INTERNATIONAL CENTER FOR BIOSALINE AGRICULTURE

Project Report

Arab Women Leadership Program – *Tamkeen*

Inception and Design Phase 2016-17

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Supported by

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ICBA
AGRICULTURE FOR TOMORROW

Contents

Executive Summary

In line with its vision and strategy, the International Center for Biosaline Agriculture (ICBA) initiated an innovative project to conduct an inception and design phase of an initiative called "Arab Women Leadership Program – *Tamkeen*". *Tamkeen* is a comprehensive program to strengthen the skills and build the capacity of the next generation of Arab women leaders in agricultural research and development organizations. ICBA believes that increasing the number of Arab women scientists occupying key leadership positions in agriculture research will offer valuable contributions to solutions to the region's food security challenges because of their unique gender perspectives and awareness of their pairs' role in agriculture activities.

This initiative received a generous joint support from the Islamic Development Bank (IDB) and the Bill and Melinda Gates Foundation to conduct the design and inception phase on 2016-17. During that phase, ICBA produced comprehensive documents and reports including:

1. Education, Scientific Research & Development and Agriculture Academic Programs in MENA;
2. Arab Women Scientists in Agriculture: Characteristics, Challenges and Perspectives;
3. Capacity Building Programs Review;
4. Program Document detailing the value, potential activities and operational elements of the program;
5. Database of some potential participants to the program in the MENA region.

To produce these reports and to set the frame for the program, ICBA hired a lead consultant that worked closely with ICBA staff over the project period from September 2016 till May 2017. ICBA also hired two other consultants for short periods in Jordan and Morocco.

ICBA also conducted three focus group meetings in 2016 at its headquarters in Dubai and in Jordan and Morocco, in addition to a pilot training in 2017 to test the program. This training was delivered by AWARD, a specialized leadership training organization that target African women scientists. After the completion of the planned project activities, *Tamkeen* was discussed in a high level seminar held during the IDB Group Annual Governors Meeting in Jeddah, Saudi Arabia.

The inception and design phase developed the previous mentioned reported and tested it with participation from nine Arab countries namely: Algeria, Egypt, Jordan, Lebanon, Morocco, Oman, Palestine, Tunisia, and the United Arab Emirates.

The developed program of *Tamkeen* will initially target 30 Arab women fellows from Jordan and Tunisia. As an 'accelerator' program, *Tamkeen* will respond to the capacity- and skill-building needs identified by Arab women scientists and through benchmarking best practice competency frameworks for researchers and scientists. Within this context, the skill-building element of *Tamkeen's* development framework will be based on the Vitae Researcher Development Framework, which fully matches development needs reported by Arab women scientists. *Tamkeen* will obtain an organizational membership with Vitae for all participating fellows, which will provide Tamkeen with access to Vitae's high-quality training programs that will form the basis of all *Tamkeen's* online and classroom-based training content.

Skill-building will be delivered to *Tamkeen* fellows through both virtual and classroom-based training programs. The virtual training will provide a unique learning opportunity that responds to fellows' needs of flexible learning and work-life balance. Vitae training content will be converted by ICBA to online courses offered on specific themes to *Tamkeen* fellows. Each online course will be broken down into 5 modules to ensure fellow learning is paced out and delivered in a focused manner. Additionally, a 1-hour webinar on each of the online courses will be delivered – and recorded for post-webinar access - by respective trainers to offer fellows an opportunity to address learning gaps or topic-related questions.

The following five courses will be delivered online:

1. O1: Research Methods 1 - Theoretical Knowledge (Online);
2. O2: Research Methods 2 - Practical Application (Online);
3. O3: Information Literacy and Management (Online);
4. O4: Professional Conduct in Research (Online);
5. O5: Public Engagement and Impact for Researchers (Online).

In addition to the online courses, *Tamkeen* classroom-based training will offer five unique opportunities to Arab women scientists including:

1. C1: Mentoring Orientation Workshop (Classroom);
2. C2: Leadership Excellence for Arab Women Scientists (Classroom);
3. C3: Cognitive Abilities and Creativity for Researchers (Classroom);
4. C4: Research Management and Research Funding (Classroom);
5. C5: Research Communication and Dissemination (Classroom).

Both on-line and classroom-based courses will be translated into Arabic and French to provide better understanding of training materials. In addition to these courses, *Tamkeen* will give the opportunity to each fellow to have access to Vitae online training programs, a membership in scientific associations and participate in one regional/international scientific conference.

Average cost per participant will range from 35,000 to 38,000 US$ with minimum number of 30 fellows to launch the program in two countries (Jordan and Tunisia).

Tamkeen was highlighted in local, regional and international media and Arab women were interviewed and a short documentary was produced and presented during the high level seminar at IDB Group Annual Governors Meeting in Jeddah, Saudi Arabia.

This “Project Report” provides summaries on the main findings of the produced reports and highlights the focus group meetings and the pilot training, in addition to providing a summary on the program structure. Details of each will be available from the produced reports.

1. Introduction

1.1 Arab women in science

As climate change and population growth put future food security in the MENA region at risk, the agricultural sector needs more innovation and soon. Getting more women scientists involved in agricultural research is one way to boost much-needed innovation. This is because of two reasons.

First, study after study has shown that gender-balanced teams improve innovation and productivity. The latest research also confirms that women are critical to innovation. One study, for example, found that the proportion of women in teams is positively linked with the teams' success.

Science is also more likely to be breakthrough as a larger number of women researchers in teams facilitates greater creativity and innovative thinking. Researchers also reported that teams' collective intelligence rose with the number of women in the groups.

Another large-scale, multi-country study found that gender-balanced teams were the most likely to experiment, be creative, share knowledge, and fulfill tasks. The study also reported that the most confident teams had a slight majority of women (60%).

Not only are women creative innovators, but they are also excellent leaders. Research shows that the more women there are in senior management, the better organizations perform. This is particularly true of organizations that are focused on innovation. One study to this effect found that higher female representation in senior roles leads to better performance in organizations that have innovation as part of their strategy. A separate study, which measured 2,360 businesses worldwide over six years, also concluded that companies with one or more women on the board delivered, among other things, better growth.

Second, women make up more than 40% of the workforce in countries where agriculture is a key contributor to GDP, including the MENA countries. However, they do not enjoy the same level of access to training, agricultural inputs and land as men. Not only does this prevent them from reaching their full potential, but also costs communities and economies.

Empirical evidence shows that there is a disproportionately low number of women working in senior scientific and managerial positions, especially in the MENA region. The average share of women scientists across the MENA region stands at 17%, which is the lowest in the world.

This gender gap is most visible in the staffing of agricultural research and extension organizations. As a result, there is a concern that policy and investment priorities might not be as effective as they could be because they do not fully incorporate gender perspectives. Given women's role in agricultural production and consumption, potential benefits are being lost when they are needed most.

Some of the challenges faced by Arab women scientists in the MENA region are:

1. In many countries higher education generally falls short of equipping graduates with a skill set critical for research and innovation;
2. Low levels of funding in the research and development sector result in poor prospects for graduates willing to pursue research careers;
3. Gender stereotypes still hold strong;
4. There are limited training and development opportunities;
5. Lack of women-friendly networks hinders collaboration and knowledge sharing.

