The testing of the MEDROPLAN drought management guidelines [Part 1. Components of drought planning. 1.3. Methodological component]

The MEDROPLAN team

in

Iglesias A. (ed.), Moneo M. (ed.), López-Francos A. (ed.).
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Chapter 14. The testing of the MEDROPLAN Drought Management Guidelines

The MEDROPLAN team

SUMMARY – According to the MEDROPLAN project contract, Work-package 8 was devoted to testing the Drought Management Guidelines drafted in Work-package 6. Testing had be carried out by each partner with reference to a different region or watershed than the one where the risk analysis has been carried out. The outcome of such a process were conclusion reports by each partner on the testing of the Guidelines, with conclusions and recommendations on the applicability of the Guidelines to each country, and with possible improvements to the Guidelines.

Key words: stakeholder, watershed, interviews, dialogue, feedback.

Proposed methodology for testing the Guidelines

The general structure of the testing of the Guidelines can be summarized as follows:

(i) Selection of the watershed/region.

(ii) Identification of stakeholders involved in drought management in the selected watershed/region.

(iii) Contact of the identified stakeholders and distribution of the Guidelines.

(iv) Collection of the feedbacks during a local workshop through individual discussions, interviews and filling of a questionnaire.

(v) Analysis of the results and conclusions.

Selection of the watershed/region

Since the testing was to be made in a different region or watershed from that in which the risk analysis had been carried out, the first decision was to choose such a region or watershed. In order to increase the probabilities of a successful testing, the choice should be made taking into account at least the following two main elements:

(i) The region or watershed in which the Guidelines were to be tested (RGT) should have a similar or at least comparable socio-political and organizational framework to the one for which the case study has been carried out (RCS). Regarding the physical features, of course some degree of similarity was also needed.

(ii) To be sure of a good collaboration of the decision makers and stakeholders of the RCS is another key element, since they will be requested to provide an important effort in terms of intellectual contribution and of time availability.

Identification of the institutions and persons for testing the Guidelines

As already mentioned, this is a critical step for a successful testing. Indeed, the objective was not just to present the Guidelines, but rather ask the invited people to simulate their application to the selected watershed/region, pointing out their weakness and strengths. Thus, it was mandatory to select people with a strong degree of involvement in the various aspects of drought management. They should include stakeholders in all sectors of drought management – from policy-makers, to

farmer's unions, to scientists. The mapping of the organizations and institutions (Organizational Component of the Drought Management Guidelines) was of help in the decision. Although a large group would be advantageous in terms of a larger scope of views, a limited group well chosen persons (e.g. six) could be the optimum, since more people would make it difficult a fruitful personal interaction during the workshop.

Contact of the identified stakeholders and distribution of the Guidelines

After the identified stakeholders agreed to collaborate, the Guidelines were submitted for reading prior to the participation to the workshop. If felt appropriate, other material could also be provided, e.g. the mapping of the institutions. Considering that the amount of requested reading may be in some cases too much a burden, it may be appropriate, to suggest which parts of the Guidelines require a careful reading, according to the peculiarities of the investigated region/watershed as well as of the specific expertise of the invited stakeholders. For instance, a person in charge of hydrometeorological monitoring in the region may be more interested (and thus contribute with a more fruitful feedback) to the drought monitoring and characterization aspects. Similarly, people in charge of rainfed agriculture may be more interested to drought impacts than to water supply system aspects, and vice-versa. In general terms, it is preferable to have interesting feedbacks on very specific aspects rather than general superficial comments on the whole.

Organization of local workshops to collect the feedbacks from the involved stakeholders

The objective of the workshops was to gather the invited stakeholders in a non-formal atmosphere in order to collect their feedbacks through individual discussions, interviews and filling of a questionnaire (see Annex 1). One and a half was sufficient, since only one day may not be enough, while a longer duration could interfere with the invited people commitments, thus limiting the active participation to the workshop.

For the success of the workshop it was important that the invited people should be aware beforehand of their active role, making it clear the objectives of the workshop, as well as the proposed agenda. The presentations by the partner team should be kept at a minimum, bearing in mind that they should not be merely informative but rather serve as a stimulus for the discussion.

