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### Letter from the Editor

Administration & Finance

As Kuwait begins to look forward to enjoying the cooler months the winter season will bring, we at KOC are more prepared than ever to begin tackling the challenges which lie ahead. While it is true that the unrelenting heat of a Kuwaiti summer slows down the pace of life across the country, I am proud to say that over the last quarter, KOC employees and engineers have remained steadfast in their commitment to upholding their duties. From Technicians to Petroleum Engineers in the field, I would like to extend my thanks and appreciation to every employee at KOC who makes the work we do possible.

Employees throughout the Company understand that KOC has the enormous responsibility of providing energy to the world. Since 1934, our mission has been to explore, develop and produce Kuwait's hydrocarbon resources in a way that is both economically viable and environmentally sound. Today, KOC's new 2040 Strategy aims to reinforce our determination to be a secure and reliable supplier to our customers, promote the care and development of our people, and deliver on our commitments to our stakeholders in a compliant, profitable, safe and environmentally responsible manner. In the pages that follow, readers will have the opportunity to learn more about the important work their colleagues are conducting to turn our strategic objectives into reality.

Our lead story for this issue focuses on KOC's recent efforts in the field of production optimization. As hydrocarbon resources throughout the world become increasingly more difficult to extract, our industry must work harder to maximize production through smart, effective, and efficient strategies. Throughout KOC's areas of operation, engineers are utilizing new practices which require active collaboration across disciplines. While technology and Enhanced Oil Recovery (EOR) techniques play a crucial role in helping KOC meet our future targets, the human element – and the necessity for all employees to work together as one team with a common goal – is the true motivation which drives our organization forward. It is only through active cooperation and collaboration that the targets of our 2040 Strategy will be realized, and it is critical that each and every KOC employee understands that he or she has an important role to play in our effort to reach our targets.

In the pages that follow, employees will be presented with a number of submissions that have been submitted by their peers. One article focuses on the importance of fostering better innovation by synthesizing and understanding the data that is generated by KOC. Another article focuses on the importance of enhancing KOC's intellectual capital, which is the foundation on which our knowledge-driven organization is built. This issue also features an article that will strike a chord with those interested in technology, as they will have the opportunity to learn more about how the Company is utilizing hi-tech methods across its Directorates to meet our strategic objectives.

KOC's new 2040 Strategy aims, in part, to keep our Company innovative as we develop and embrace new ideas, methods and approaches that will allow us to overcome operational challenges and create value. It is my hope that all employees throughout all Directorates continue to support, inspire, and learn from each other as we aim to secure our position as one of the world's leading oil and gas enterprises. As we continue to work toward our goals of operational excellence and increased production, we must not lose sight of our responsibility to our local community and natural environment. I therefore encourage each and every one of you to recommit yourselves to your work and duties, as the responsibility for a more prosperous, healthy, and capable Kuwait rests on us all.



### **KOC** Takes Part in Production Optimization Conference

KOC recently took part in the SPE Production Optimization: Smart Strategies and Innovation Workshop that was held at the Dorra Ballroom of the Hilton Kuwait Resort in Mangaf. The workshop, which was organized by the Society of Petroleum Engineers in cooperation with Kuwait Petroleum Corporation and its subsidiaries, is one of the industry's most important technical meetings in Kuwait, as it oversees discussions that focus on ways in which oil and gas production can be maximized. The event incorporated a program which featured both local and international speakers and specialists from the oil and gas industry. The SPE Production Optimization Workshop was attended by a number of senior KOC officials, including KOC CEO Jamal Abdul Aziz Jaafar. DCEO Planning & Commercial Emad Sultan delivered the event's opening remarks while the first panel discussion was moderated by Dawood Kamal, Team Leader Enhanced Oil Recovery Team, who also served as chairman of the workshop's steering committee.

Introductory remarks were made before the start of the first panel discussion to provide background information about the reasons why such a workshop was necessary. In a brief address to the audience, Dawood Kamal maintained that





since 2015, low oil prices have forced National Oil Companies to work their assets harder in order to maximize production without necessarily developing new projects. In order to maximize production, smart, effective, and efficient strategies are required to maintain and increase production, and the aim of the workshop was to address the efforts which have been developed in areas of production optimization for National Oil Companies. In part, the workshop was designed to share knowledge and best practices which seek to develop the production of oil and gas resources which are increasingly more difficult to extract.