1.2 *Tamkeen* to support women leadership in the MENA region

The Arab Women Scientists Leadership Program, or shortly *Tamkeen,* will impower women in science in the MENA region and equip them with necessary research and leadership skills. The program aims to offer one-year fellowships to Arab women scientists from the MENA region. At the end of their fellowships, Arab women scientists are expected to be able to take up leading positions in their

communities and organizations and contribute more actively to research and innovation in the agricultural field.

The design and inception phase of *Tamkeen* was funded by the Bill & Melinda Gates Foundation and the Islamic Development Bank. During that phase, ICBA produced a comprehensive document, detailing the value, potential activities and operational elements of the program. The research methodology included four main components:

1. Review and analysis of education, scientific research and development and agriculture academic programs in MENA;
2. Conducting focus groups and interviews with Arab women scientists and researchers within the agriculture field to explore their challenges, development needs and perspectives on an ideal program design;
3. Review and analysis of regional and international capacity-building programs targeted at women and scientists/researchers;
4. Developing and testing a leadership capacity-building module for Arab women scientists and researchers, and analysis of their feedback.

2. Main findings

2.1 Education, scientific research and agriculture academic programs in MENA[1]

This step in the research process allowed to identify the specific skill gaps in the current scientific training programs, both at the academic and research levels. The research and analysis was mainly based on secondary research and one-on-one interviews with eight leaders of agriculture academic programs and agriculture research institutions across the MENA region.

2.1.1 Education challenges

The state of education in the MENA region is subject to significant regional disparities and strongly influenced by the prevailing political and socio-economic conditions. Despite aforementioned achievements, the quality of higher education, social responsibility, administration, management, governance and financing at higher education institutions generally remain weak. Challenges in the field of education in the MENA region are mainly centered on:

1. Challenging access to educational opportunities: This is reflected in low levels of gross enrollment in tertiary education, placing the MENA region in the fourth place among the six regions in Gross Enrollment Ratio in tertiary education, according to World Bank data.
2. Quality related challenges: This includes declining quality and availability of educational resources to students; weak English, learning and critical thinking skills among students; outdated curriculums that do not reflect scientific and technical progress; weak faculty skills; lack of faculty professional development programs; a weak match between student specialization and labor market needs; weak quality assurance procedures; and an overall weak academic and scientific research structures and culture.

2.1.2 Scientific Research & Development challenges

The MENA region is rich in human and natural resources, but many of its countries need a cultural and scientific transformation in order to achieve worldwide recognition in education, research and economic spheres. Challenges in the scientific research and development sector in MENA include:

1. Limited expenditure: GDP expenditure on R&D in the region lags significantly behind international standards;
2. Limited scientific impact: Despite the growth in the citable published documents, the impact of scientific research in MENA is still weak;
3. Weak research output: Investment in research among the 57 member states of the Organization of Islamic Conference (OIC) are standing at just one-quarter of the world averages;
4. Limited diversification in research focus: Research concentration – measured as the global share of research output in a specific field – shows common focus trends in the region;
5. Research collaboration: The expanding network of research collaboration has become a predominant feature of the global research base. Nations increasingly draw on one another's expertise and share costs and resources by working together, enabling the rapid sharing and exploration of new knowledge.

2.1.3 Agriculture academic programs challenges in MENA

Interviews with leading faculty and researchers from key agriculture academic and research institutions in MENA identified some of the challenges and skill gaps, including:

[1] Refer to Annex 1 report on "Education, Scientific Research & Development and Agriculture Academic Programs in MENA"

1. Access and structures of funding: Lack of sufficient funding through research grants has been reported across the board as a major challenge derailing research and development efforts within the agriculture field in the region;
2. Research facilities and technology standards: Despite reporting challenges concerning current research facilities and technology available for use among researchers in the region, this challenge extends beyond the mere availability of latest technology and facilities;
3. Curriculum and faculty quality: Latest scientific theories and technological advances were not reflected in local curriculums, and that there was a heavy focus on theory versus building practical skills;
4. Research impact and recognition for researchers: Lack of recognition of scientists' contributions to solving the region's problems, in the opinion of prominent academics and researchers interviewed, poses a common and significant impediment to encouraging more scientists in the region to enter and innovate within the agriculture research space;
5. Declining interest in agriculture studies in MENA: There is general lack of awareness among the public about the importance of agriculture as a source of livelihood and its contribution to economic prosperity, social stability and sustainability;
6. Student skills: The level of students' skills – for example, in the English language, critical thinking, critical learning and leadership – varies across countries in the region;
7. Lack of exchange programs and international partnerships: This impacts the overall state of scientific research and development in the region, and also reflects on the skills of the region's scientists and researchers.

2.1.4 The way forward

The MENA region faces considerable challenges in its education and research and development sectors. The challenges range from the prevailing political and socio-economic climate to the quality of curriculums, faculty, systems and infrastructures, and students' skills. They include a weak research and development culture generally, a lack of awareness of the impact of research and development on the growth of economies and well-being of communities, weak funding and investment in research and development initiatives. These challenges affect not only the quantity but also the quality of research produced in the region.

Despite these considerable challenges, the region is witnessing increasing government investments in education. Several countries in the MENA region have shown considerable growth in the number of citable scientific documents published.

In addition to the issues identified above, two emerging trends also present opportunities for *Tamkeen* Program. Most countries in the MENA region have reached – and some have exceeded – the Gender Parity Index in education, meaning that females are increasingly accessing education opportunities and gaining higher degrees. Additionally, and despite the reported low enrollment in agriculture studies at the post-secondary education levels, scientific publications in the agriculture, environment and geoscience fields feature among the top five fields of scientific output in the three most prolific countries in the MENA region – Saudi Arabia, Egypt and Jordan. This trend points to the pressing need in these countries to address challenges in the aforementioned fields, particularly their implications for food security, water scarcity and population growth.

Accordingly, the time is right to develop and launch a comprehensive capacity building program in order to, on the one hand, enhance research and soft skills of women scientists in the region and, on the other hand, raise awareness across the region on the importance of scientific research and development in general, and in the field of agriculture in particular.

2.2 Arab women scientists in agriculture: Challenges and perspectives[2]

2.2.1 Challenges

Arab women agricultural scientists reported a number of challenges that impact their ability to ascend into leadership positions within their chosen fields. It is important to note here that some of the challenges reported are not necessarily gender-specific (e.g. the quality of education, unemployment, political instability), whereas others are more gender-specific, placing women in increasingly unfavorable environments for growth and development (e.g. perceptions about the role of women, lack of protection laws for women and/or lack of their enforcement). The challenges include:

1. Education: The rate of illiteracy is high in MENA, with more than two-thirds of illiterate adults being women – and the detrimental impact of this on women's participation in the workforce in general and in science and research within the agricultural sector more specifically.
2. Socio-economic environment: Beyond weak economic environments and high unemployment rates in most countries in the MENA region, there are limited investment in the scientific research and development field, limited availability of development programs within the field, and the lack of childcare facilities and supportive human resource policies at scientific research institutions in the region.
3. Legal frameworks: this is clear in gender discrimination in the workplace, despite the presence of laws prohibiting the same.
4. Culture: This includes the perception that men are the primary breadwinners and as such should be given preference in employment-related decisions; societal pressure on women to get married and start a family by a certain age affecting their decisions to purse higher education; the difficulty of juggling family responsibilities and time-intensive careers such as ones in the science and research field; poor regard for women's contributions in the workplace as manifested by dismissal of their opinions and skepticism about their abilities; and negative perception of women traveling without male guardians.
5. Organizational dynamics: Several organizational dynamics specific to research institutions are among the challenging, including: limited development opportunities for scientists and limited practical application of skills gained; male-dominated environments that exclude women from professional networks and collaborative projects; pressure on women to produce superior amounts of work in comparison to men to prove their abilities; and weak professional conduct in research that allows appropriation of junior women researchers' work by more senior researchers.