In the following sections, an overview of the process followed in each country and the conclusions issued in each Workshop are presented.

Cyprus

The general structure of the testing of the Guidelines included the following:

(i) Selection of the Project; For the testing of the Guidelines, the Paphos Irrigation Project was selected. For this project all the necessary data were collected and analyzed which including catchments and serviced area precipitation series, surface inflows, groundwater safe yields, releases from the dam and ground water extraction, cropping patterns, domestic and irrigation water demands, water scarcity, drought events, measures taken during drought events, consumers reactions etc.

(ii) Identification of stakeholders involved in drought management in the selected project; Six stakeholders were identified four representing the Farmers unions and Associations, one representing the local water authority and another representing the local domestic water distributor. Two more stakeholders were invited as consultants to the project, involved mainly at the national level for drought management.

(iii) Testing of the Guidelines for the Cyprus Case Study was conducted in Paphos, Cyprus, 25 and 16 of September 2006 according to the Protocol described in the Guidelines Chapter 21.

Conclusions the of the workshop

From the presentations and discussions made during the Workshop the following can be concluded.

(i) Cyprus is suffering from frequent meteorological droughts, which in many cases end in hydrological drought.

(ii) Cyprus is in need of Drought Preparedness Guidelines and the Draft Guidelines presented during the Workshop shall be of great assistance to the Cyprus State and to the Cyprus Water Stakeholders in general for the preparation of Drought Preparedness Plans.

(iii) The Guidelines provide the scientific knowledge for carrying out the Drought Identification and the Risk Analysis studies and the methodology for the preparation of the Drought Preparedness Plans.

(iv) The Guidelines were tested on the Paphos Irrigation Project and the results from the drought identification and the risk analysis studies, as well the testing of the methodology proposed were found to agree with the project hydrological conditions and the measures proposed were similar to those implemented during the drought events in the years 1996-2001.

(v) The participants agreed that the Drought Preparedness Plans to be prepared in accordance with the Draft Guidelines shall be effective an efficient for mitigating droughts, and that the drought preparedness plans should complement the rational integrated water management plans.

(vi) Concerning the Creation of the Mediterranean Drought Preparedness Network the participants agreed that such a network shall be beneficial for the region and Cyprus if its objective and principles of association are well defined and the countries to participate shall abide by these principles and objectives.

Greece

The Naxos island was selected for Testing and Revising the Medroplan Drought Management Guidelines for the Greek Case Study. The workshop for testing the Guidelines was conducted in Naxos, Cyclades, 15-16 September 2006 according to the protocol described in the Guidelines.

The general structure of the testing of the Guidelines included:

(i) Translation and adaptation of the English Guidelines to Greek Guidelines.

(ii) Selection of the watershed/region.

(iii) Identification of stakeholders involved in drought management in the selected watershed/region.

(iv) Contact of the identified stakeholders and distribution of the Guidelines and questionnaire.

(v) Collection of the feedbacks during a local workshop through individual discussions, interviews and filling of a questionnaire.

(vi) Analysis of the results and conclusions.

The questionnaire, translated in Greek, was distributed to the participants during the meeting. The feedback was collected by the responses to the questionnaire and by group interviews during the meeting. The interviews were not conducted in private and they allowed the participation of all the stakeholders. Their structure and style was an open discussion with the participation of all the stakeholders rather than an interview in the strict sense of the term. Notes were taken down during the meeting.

Analysis of the results and conclusions

The main conclusions of the testing and revision of the Guidelines are outlined below.

The Naxos Island, as well as the whole region of Cyclades, is suffering from water management problems, especially in the administration services. The various services (municipalities, prefectures, meteorological services, etc) do not know the data that other services possess and furthermore they do not will to share these data with other services.

The Naxos dam was constructed in 2002.The dam is badly managed and it is still not handed over officially. The problem is that two different municipalities are involved (the Municipality of Naxos, which is situated on the coast shore, and the Municipality of Drymalia, which is situated on the mountains and comprises the water basin of the dam). Although the water basin of the dam is within the territory of the Municipality of Drymalia, since the dam is located within the territory of the Municipality of Naxos, it is the Municipality of Naxos who is responsible for the management of the dam. The 25% of the supply of the dam goes to the Municipality of Drymalia and 75% is consumed by the Municipality of Naxos. For the time being, the dam is being used but there is no control at all. From the dam, water is sent to a water reservoir by the only existing water pipe. Therefore, both Municipalities are being supplied with water from the water reservoir and not directly from the dam.

