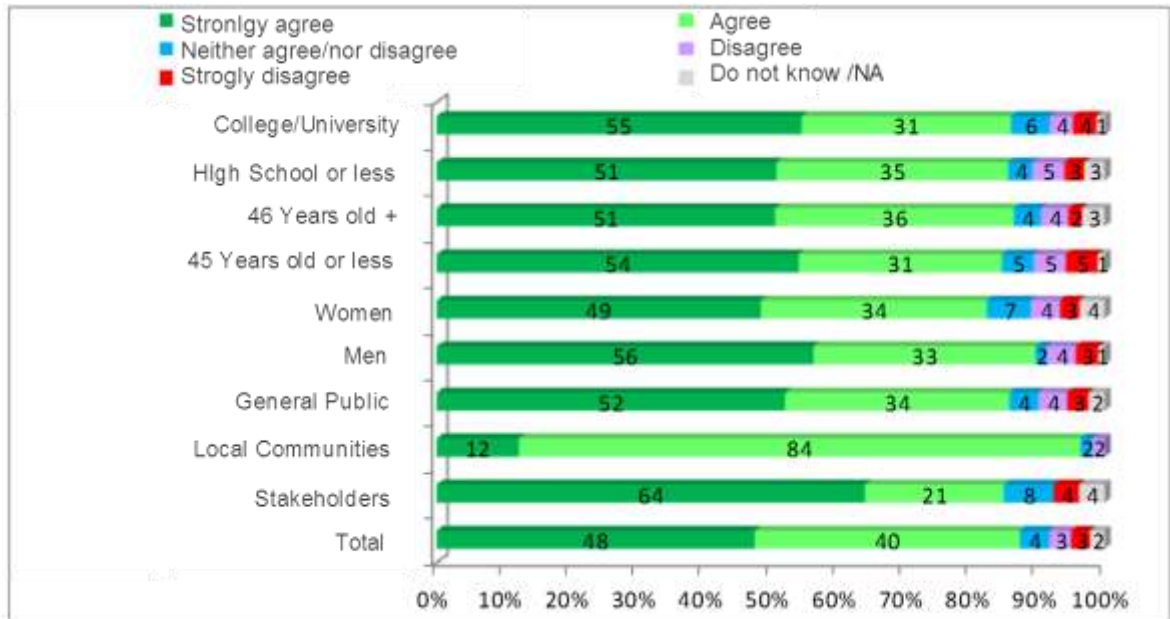
The level of agreement with the restoration of under-mined ecosystems at any cost

In the question, whether they agree with the imposition of an environmental tax in order that pollution/emissions/ excessive use of water are taxed in line with their impact on the environment, the highest percentage (69%) seems to agree with the imposition of such tax. These rates do not differ significantly by gender, age and educational level. Among the representatives of community boards this percentage reaches 91%.



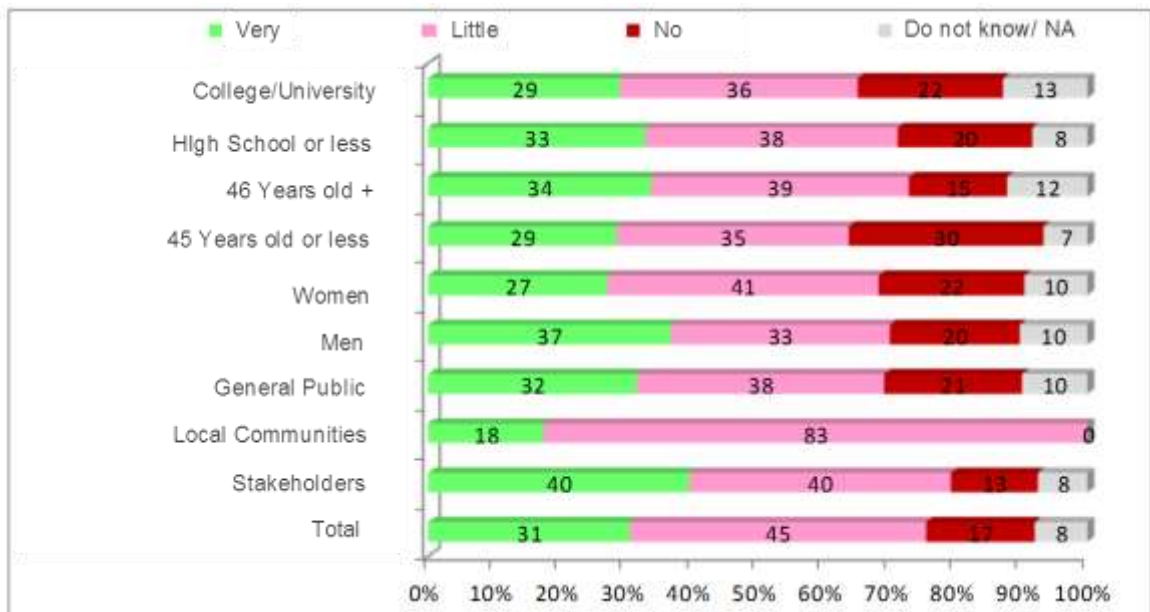
Do they agree with the imposition of an environmental tax in order that pollution/emissions/ excessive use of water are taxed in line with their impact on the environment?