2.2.2 Perspectives

The Arab women scientists interviewed for this report shared an overwhelmingly optimistic outlook for the growth of research and development, and the growth of their own contributions as women in the field. The challenges they face are a combination of: professional challenges experienced across the entire industry; challenges associated with women's situation in the MENA region; and their own individual development challenges. *Tamkeen* can address some of the challenges in these three categories by identifying its potential sphere of influence and control, and designing a capacity building program around these parameters.

[2] Refer to Annex 2 report on "Arab Women Scientists in Agriculture: Characteristics, Challenges and Perspectives"

2.3. Review of capacity building programs[3]

A review of best practices among regional and international capacity building programs was a crucial step in the identification of potential aspects to incorporate into the design and development of the *Tamkeen* program. Programs reviewed served as models, whose strengths and challenges were analyzed through a gender perspective. Three capacity building programs were reviewed, namely: (1) African Women in Agriculture Research and Development (AWARD); (2) Vital Voices GROW Fellowship for women entrepreneurs; and (3) Vitae Researcher Development Program(s).

2.3.1 AWARD

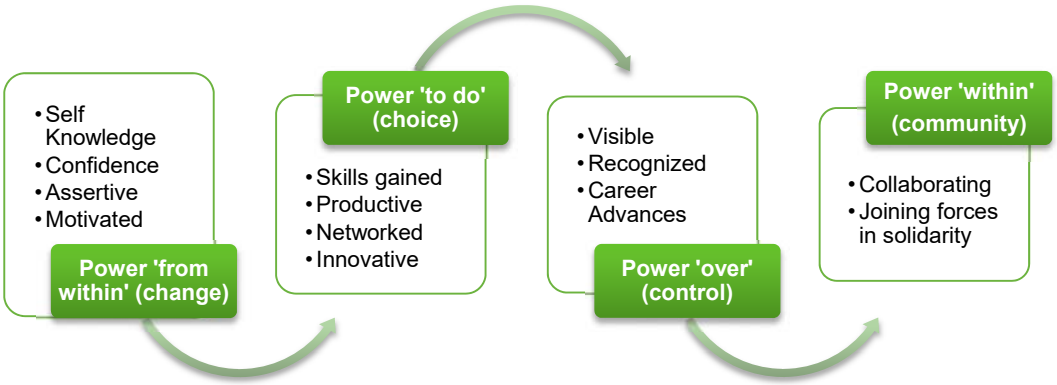
AWARD is a two-year career development program initiated in 2008. Through tailored fellowships, it equips top women agricultural scientists across 16 sub-Saharan African countries to accelerate agricultural gains by strengthening their science and leadership skills. AWARD Fellows benefit from a two-year fellowship focused on: (1) fostering mentoring partnerships, (2) training to develop: (a) leadership capacity and (b) science skills, and (3) fostering fellow outreach.

AWARD fellows are matched with a mentor – a senior professional – who volunteers for one year to guide the AWARD fellow in her career development. Additionally, AWARD delivers a series of in-person training workshops to build fellows' leadership and science / technical capacities. AWARD also fosters fellow outreach by allowing each fellow the practical experience of hosting a role-modeling event and introducing other women – young students or colleagues – to the importance and rewards of careers in agriculture.

AWARD partners with local agriculture institutions to bring about change in the overall enabling environment in Africa through its leadership and gender series training provision to various organizations and institutions across Africa.

The empowerment model developed by AWARD allows it to develop an understanding of all aspects that the program can impact through offering its fellowship. This model (see below) presents aspects of power that can be expanded among fellows through their participation in the program. AWARD helps fellows expand their power among all four quadrants, upon which they consider the fellows empowered. An additional quadrant has been added recently to include the power to empower others.

AWARD's Empowerment Model



[3] Refer to Annex 3 report on "Capacity Building Programs Review"

2.3.2 Vital Voices GROW Fellowship

The Vital Voices GROW Fellowship is a one-year accelerator program for women owners of small- and medium-sized businesses. The program provides fellows with ***customized business skills training***, ***technical assistance***, ***leadership development, and access to networks*** to grow their business and increase their leadership impact. The Vital Voices GROW fellowship offers its fellows the following: (1) business needs assessment; (2) virtual and in-person leadership training; (3) virtual and in-person business skills training; and (4) a range of growth support services from potential small grants, mentoring, technical assistance and introduction to networks.

Fellows are offered the opportunity to work closely with coaches, mentors and trainers in order to assess the current state of their business and leadership, analyze their business for growth opportunities, define specific business growth goals and map out an action plan to achieve envisioned goals. The Vital Voices GROW Mentoring Program pairs women owners of small-and medium-sized businesses with corporate executive mentors. For six months, mentors and mentees work together to define and make progress toward short-term business growth goals.

Fellows also have access to 12 virtual business management and leadership courses through the Harvard Business School Publishing's online platform – Harvard Manage Mentor (HMM) – for one year. Fellows also have access to 17 interactive webinars led by expert trainers from across the globe on the following core capacities: (1) business planning; (2) leadership; (3) financial management; (4) networking; and (5) marketing.

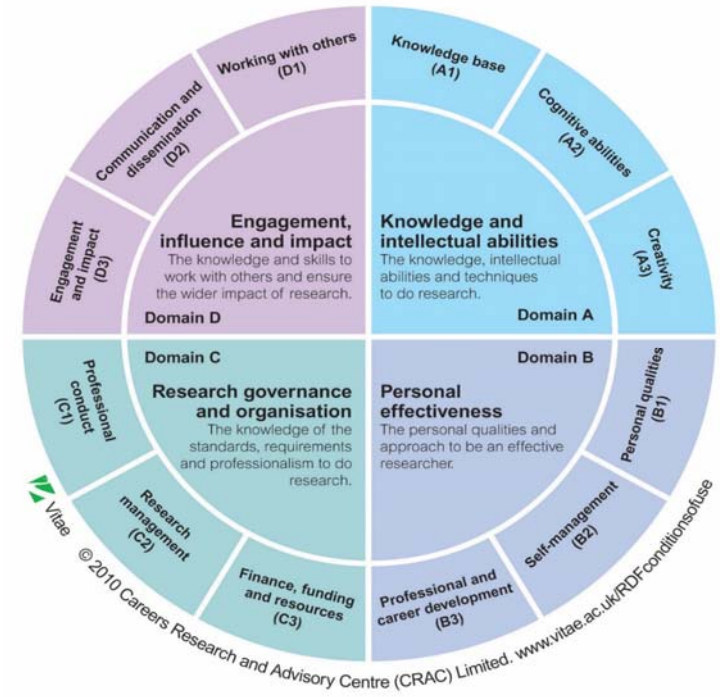
In-person training is delivered through a four-day workshop where fellows are given the opportunity to delve deeply into their brand stories, networking strategies, financial management practices and leadership and business growth plans. Throughout the training, they learn from each other, grow their networks, acknowledge the significance of their leadership, and build their confidence. Fellows examine during this workshop their leadership strengths and define their 'driving forces.' They are guided to apply the learning gained to their businesses by refining their business missions, examining their management styles, and ultimately recognizing the importance that their leadership has on the growth of their business and impact on their community.