Water uses have not been approved yet. The water uses were supposed to be delivered from the Region until 2005 and now it is the Prefecture responsible for them. There is an urgent need of definition of the water uses. Hydrogeological studies, which will define the water uses and the water demands, for the whole island need to be conducted. The drillings on the island are incontrollable without management and without permissions. Wells exist even within the homes of the islanders and there is a constant conflict for the water uses.

Regarding irrigation wells, there is neither a need for the assessment of environmental impacts, nor permission from the Prefecture. All that is required is an application to the hydrogeological services. The farmers do overuse the water supplied (or drilled). They use water demanding crops (e.g. potato) instead of dry crops and they do produce much more than actually needed for supply to the market. Yet, the farmers are not powered enough to fight for their rights to claim water. This happens because most of the farmers are also involved with tourist activities.

During the 1989-1993 drought period, the city of Naxos did not confront serious drought problems because water was supplied by a few wells at altitude 100 m with depth 500-600 m. The owners of the wells were informed by the Municipality of Naxos to supply the island with water. The operation of the dam supported the islanders with a different education: there is no management when there is lack of control. Since then, water supply is constant at all times. During this drought period though, in the rest of the islands situated at the Prefecture of Cyclades water was supplied only from midnight until 6 in the morning to urge people to save water, in order to confront drought.

In 1991, the Municipality of Naxos was funded to carry water to fill the reservoir. A part of this funding was used to buy water. The farmers had no more interest in irrigating their crops, but to sell water (the price was about 2,29 €/m^3 – calculated with the formula of the compound interest) and the obvious result was the over-pumping of the aquifer. The water was used by the Municipality for tourism. The infrastructure developed during this period (basically for tourism) was conducted with funds from the Ministry of Agriculture, that were meant for the farmers and still, it is the tourists who are using this infrastructure and not the farmers.

There are definitely ways to save more water. Specific infrastructure must be implemented in order to exploit in the best way the water resources. For the time being, the cost accounted water is the 70% of the whole, while the other 30% is losses. The water network is much supported from wells and sources. In some villages of the island, they are still using pipes from amianthus. The restoration of the network is being implemented slowly in the island and the pipes from amianthus are being replaced by pipes from polyethylene. Every village has its autonomous water network. The situation is being monitored by the Technical Services of the Municipalities.

Naxos has actually rich water resources and if correct management is implemented, Naxos could aid essentially other arid smaller islands of the Cyclades by supplying them with water. A thorough hydrogeological study for the aquifers of Naxos must be carried out. During the summer months, people tend to overspend water and there are tankers that carry water to the villages. The water law 3199/03 is not being applied. The administration is already out of the deadline, since the Management Plans shall be applied until 2009 and no planning has started to this date. The Authorities can not comprehend the European Framework.

The aquifers of Naxos could be used for water supply, but instead the water is being lost in the sea. However, the funding of such infrastructure cannot be operating in Greece. Due to bad management, such funding does not exist.

During this year (2006) a pipeline was constructed to supply the Koufonisia Islands with water. These are small arid islands located south-east of Naxos.

There is also a problem in respect to the water quality in Naxos town. It is not the water that has poor quality, but the pipes used are so old and corrupted, that the water reaching the taps of the islanders has serious problems. The water basin of the dam is clear, though. There are no crops or cattle to this area. In fact, nobody drinks the water from the dam. This water is used for anything else, but drinking. The water that people drink comes from a source situated outside the city of Naxos, which belongs to the Municipality of Naxos.

Italy

The testing of the Italian version of the Guidelines for drought preparedness has been carried out in Siracusa, Sicily, on September 25-26, 2006. According to the TOR for testing, the following steps have been followed:

(i) Translation and adaptation of the English Guidelines in Italian.

(ii) Selection of the watershed/region.

(iii) Identification of the stakeholders/experts involved in drought management.