#### Panel Session: Production Optimization – Smart Strategies & Innovation

KOC DCEO Emad Sultan delivered his keynote address before the commencement of the panel discussion. In his presentation, Sultan maintained that KOC was committed to optimizing production and increasing proven reserves in a cost-effective and environmentally friendly manner, in accordance with KOC's 2040 Strategic Objectives.

The DCEO said that going forward, the production of oil in Kuwait is going to be harder and more costly, thereby requiring smarter practices and active collaboration across disciplines. KOC has a variety of conventional and unconventional oil and gas resources with different properties in terms of geology, oil viscosity, and subsurface dynamic conditions, which in turn will require a wide range of knowledge and expertise across disciplines.

"Achieving our desired strategic goals will require the utilization of practically feasible tactics, including but not limited to, integrated field development, robust planning for systematic methods of exploration, Improved Oil Recovery (IOR) and Enhanced Oil Recovery (EOR) techniques, the development of real time monitoring methods through digital fields, a fit for purpose organizational structure, and strategic partnerships," the DCEO said.





Sultan went on to say that it was important to integrate the different oil recovery phases: primary, secondary, and tertiary, in holistic field development plans in order to create better production optimization and efficient cost management. He added that KOC uses different procedures, tools, and guidelines to establish effective field development plans. For example, KOC's technical assurance review guidelines are regularly used to clear issues of uncertainties in order to pave the way for the development of appropriate actions as needed. Other examples include regular, periodic reviews of systems which are geared toward the enhancement of reservoir management and governance through proactive action plans which require the collaboration and cooperation of individuals from various disciplines.

"Reducing our environmental footprint is a key consideration to ensure sustainable development and progression from one phase of oil recovery to another," the DCEO said, adding that oil fields today have become highly congested with a variety of facilities, flowlines, and wells, and that alignment between different asset teams in the field is essential in fostering better communication, which in turn will create better understanding among all stakeholders and eliminate confusion while creating better efficiency.

The DCEO also said that it was important to stay abreast of technological advancements in the areas of drilling, including well completion and smart well completion. Moreover, KOC has structured processes to govern and expedite the development of hydrocarbon resources in accordance with the endorsed corporate strategic goals. These processes clearly define the roles and responsibilities of all stakeholders involved. In terms of Enhanced Oil Recovery operations, the DCEO said that a systematic approach has been established to govern new developments, from the screening stage to pilot implementation, adding that minimizing risk associated with new technologies was also a key focus area for KOC's development.

Utilizing digital fields and real-time monitoring is an important aspect of performance tracking, in addition to assisting in the decision-making process. The DCEO said that various tools are



used by KOC to enhance communication and collaboration among field and office staff, the most prominent of these tools being the Kuwait Integrated Digital Fields (KwIDF) project, which is currently used to reduce production downtime through real-time monitoring. The information KwIDF supplies will also help KOC maximize its production potential by allowing control room operators to more closely monitor reservoirs and wells and determine if more production is possible. In addition, KwIDF brings the following features to KOC operations:

- The center allows collaboration between engineers, geologists and geophysicists who work under one roof in order to make better-informed decisions.
- The project is unique in the sense that it provides innovative technological solutions which save time and effort in comparison to traditional fields. KwIDF aims to increase productivity and provide optimal management of oil reservoirs, which in turn will lead to increased production for KOC.
- The Company has a clear vision in terms of training and qualifying the national workforce through this project, which is managed by Kuwaiti engineers.
- KwIDF will serve as an excellent resource for the transfer of knowledge and sharing of information, which falls in line with the 2040 Strategy.

In addition to matters concerning technology, Sultan touched on the subject of change management, which is essential in ensuring a fitfor-purpose organizational structure exists that is aligned with KOC's strategic goals. "It is important to accommodate organizational structure in view of the business needs; for example, certain business needs such as EOR deployment and management of unconventional resources require specialized multidisciplinary and cross-functional groups of staff to work together within the project structure," the DCEO said.

KOC strives to close gaps in the skills of technologies through strategic partnership alliances with world-class International Oil Companies. For example, Shell, BP, and a wide array of reputable service companies, through Enhanced Technical Service Agreements (ETSA),



are assisting KOC efforts to develop heavy oil reservoirs in North Kuwait, Jurassic gas, and other resources throughout the country which require specialized, technical knowledge and experience. Their assistance is also crucial for a variety of surface and subsurface projects.

