

WORKSHOP ON SALTS AND CHEMICALS EXTRACTION FROM SALINE WATERS WORKSHOP FOR IORA COUNTRIES

Concept Note

Preface:

Desalination is increasingly being used to provide drinking-water under conditions of freshwater scarcity. Water scarcity is estimated to affect one in three people on every continent of the globe, and almost one fifth of the world's population live in areas where water is physically scarce. This situation is expected to worsen as competing needs for water intensify along with population growth, urbanization, climate change impacts and increases in household and industrial uses, especially in some countries in the IORA region to mention a few Comoros, Iran, Oman, UAE and Yemen.

However expansion of the desalination market, the environmental impacts of the desalination plants' brine disposal are a problem and have to be addressed properly. Salt and chemical extraction from saline waters, moreover to produce valuable matters as the by-product of the desalination plants, can reduce the impact of the brine disposal problem. According to the valued experience of the Institute of Seawater Desalination and Multipurpose Utilization (ISDMU), SOA, China in chemical and salt extraction from the saline waters, this workshop could provide fundamental and practical knowledge on this issue by sharing the experience of ISDMU's researchers in a proper way align with the requirements in desalination industry in Member States.

Background:

Considering the critical value and significance of water and desalination, the related challenges to access to the pertinent know-how, technology and innovations have been among the top priorities of IORA RCSTT as one of the IORA Specialized Agencies in charge of handling science and technology issues in the region.

As the starting point in this challenging route, the IORA RCST managed to hold the First Regional Experts Meeting and Training Workshop on "Desalination of Brackish Sea Water and Wastewater Treatment" in close cooperation with the Iranian Research Organization for Science and Technology (IROST) and Abbaspour University of Technology in Tehran, I.R. Iran on June 19-21, 2012. The meeting was attended by Mr. Manish K. Agrawal, the Director of IORA Secretariat and representatives from IORA Member States.

Later on to follow up the findings of the first venture, IORA RCSTT hosted "the 2nd International Training Workshop, Conference and Exhibition on Desalination, Regional Perspectives for Cooperation" in Tehran, I. R. Iran during October 20-22, 2014. This was also done in cooperation with IROST (Iranian Research Organization for Science and Technology) In the sideline of this

programme, China, one of the IORA Dialogue Partners, welcomed the idea for establishment of IORA RCSTT Coordination Centre for Desalination Technologies in this country. This proposal was endorsed in the 12th IORA COM, India, 2012 and the related MOU signed between the IORA RCSTT and the ISDMU the hosting organization in SOA, China during the 14th IORA COM Meetings in October 2014.

In continuation, China hosted the “International Expert Meeting /Workshop cum Exhibition on Desalination Technologies, IORA Members Perspectives for Cooperation” in Tianjin, China during May 5-9, 2015 and along with this Meeting, the IORA RCSTT Coordination Centre for Desalination Technologies was inaugurated at ISDMU.

Objectives and Focuses:

The aim of this workshop is to provide an overview of the theoretical, practical and economic aspects of salts and chemicals extraction of saline waters, aligned with the desalination market in IORA region by reducing the environmental impacts of the disposal processes and introducing the byproducts of the desalination plants as valuable products. The main topics which are selected as the ISDMU's experiences are listed as below:

- Major chemicals in Persian Gulf and Sea of Oman
- Feasibility study of production of these chemicals
- Economic values of such products and possibility of international trade
- Methods of extraction such as zero liquid discharge, evaporation ponds and etc.
- Energy need and economic aspects of extraction processes