(iv) Contacts with the identified stakeholders and distribution of the draft Guidelines.

(v) Collection of the feedbacks during a workshop.

(vi) Analysis of results and general conclusions.

Due to the peculiarities of the Italian situation regarding drought management, which exhibits relevant differences among the regions due to climatic, as well as institutional features, it has been decided to submit the Guidelines to stakeholders originating from different watersheds. This has been done with the objective of an improved general effectiveness of the testing, less biased from the particular situations, though strictly valid at the Italian national level.

The invited stakeholders/experts have been preliminarly identified by June, 2006. In particular, water managers recently involved in recent droughts in Po basin, Sardinia, Puglia and Sicily, research experts, as well as people from national/regional governments involved in national and international water legislation have been selected. The list of participants is included in Annex A.

It may be worthwhile to mention that the direct involvment of the stakeholders/experts in the modification of the text resulted in a good interaction, which, in the opinion of the Italian team, led to an significantly improved version of the Guidelines.

Analysis of results and conclusions

The general conclusion that can be drawn is that there is a significant interest and expectation in Italy for Guidelines for drought management. This is somewhat confirmed by the fact that some of the stakeholders have requested permission to use parts of the Guidelines, for drafting planning documents of their interest.

From the feedbacks gathered during the workshop, the following main comments regarding the Guidelines can be summarized:

(i) An introductory chapter describing droughts and their main damages and impacts could be included, in order to better clarify the problems addressed by the Guidelines.

(ii) Summary and conclusions should be included before the chapter 1.

(iii) At point 2.1 a short presentation of the social perception of drought impacts which justify the necessity of the Guidelines should be introduced.

(iv) in chapter 2 at least one or two statements should be added on the economical criteria to be followed for selecting drought mitigation alternatives and to select the priority of action.

(v) in the contents of drought preparedeness Plan a reference to the need of establishing standards (e.g minimum water municipal need to be satisfied during severe shortage situations, etc.) should be made.

(vi) measures should be classified according to the affected sector.

(vii) strenght and weakness of each drought mitigation measures measure, giving a few examples on the preferred actions for specific problems to be addressed.

Morocco

On 14-15 November 2006, an expert meeting was held in Rabat for testing the Drought Management Guidelines for the Moroccan case study.

For the testing of the Drought Management Guidelines, the Tadla Sub-basin of the Oum er Rbia Watershed was selected because of its diversity in terms of agro-ecological scope (plain, mountain hill and mountainous zone), water resources availability (surface water, underground water, snowmelt) and agricultural production systems (irrigated agriculture, rainfed agriculture, pastoralism, and livestock). For the purpose of the testing, all the necessary data were collected and analyzed including precipitation historical series, surface inflows, releases from the dam and ground water extraction, cropping patterns, domestic and irrigation water demands, drought events, measures taken during drought events, drought impacts.

The workshop took place on 14-15 November 2006 in the premises of the National Drought Observatory Centre at Institut Agronomique et Vétérinaire Hassan II, Rabat, with a total of 17 participants including 5 from the central administration of Ministries of water and agriculture, 6 from the regional agriculture and water authorities, 2 from national institutions and 4 representing the IAV Medroplan Team.

The collection of the feedbacks of the stakeholders through individual discussions, interviews and filling of the questionnaire took place before and during the workshop.

(i) Integrated water resources management, Oum er Rbia River Basin.

Objective: Experience of drought mitigation through water resource management strategies based on *combination of surface and ground water usage.*

(ii) Irrigation water allocation strategies under drought conditions in the Tadla Perimeter.

Objective: Understanding priorities and mechanisms for water allocation for different crops and other uses for irrigated agriculture.

(iii) Drought management programme for Provincial Rainfed Agriculture of Beni Mellal.

Objective: Drought mitigation measures for crops and livestock under rainfed conditions.

(iv) Integrated water resources management, Sous-Massa River Basin.

Objective: Experience of drought mitigation through water resource management strategies based on *predominantly ground water pumping.*

(v) NGO representing Farmers' Unions and Associations for Agriculture, Agribusiness and Rural Development Professionals.