#### About SPE

The Society of Petroleum Engineers is a nonprofit professional association whose members are engaged in energy resources development and production. SPE serves more than 164,000 members in 147 countries worldwide. SPE is a key resource for technical knowledge related to the oil and gas exploration and production industry and provides services through it publications, conferences, workshops, forums, and membership programs.

### The Role of Technology in KOC's 2040 Strategy



KOC has played a major role in defining Kuwait's 2040 Strategic Plan for the Oil Sector. In part, this new strategic vision calls for an increase in KOC's production capabilities in the years ahead while maintaining the Company's adherence to world-class standards as they relate to operational excellence, efficiency, and safety.

From a technical perspective, KOC's production capacity currently stands at approximately 3.1 million BOPD. However, crude and non-associated gas production capability figures stand at 4.25 million BOPD and 2 billion SCFD respectively. Meanwhile, KOC continues to drill new wells, and over the course of the past year, 672 new wells were drilled across KOC's areas of operation. KOC's focus in terms of new operations and investment is in the field of heavy oil, the operations of which are predominantly centered in North Kuwait, and KOC will continue its efforts to ensure those heavy oil resources will become a significant portion of the Company's total output going forward. In addition to heavy oil production in North Kuwait, KOC is actively planning how the country's offshore resources can be utilized in the future. In this regard, KOC recently completed an offshore 3D seismic survey of the entirety of Kuwait Bay, which was one of the largest geophysical projects associated with shallow water in the world.

While the exploration and production of Kuwait's hydrocarbon resources remains KOC's primary objective, the Company's activities in fact extend far beyond the oilfield. For example, in the past year, KOC successfully inaugurated the New Ahmadi Hospital for employees working in Kuwait's oil sector. The new, state-of-the-art facility is equipped with some of the most advanced medical machinery and devices available, and it will serve the local community in the decades to come. Alongside the new hospital, the brand new Ahmad Al-Jaber Oil & Gas Exhibition was also inaugurated. This new facility, in addition to be being an architectural marvel, provides a history of Kuwait's relationship with oil and will go a long way in inspiring Kuwait's next generation of oil and gas leaders, especially when viewed through the prism of how modern technology can help carry the Company into the future.

KOC continues to actively acquire and utilize the latest available technologies in the world for the benefit and development of the Company's core operations. With the recent introduction of the 2040 Strategy, KOC and its K-Company sisters have marked the beginning of a new and ambitious program that will oversee upstream, downstream, and renewable energy programs. Naturally, for such programs to succeed, the K-Companies must embrace new technologies and innovative solutions that will enhance efficiency and production in order to meet the future targets of the 2040 Strategy.

While the text of the 2040 Strategy may be new, KOC's effort to locate, acquire, and implement new technologies throughout all areas of its operations is not. Over the past 10 years, KOC has been actively implementing new technologies as part of an effort to increase production levels. From the development of individual fields throughout the country to the construction of the Kuwait Integrated Digital Field Project (KwIDF), KOC has remained steadfast in its effort to include technology in its arsenal of effective tools.

In 2017, KOC completed the first phase of the KwIDF project with the rollout and expansion of approximately 1,200 wells, and the second phase will begin this year. This important project for KOC will allow the Company to make use of extensive instrumentation, data validation, and automate the workflow in a digital format so that oilfield operations can be integrated.

At its heart, KwIDF provides automated well measurements and can control and model oilfields under KOC's areas of operation. This remote, automated ability provides a number of benefits, such as minimizing risks associated with hydrogen sulfide (H2S) by eliminating the need for individuals to be in the field taking measurements. In addition, this provides a very welcome environmental impact, as KOC employees who would otherwise have to spend time driving to remote locations can now view and analyze measurements from the KwIDF facility, eliminating the need to make unnecessary journeys.

For KwIDF to work effectively and efficiently, special wellheads must transfer data from the subsurface in real time. The data received is then transmitted to KOC engineers for analysis, allowing for better collaboration and decision-making. In the KwIDF pilot program, KOC was able to increase crude production by more than 5%, which is yet another example of how new technological processes can create value for KOC.

In the past year alone, KOC began to rollout a number of Enhanced Oil Recovery (EOR) techniques to help increase production. Coupled with 180 drilling rigs currently in operation that are actively using the latest technology available on the market, KOC is poised to meet the targets of its 2040 Strategy.