2.3.3 Vitae Researcher Development Program(s)

Vitae is the global leader in supporting the professional development of researchers. Based in the UK, Vitae operates on a non-profit basis and is part of CRAC, the Career Development Organization, which started in 1968 by running its first project to assist in the transition of doctoral researchers into industry. Vitae ran the UK "Research Councils" Graduate School Program for an extensive number of years, offering cutting edge training courses for doctoral candidates, an initiative that was funded by the UK Research Councils for their own students. The week-long courses aimed to enhance the skills of researchers and their career impact eventually providing them opportunities for wider career options. The Vitae membership program was launched in January 2015, currently having over 183 member organizations. Through offering its program membership to organizations and scientists / researchers, Vitae aims to develop and build specific researcher capacities in line with its extensive and well-researched ***Researcher Development Framework (RDF).*** This is primarily done through the provision of leading-edge, high quality training courses, specifically designed for researchers, and train the trainer programs.

RDF is the widely endorsed framework underpinning professional development for researchers at all levels. In 2009, Vitae developed the RDF for researchers, in collaboration with the higher education sector and other stakeholders. The Framework is grounded in research through interviews and focus groups with over 100 researchers and additional expertise from specialists and stakeholders. RDF is structured into four domains covering the knowledge, behaviors and attributes of researchers. It sets out the wide-ranging knowledge, intellectual abilities, techniques and professional standards expected to do research, as well as the personal qualities, knowledge and skills to work with others and ensure the wider impact of research.

Vitae Researcher Development Framework



2.3.4 Key considerations

The comprehensive review conducted for all three programs outlined above identified some key considerations and best practices to be considered in the design and development of the *Tamkeen* program.

Participant profiles: Programs reviewed reveal a highly competitive process for fellow selection, with a primary focus on fellows' potential and commitment to growth and contribution towards their communities.

A focus on both soft and hard skills: All programs reviewed stress the need to develop both science and leadership skills among scientists and researchers. Furthermore, they emphasize that such skills should be developed not only within the context of virtual and/or classroom-based courses, but also through practical application at every stage of the fellows' development journey.

Extensive training program database: The width and breadth of training programs – both virtual and classroom-based – offered to fellows across all programs are extensive, indicating a need to broaden capacity building offerings to suit different development needs among a wide cohort of fellows.

Mentoring: Mentoring is regarded as a key aspect in developing and growing women leaders in general, and women scientists and researchers specifically, as they navigate through mostly male-dominated environments. Pairing up fellows with more experienced mentors not only provides fellows the opportunity to receive guidance over career development decisions, but also allows fellows to develop and grow their networks within the field and across geographies.

Partnerships to impact the enabling environment: Developing partnerships with local organizations and institutions is a key theme that emerges from the various programs reviewed. Such partnerships allow for change as leadership skills are enhanced through transfer of knowledge among partners and as understanding of gender dynamics within an organizational context is also enhanced through knowledge and experience sharing among partner organizations.

Virtual training: The structure of the virtual learning offerings at the VV Grow Fellowship lends great support to the capacity building journey of its fellows. Designed to include a personal touch (through the availability of trainers in the form of available one-on-one calls with fellows), a consistent structure followed by channels for practical application of knowledge gained (through weekly webinars followed by weekly assignments), and a content that is built successively and incrementally, the structure sets a best practice in virtual learning.

The right mix of virtual and in-person training: As programs offer fellows a growing number of training courses, creating the right mix of virtual and in-person training is crucial in order to ensure that fellows' development and growth are effectively supported.

Growth support services: Beyond mentoring and training, all programs reviewed provide other growth support services – most notably, grants and placements with international institutions – highlighting the need to compliment capacity building with more field specific growth opportunities that can truly accelerate fellows' growth and impact.

World-class frameworks: RDF is the product of an extensive amount of experience and work done towards researcher development. Such a well-established framework can lend strength and edge to researcher development in the region, and can be used as the core design element in the envisioned capacity development program for women researchers and scientists in the region.

3. *Tamkeen* – Program Design[4]

3.1 Program mission and objectives

The overarching **mission** of the program would be to **"Empower Arab women researchers in building their leadership capacity and developing their scientific skills in relation to agricultural research and development in the MENA region"**. With this aim, the specific program objectives will include:

Building MENA women researcher capabilities	Creating a regional network of Arab women researchers
Build skills and capabilities to enhance Arab women scientists' access to leadership roles Build skills and capabilities to enhance Arab women scientists' research excellence and research impact.	Facilitate networking, knowledge exchange and collaboration between Arab women researchers in the region within and across disciplines.
Link regional researchers with international counterparts	**Place R&D and women's contributions high on the region's agenda**
By creating opportunities for attachments with international institutions and participation in regional and international conferences, facilitate the sharing of best practice and creation of opportunities for collaboration.	Create a forum to discuss regional R&D challenges and provide a collective voice for Arab women researchers to express their views to policymakers. Foster gender perspectives in agricultural research in the MENA region.

3.2 Program Skill building

3.2.1. Targeted competencies

As an accelerator program, *Tamkeen* will respond to the capacity and skill building needs of Arab women scientists. Within this context, the skill-building element of *Tamkeen*'s development framework will be based on the Vitae Researcher Development Framework (RDF) outlined earlier, which fully matches development needs reported by Arab women scientists. *Tamkeen* will obtain an organizational membership with Vitae for all participating fellows, which will provide *Tamkeen* with access to Vitae's high quality training programs that will form the basis of all of *Tamkeen*'s online and classroom-based training content. Vitae's training programs have been developed to support organizational capacities for researcher development through the provision of complete training content, as well as manuals for organizational trainers to lead and conduct training programs. *Tamkeen* will help fellows develop science and leadership competencies through a range of courses.

3.2.2. Channels of delivery

Skill building will be delivered to *Tamkeen* fellows through both virtual and classroom-based training programs. When designed effectively, virtual training can provide a unique learning opportunity that responds to fellows' needs of flexible learning and work-life balance. Vitae training content will be converted by ICBA to online courses offered on specific themes to *Tamkeen* fellows. Each online course will be broken down into 5 modules to ensure fellow learning is paced out and delivered in a focused manner. Additionally, a 1-hour webinar on each of the online courses will be delivered – and recorded for post webinar access - by respective trainers in order to offer fellows an opportunity to address any learning gaps or topic-related questions.

[4] Refer to Annex 4 report on "Program Document: Arab Women Leadership Program – *Tamkeen*"

Besides online courses, classroom-based training will be offered to *Tamkeen* fellows through the 5-day Leadership Excellence for Arab Women Scientists course, which will present fellows with the unique opportunity of building peer relationships, engaging within the boundaries of a safe environment to learn and grow, and deepening the learning through hands-on, on-site trainer support, guidance and feedback.