Objective: Expectations of professionals regarding existing water and drought management policies, including legislation and overexploitation of water resources, particularly groundwater.

(vi) Decision making on water planning at the national level.

Objective: How to define optimum scenario for water allocation between users under different drought situations, at national and provincial levels to resolve conflicts.

(vii) Decision making on water use in irrigated perimeters.

Objective: Understanding the difficulties of setting adequate water allocation rules in the irrigated agriculture because of competition between national interest vs individual user's interests: how to define national interest as compared to regional / individual interests. From the analysis, develop the concept of shared vision methodology to answer the above questions.

(viii) Use of remote sensing technologies for drought monitoring at national and regional / local levels (Royal Centre for Remote Sensing).

Objective: Insisting on added value of using remote sensing indices in combination with proposed Medroplan drought monitoring indices in order to improve the drought early warning systems in the Mediterranean.

(ix) Components of the National drought mitigation programme with particular focus on crop monitoring and agricultural insurance (Crop Production Division, Ministry of Agriculture).

Objective: Understanding drought development stages of field crops to improve triggering mechanisms for declaring deteriorating drought conditions, and policies to develop agricultural drought insurance schemes.

Conclusions from the Workshop

(i) Morocco, like most Mediterranean countries, frequently suffers from severe drought episodes. So far, reactive management of the drought crisis has been the rule until recently when, following the severe drought nationwide of 2000, the development of a new pro-active approach started.

(ii) The development of a Drought Preparedness Guidelines Manual has been welcomed by the stakeholders participating in the workshop for testing the Draft Guidelines, as an instrument to aid decision makers and drought managers to develop national and provincial drought plans.

(iii) The Guidelines were tested on the Oum Er Rbia Subwatershed of Tadla. The results from the drought identification and the risk analysis studies indicate that the performance of the indices used to characterize the drought events and intensities was in agreement with the participants' field truth. Thus, the Methodology Components of the Medroplan Draft Guidelines is appropriate although further improvements through integration of remote sensing indices may be necessary.

(iv) For the organizational component of the Guidelines, observations by the stakeholders participating in the workshop emphasizes the necessity of developing further the legal framework for water management under drought conditions in the case of Morocco. The participants do recognize the usefulness of the Medroplan Guidelines as an entry to such development.

(v) The Guidelines do also provide a good scientific basis for elaborating methodologies and tools for drought risk analysis, drought impact assessment and for preparing drought plans. However, these Guidelines still need further simplification for practical use by drought managers. Also, the vulnerability issue needs to be more developed by integrating information layers about soil and water resources conditions, crop development stages, rangeland status and livestock feeding conditions, economic and social indicators.

(vi) The participants insisted on the use of Medroplan Guidelines findings to develop awareness among the decision makers involved in integrated water and drought management in Morocco.

Organization of meeting, workshops and field days in some of the seven existing Regional River Basins would be a good opportunity to improve institutional capacity building for drought planning, mitigation and response.

In addition to this training activity, communication of the Medroplan Guidelines attributes among various stakeholders is felt to be an important determinant for drought preparedness, indicating the usefulness of the proposed Medroplan Web pages. For developing exchange of information, tools and methodologies between Mediterranean experts, it is proposed to add to the Web page a Discussion Forum to allow such exchanges. This will strengthen the proposed Mediterranean Drought Preparedness Network.

Spain

Testing and Revising the Drought Management Guidelines for the Spanish Case Study was conducted in Illueca, Zaragoza, 26-27 September 2006 according to the protocol described in the Guidelines.

The Ebro River Basin was selected for the purpose of testing the Guidelines for Drought Management.

Nine stakeholders participated in the workshop. They belonged to different institutions at National, Regional and Local level:

(i) ENESA (Spanish National Body for Agricultural Insurance).

(ii) Zaragoza (City Council of Zaragoza).

(iii) COAG (Farmers Trade Union).

(iv) Comunidad General de Riegos del Alto Aragón (Higher Aragón River General Irrigation Community.

(v) Comunidad General de Regantes del Canal de Aragón y Cataluña (Aragón and Cataluña Canal General Irrigators Community).

(vi) Confederación Hidrográfica del Ebro (Ebro River Water Basin Authority).

