



# ARCA Newsletter

Alexandria Research Center for Adaptation to Climate Change



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## Editorial: ARCA: Moving Forward

Despite rising concern for vulnerability of developing countries, including Arab and African ones, to climate change, significant efforts need to be made to accurately assess impacts, vulnerability and potentials for adaptation to climate change. To conduct such assessment and improve resilience of such countries, rigorous research work need to be undertaken, research capacities need to be supported and awareness of decision/policy makers, communities among other stakeholders need to be raised.

ARCA, attempting to address such concerns, is focusing on a multitude of themes in the climate change impacts, vulnerability and adaptation arena. These include conducting and supporting research work, capacity building activities and networking and communication.

During 2016, a new call for small research grants was announced covering 7 research themes, based on which 2 small research grants were funded. Also, ARCA organized, 16 capacity building and consultative workshops at the national level.

It is worth mentioning that ARCA, during its six years' lifetime, has focused its efforts on Egypt and the Nile Delta, which allowed it to establish itself as an outstanding hub for integrated climate change adaptation work. This has promoted ARCA management to consider extending its geographical coverage to include Arab and African countries. Accordingly, two regional work-

shops were organized in Khartoum, Sudan and Cairo, Egypt. This is seen as a move to build on its experience in Egypt and also to augment its impacts.

In addition to capacity building activities, a Master of Science Program has been developed in order to provide researchers from different disciplines and countries interested in climate change adaptation an opportunity to further their graduate studies in this field. Such a program would allow for developing the critical masses needed support climate change adaptation efforts and enhancing resilience of different sectors to climate change.

## ARCA Contribution to Climate Change Events

ARCA, as part of its support to activities being conducted by other bodies in the field of climate change adaptation, participated in a capacity building workshop organized by the Ministry of Foreign Affairs and EEAA for partici-

pants from African countries. The workshop, entitled "climate change impacts, adaptation and risk management", was held in Cairo on 4 – 8 December, 2016.

Also, ARCA participated in the 8th Meeting of the Advisory Board for Climate Change in Cities (ABCC), held at Bibliotheca Alexandrina on 10th August, 2016.

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### Special points of interest:

- Expanding ARCA activities into regional scale.
- New M. Sc. Program on Climate Change and Sustainable Development.
- More publications supported by ARCA.

*“Up till now, ARCA Small Research Grant Program provided six small research grants in a variety of disciplines associated with climate change”*

### ARCA Small Research Grant Program

ARCA, continuing its efforts to promote climate change research in different disciplines announced its 5th call for proposals, in February 2016, under its small research grants program. The call involved 7 different themes relevant to vulnerability and adaptation to climate change in various sectors including food security, ecosystem functions, human health, energy, tourism, and urban sustainability. Proposals dealing with other sectors were invited and were to be considered depending on their own merits.

The call, which was posted on ARCA Website, was also disseminated through ARCA Mailing group in addition to other 13 mailing groups of researchers in Egypt. This meant high outreach, with total num-

ber of members of these groups is more than 78000 researchers in Egypt.

The number of concept notes that were submitted was 46 concept notes, 9 of which were shortlisted. Thereafter, short-listed applicants were invited to participate in one-day workshop on research proposal development, in which the main guidelines for proposal development along with the comments and feedback on their concept notes were discussed. This was intended to support them, while developing their full proposals. Finally, ARCA received 8 full proposals, which were evaluated in depth and two of them were selected for funding.

The first proposal “Downscaling sea level

rise in the Mediterranean Sea under different future climate change scenarios (2065 – 2100)”, represents a much-needed effort in this respect. This is because most research in Egypt dealing with sea level rise have been employing global levels scenarios due to the absence of downscaling efforts of SLR in the area.

The second proposal, entitled “Towards sustainable potato production under climate change conditions” addresses such an issue. Potato production represents an important food staple in Egypt and also exporting it a good source of foreign currency for the country. In this context, impacts, vulnerability and adaptation of potato production represent an important issue for assessment.

*“ARCA attempts to support national policy and planning for climate change through partnership and networking activities”*

### Partnership and Networking

ARCA believes that work on climate change can only be undertaken through networking and cooperation between different bodies interested in climate change research, capacity building activities and advising policy and decision making.

Therefore, ARCA considers its out-reaching activities as well as partnership and networking of utmost im-

portance. Currently, ARCA’s network of researchers as well as officials and civil society involves more than 500 persons.

During 2016, in addition to the existing three MOUs, ARCA, at the institutional level, has signed, two more MOUs with:

- ◆ Dryland Agriculture Institute, City of Scientific Research and Techno-

logical Applications (SRTA – City), Burg-el-Arab, Ministry of Scientific Research.

- ◆ Coastal Research Institute (CoRI), Ministry of Water Resources and Irrigation.

## Capacity Building Activities

Due to the absence of a critical mass of researchers in the field of climate change as well as lack of knowledge and awareness among different stakeholders, ARCA capacity building, consultative and awareness raising activities represent a vital component of ARCA's mandate.

During 2016, ARCA organized a total of 16 workshops covering 12 different topics and involving a total of 298 participants.

7 workshops were conducted, in cooperation with the Central Administration on Climate Change, EEAA, as part of the efforts to update Egypt National Adaptation Strategy. These workshops involved 123 participants from different ministries of significant relevance to climate change adaptation; including Ministries of Water Resources and Irrigation, Ministry of Agriculture, Ministry of Health, Ministry of Tourism and Antiquities, Ministry of Housing and Ministry of State of Informal Areas and Ministry of Social Solidarity as well Nile Delta coastal governorates.