3.2.3. Program courses

Tamkeen fellows will undertake a range of science and leadership training programs, including:

O1: Research Methods 1: Theoretical Knowledge (Online) and

O2: Research Methods 2: Practical Application (Online): Both courses will enable fellows gain deeper understandings of the nature of different research methodologies and approaches and methodological steps involved in the research process. Participants will acquire the necessary skills to plan research projects, and critically analyze, evaluate and review current research and scholarship.

O3: Information Literacy and Management (Online): This course offers an introduction to the principles, concepts, and practices of information literacy, including critical thinking skills necessary to identify, evaluate, and use diverse information sources effectively to enable them:

- Identify a variety of types and formats of potential sources of information;
- Understand the value and nature of information and how it is organized;
- Search effectively for information using both print and electronic resources;
- Evaluate information and its sources critically;
- Organize information and use it effectively;
- Cite sources following accepted citation styles and avoid plagiarism.

O4: Professional Conduct in Research (Online): This online course will help fellows deepen their knowledge of ethical research and responsible conduct in research. Topics covered include research and professional conduct; responsible authorship and publication; mentor-mentee relationships; conflicts of interest; peer review; intellectual property; data acquisition and management; ownership of data and biological samples; and research involving human and animal subjects.

O5: Public Engagement and Impact for Researchers (Online): This course introduces fellows to concepts of research impact (i.e. change and/or benefit to the economy, society, culture, environment or quality of life) and public engagement (defined as the various ways in which the activities of research can be shared with the public). Participants will gain skills associated with planning for impact within the context of public engagement and are introduced to impact planning tools.

C1: Mentoring Orientation Workshop (Classroom): This three-day course helps fellows and their mentors establish a productive working relationship centred around three career goals in leadership and science skills. The mentees and mentors, who can be colleagues from the same institution but at different levels, work together over the course of one year to establish these goals.

The three-day course introduces fundamental principles of formal mentorship to both mentors and mentees that enables them to start building these crucial professional relationships. As mentees grow more confident about their work and career paths, institutions can count on growing visibility and recognition in the wider agriculture research and development arena, and sustainable succession planning for overall growth and development. Participants will be able to:

- Clarify roles and expectations of both mentors and mentees;
- Establish solid working relationships for mentors and mentees;
- Create a supportive and collaborative network among mentors and mentees.

C2: Leadership Excellence for Arab Women Scientists (Classroom): The five-day course focuses on providing a safe environment that fosters candid conversations about specific leadership challenges that women face, and encourages them to explore responses that are sensitive to gender and diversity.

Designed to reinforce the skills needed to enhance leadership and managerial effectiveness, the course includes practical sessions on sustaining team performance, managing conflict, and creating alliances to achieve research and business results. Participants will undertake exercises to help them identify their personal leadership styles and preferences. Participants will be able to:

- Define the difference between leading and managing;
- Undertake dialogue, facilitation, feedback and dealing with conflict;
- Maximize the diverse contributions of team members;
- Use appropriate personal and organizational power and influence;
- Develop high team performance through leadership that supports team members' behaviour.

C3: Cognitive Abilities and Creativity for Researchers (Classroom): The two-day course includes several different aspects of creativity, some more traditional than others. Theoretical elements are presented and discussed, but the development of cognitive abilities is the primary focus of it.

The program aims to introduce participants to influential factors (environmental, social, personal, organizational, etc.) and their impact on creativity. Additionally, a few creativity approaches (methods, techniques, activities) will be explained and experienced (e.g.: Mind-mapping, six hats, SCAMPER). Participants will get a chance during the program to engage hands-on with some of the techniques, which will lead to more efficient development of participant cognitive abilities.

During the program, exercises will be devoted to developing abilities in encoding information, resolving an analogy, and associative and analytical thinking. Simple activities, often in the form of serious games, will allow participants to better understand how they think and what other mechanisms they could use to think "differently". Participants will be able to:

- Develop an understanding of factors influencing creativity;
- Gain exposure to various creativity approaches;
- Practically apply creativity approaches to build participant cognitive abilities;
- Identify personal thinking patters and gain exposure to think in alternative ways.

C4: Research Management and Research Funding (Classroom): The two-day course offers an introduction to research management through a series of interactive modules. The modules focus on a range of issues relating to the management of research projects, from knowledge creation in research-based environments to knowledge exploitation in commercial environments.

The objective is to introduce participants to views on science management, science funding and exploitation that they may not otherwise appreciate or learn about simply by working on a research project. It offers researchers the opportunity to understand the dynamics of the entire value chain around scientific research and to develop skills for managing their knowledge and innovation. Participants will be able to:

- Understand the different contexts in which research operates – from academia to industry, from fundamental to applied research;
- Get an awareness of the skills to manage international, multidisciplinary research projects;
- gain a knowledge of how to fund research, from across funding bodies;
- set a foundation in the specific skills needed to fund, manage, disseminate and commercially manifest their scientific research throughout their career.

C5: Research Communication and Dissemination (Classroom): The core training of this three-day course equips participants with the skills required to write effective research proposals in order to raise funds from different donors. The course teaches how to develop research proposal from a concept note, and write with clarity and purpose.

Participants are required to provide in advance a research idea, problem, objectives, methodology, and justification why their concept note should be funded, and are encouraged to bring a draft proposal they are working on to the hands-on training. By the end of the session on Research Proposal Writing, participants will have:

- Developed a successful concept note that elaborates the central research problem, objectives and methodology, result framework and budget;
- Gained skills to turn the concept note into a full proposal following donor guidelines.

Additionally, participants acquire the skills and tools required to write and edit science papers, and to "translate" research evidence into language that can inform agricultural policy development. The course addresses the importance of publishing research findings to attract funding, and the relevance of establishing a personal scientific track record. By the end of the training in Science Writing, participants will have:

- Acquired skills in clear communication and science writing that targets specific audiences;
- Strengthened their critical thinking and analysis capacity when writing specific papers for peer review;
- Improved preparation of specific posters and presentations for various audiences.

3.2.4 Skill application

The *Tamkeen* program will also provide fellows with several opportunities to practice the array of skills acquired during the skill-building phase. Opportunities where fellows can apply skills learned on the program include:

Fellow Outreach Events	Participation in National & International Conferences
Fellows required to conduct at least one event during their fellowship to give back to their local communities. Events to include: role modeling events for school girls, best practice sharing event with local institutions. This component will provide opportunities for fellows to apply leadership and social responsibility skills gained from the program.	Fellows required to participate in at least one science regional or international conference. *Tamkeen* will map relevant regional and international conferences to keep fellows updated on opportunities. This component will provide opportunities to apply and further build leadership and science skills.
Membership in Scientific Association(s)	**Attachment to International Institution(s) - Selective**
Tamkeen will fund membership fees during the course of the program for fellows to obtain membership in relevant scientific associations. This component will provide opportunities for fellows to apply skills gained through sharing best practices, identify potential research collaboration opportunities, apply networking skills and further build science skills.	*Tamkeen* will develop partnerships with international R&D institutions to provide research placement opportunities for fellows. Competitive process that's not applicable to all This component will provide opportunities to develop applied capabilities and practice learned skills.