(vii) Universidad Politécnica de Madrid.

The feedback from stakeholders was collected by means of the responses to the questionnaire and group interviews during the meeting. The interviews were public and allowed the participations of all stakeholders. The structure of the interviews and the method for analysing the results and conclusions are outlined below. All interviews were tape-recorded.

First interview: Integrated water resources management

Objective: Experience of an established drought management plan.

Some questions for the interview:

(i) The action protocol established for the Ebro River Basin defines alarm thresholds based on reservoir volumes. Could you explain in more detail the use of these indicators?

(ii) Are there specific measures associated to each level? How are these measures classified? (First the most simple, avoid impact to urban supply…).

(iii) What's the priority order established for water supply?

(iv) How can be supply restricted to the different uses during a drought period?

Second interview: Economic instruments applied to drought management

Objective: Analysis of the existing and potencial proactive measures and their adoption in management policies.

Some questions for the interview:

(i) What's the role of economic instruments in drought management?

(ii) Are there new paradigms in price intervention?

(iii) Are the experiences in countries with different development levels adaptable to other cases?

(iv) How can users be involved in the design of new insurance products?

(v) How can farmers be involved in risk management?

Third interview: Users' groups

Objective: Compare the point of view of two users' groups with different priorities and vulnerability in order to determine the real existing of conflict among them

Forth interview: Groups affecting public opinion

Objective: Evaluate the reality of quantitative analysis of impacts that support the perception affecting general public opinion

Questions for all interviews:

(i) What aspects of your activity could be interesting for other stakeholders in relation to drought management? (Scientific knowledge, operational experience…).

(ii) What aspects of the methodology proposed by the Guidelines could be helpful to solve conflicts?

(iii) Are the methodology and concepts adequate to face real drought events? Suggestions.

Analysis of the results and conclusions

The main conclusions of the testing and revision of the Guidelines are outlined below.

(i) Diagnostic

– Define the situation of the watershed or region: water scarcity, aridity, drought, or desertification. It has to be clear that, in principle, Guidelines are conceived and designed only for drought situations.

– Evaluate social vulnerability, both induced by drought or by human activities.

(ii) Time for applying the Guidelines to develop drought management plans

– The time for applying the Guidelines to develop drought management plans should be during non-drought periods if possible in order to avoid costly emergency measures.

– Normal and pre-alert situations are the right moment to reduce vulnerability.

(iii) Audience of the Guidelines

The target audience of the Guidelines should be clearly indicated:

– The executive summary is targeted to all but especially to decision makers, stakeholders and the general public.

– The Technical Annexes of the Guidelines are targeted to technical experts that would implement some of the aspects of a drought management plan.

(iv) Communication and participation

– More emphasis should be made on the importance of stakeholders' participation in the process of developing a drought management plan.

– Media have to be won over to the cause.

– Messages to the general population during pre-alert and alert phases must be positive in order to reduce alarm and induce people to adopt the proposed measures.

(v) Vulnerability evaluation

– It is essential to include the vulnerability aspects form the economic and social point of view.

– Evaluate mechanisms to reduce human-caused vulnerability.

(vi) Synergies with integrated water resource management and agricultural strategies

– The permanent measures to save water or to adopt rational cropping patters have to be developed in synergy with current overall strategies.

– Water saving needs to be a permanent action to reduce vulnerability to drought.

(vii) Steps in the operational management

The operational management should include three sequential steps:

– Balancing supply and demand and improving water use efficiency. These measures are targeted to decrease vulnerability.

– Minimizing the impacts in the sector.

– Reactive measures should only be taken if the other two steps fail to avoid drought damage.

Aknowledgements

The Medroplan team acknowledge all the participants in the Workshops of Testing the Drought Management Guidelines for their disponibility, their valuable contributions and their willingness in the process of improvement the Guidelines for Drought Management.