Regarding the level of agreement with the opinion that the areas that flood should not be built-up or be built-up according to special town-planning laws, the highest percentage in all categories responded positively at rates exceeding 85%.



Level of agreement with the opinion that the areas that flood should not be built-up or be built-up according to special town-planning laws

Finally regarding the level of effectiveness of protection of forests and endemic plants against fire hazard, the highest percentage (62%) responded that the existing systems are a little or not at all effective.



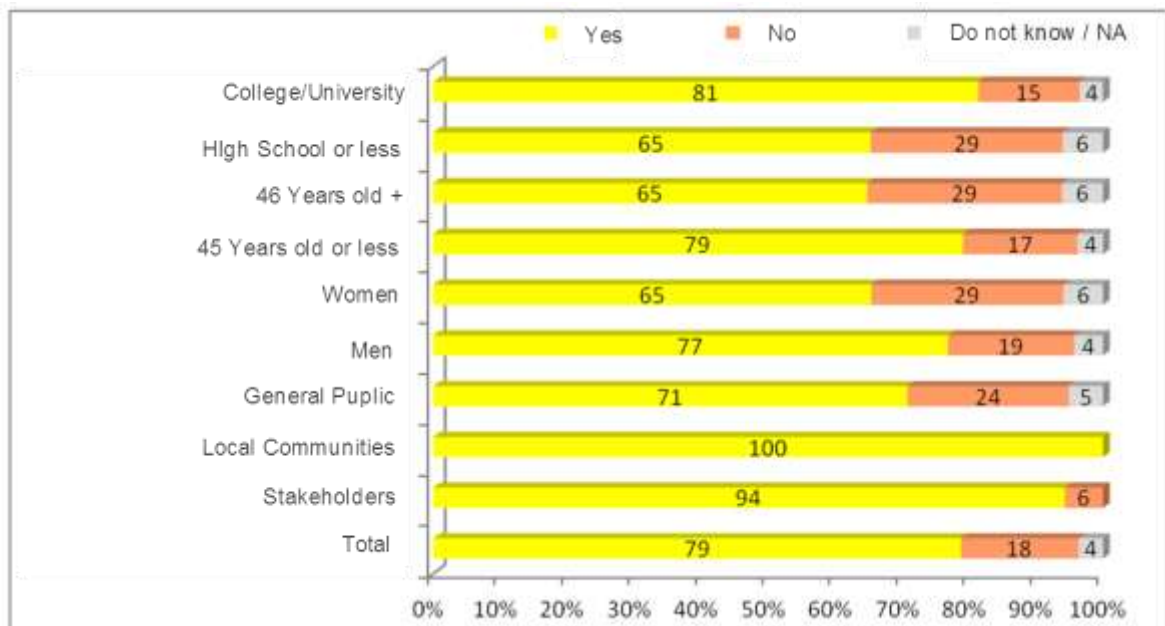
Level of effectiveness of protection of forests and endemic plants against fire hazard

The main WM issues of HR8 as identified by the majority of respondents are the following:

- ✓ *Strengthening the role of local communities in decision making at national level*
- ✓ *Installation of water meters*
- ✓ *Increasing the efficiency of water conservation measures*
- ✓ *Restoration of under-mined ecosystems at any cost*
- ✓ *Imposition of environmental taxes*

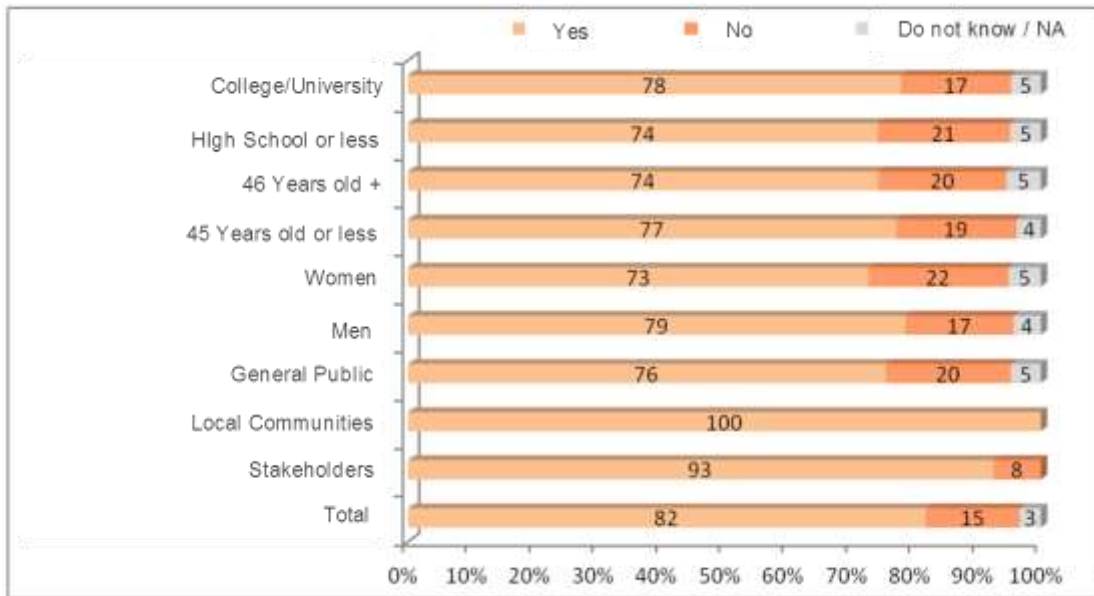
3.4. WILLINGNESS TO IMPLEMENT AN ENVIRONMENTAL AGREEMENT.

The question posed was concerning the willingness to be a volunteer for water and environment protection in their area. The vast majority of participants declared its willingness for participation. Greater willingness was declared among younger people, highly trained and men. Among the representatives of community boards this percentage reaches 100%.



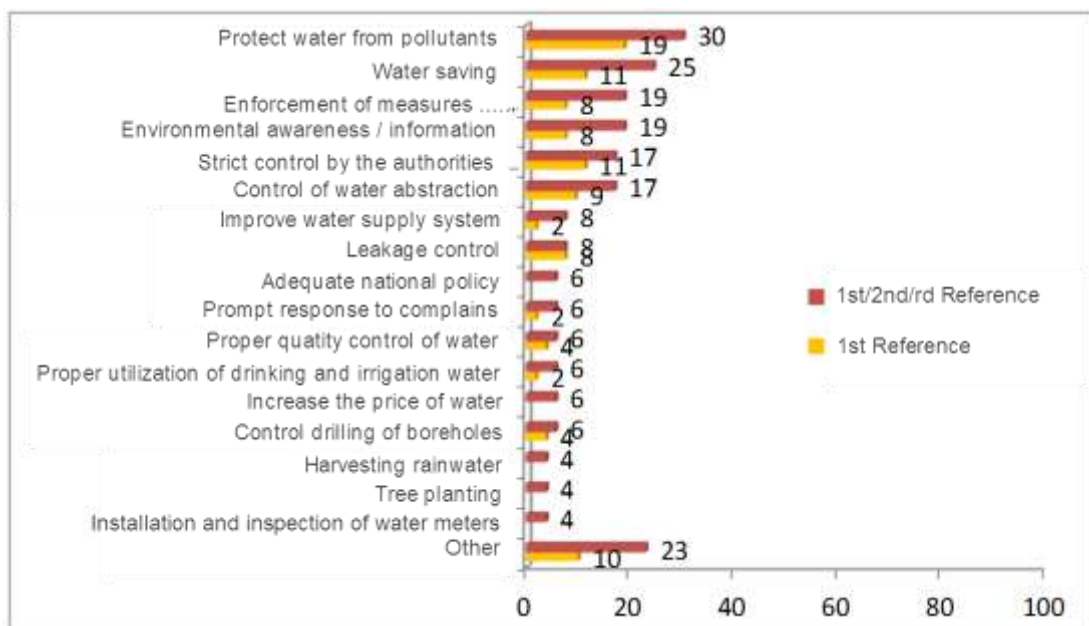
Willingness to be a volunteer for water and environment protection in their area

