

The story of Wadi project: learning from experience at site

Scapini F.

in

Sagardoy J.A. (ed.), Hamdy A. (ed.), Trisorio-Liuzzi G. (ed.), Lamaddalena N. (ed.), Quagliariello R. (ed.), Bogliotti C. (ed.), Guelloubi R. (ed.).
Institutional coordination and streamlining partners activities in the framework of GEWAMED project

Bari : CIHEAM

Options Méditerranéennes : Série A. Séminaires Méditerranéens; n. 68

2006

pages 31-36

Article available on line / Article disponible en ligne à l'adresse :

<http://om.ciheam.org/article.php?IDPDF=800499>

To cite this article / Pour citer cet article

Scapini F. **The story of Wadi project: learning from experience at site.** In : Sagardoy J.A. (ed.), Hamdy A. (ed.), Trisorio-Liuzzi G. (ed.), Lamaddalena N. (ed.), Quagliariello R. (ed.), Bogliotti C. (ed.), Guelloubi R. (ed.). *Institutional coordination and streamlining partners activities in the framework of GEWAMED project.* Bari : CIHEAM, 2006. p. 31-36 (Options Méditerranéennes : Série A. Séminaires Méditerranéens; n. 68)



<http://www.ciheam.org/>
<http://om.ciheam.org/>

THE STORY OF WADI PROJECT¹ – LEARNING FROM EXPERIENCE AT SITE

F. Scapini*

* Department of Animal Biology and Genetics “Leo Pardi”, University of Florence, Italy
Email: scapini@dbag.unifi.it

INTRODUCTION

Management decisions of fresh water resources in the Mediterranean region are generally driven by the urgency of recent changes in the human (globalisation) and natural (climatic changes) contexts. Also the environmental quality of fresh water bodies in coastal areas, as well as transitional waters, are critical, especially when these are located near large demographic concentrations, as they would be particularly at risk of negative impacts, risks and threats, both natural and anthropogenic. However, water management measures may affect ecosystem viability and sustainable resources production, which in turn may have a negative influence on Mediterranean human populations, and sustained economic growth and development.

In this frame, the agronomic practices are also taking into account, in order to conserve soil moisture and encourage a more efficient irrigation management. Moreover, the local context, which is most sensitive to impacts, is often neglected, resulting in conflicts between different stakeholders, ultimately adversely affecting water resource in terms of quality and quantity, and thus increasing pressure on fresh water resources.

Such conditions highlight the need for a scientific and integrated research of the management of freshwater resources, as well transitional waters, and the impacts thereof at a local level in the Mediterranean countries.

The WADI project intends to encourage the rational and sustainable use of freshwater resources within the Mediterranean coastal area, experiencing freshwater scarcity, through participatory approaches. In order to attain this objective, a number of case studies across the Mediterranean have been selected for assessment and subsequent analysis. Meetings with key stakeholders are organised at each case-study site, and the issues addressed of potential or existing conflicts between stakeholders for water uses. The sustainability of socioeconomic and environmental benefits of water bodies to the local communities represent the main objective of the project. The socio-cultural and environmental contexts are analysed holistically, through an ecosystem approach, to avoid the risk of emphasising specific features or underestimating the needs of fragile components within the system that incorporates both natural and semi-natural (e.g. abiotic and biotic elements, landscapes), socio-cultural, economic and cultural elements (e.g. traditional indigenous communities, historical sites and poverty, gender and minority issues within stakeholder groups).

The assessment of impacts and indicators thereof will be utilised in the development of alternative case-study scenarios, based upon sustainable management strategies, for the potential use by stakeholders. These studies, because of their holistic and sound scientific base, can have an added value, which will provide stakeholders with the appropriate tools for the application of alternative management strategies that can support conflict resolution as well as funding initiatives. Tangibly, therefore, the developed management plans may be utilised by stakeholders within the study sites environs. Furthermore, such plans can also be employed in the wider context of the Mediterranean, whereby the project case-studies may be extrapolated to other scenarios within the Basin. The specific role of women as end-users of water is a main focus and special attention will be given to their involvement in the local dissemination of the project findings and results.