The modality followed in

these workshops, involved a one-day introduction to climate change concepts, impacts and vulnerabilities as well as the main observation and projections of the IPCC – AR5. The second day involved consultation with participants on existing conditions in their respective sectors, as well as potential impacts and adaptation to climate change.

Additionally, 6 workshops were demand-driven meaning organized upon requests from beneficiary institutions. 3 rounds of the workshop entitled “Climate change impacts on coastal dynamics”, were held on 14<sup>th</sup> and 21<sup>st</sup> of April and 12<sup>th</sup> of May, 2016. These workshops, involving 53 participants, were intended to introduce participants to coastal morphology and basic processes of coastal hydrodynamics as well as potential impacts of climate change on such processes.

In July 2016 ARCA announced its first regional workshop on “GIS Application in Climate Change” to be held at Cairo during period 18-22 September 2016.

As a result of announcement, ARCA received

140 applications from 13 countries (Egypt, Sudan, Algeria, Morocco, Tunisia, Malawi, Ethiopia, Pakistan, Iraq, Palestine, Nepal, Kenya, and Jordan).

Out of the 140 applicants, 12 applicants were from ineligible countries outside Arab region including Ethiopia, Kenya, Malawi, Nepal and Pakistan. Therefore, they were excluded, as the workshop initially targets researchers from Arab region. Also, it was found that 61 applicants were from Sudan. Accordingly, it was decided, to be cost-effective, to organize two rounds of the workshop; the first of which to be held in Sudan.

For this purpose, ARCA team contacts Al-Neelain University and The Organization for Women in Science for Developing World (OWSD). Upon these contacts, it was agreed on organize the workshop at the University over the period 19-21 September 2016.

Meanwhile, the second round of the workshop targeting other Arab applicants in addition to Egyptian ones was held in Cairo during the period 09-13/10/2016.

*“A considerable proportion of ARCA Capacity building activities were organized on-demand of stakeholders groups”*



Consultative workshop “Climate Change Impacts on agriculture sector” organized on 1<sup>st</sup> and 2<sup>nd</sup> of June 2016



Participants of regional workshop entitled “GIS Applications in Climate Change” held in Khartoum during the period 19-21/09/2016 with cooperation with Al Neelain University and OWDS

*“Up till now, there are eleven research published papers that are developed by ARCA core team or supported by ARCA activities”*



## Research Activities

Research activities are crucial for ARCA in attaining its mission through a multitude of interrelated schemes.

The research work of ARCA core-team covers a variety of topics related to the Nile Delta vulnerability and adaptation to climate change and economics of adaptation to climate change impacts. For instance, in this context, ARCA core-team is currently working assessment of climate change impacts, particularly increasing temperature on electricity consumption in Alexandria. Also, a working paper on climate change impacts on Aquaculture in Egypt” is now under preparation to be issued as one of ARCA Working paper series and posted on ARCA Website.

Additionally, as a result of different forms of support provided by ARCA to re-

searchers in the field of climate change, three research papers were published in peer-reviewed international journal including:

- ◆ Mytilineou Ch., et.al., 2016, New Mediterranean biodiversity records (November, 2016), *Medit. Mar. Sci.*, 17/3, 794-821
- ◆ Moussa, R., K. Kapiris and A. Zenetos, 2016, Brachyuran diversity along Mediterranean Egypt, with the addition of a new introduced species, *Cah. Biol. March*, vol. 57, pp. 43-49 <http://application.sb-roscoff.fr/cbm/article.htm?execution=e2s1>
- ◆ Zenetos, A., et.al., 2015, New Mediterranean biodiversity records, *Medit. Mar. Sci.*, 16/1, 266-284 <http://www.medit-mar-sc.net/index.php/>

[marine/article/view/1292](http://marine/article/view/1292)

- ◆ M. Elshemy, M., M. Khadr, Y. Atta and A. Ahmed, 2016, Hydrodynamic and water quality modeling of Lake Manzala (Egypt) under data scarcity, *Environmental Earth Science*, Oct. 2016, 75:1329. DOI: [10.1007/s12665-016-6136-x](https://doi.org/10.1007/s12665-016-6136-x)

In Addition to another accepted for publication in peer reviewed journals

- ◆ Soliman, N., and M.M. Yacout, Responsible fish-meal consumption and alternatives in the face of climate change, (Accepted for publication in *Journal of Coastal Life Medicine*).

This brings the total number of published research papers that are developed by ARCA core team or supported by ARCA activities, to be 11 until now.

## Climate Change and Sustainable Development (CCSD) M.Sc. Program

In order to magnify its impacts at the national as well as the regional levels and develop the critical mass of researchers and personnel from different stakeholders, it was decided to develop a Climate Change and Sustainable Development M.Sc. Program (CCSD) at Alexandria University.

The (CCSD Program) will

offer interdisciplinary academic environment that promotes open critical inquiry of the scientific and socio-economic complexities of climate change.

It is anticipated that graduates of the program will play an influential role in the critical climate change and development capacity building efforts. They will be able to offer a unique

perspective and insight having emerged from a program that is set in a country already facing many of the potential impacts of climate change.

The (CCSD Program) will prepare graduates to target jobs in the various emerging career paths in environmental economics and climate change

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