

2009 Report of the Arab Forum for Environment and Development

ARAB ENVIRONMENT CLIMATE CHANGE

IMPACT OF CLIMATE CHANGE ON ARAB COUNTRIES

EDITED BY: **MOSTAFA K. TOLBA** AND **NAJIB W. SAAB**

المنتدى العربي للبيئة والتنمية

ARAB FORUM FOR
ENVIRONMENT AND DEVELOPMENT



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Preface

Impact of Climate Change on the Arab Countries is the second of a series of annual reports produced by the Arab Forum for *Environment and Development* (AFED). The first AFED report, published in 2008 under the title 'Arab Environment: Future Challenges', covered the most pressing environmental issues facing the region, and went beyond to provide a policy-oriented analysis. The report was presented to AFED's annual conference which convened in Manama in October 2008. That conference decided on a set of recommendations that were endorsed by national and regional institutions. The report's findings helped to raise awareness across the region, and its recommendations resonated in policies and official positions.

The 2009 AFED report has been designed to provide information to governments, business, academia and the public about the impact of climate change on the Arab countries, and encourage concrete action to face the challenge. The report analyzes the Arab response to the urgent need for adaptation measures, and uses the latest research findings to describe the vulnerabilities of natural and human systems in the Arab world to climate change and the impacts on each sector of human activity. The systems selected for this study include: coastal areas, food production, fresh water, human health, bio-diversity, in addition to the consequences on housing, transport, and tourism. In an attempt to help shape adequate policies, the report discusses options for a post-Kyoto regime and outlines the state of international negotiations in this regard.

AFED reveals in the report the findings of a pan-Arab opinion survey it conducted in 2009, illustrating public attitudes regarding climate change. Another special feature is a study carried out for AFED by the Center of Remote Sensing at Boston University, which analyzes various scenarios of impacts of climate change, especially on coastal areas, based on space images of the region.

The report identifies the major sources of greenhouse gas emissions in the Arab world, found to contribute merely 4.2% to the global emissions. However, the impact of climate change on the fragile environment of the region and its people is expected to be immense, which demands urgent planning for adaptation measures.

Climate change acts directly to change natural weather patterns, but the effects cascade quickly through many sectors. Scarcity of food and water, loss of coastal areas, disruption to ecosystems, and adverse effects on human health are just some of the direct threats. The economic sector is not immune and disruptions to infrastructure and tourism, for example, could conceivably cancel their economic benefits. For this reason, governments of the region have a large stake in making adaptation a national priority.

If this report can inform and help shape public policy in the Arab world on climate change, then it would have served its purpose. We also hope that the report would provide policy options which will assist Arab countries to be active parties in the upcoming negotiations for a Post- Kyoto treaty.

The editors wish to thank all those who supported this initiative, specifically Dr. Mohamed Kassas and Dr. Mohamed El-Ashry, who helped in laying down the methodology and appraising of the outcome. Thanks are also due to the authors and the many experts who contributed to the contents. AFED's special thanks go to the Environment Agency-Abu Dhabi, official sponsor of the conference to launch the 2009 Report and partner to many other AFED activities. AFED also wishes to thank the OPEC Fund for International Development (OFID) for its continuous genuine support to the Forum's programmes. Thanks are also due to the United Nations Environment Programme (UNEP) and all corporate and media partners who made this endeavor possible.

The Editors

EXECUTIVE SUMMARY

Arab Environment: Climate Change

Impact of Climate Change on Arab Countries

2009 REPORT OF THE ARAB FORUM FOR ENVIRONMENT AND DEVELOPMENT (AFED)

The world is once again at a crossroads; as the scientific basis behind climate change is becoming more solid, the imperative for strong and collective action is becoming increasingly urgent. This urgency is one shared by all countries and regions of the world, as all will be affected. The Arab region is by no means an exception; in fact, given the very high vulnerability of Arab countries to the projected impacts of climate change, it cannot afford inaction on either the global, regional, or national scales.

Based on the findings of the Intergovernmental Panel on Climate Change (IPCC) and hundreds of references quoted in the 2009 Report of the Arab Forum for Environment and Development (AFED), we can categorically state that the Arab countries are in many ways among the most vulnerable in the world to the potential impacts of climate change, the most significant of which are increased average temperatures, less and more erratic precipitation, and sea level rise (SLR), in a region which already suffers from aridity, recurrent drought and water scarcity.

Water resources are dwindling. Regardless of climate change, the already critical situation of water scarcity in the Arab world will reach severe levels by 2025. A report recently published in Japan has warned that what is known as the Fertile Crescent, spanning from Iraq and Syria to Lebanon, Jordan and Palestine, would lose all traits of fertility and might disappear before the end of the century because of deteriorating water supply from the major rivers. Man-made problems, mainly the widespread construction of dams and unsustainable irrigation practices which waste about half of the water resources, and rates of human water consumption which are well above international standards in some Arab countries, are making the situation worse. The expected effects of climate change are likely to exacerbate this deterioration. With continuing increases in temperatures, water flow in the Euphrates may decrease by 30% and that of the Jordan River

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