Similarly the percentage of responders declaring their willingness to report illegalities in relation to Water-Management to the Relevant Authorities is very high.



Willingness to report illegalities in relation to Water-Management to the Relevant Authorities

Subsequently people were asked to make spontaneous suggestions of measures to protect water in their area. Those suggestions were similar to the significant water issues identified in previous questions (e.g. par. 3.2).



People spontaneous suggestions of measures to protect water in their area

To this end, the stakeholders suggested primarily measures for pollution control and water conservation. It is noted that the representatives of community boards suggest offer the pumping control as an important measure for water protection (60%). However in an earlier question (see slide 12) which concerned the inadequate control of pumping only 4% said that this is one of the significant water issues in HR8.

4. PROPOSALS

As detailed in the second report submitted under this project, WDD has developed and presented to social partners 3 proposals to enter into a broad discussion for the implementation of an environmental agreement.

These proposals, which are detailed in the second report, are, briefly, as follows:

1. Contribution to the WDD program for the registration of existing boreholes in Cyprus
2. Reduction of the domestic water consumption in selected Municipalities and Communities of HR8
3. Participation in the protection of water bodies in HR8 against pollution

In relation to the 1st proposal:

- The control over abstraction ranks as the fourth most important water management issue in Cyprus.
- This issue is recognized as important primarily by the stakeholders and to a lesser extent by the representatives of Community Boards.
- 60% of the representatives of community boards propose the control over abstraction as an important measure to protect water bodies

According to the above mentioned:

It is possible to implement an environmental agreement to register and control the water abstraction appears, however, that both the WDD campaign and in subsequent meetings should be emphasized to the intended control of over pumping rather than to the recording fact which is causing concern and confusion among stakeholders.

This environmental agreement could well be implemented both by the Community boards but also by the stakeholders who recognize to the same or to greater degree the need for pumping control.

The above proposal could be rephrased as follows:

CONTRIBUTION TO THE EFFORT OF WDD FOR CONTROLLING OVER PUMPING IN CYPRUS

In relation to the 2nd proposal:

- The lack of potable water ranks as the second most important WM issue in Cyprus.
- This issue is recognized as by far the most important by the representatives of Community Boards.
- The issue is of national importance.
- Pricing of potable water is fair. Water pricing as well as the imposing of environmental tax, seems to be embedded in the minds of Cypriots as being a significant management tool.

- All respondents considered that the installation of water meters to all consumers is reasonable.
- A significant proportion of respondents want to take action to control over-consumption.

According to the above mentioned:

It is possible to implement an environmental agreement to reduce domestic water consumption. This effort can be supported by appropriate pricing policies (eg quota for controlling over-consumption). It is necessary to immediately launch the installation of water meters to all consumers. The installation of water meters to all households could be part of the environmental agreement.

In relation to the 3rd proposal:

- The pollution (mainly of agricultural origin) ranks as the first most important WM issue in Cyprus.
- The issue is of national importance
- There appears that there is a willingness to report illegalities in relation to Water-Management or use to the Relevant Authorities

According to the above mentioned:

It is possible to conclude an environmental agreement designed to protect WB from pollution.

This agreement could also be implemented by the stakeholders who, at a rate of 19%, suggested, without guidance, a similar measure.