KOC began running a pilot program in North Kuwait last year that experimented with a chemical injection process unique to the region, with the goal of achieving 3.65 million BOPD by 2020. Heavy oil, which is predominantly found in the north,



requires a more complicated extraction process. Because of this, KOC has worked closely with the Kuwait Institute of Scientific Research (KISR) over the years to research various EOR technologies and their efficacy in North Kuwait. An overview of the current and projected production capacity for North Kuwait follows:

#### North Kuwait Production Capacity

Current Capacity	Future Production Target
300,000 BOPD	1 Million BOPD

While current capacity in North Kuwait stands at approximately 300,000 BOPD, KOC aims to raise this figure to 1 Million BOPD by developing Kuwait's Jurassic fields, in addition to finalizing the development of the Lower Fars Heavy Oil Development Program. While the lion's share of Kuwait's reserves are found further downfield in the south (70% of Kuwait's oil reserves are located in Burgan), crude oil production is expected to play a much larger role in the years to come, and this can only be done through the further acquisition and implementation of technological processes and knowhow in the field of heavy oil. One example of new technology optimizing production in North Kuwait was seen through work that was conducted recently by KOC partner Baker Hughes,

who managed to achieve the fastest drilling time and highest rate of penetration in North Kuwait by using its "TerrAdapt" drill bit and specialized drilling measurement tools.

KOC's senior leadership understands the important role which technology and reservoir management play in enhancing all areas of the Company's operations, particularly upstream production. In a recent meeting with KISR, both sides noted the important work that has been accomplished in the field of research and development. For example, KISR filed for and successfully received a number of production-related patents, which include a process to synthesize nano-diamonds for drilling that will optimize the drilling process by cutting down on material erosion. Other patents include sand fixing polymers for oil and gas wells and gelling agents that can be utilized for more effective water shut-offs. Meanwhile, and as part of an effort to optimize reservoir performance, KOC recently awarded a contract that will bring Inflow Control Data (ICD) technology to the field. The ICD technology equipment will be installed on 55 horizontal wells throughout North Kuwait.

As Kuwait looks ahead to the future, there is no doubt that new advancements in technology will play a critical role in how KOC conducts its business. By focusing on Enhanced Oil Recovery techniques in North Kuwait and developing new, integrated facilities, the Company will continue to ensure that its efforts in this domain provide an effective impact on production abilities, now and in the future.

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### Foster Innovation through Data Insight

Submitted by Safa Al-Nashmi, TPL Specialist (I), Corporate Solutions Team

"Just because something is obvious doesn't make it easy. Real strategy lies not in figuring out what to do, but in devising ways to ensure that, compared to others, we actually do more of what everybody knows they should do."

- David Maister, Strategy and the Fat Smoker

How important is the data generated by KOC to running the core operations of our Company's business? How important is it to KOC's Senior Management? To other KOC leaders and employees? Are we utilizing KOC data with the maximum value and benefit? The article that follows will shed light on the answers to these questions and demonstrate how innovation can be fostered through data insight.

Data is a vital asset for strategic and operational decision-makers and it is very important to KOC's Senior Management, Team Leaders and employees. It helps them make informed decisions and ensures alignment between the values by which they operate and the strategies they use to accomplish organizational goals and objectives.

The strategic objectives of KOC, which include the Mission, Vision, Values, and Strategy components, help define the issues that are important to our Company. It is our belief that through better insight of the data generated by KOC, the Company as a whole will be better equipped to foster innovation throughout all areas of the Company's operations.

Similar to any other organization, the data generated by KOC is developing rapidly on a year-to-year basis within KOC Groups and Teams. With the high rate of data expansion, KOC is facing the challenge of utilizing its data to its best ability, and the question of how to parse useful insights from this data arises. If we gather data from the beginning of time to the year 2000, it will be less than what is being created in a minute today. The challenges of data growth and usage are ongoing and the importance to overcome and manage these challenges is becoming essential for a data-driven organization.

How fast has KOC grown since 2000? If we look at KOC's organization chart in 2000, 2010 and 2018 to observe the business growth, we can predict the expansion of the company's data and information in the near future.

By viewing the organization chart, we can begin to understand the challenge, and we can even begin to illustrate a picture which depicts a course of action that will allow us to overcome the challenge. However, the question remains: Is it enough? Can we do better? What is missing? What is the next level?