3.2.5 Mentoring support

Mentoring is a proven and powerful driver for career development and, particularly, for retaining women in science. Thus as a major component of its fellowship package, *Tamkeen* will pair each fellow with a mentor – a respected male or female senior science professional – who is chosen to match the fellow's area of expertise and career goals, and also her personality and style.

The mentoring component of *Tamkeen* goes well beyond merely identifying potential mentors and pairing them with appropriate fellows. The fellows and their mentors will attend a three-day facilitated Mentoring Orientation Workshop (outlined above) where they will draft a contract that declares their goals for working together and how they will reach them.

3.3 Program functions and activities

Fellows on the *Tamkeen* program will undergo different phases during the fellowship's one-year timeline, which will include compulsory and optional activities. The phases will include: (1) Selection Phase; (2) Assessment Phase; and (3) Active Fellowship Phase. The Post Fellowship Phase will encompass activities carried out by *Tamkeen* after the termination of the fellowship.

3.3.1 Selection phase

Tamkeen will seek to attract high-potential applicants to its one-year fellowship program. Both the selection criteria and the rigorous selection process have been designed with this purpose in mind. The selection criteria were developed to ensure that selection is made on the basis of fellows' potential, commitment to growth, passion for scientific research and development, interest and potential in acquiring leadership responsibilities and commitment to positively impact local communities.

3.3.2 Selection process

The selection process will entail five stages: call for applications, long-listing, short-listing, selection and acceptance, as detailed below.

Call for applications. The selection process starts with a call for applications that will go out via the *Tamkeen* website, mailing lists and through ICBA partner networks. The *Tamkeen* Fellowship application form will include questions about the applicant's motivation and how she expects the fellowship to benefit her career. It will also contain a detailed CV section covering education and employment history, publication and fundraising experience, networking and professional experiences, and community outreach activities. In addition to being used in the selection process, the application form will also be designed in such a way as to serve as a source of data for monitoring and evaluation purposes, providing a detailed baseline snapshot of each applicant's career stage and accomplishments. The call for applications will be open to potential fellows over a period of one month.

Long-listing. Once the deadline closes, all applications will be reviewed for completeness. Those missing large sections or support documents will be automatically eliminated. *Tamkeen*'s Leadership, Training and Fellow Outreach Officer will conduct the long-listing review.

Short-listing. The long-list will be reviewed by a panel of external experts with a solid education background and experience in agricultural Research and Development in MENA. Two reviewers per target country will be selected to review all applications received from the respective country. Each reviewer will be asked to score all applications from a particular country group, e.g. all post-master's applications from Morocco, or all post-PhD applications from Jordan. Given the innate differences in style, English writing skills and professional exposure of applicants from different countries and career levels, it will be important at this early stage of the selection process to process applications in this manner as opposed to providing a mix of applications from different countries to each individual reviewer. Based on the reviewers' scores and review comments, outstanding applications will be selected for the shortlist that will exceed the target number of fellows per target country (*Tamkeen* will

aim to enroll 20 fellows per target country, therefore the shortlist should exceed the target number by 25%).

Selection. The *Tamkeen* Steering Committee (SC) will select the best applicants through a cluster process: (1) Steering Committee members will be divided into groups corresponding to the number of target countries; (2) Steering Committee members will review all shortlisted candidates from the country assigned to them and score their applications (3) Steering Committee members will meet to discuss scores and jointly select the 20 winning fellows for their assigned country.

Acceptance. Once each winner has been notified, she will need to sign and return a copy of her acceptance letter as well as the code of conduct. In addition, the head of her institution must provide written endorsement, guaranteeing the institution's support of the fellow's participation in *Tamkeen* events.

Selection phase: Timeline

3.3.3 Assessment phase

The assessment phase will commence immediately after the fellows' signed acceptance letters have been received. This phase will include: (1) Fellow / Mentor Matching; (2) Fellow / Mentor attendance of Mentoring Orientation Workshop; and (3) Mapping out each fellow's development needs and career planning.

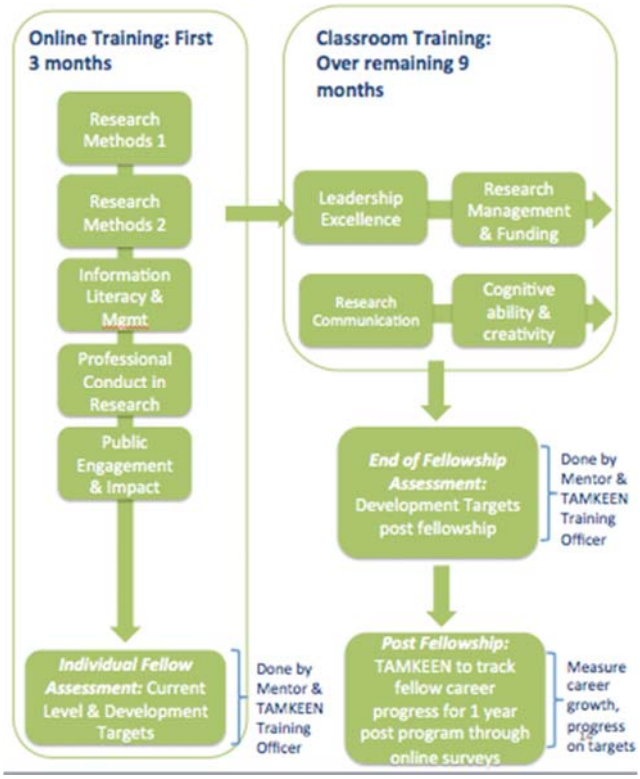
Fellow/mentor matching: *Tamkeen*'s Leadership, Training and Outreach Officer will conduct the fellow/mentor matching process by tapping into *Tamkeen*'s developed Mentor Database. As mentioned earlier, fellows will be given an opportunity to nominate two mentors whom they desire to work with; their choices will also be taken into consideration. Preference will be given to matching mentors and fellows who work in the same institution, if deemed feasible and effective, and also to mentors and fellows located within geographical proximity, again if deemed feasible and effective. Co-location of mentors and fellows will increase opportunities for mentors and fellows to meet in person and thus facilitate frequent contact, relationship building and personal connection.

Mentoring orientation workshop: Once fellow/mentor matching is completed, fellows and mentors will attend the mentoring orientation workshop. The latter will not only provide an opportunity for both to learn about the various aspects of the one-year fellowship, but will also involve them in joint development of a map of the fellow's career goals, development needs and fellowship action plan. The date of each fellow's attendance at the Mentoring Orientation Workshop will mark the start date of her enrollment in the *Tamkeen* program.

Fellow career goals, development needs and action plan: Each fellow's career goals, development needs and action plan will be reflected in the following three documents: (1) Mentoring Contract – which will detail how the mentoring relationship will help the fellow achieve relevant objectives; (2) Professional Development Plan – which will detail all development needs for the respective fellow; and (3) RDF planner – which will serve as an online evolving document where the fellow will document development needs and, subsequently, record and showcase achievements and accomplishments against those mapped development needs. In addition to supporting the fellow's career growth and professional development, these documents will also serve as valuable resources for the monitoring and evaluation process at *Tamkeen*. All three documents will be finalized at the end of the Mentoring Orientation Workshop.