Annex 1. Proposed questionnaire to be distributed during the meeting

Section I: Characterise the decision process in your institution/organisation

Name: Address: email:

1. Is your institution…

Public agency	
Private company	
Association of stakeholders (farmers)	
NGO?	
Another type of institution	

2. What is the level of intervention of the institution?

National		Local	
Regional		Other	

3. Which water uses are related to the institution?

Agricultural		Recreation	
Industrial		Others	
Domestic Consumption			

4. What are the objectives of the institution?

Water management		Agricultural production	
Water distribution		Promote new infrastructures	
Policy maker		Agricultural production	
Develop information systems		Industrial production	
Promote integrated management		Tourism activity	
Establish the tariff rules		Thermo-electric power generation	
Promote water resources conservation and protection (quantity and quality)		Promote a water network	
Ensure water infrastructure's maintenance and security		Research	
Promote new infrastructures		Others	

5. Is your institution a…

Policy-maker	
Other stakeholder	

6. ONLY FOR POLICY MAKERS: If it is a decision-maker, is the institution autonomous for taking decisions?

Yes	
No	
Yes, but… (please describe)	

7. ONLY FOR POLICY MAKERS: If the institution is not autonomous for taking decisions, do other levels of decision or institutions impose the decisions?

Level	**Institution**
National	
Regional	
Local	
Other	

8. ONLY FOR POLICY MAKERS: Are external opinions considered in this process?

Yes	
No	

9. ONLY FOR POLICY MAKERS: If external opinions are considered in this process, who gives opinion?

Consultants	
NGO's	
Media	
Other	

Section II: Characterise your role in the decision process related to drought

10. ONLY FOR POLICY MAKERS: Have you been actively involved in the decision making process undertaken in the specific case study in your country?

Yes	
No	

Explain:

11. ONLY FOR OTHER STAKEHOLDERS: Have you been actively involved in the decision making process undertaken in the specific case study in your country? Explain how:

Bilateral meetings	
Steering groups	
Advisory groups	
Consultation methodologies	
Others	

Explain:

Section III: Characterise common management practices during drought

12. Which is the extent of acceptance of the decisions and established rules related to drought management?

Entirely accepted	
Partially accepted	
Partially Contested	
Entirely Contested	

13. Are there conflicts arising from competition between different water uses?

No	
Yes	
Obs.	

Explain:

14. From your viewpoint, should inefficient use of water be penalised?

Type of inefficient use	**Type of penalty**

15. Are there environmental problems caused by drought?

Type of problem	**Is the problem taken into account in drought management plans**
Soil erosion	
Desertification	
Salinisation	
Microbiological contamination of groundwater resources	
Contamination of groundwater (please specify the kind of contamination)	
Contamination of surface waters (please specify the kind of contamination)	
Other (please specify)	

Section IV: Drought management actions

16. Your participation in drought management meetings…

Only this one	
Other Medroplan meetings	
Occasionally	
Drought management is my main professional activity	
Other	

17. Expected role of MEDROPLAN in drought management …

18. Which management actions can be implemented to manage drought with success? (please specify if these measures are related with measures of management or investment in infrastructures and if they are supported by the present national or regional regulations/laws). **Who should implement these measures?**

Action/Measure	Who	Management /Infrastructure	National /Regional /Local
1.		M I	N R L
2.		M I	N R L
3.		M I	N R L
4.		M I	N R L
…		M I	N R L

Section V: Interactions of the policy makers and stakeholders in the case study

19. Purpose of the interactions between stakeholders.

Explain the interactions of your institution with other stakeholders and describe the mechanism of interaction according to the following mechanisms of interaction:

Mechanism of interaction	Group of stakeholders
Advice	
Technical Support for specific projects	
Definition of Strategies & Spatial planning issues	
Institutional meetings	
Specific water availability issues	
Specific water quality issues	
Environmental issues	
(others, please specify)	

20. Periodicity of the interactions between stakeholders

Once in less than 1 month	
Once between 1-6 month	
Once in more than 1 year	

Section VI: Contribution to the Medroplan Guidelines

21. Your role in Medroplan

Collaborator with a partner	
Participant in this workshop only	

22. FOR COLLABORATORS WITH PARTNERS ONLY: What aspects of your collaboration with a partner are relevant for the Guidelines?

23. FOR PARTICIPANTS IN THIS WORKSHOP ONLY: What aspects of your work are related to the Guidelines?

Section VII: Suggestions and comments relevant to the Medroplan Guidelines