It sometimes seems that whatever course of action we decide on, it is never enough as the world outside keeps growing and increasing intensely and widely. What is acceptable today in business will not be enough for tomorrow.

Data is the changing face of our world and has turned into a high-value strategic asset because of its ability to connect people, allow ways to measure and control, find deeper insights for efficiencies, enable refined searches, and bring about new findings.

Data in itself is only facts and figures; however, data analysis organizes, interprets, structures and presents the data into useful information that provides context. This context can then be used by decision makers to take action with the aim of enhancing productivity and meeting business objectives.

Today, the classical approach of data process and analysis is not meeting business ambitions because of its hidden values and data insight that are not yet recognized.

#### Data Democratization

Data Democratization is the process of expanding business information and the tools to analyze it out to a much broader audience than usual. Simply, it is the concept of how data and information can give power to business *users*, putting data directly into their hands where they can analyze it without IT or external help.

Researchers and scientists who work on data analysis realized that the key to unlocking the value of organization data is by making it available to the business user who needs it most. This allows non-specialists to gather and analyze data without requiring technical support.

In the degree of analysis chart, the eight common levels of report and analysis are mainly divided into two groups. Standard reports, Ad-Hoc reports, Query Drill Down and Alerts are classified within the analysis report group where statistical analysis, forecasting, predictive modeling and proactive modeling are examples of "AI" or Artificial Intelligence and "ML" or Machine Learning tools. These tools are like a vehicle driving business users not only to their destination, but also planning for their next journey.

#### **Organization Growth and Data Expansion**





These vehicles are a common use for subject matter experts at KOC; however, what is different with data democratization is the change in the way they (AI and ML) have been implemented and used.

#### "We actually do more of what everybody knows they should do."

Today the classical approach of data processing and analysis is not meeting business ambitions as the hidden values and data insights are not yet recognized. Technically, this means moving data into centralized data marts and warehouses, building data integration and connections with all access for analytics targeting those combined stores. This approach was consistently time-consuming and requires specialized skills.

It is important to have the ability to respond rapidly to users, especially in changing conditions like real-time cases. Businesses cannot afford to wait for data to be extracted, merged, cleansed, transformed, and stored before it can be analyzed.

This is known as agile analytics, which require the data to be accessible where it resides at the source to ensure that it is based on the most up-to-date view possible. That is why business users are frustrated with technical services.

Business users must utilize the most efficient point of processing data and information to deal with the potential volumes being searched and returned during analysis and data processing.

#### Summary

Data is not owned by a single business unit, nor is it owned by an individual system owner. It is an enterprise asset that is owned by the organization and must be managed and protected like any other asset in the company.

It is highly recommended to start with developing enterprise data strategy to drive KOC to be a data-driven organization by managing data as a corporate asset with consideration to culture, business and technical changes.

Data Democratization is one of the approaches which can be applied for such purposes with the concept of increasing the organization's Analytics IQ, i.e. the ability of KOC to deploy advanced analytics (AI and ML) at every point of interaction (employee, as well as systems and machines) to continuously improve decision making quality and accuracy to unlock business potentials and arrive at new discoveries.

### Enhancing Individual Intellectual Capital

Submitted by Dr. Olimpia Salas Guzman, Specialist, T&CD Group

Over the last two centuries, society has witnessed different economic eras, with names attributed to each era based on the impact that a technological revolution had at different periods of history. For instance, the agriculture and mercantile (commercial and merchant) eras lasted for many centuries before modern society was evidence that different breakthroughs started with the industrial and post-industrial revolutions, which changed the course of history and the standards by which we live across the world.

The five most significant revolutions recognized by historians are mentioned chronologically in the graphic at the bottom of the page. As shown in the graphic, in a short period of time, the world witnessed how those eras ushered in new ways of living, organizational development, increased the workforce and accompanying salaries, labor rights, infrastructure expansion, population growth, the development of large metropolises and intercontinental transportation.

The rise of the knowledge-based economy has been based on new developments in computing and telecommunication. One of the cornerstones of this new economy was the invention of the Internet, which, in a very short period of time, became a crucial instrument for the socialization of information and developed the momentum for





the "Internet of Things." The explosion of social networks enabled new knowledge creation and innovations to bring the world, organizations and people closer together while fostering the acceleration of the globalization phenomenon.