3.3.4 Active fellowship phase

During the active fellowship phase, fellows will complete all online training courses, classroom-based training courses and skill application elements, including: (1) participating in science conferences; (2) conducting the fellow outreach event; (3) participating as a member in a scientific association; (4) engaging in monthly mentoring sessions; and (5) application for placements with international research institutions. The first three months on the fellowship will require fellows to complete all online courses offered by *Tamkeen*. Post online-courses completion, *Tamkeen* fellows will complete all remaining classroom based training, fellow outreach events and participation in regional or an international science conferences.



3.3.5 Assessment of progress

The active fellowship phase will also include several assessments to track each fellow's progress and growth on the program, including:

1. Individual Fellow Assessment, conducted after the online training phase – *Tamkeen*'s Leadership, Training and Fellow Outreach Officer will conduct an initial assessment together with each fellow and respective mentor to gauge learning gained during the first three months of the fellowship through online training programs aspect and mentoring sessions;
2. Pre- and post-training assessment – all online and classroom-based training courses will include pre- and post-training assessments to track fellows' knowledge and skill before and after the training and thus measure the impact of the course and the fellow's understanding of the course materials;
3. End of Fellowship Assessment - *Tamkeen*'s Leadership, Training and Fellow Outreach Officer will conduct a final assessment together with each fellow, the respective mentor and work supervisor to benchmark her progress against career goals, development targets and action plan devised at the start of the fellowship.

3.3.6 Post fellowship

Tamkeen will also track fellows' career progress for five years after their completion of the program. This will be done by means of an online survey that the fellows will complete annually, mapping out their progress across elements such as research proposals submitted, research proposals approved, research collaboration opportunities, citable documents published, promotions and advancements, and community outreach engagement to promote gender perspectives in agriculture R&D in MENA.

3.4 Program organization and operation

Tamkeen will run as a not-for-profit program, with an operational structure initially incubated within ICBA. It is expected that in the future, as the *Tamkeen* program grows and its outreach increases, it will transform into an independent and sustainable entity.

Launch phases: *Tamkeen* will eventually encompass nine countries within the MENA region. However, it will be launched in phases in order to ensure systematic and effective implementation. In

the future, fellows with Bachelor degrees might also be included in the program in order to nurture science talent from early stages.

Governance and partners: *Tamkeen*'s success will rely heavily on strong governance mechanisms and guidance from Steering Committee members and on the support of program partners.

***Tamkeen* Steering Committee:** The *Tamkeen* Steering Committee will play a crucial role in guiding the overall mission and objectives of *Tamkeen,* in addition to carrying out specific activities, including: (1) guiding the overall development of the program; (2) managing the fellows selection process; (3) assessing program content and activity quality and match to program vision, mission and objectives; (4) guiding the program's monitoring and evaluation framework; and (5) guiding financial governance of the program to ensure financial transparency.

***Tamkeen* Staff - Organization chart:** During its first year of operations, *Tamkeen* will conduct 15 classroom-based workshops for 60 fellows, in addition to supporting a complex calendar of other program activities. The *Tamkeen* team will be organized into small units that support its three development elements – skill building, skill application and mentoring support. Sub-teams will cover M&E, communications and administration. *Tamkeen* will be steered by a leadership team that will be committed to professional growth, cultivating a culture of learning and continuous improvement. As *Tamkeen* grows, launching additional hubs in years 2 and 3, the team will also grow to match the increasing number of activities and fellows enrolled in the program.

3.5 Program communication plan

To achieve *Tamkeen*'s vision and key objectives, it is imperative to spread awareness about the value of the program and its contribution to socioeconomic development of the region through the advancement of excellence in scientific research and development and the empowerment of women.

3.5.1 Key messages

- Arab women scientists need more opportunities to improve their research and leadership skills and network with their peers around the world;
- Women scientists working in agricultural research for development are better placed to address the problems and challenges facing women farmers;
- ICBA seeks to work closely with program partners and sponsors to empower Arab women scientists in the MENA region.

3.5.2 Target audiences

Arab women scientists: The program communication plan will aim to inform Arab women researchers in the MENA region about opportunities offered by the program and how it will help them develop their research excellence, facilitate their ascent to key leadership positions in agricultural research and development centres, and enable them to address food security and nutrition challenges in the MENA region.

Program partners: The communication plan will keep *Tamkeen* program partners informed about and involved in the program's progress and impact.

Collaborating partners: Collaborating partners refer to organizations working towards empowerment of women, and those interested and active in creating a platform for Arab women researchers and scientists to improve R&D impact. The program communication plan will keep implementation partners informed of *Tamkeen*'s progress and impact, and make opportunities for collaboration and partnership visible.

Communities: Scientific and non-scientific communities interested in promoting the potential and contributions of women researchers will also be targeted by *Tamkeen*'s communication plan in an effort to raise collective awareness of the role of women researchers.

Media: Impact stories related to women researchers and women leadership will be disseminated by *Tamkeen*'s communication set-up to relevant media outlets.

General public: *Tamkeen*'s communication plan will also target the general public with impact stories related to the role of women in science, scientific development and leadership as a way to raise awareness and combat biases that hinder the rise of women into leadership positions.

3.6 Program Monitoring & Evaluation

Measuring the progress, outcomes and long-term impact of such a complex program is critical and requires careful development of the monitoring and evaluation (M&E) system, including: (1) guiding M&E principles; (2) results framework; and (3) data capture mechanisms.

3.6.1 Guiding M&E principles

Tamkeen's M&E system will be based upon the following four guiding principles, inspired by best practices adopted by other capacity building programs benchmarked during the research phase for *Tamkeen*:

1. Place *Tamkeen* fellows at the core of *Tamkeen*'s M&E system – in addition to tracking and reporting on results, *Tamkeen*'s M&E system will be accessible and meaningful to *Tamkeen* fellows. It will encourage them to be personally accountable for their results and enable them to learn from successes and challenges.
2. Structure the M&E system in a way that facilitates advocacy and prompts institutional change – *Tamkeen*'s M&E system will be structured to produce data and knowledge that is relevant at the management, participant, sponsor, institutional and policy making levels, and that addresses information gaps in the current agricultural ecosystem in relation to women's leadership and contributions, and their impact within the field.
3. Drive accountability at all levels – *Tamkeen*'s M&E system will facilitate upward (to sponsors/donors), downward (to participants/fellows) and lateral (peer to peer) accountability.
4. Account for the complex nature of change – building a results-oriented M&E system is critical, and so is recognizing the complex nature of capacity building programs and the time required to demonstrate impact.

3.6.2 Results framework

A results framework that is linked to the vision, mission and objectives of the program will form the basis of *Tamkeen*'s M&E System. Its components will include:

- Impact – the overall goal of the program referring to the long-term outcome intended;
- Outcomes – referring to the short and medium term results;
- Outputs – products and services produced or delivered by program activities;
- Activities – the interventions and actions that need to be undertaken to achieve outputs;
- Indicators – the measures that will be used to reflect progress;
- Means of verification – the data and information that need to be tracked to measure performance.