¹ *A summary presentation of the project WADI (WATER Demand Integration) “Sustainable management of Mediterranean fresh and transitional water bodies: a socioeconomic and environmental analysis of changes and trends to enhance and sustain stakeholders benefits”.*

THE CONSORTIUM, A STORY OF COLLABORATION AND INCREASING INTEGRATION

WADI project (2006-2008, 6° FP, INCO-CT2005-015226, details in www.wadi.unifi.it) has been developed from two previous INCO-MED projects, taking advantage of good and bad experience gained within the previous projects: MECO, IC18-CT98-0270 (1998-2001, 4° FP; details in www.meco.unifi.it) and MEDCORE, ICA3-CT2002-10003 (2002-2005, 5° FP; details in www.medcore.unifi.it). The partnership has established an international consortium with multidisciplinary expertise, as well as proven capability to constructively interact and collaborate.

The partnership of WADI has a Mediterranean dimension, with a balanced participation of European and southern Mediterranean countries: University of Florence, Italy; Institute for Ecosystem Study, CNR, Italy; University of Alicante and Centre for Advanced Studies of Blanes, CSIC, Spain; IMAR, University of Coimbra, Portugal; International Environment Institute, University of Malta; Scientific Institute, University Mohammed V, Agdal-Rabat, Morocco; Faculty of Sciences, University Abdelmalek Essaadi, Tétouan, Morocco; Faculty of Sciences, University of Tunis - El Manar, Tunisia; Agency for the Management and Protection of the Littoral Zone, Tunisia; Centre for Environment and Development of Arabic Region and Europe, Cairo, Egypt. In MECO and MEDCORE, the University of Birmingham, UK, the Hellenic Centre of Marine Research of Crete, Greece, the National Inter-Universitary Consortium of Marine Sciences, CoNISMa Italy, and the University of Rome "La Sapienza" have also participated and contributed with their specific expertises. Our consortium seeks to open itself to interested researchers, environmental managers and students, and has organised international meetings and conferences in each of the participant countries.

An issue tackled from the very beginning of the story of our consortium has been integration, namely the integration between institutions of different nature (governmental and non governmental) and aims (high education, research and management); between countries from the northern and southern Mediterranean coasts (but within the time lapse of the three projects, Malta has joined Europe, and some governs have established bilateral agreements, e.g. Italy and Tunisia); between senior and junior researchers (some of our student have grown up scientifically in the framework of the projects and developed skills in international collaboration); between men and women specificity in managing research and dissemination of project results. An integration at wider levels, particularly between scientists and environmental managers, between managers and policy makers, between stakeholders at local and national levels, has often been a weak point of the projects, highly demanding in terms of efforts, with low benefits in turn. The integration with local people and with the public in general, who are the ultimate targets of any science efforts, has only recently been perceived as an issue in research projects.

THE RELATIONS WITH THE PUBLIC

It is generally unlikely to see and touch benefits from a short lasting project of three years, particularly when complicated issues have been tackled. This is well known by teachers, who rarely see the results of their teaching efforts; when some positive outcomes result, the students have gone and rarely come back to thank their former teachers. Moreover, long term effects may derive more from an informal teaching than from an institutional one, which is often unconsciously rejected by the receivers. Similarly, science is generally perceived as far away from the public, particularly as a result of barriers of language. It is generally assumed that science must use a precise terminology and describe things mathematically with formula and graphs, and these are not directly accessible to a public of laymen, while they can build a common understanding between scientists.

Our consortium, which has overcome problems of language understanding between countries, cultures and disciplines, has realised that it is time to start exchanges and dissemination actions also to the public, particularly the local people, who have offered us the possibility to live for a while in their country and to conduct research at site. It is recognised that the results of scientific research belong to those who have generated them (the researchers) and to the sponsors (in the case of CT projects, the European Commission and the partner institutions), but primarily these results belong to the target people at the study sites.