In 1989, Peter Drucker predicted that the new knowledge based society "would initiate a real revolution in organizational management, its culture and leadership, and bring new ways of managing." He also said, "Business intelligence will have an impact on the way the company and its strategies are conceptualized, and the speed with which individuals and organizations learn will be the new source of competitive advantages in the coming decades."

Rigid organizational structures would start giving way to new, adaptive, and open networks that placed emphasis on creativity, innovation, initiatives and effectiveness. The knowledge and information became the main assets of consumption, technology and human and talent assets. Disruptive worldwide changes will keep shaping new realities in organizational management, and speed up new scientific breakthroughs in the fields of biology, nanotechnology, robotics and artificial intelligence.

The knowledge and information revolution of the 1980s framed a beginning and after of how the world communicates and organizations work. An era which valued more structural and tangible assets gave way to an era of intangible assets. Numerous bodies of research contributed to facilitating the understanding and application of intellectual capital and its management and impact, demonstrating how intellectual assets are managed to convert corporate intangible assets into market value. Intellectual capital represents the ability to create wealth from the management, administration, use and renewal of non-tangible assets that have been formalized, captured and induced to produce higher value goods. It is constructed through the interaction and integration of human, relational and structural capital.

- **Structural Capital:** "Know How" policies, technology, processes, how things are done, patents, trademarks, best practices, lessons learned, process improvements, products and services.
- **Human Capital:** What we know, members and related stakeholders know, competencies, capacity, skills and talents, authorship, commitment, creativity, values.
- **Relational Capital:** Who we know, identifying who knows how to solve what, ethics, customer intelligence, suppliers, competencies, environment and opportunities.

Intellectual capital refers to knowledge capital such as talent, profiles, expertise, relationships and related machines and networks - that can be used productively.

The intellectual capital reflects the inventory of all the knowledge and intangible assets of the company, although many companies still do not reflect it in the traditional financial statements, there are marked trends in reflecting indicators of intellectual capital in the business accounting systems for processes of acquisitions, alliances and takeovers of companies.

Emphasizing the dimensions of human capital in intellectual capital provides a revolutionary vision of estimating the potential value of the company based on the skills and knowledge of employees. The international workforce is rapidly becoming more multigenerational, and the millennial generation has reached more than 45% of the total workforce, which has in turn affected work behaviors and communication dynamics. The need to develop solid foundations for fostering new mindsets has led to a more open and trustful culture which promotes a dynamic to consolidate team organization which in turn boosts innovation and collaboration to foster a learning ecosystem.

The applications of knowledge in each dimension of development, growth, and revitalization stage

requires enterprises to navigate successfully in the era of the knowledge society. It stands out as a key factor to face current and future challenges, the development of leaders who learn to manage themselves in more flexible environments, within decentralized structures, embedding the knowledge sharing and innovation culture supported by networks, and collaboration where people - human capital - have become a key asset for the success of a business.

The growth of technology, social networks, and the emerging industry of cognitive computing (artificial intelligence) will continue to shape new ways in which organizations will interact with customers. This will also anticipate potential services and needs in a more dynamic and agile way. There will be a clear need to manage the issue to generate trust for the power of social computing, and move out of the comfortable traditional learning and communication tools. Therefore, there is a need to move toward organizations that encourage and provide environments that facilitate social networking, creativity, and innovation.

Today, the Knowledge Worker concept that Peter Drucker developed in 1959 is still valid and lives on through employee development programs, career progression and succession planning. As Drucker maintained, "An employee is to be responsible for building learning mechanisms and innovation within his work, and he also must rely on colleagues to evaluate the effectiveness of their practices, and act as a colleague or as a partner in sharing knowledge, and must be treated and recognized well."

We must continue developing solid foundations which foster new mindsets to lead with more flexibility and openness, to encourage a trustful culture which promotes creativity and consolidates smart team organizations that boost innovation and collaboration and enhance a healthy learning ecosystem.

#### Enhancing Individual Intellectual Capital for New Generations of Employees

Because it cares about properly preparing the next generation of KOC employees, the Training & Career Development Group recently launched an initiative called Enhancing Individual Intellectual Capital (IIC) Development for millennials who recently joined the Group. The program's first stage started with two workshops facilitated by Dr. Olimpia Salas Guzman.