It is important to highlight an existing challenge that poses a risk to the quality of data and the measuring of program progress and impact. This challenge is related to the lack of gender - aggregated data for baseline benchmarking of the total number of Arab women scientists working within agriculture research and development field in MENA, and the total number of Arab women scientist leaders working within agriculture research and development institutions in the MENA region. To address this challenge, it might be necessary to commission a MENA-wide study to collect gender –aggregated data from all agriculture research and development institutions across the region.

4. Project activities

4.1 Focus groups workshops

In order to identify the challenges that young Arab Women Scientists face, their capacity building and leadership needs, and their assets that they bring to the field of agricultural scientific research, ICBA conduced three focus groups meeting for the three targeted regions as follows:

1. GCC region: on 1 November 2016 at ICBA headquarters in Dubai, AUE, attended by two participants from Oman and three from the UAE in addition to one ICBA women researcher (as facilitator) in addition to the lead consultant.
2. North Africa region: on 3 November 2016 in Rabat, Morocco, attended by two participants from each Algeria, Morocco and Tunisia in addition to meeting facilitator.
3. Levant region: on 7 November 2016 in Amman, Jordan, attended by two participants from each Egypt, Jordan, Lebanon and three from Palestine in addition to the lead consultant and meeting facilitator.

To facilitate these meetings and produce the women researchers' database, ICBA hired a woman scientists in Jordan and Morocco. One of ICBA woman scientist was asked to do the same for the GCC region.

These focus groups meetings helped also to produce the main project finding documents[5].

Above left: Focus group meeting in Dubai, above: in Morocco and left: in Jordan

[5] Annex 1 - Education, Scientific Research & Development and Agriculture Academic Programs in MENA; Annex 2 - Arab Women Scientists in Agriculture Characteristics, Challenges and Perspectives; Annex 3 - Capacity Building Programs Review; and Annex 5 - Database of Potential Arab Women Scientists in MENA

4.2 Pilot training

To test the developed program of *Tamkeen*, ICBA conducted a pilot training at its headquarters in Dubai, UAE from 23 to 27 April 2017. The training on "Women's Leadership and Management" was giving in collaboration with the African Women in Agricultural Research and Development (AWARD), who run similar fellowship programs for African women scientists. One participants from the nine targeted Arab countries namely: Algeria, Egypt, Jordan, Lebanon, Morocco, Oman, Palestine, Tunisia and the UAE participated in the course in addition to one ICBA woman scientist and the lead consultant. The Gates Foundation Project Officer attended the last day of the training.

The course objectives were:

- Differentiate between leadership and management functions;
- Increase self-awareness through identifying personality preferences, particularly as it pertains with Emotional Intelligence; to strengthen their leadership and managerial effectiveness;
- Use essential communication skills, feedback and facilitation, to enhance their leadership effectiveness;
- Strengthen the ability to lead and team up effectively with diverse groups;
- Develop strategies to influence and build alliances for gender-responsive policies and practices;
- Increase awareness and understanding of gender implications in personal and professional development;
- Draw upon a network of colleagues for personal and professional support, guidance, and assistance;
- Articulate how they will serve as change agents in their own institutions.

At the end of the course, the trainers produced a detailed training report and evaluation[6]. The participants shared a common quote that represent their gain from course and said:

"We have learned the important skills of an assertive personality which will give us the power and the ability to solve conflicts and push us high on the road of leadership."

Participants and the trainers of the pilot training in Dubai sharing their full enthusiasm after completing the first day of the pilot training

[6] See Annex 6 - WLMC TAKEEM Report Detailed Final and Annex 7 - WLMC - TAMKEEN Course Evaluation







Top left: Gates Foundation presentative talking to pilot participants and bottom: ICBA DG (fourth from right in the back line at the graduation ceremony of the pilot training; rest: participants of the pilot training

4.3 High level seminar at IDB annual meeting

As the general theme of IDB Group Annual Governors meeting in 2017 was about "Youth", ICBA and IDB will co-organized a seminar titled **Young Arab Women Scientists Leadership in MENA Region – *Tamkeen***. The seminar, which was conducted in Jeddah, Saudi Arabia on 16 May 2017, highlighted the outcomes of the inception and Design phase of the *Tamkeen* program and discussed the way forward to enhance and promote Arab women researchers in the MENA region. the objectives of the seminar were:

- Introduce the *Tamkeen* initiative that aims to build leadership skills among young Arab women scientists;
- Discuss the findings of the assessments carried under Phase-I (Design Phase), especially the constraints and opportunities faced by Arab women scientists in the MENA region;
- Present success stories of young women who have undergone a similar program under AWARD program in Africa;
- Explore opportunities for the way forward to gather support and build the leadership skills of a relative mass of young Arab women;
- Discuss how the module can be utilized to build leadership skills among youth in IDB member countries.

The seminar targeted the following audiences from the meeting delegations:

- Policymakers of IDB member countries;
- Regional and international donors' agencies;
- Regional and international research organizations;
- National research organization and academia of IDB member countries;
- NGOs and women communities of ISDB member countries.

ICBA participated in the seminar with high level delegation including the Director General and the Director of Partnerships and Knowledge Management Division. The project's lead consultant was invited to present the outcomes of the project. A leader woman scientist from IDB member country (Senegal) that went under the fellowship of the African Women in Agricultural Research and Development (AWARD) was also invited to present her experience, which is similar to *Tamkeen* program. Gates Foundation participated in the seminar with a video message. A short documentary

on *Tamkeen* was presented during the seminar and some of Arab women scientists participated in the pilot training gave their ideas on the program.

5. Media Coverage

Aspects of promotion and communication with regard to the *Tamkeen* program can be found on ICBA's website, media and ICBA's social media platforms. Some examples are listed below:

- Girls, listen. This is why we need you to study science (op-ed on Khaleej Times) https://www.biosaline.org/sites/default/files/khaleej_times_tamkeen_oped_9_july_2017.pdf
- Dr Ismahane Elouafi wants women to be top of the crops (VISION Magazine) https://vision.ae/business/Dr-Ismahane-Elouafi-wants-women-to-be-top-of-the-crops
- How policymakers can support a new crop of young, qualified women (op-ed, The National newspaper) https://www.thenational.ae/opinion/how-policymakers-can-support-a-new-crop-of-young-qualified-women-1.91688
- Female Arab scientists look to head agriculture industry with newly acquired leadership skills (The National newspaper) https://www.thenational.ae/uae/female-arab-scientists-look-to-head-agriculture-industry-with-newly-acquired-leadership-skills-1.61642
- New programme aims to increase representation of female farmers (The National, newspaper) (http://www.thenational.ae/uae/environment/20161024/new-programme-aims-to-increase-representation-of-female-farmers-in-the-middle-east)
- Tamkeen program paves the way for young Arab women leaders (ICBA) http://www.biosaline.org/news/*Tamkeen*-program-paves-way-young-arab-women-leaders
- Giving more opportunities for women in science (ICBA) http://www.biosaline.org/news/giving-more-opportunities-women-science
- Helping women realize full potential in farming and science (ICBA) http://www.biosaline.org/news/helping-women-realize-full-potential-farming-and-science
- IsDB, Gates Foundation support new program for women scientists in Middle East, North Africa (ICBA) http://www.biosaline.org/news/isdb-gates-foundation-support-new-program-women-scientists-middle-east-north-africa