THE APPROACH AND ACHIEVEMENTS OF THE PROJECT MECO

The MECO project (Mediterranean Coastal Ecosystems) “Baseline research for an integrated sustainable management of Mediterranean sensitive coastal ecosystems” focused on selected sandy beaches at Restinga-Smir (Morocco), Nefza-Zouara beach (Tunisia), Kneiss Islands (Tunisia) and in the Archipelago of Malta. We had chosen coastal sites of national interest, representative of the diversity across the Mediterranean, with a need of management plans. It had been agreed that sandy beaches were fragile environments, for which conservation and restoration actions were urgent.

The MECO approach was:

- 1) The description of elements and systems;
- 2) The identification of impacts;
- 3) The choice of indicators of impacts;
- 4) The development of management plans for the sites; and
- 5) The proposal of the management plans to stakeholders.

In principle, this approach was straightforward towards tangible products (management plans), but a number of issues were tackled within MECO project, from which we learnt that a further, better developed approach was necessary. The main issues were:

- 1) The issue of scales, as it was soon clear that different elements of the system have different scales (e.g. the dunes, the shoreline, the human recreation activities, the birds, the plants, the burrowing animals, etc.), and beaches are open systems, influenced by both marine and inland factors. Therefore the spatial limitation of a management plan would never be a sustainable solution in the long term;
- 2) the issue of integration, as explained above, between disciplines (socio-economy, geography, biology), between scientists and environmental managers, and between the international teams. From these efforts, we have learnt a lot but in many cases we failed in the objectives;
- 3) The issue of communication, strictly linked to the former issue.

Eventually, we synthesised the techniques developed, the results and the developed management plans in the “MECO manual, a manual for coastal managers, scientists and all those studying coastal processes and management in the Mediterranean” (Scapini (ed.), Firenze, 2002), written in a simple scientific language. The manual is not perfect, but has represented a good starting point for meetings with stakeholders and training. The most relevant scientific results were presented at an international conference “Sandy Beaches 2001”, organised in Florence jointly with the international group of specialists on sandy beaches, for the first time held in the northern Hemisphere and in a Mediterranean country. The proceedings of the conference published as special issue of a scientific journal (*Estuarine, Coastal & Shelf Science* 58S, 2003) still represent a baseline for research on sandy beaches.

THE APPROACH AND ACHIEVEMENTS OF THE PROJECT MEDCORE

The MEDCORE project (Mediterranean Coastal River Ecosystems) “From river catchment areas to the sea: an integrated and comparative approach to the ecology of Mediterranean coastal zones for sustainable management” focused on selected coastal areas related to rivers across the Mediterranean coasts at Oued Laou (Morocco), Bouterfess-Berkoukesh and Ichkeul (Tunisia), Rosetta Nile branch (Egypt), Ombrone River (Italy), Segura River (Spain) and sandy beaches of Crete (Greece). It was developed from the lesson learnt during MECO project that beaches are open systems and should be studied and managed as open systems.

The MEDCORE approach was:

- 1) The description of elements and systems from watershed to the sea for an integrated transdisciplinary characterisation of the sites;
- 2) The identification of trends and impacts and the development of early warning indicators of environmental quality changes;
- 3) The identification of links between compartments and development of evolutive scenarios;
- 4) The definition of guidelines and ecological criteria for a sustainable management and development of the areas; and
- 5) The proposal of the strategies and criteria developed to managers and planners.