The comprehensive design of the two workshops facilitated the understanding of the Intellectual Capital (IC) model, with the concept and main components featuring Human, Structural, and Relational Capital that has been described above. In addition, during the workshop attendants participated in team-building workshops to better understand and experience how to be able to manage an individual's intellectual assets to foster their personal growth.

The content provided knowledge and space for exchange and the sharing of experiences and insights to identify enablers which would boost their IC as well as to visualize application opportunities for the T&CD Group.

The workshop included knowledge sharing from the Group's leadership, interactive activities, presentations, talent inventory, and group dynamics to identify potential areas of application on a daily basis. In addition, the involvement of the Group's management was another approach utilized as part of the educational design and learning process. The knowledge sharing session with Qusai Al-Amer, Manager T&CDG, kept the interest of the attendants, as he shared with passion and excitement how he worked throughout the years at KOC to support and enhance his Individual Intellectual Capital Development.

During the closing session, Al-Amer took the opportunity to exchange different experiences related to how to build the relational and structural capital to manage your daily job. In addition, a session for questions and answers was held where Al-Amer listened to employees' insights about how to enhance intellectual capital for individuals and the Group.

The program will continue and the second phase will include innovative learning schemes to facilitate the process of maximizing the use of the intangible assets to foster the value added for the development of the next generation of KOC employees. This will usher in a new set of innovative and creative skills and capabilities that will drive talent innovation and create a culture of high performance.

### **Cultivating Resilience**

Submitted by Maria A. Capello, Executive Advisor, KOC North Kuwait Directorate

Dr. Rita Montalcini, an Italian Nobel Laureate, whose scientific life was a continuum of challenges, is one of my role models of resilience. Hers was a life which overflowed with difficulties and successes, and she died at the advanced age of 103 years. She repeated endlessly "Above all, don't fear difficult moments. The best comes from them." This is an excellent example of a reflection about how difficulties are important and shape our lives.

We all face difficult moments in life and work, and what perhaps we do not realize immediately is that if we pay close attention, each one of these difficulties was key in building our paths, our journeys. We learned something, not about the problems, or circumstances, but about ourselves. We learn consciously or not, about our own ways to overcome difficult problems, and how to keep going towards our objectives, finding new ways and even new strategies. Reshaping and bouncing back. In short, we learn to be resilient.

#### What is Resilience?

In short, resilience is our capacity and set of internal competencies which allow us to endure and bounce back during times of adversity. Resilience is also defined as the approach we apply during setbacks in times of difficulty.

In a world where the word "failure" is not usually associated with learning, and "difficulties" are rarely relatable to success, understanding what factors lead to resilient profiles is key to enhancing our chances of succeeding in life and work after a low moment or period of setbacks. Resilience can be learned, enhanced and taught. Getting through adversity is not an easy process, and bouncing back is even harder. You may need time to heal and access to good inner resources and social support.

Growing our resilience is especially important at work, as it allows us to grow our ability to thrive in uncertain times, boosts our adaptation capacity, and allows us to be more aware of our strengths (and weaknesses) by lifting our capacity for selfreinvention. Resilience shapes our tools and perspectives to keep our edge and employability.

#### **Biases about Resilience**

There is a misconception that a resilient person is a never-ending, always-working person with endless energy, similar to an athlete that practices very long hours every single day and never gets tired to exercise more, in order to achieve success in the shape of a gold medal or podium. Some may believe resilience means to endure without rest, without recharging our energies and vitality, with an extraordinary capacity to endlessly continue with high-energy, to in turn win a high prize.

The reality, however, is that resilience is the capacity to return to the "fight." Resilience is the way in which we successfully approach and tackle adversity. This is more relatable to a boxer facing the adversary in every round than a boxer practicing until exhaustion.

Keeping the examples in the sports arena, Michael Jordan once said, "I have failed over and over and over again, and that is why I succeed," referring to the many times he had to start over, and the approach he took to keep improving.

Another huge misconception is that resilience is a trait exhibited by people who have experienced huge traumas in life. In fact, each one of us faces our own share of difficulties every day, and although we may learn from those heroes who bounced back from tragic events, resilience is needed by all, for our daily endeavors, which are generally full of small and big challenges that make our lives difficult in their own unique ways.

We can therefore begin to understand resilience as a matter of insight and approach, and if we could build a set of resilient competencies, we would walk in our personal and professional lives more wisely, and possibly with more appetite for risk, leading us to richer and more diverse career paths and successful trails. Not having fear is tremendously empowering. Resilience gives us a perspective to explore our own capacity to grow as professionals and individuals.

