

Foreword

CHAPTER LVIII – PART TWO “DON QUIXOTE”

Which tells how adventures came crowding thick and fast on Don Quixote

“Freedom”, he said, turning to Sancho, “is one of the most precious gifts that the heavens have bestowed on men; with it the treasures locked in the earth or hidden in the depths of the sea are not to be compared; for the sake of freedom, as for the sake of honor, one may and should risk one’s life, and captivity, on the other hand, is the greatest evil that can befall a human being. You have seen, Sancho, the abundance and luxury in that castle we have just left; yet I assure you that in the midst of those delicious banquets and snow-cooled beverages it seemed to me as though I were in the straits of hunger, since I did not enjoy them with the same freedom as if they had been my own. The obligation to return benefits and favors received is a shackle on the liberty-loving spirit of man. Happy he to whom Heaven gives a slice of bread without his being obliged to thank any other person but only Heaven itself!”

Brief memorandum on the three previous Workshops and their approach

This book contains most of the papers presented in the Fourth Marcelino Botin Foundation Water Workshop, after the authors reviewed their initial presentations for debate in the forum.

There are a number of threads that sum up the approach that has always inspired Botin Workshops. A first aspect is the search for innovation; “thinking out of the water box” together with a clear spirit of “freedom of thought and speech” (see Don Quixote quotation at the beginning). A second aspect is ensuring, as far as possible, that the participants come from a range of disciplinary backgrounds with persons coming from the natural and social sciences, not only from the Academia but also from the corporate world, NGOs and the political arena.

The main goal of the Workshops is not to produce one more declaration or statement to be added to the hundreds that already exist, but to provide true added value by facilitating brain storming among a group of experts, often on purpose selected with clear different perspectives to incentivize high level constructive debate and productive discussion. Presentations of Spanish case studies are relatively frequent in this book. This is due, not only to the Spanish roots of the Botin Foundation but also to the fact that Spain is the driest country in Europe and it has experienced very significant political, social and economic changes during the last half century, becoming in a relatively short space of time an industrialized and democratic country.

I was co-editor of the three books with the Proceedings of the corresponding Botin Foundation Water Workshops. This time I decided not to be co-editor because: a) the current co-editors are significantly younger than me and more skilful for this job; and b) this task is time-consuming and the current research projects of the Water Observatory demand all my time.

The hot issues and glossary suggested to the participants in the fourth water workshop

Several months before the Workshop I sent to all the participants a rather long list of what I considered *hot issues*, which could provide points to be discussed during the Workshop. Participants had the complete freedom to comment on them either in favor or against, or simply to forget them, since the main aim was to stimulate debate, as a warm up for the Workshop. Here I have not



Covers corresponding to the three previous books of the Marcelino Botin Foundation Water Workshops, published by Taylor & Francis

reproduced the complete list; some of these hot issues are briefly commented below. Others will be probably dealt with in a future article.

Additionally, and in order to facilitate the use of a common language, a tentative Glossary was sent to all the participants. It was prepared by Dr. M. Aldaya with the collaboration of some of the Workshop participants and it has been included at the end of this book.

The relevance of green water and some questions not solved yet

The relevance of green water in agricultural production has been emphasized in many of the chapters. This means that water and food security is influenced by land use and rain-fed agriculture. This emphasis however, was not equally shared by all the participants and this is an important finding in this Fourth Workshop. One main conclusion perhaps is the need for a better assessment of green water needs for the good health of the ecosystems. Another relevant pending question is how to cope with the great variability of rain-fed agriculture due to the normal climate variability, independently of the relevance of climate change.

The pros and cons of the extended water footprint and the analyses of food (virtual water) trade

A good number of presentations used the *Water Footprint* tool to analyze different cases. Some of them were mainly related to hydrologic values but others also included economic values together with the hydrological values. In one case – the Doñana National Park case – a preliminary attempt was done to economically evaluate the needs of water to be bought to conserve this important wetland.

It seems clear that significant uncertainties still exist in the methods to calculate the *extended water footprint*. Nevertheless, it is a useful and transparent method to facilitate an *Integrated Water Resources Management*. It seems that the main obstacle to solve the water and food security problems in arid and semiarid countries is the persistence in the minds of most policy makers of the idea of the strategic need of food and water self-sufficiency. It seems that one main way to change the pervasive paradigm of water and food self-sufficiency to the paradigm of water and food security is to show to key political actors that the regulations for international food trade must not allow the existence of great international food corporations oligopolies or the political pressure

of certain powerful countries against developing or emerging countries. Therefore, it is clear that achieving water and food security for the poor countries is mainly a global ethical issue.