The following issues were addressed within MEDCORE project and strategies were developed to resolve the following issues:

- 1) The issue of scales: MEDCORE focused on coastal environments and the influencing zones from river catchment to the sea. The limits of the areas were defined functionally, having, ideally, the whole Mediterranean as spatial scale;
- 2) The issue of integration: MEDCORE aimed at linking elements and compartments and adopted an interdisciplinary integrative approach;
- 3) The issue of communication: the dissemination of MEDCORE results targeted scientists (international level), environmental managers (national and regional level) and the local people (educational level). An international meeting "From watershed to the sea: interactions and changes" was held in Florence, November 2005, and the Proceedings are being published (Scapini (ed.), Firenze University Press, in press), characterised by interdisciplinary contents. We also produced educational material targeting students of elementary, secondary and university levels, as well as the public, e.g. tourists visiting coastal areas. For each study site, multidisciplinary volumes are in preparation to present the peculiarities, values and issues, and guide local people and visitors through an understanding of the area.

Aiming at passing the message on to the public of laymen in a direct way, we organised an exhibition "Domestic Mediterranean", made of plastic panels with pictures and short, simple sentences on the issues presented. The Mediterranean is presented as an historical and cultural unit, coasts are described as a continuous line linking countries and people, with shared common issues and values worth of conservation. It is stressed that the natural and cultural heritage belong to people, women and children participating as actors in the conservation of such heritage. They "know" the important links to the environment, and we should learn from them how to manage it in a sustainable manner. The difficulty in this approach has been the establishing of contacts with the target public, who is naturally not seeking contacts with scientists, but only waits to gain some benefits from scientific research. This is understandable and new approaches had to be developed.

Aiming at starting a dialogue with local people and expressing gratefulness for their previous hospitality, we visited a local elementary school in north-western Tunisia, where we had carried out a number of field activities. We explained to the director and teachers of the school that we wanted to show to the school children what we had learned from "their" beach. A field trip was organised with school children of 8 to 12 years by a group of young researchers. The guiding idea of the teaching was that the beach is a ecosystem with living beings in it, therefore worth of respectful behaviours. This well prepared teaching activity elicited expectations in both the children and their families, and had an overall positive impact. The results have been monitored using questionnaires (Fanini, El Gtari, Ghlala, El Gtari-Chaabane and Scapini, submitted).

THE APPROACH OF WADI

The WADI project (WATER Demand Integration) "Sustainable management of Mediterranean fresh and transitional water bodies: a socioeconomic and environmental analysis of changes and trends to enhance and sustain stakeholders benefits" seeks to establish contacts with local people, the true stakeholders of environmental goods, to enhance their awareness on environmental sustainability, and at the same time to enhance the awareness of environmental managers and scientists on the needs of local people.

By taking advantage of experience gained from the previous projects (MECO and MEDCORE) , WADI has chosen the following strategy:

- 1) The flow of communication is down-top (participatory) to make scientific research useful to the solution of real problems;
- 2) The project focuses on the benefits from water body to the local population and aims at sustaining and enhancing them;
- 3) The spatial dimension is local (study site), national (the partner country) and international (Mediterranean);
- 4) The temporal dimension goes beyond the time lapse of the project, taking advantage from past knowledge, in the short, medium and long term, and projecting into the future by seeking new ways of communicating project results.

An important lesson learnt from previous projects was: impacts are trends of loss of sustainability, therefore it is necessary to understand the present and the past to forecast and help the future.

To avoid the risk of conducting research that will never be of use to people, the WADI approach is strictly hierarchical and follows these steps in succession:

- 1) Meeting stakeholders starting from local people;
- 2) Listening to their problems with relation to water demand and impacts to the environment;
- 3) Conducting focused research on the study sites, to develop a conceptual framework of the overall situation at each study site, to build quantitative system descriptions for the study sites and to assess impacts on different compartments; and
- 4) Developing alternative desirable socioeconomic and ecological scenarios and selecting the most appropriate management plans.

We have chosen a number of study sites across the Mediterranean coastal areas, in Spain (El Hondo, Crevillent, Elche and Alicante), Italy (Ombrone River low plain, Grosseto), Morocco (Oued Laou and Oued Thaddhart), Tunisia (Oued Mejerda) and Egypt (Lake Maryut), and identified the stakeholders for water issues at each site. Stakeholders are: the local population and their traditional representatives, local farmers, breeders, fishermen and their representative, agriculture cooperatives, fish traders, irrigation drainage water authorities, industrial firms, tourism agencies, non governmental organisations locally operative, local and governmental authorities (Departments/Agencies of Interior, Fishery, Agriculture, Waters and Forests, Infrastructures, Environment). Stakeholders analysis is conducted at each site; stakeholders are contacted and invited in local meetings to present "their" issues to the WADI consortium. Some of the stakeholders have never met each other before, and interesting dynamics are starting.

The research in WADI will be directed by the local needs as identified by the stakeholders. The international participation represents and added value to the approach, showing that different countries share problems with relation to the environment, and seeking common and novel solutions for the benefit of everybody. WADI takes into account the rights of the natural environment for the benefit of the future generations.

WADI pays special attention to the weak stakeholders, who are often not officially represented, women and children. We want to listen and focus to their problems. To this aim, specific targeted research will be conducted at the study sites. To now we only have gathered anecdotal experience.

LESSONS LEARNT FROM CONTACTS WITH LOCAL MEN, WOMEN AND CHILDREN – LITTLE STORIES OF INTERACTIONS

The focus of MECO project was on sandy beaches; our socioeconomic research addressed uses of beaches, namely recreational, and provided inputs to the management of the areas. While conducting field research in the areas of concern, we had contacts with local people, mainly fishermen and their families. They were considered minor stakeholders by the authorities and those interested in the management plans, as fisheries provide only a small income in these areas, while fishing has negative effects on the environment. With a bad feeling, we documented impacts on dune ecosystems of women cutting *Ammophila arenaria* that had been planted for dune conservation. We also documented the illegal action of women collecting clams in mud during low tides in coastal planes. Both these activities had the purpose to generate extra income to the poor families living in the areas.

In MEDCORE project, the area of concern was wider, extending into the watershed of rivers; consequently, the contacts with people living in the area were more frequent. We appreciated and documented the value of cultural heritage and traditional actions of environmental conservation. Elder and women appeared to us as depositary of ancient traditions, and we easily recognised common roots in these traditions. Also children appeared to know more than us about the presence of animals and the location of paths to reach interesting areas. In poor mountain areas surrounding the Mediterranean, young men tend to migrate to the cities or to other countries to find a job, while elder and women remain guardians of the households and their goods, included the environment. Micro-projects of ecotourism have been proposed locally by two of our students to exploit these relationships and generate income to the families.

During our field research we have learnt about the traditional managements of waters, but also about the risks deriving from bad managements. Around the Mediterranean, waterfall and storms are unpredictable in winter, spring and autumn, while dryness is the norm in summer, causing soil-slides in mountain areas. These affect fields, houses and families, in some cases dramatically. After a severe storm, we were contacted by local women, asking for help to save their houses. As a matter of fact their activities were the cause of the slides, as they had cut shrubs and trees to plant crops around their houses, and had deviated torrents to get drinking water closer to their houses. Little can be done now, when the soil has started sliding down, but long term actions concerted with environmental managers and authorities could and should be undertaken.

PERSPECTIVE

WADI project seeks at establishing a base of discussion and exchanges between different stakeholders, listening to the problems of all concerned people. Issues are generally perceived differently by different stakeholders, and each of them have to learn from the others. We are organising local meetings to learn what the real problems of the selected areas are and how these are perceived by different concerned people. Our research activities will then be driven by the problems self. Generally, participative approaches aim at involving local people in particular projects that are already at hand, in order to tune them and make them acceptable and sustainable. WADI approach goes further and seeks to focus research to local problems as they are perceived by stakeholders. In WADI, research self is participative, and researchers are learning about environment from local stakeholders, which are becoming true participants in the project.

ACKNOWLEDGMENTS

I wish to thank the project officer Cornelia Nauen and GEWAMED consortium for encouraging the collaboration between projects with related aims for the overall benefit. I also wish to acknowledge all the participants in the MECO-MEDCORE-WADI projects for their enthusiasm in the collaboration and expertise in conducting research at sites.