Conflicts between food and fiber production and environmental degradation. Is there a solution?

Several authors call attention to the fact that food (virtual water) trade usually does not consider the potential environmental impact that the export of food may create in the exporting country. This is an important aspect that deserves more attention in the near future. Nevertheless, this demands more research because the water demands for the good health of the ecosystems are still poorly known.

The nexus water-food and energy is also tackled in a few chapters. It deserves also more analyses. A preliminary indication is that the production of biofuels with edible crops is not a good solution in arid and semiarid countries. On the other hand, it seems that generally blue water consumption for production of renewable energy (hydropower, wind, solar) and non-renewable energy is irrelevant in comparison with the consumptive use of water for agriculture. Nevertheless, in specific cases conflicts may appear. The energy needs for irrigated agriculture (i.e. energy for water) however may be significant in some countries and may constitute an obstacle in poor countries to achieve food security.

Nevertheless, although in the Workshop the issue was barely tackled, it seems clear that one of the most important issues in current and future water policy is how to cope with the problem of diffuse pollution due to the use of agrochemicals in intensive agriculture (rain-fed and irrigated). This is a serious topic both in humid and dry countries not yet solved.

Is the new proposed motto *more cash and care of nature per drop* realistic?

In a side-event during the Fifth World Water Forum (Istanbul, March 2009) the Water Observatory proposed that the usual motto *More Crops and Jobs per Drop* should be changed to the new motto *More Cash and Care of Nature per Drop*. This change was suggested mainly for industrialized and emergent economies countries. In the poor or developing countries the former motto should be maintained.

The experience shows that farmer lobbies are very strong almost everywhere in the world (both developed, emergent and developing countries) and it is necessary to find *win-win* solutions. Otherwise the mentioned main problem in water policy – i.e. intensive agricultural diffuse pollution – will continue.

Why the silent revolution of groundwater intensive development is not frequently considered?

The First Botin Foundation Water Workshop on *Intensive Use of Groundwater: Challenges and Opportunities*, already showed the great relevance of groundwater irrigation, mainly in arid and semiarid countries. This has been described as a *silent revolution* because it has been done by millions of modest farmers with scarce or no planning and control by conventional governmental water agencies. Still today, because of a blend of mental inertia, ignorance, professional bias or corruption, most water policy makers consider almost exclusively solutions based on surface water infrastructures. This situation begins to be better known in some countries like India and Spain, as described in several chapters in this book.

Ethical issues

Many of the problems or conflicts described in the book are linked to and conditioned by the systems of values and these, in every country, are related to its cultural and normative value frameworks, and their religious background. The ignorance of this fact may lead to clamorous failures. There

is not blue print or standard solution for water and food security. Solutions should be tailor-made taking into account the physical, social, economic and cultural environment.

It is worth mentioning some specific aspects:

- a) It is appropriate distinguish between Social Ethics (relations among humans) and Environmental Ethics (relations between humans and Nature).
- b) For instance, the right to water and sanitation is a typical social ethics issue. It is very important from a humanitarian perspective, mainly for its incidence in public health. However, the amount of global water necessary for solving this problem is a very small proportion (less than 5%) of all the consumptive water uses for humans. These are mainly for agriculture.
- c) The increasing demands for water and food are due to the growth in population and the standard of life (a better food diet). The second – changes in diet – is being much more significant and obviously it cannot be stopped. The great difference on the standard of life between rich and poor countries is the main ecological problem of this planet.
- d) The reduction of the huge gap between rich and poor countries may require, among other things, a more just and equitable regulation of international food trade.

Potential future advances in *Water and Food Security*

The advances in Science and Technology during the last half century give us today new means for solving many difficult water and food problems. A few decades ago these new means were unthinkable. Among them can be quoted desalination, the food (virtual water) trade, and the silent revolution of intensive groundwater use. This book with the Proceedings of the Fourth Botin Foundation Water Workshop tries to be a modest contribution to these advances.

Almost for sure new advances in different areas will appear in the near future. *Natural resources are limited but human ingenuity is boundless.*

May 2010

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