#### **Resilient Individuals**

What are the internal factors that create resilient profiles? Many characteristics of resilient individuals

may be taught, fostered and championed with a progressive environment at home and work.

The main traits of individual resilience are positive attitude at life and work and a sense of humor, selfknowledge of weaknesses and strengths, reaching out and connectivity, self-control, self-efficiency, and vision of long-term goals.

One of the most interesting concepts about resilience relies on the fact that resilience can be an acquired skill, and not an innate quality, to overcome difficulties, relatable in the way that learning how to swim may be the differential skill in drowning or not.

#### **Resilient Organizations**

A resilient organization is an organization whose critical business functions, operations and technologies can continue to function with minimal or no disruptions or shut-downs during a major crisis. There are many examples of resilient organizations which have survived natural disasters or economic cataclysms, like Japan's post-tsunami crisis and Houston's recovery after Hurricane Harvey, which are just two examples. Wall Street's downturn and the recession of the late 2000s is another example of organizations that rebuilt themselves, coming back stronger than before.

The resilience of organizations is grounded on human resilience, and it is the collective take at what success and commitment means for every individual in the organization that large groups of individuals can overcome difficult times, empowering their organizations and advancing transformational paths that enable disasters to be ridden out onto safe shores.

Some of the common characteristics of resilient organizations include the following:

- Resilient organizations are self-aware, with a realistic sense of their own shortcomings.
- Resilient organizations invest in their employees' occupational health and stress control trainings.
- Resilient organizations support collaborative, not blaming environments.
- Resilient organizations are innovative and embrace change.
- Resilient organizations invest in their leaders.
- Resilient organizations periodically review their strategic objectives, and ensure all employees are aligned with them.

The path of resilient companies in the oil and gas industry may be trackable, especially in the major companies, as they have survived for more than 100 years the ups and downs of volatile prices, nationalizations of resources and new business frameworks on a worldwide scale. In these companies, the key is the flexibility to adapt to change, and the capacity to endure in difficult periods by focusing on long-term strategic goals.

#### How to harness our own resilience?

I do not wish for you a path filled with obstacles, but to acquire the ability to cope with adversity in the understanding that each obstacle properly surpassed makes us stronger and builds our resilience.

Developing resilience from within is a personal journey. People do not react in the same way to traumatic and stressful life events, or even to minor adversity events. Several strategies may be very useful. Having experienced several hard moments in life and work myself, and having researched this topic, I will have here the audacity of attempting a few recommendations:

- Have realistic long-term goals.
- Trust in your abilities.
- Look for opportunities for self-discovery.
- Network, network, network!
- Observe who you reach out to in times of adversity.
- Take care of yourself and identify what works for you in coping with stress and for relaxation.
- Practice flexibility and improvisation.

A quote by the extraordinary Dr. Maya Angelou, an American poet and civil rights activist who authored more than 30 books, earned three Grammys, and received 48 honorary degrees, is probably the best summary pertinent to the right attitude in relation to becoming resilient: "I can be changed by what happens to me. But I refuse to be reduced by it."

May you be the strongest and most resilient person you can be!

#### To explore more about the topic of resilience:

- David B. Feldman and Lee Daniel Kravetz, 20014, "Supersurvivors", HarperCollins Publishers.
- Ellen Hendriksen, 2017 "How to Build Your Resilience", Psychology Today.
- Maria A. Capello and H. Hashim, "Learned in the Trenches Insights on Leadership and Resilience", Springer 2018.

## Al-Kindi The Father

### of Islamic Philosophy

Abu Yousef Yaqoub ibn Ishaq Al-Sabah Al-Kindi is often called the "father of Arab and Islamic philosophy." While his contribution to philosophic thought were immense, it is also necessary to note that he was a very accomplished mathematician and astronomer. The philosophy that Al-Kindi wrote and lectured about had its origins in the world of ancient Greece. Ancient Greece was also the world in which a tremendous amount of knowledge surrounding math and the sciences emerged. Al-Kindi continued the grand tradition of ancient Greek thinkers into Islamic culture.

#### **Al-Kindi's Origins**

Abu Yousef Al-Kindi was born in 801 A.D. in Basra, Iraq. He was a member of the Kinda tribe and he was also a member of the aristocracy. His father was a local governor and this likely contributed to the early education that set the stage for his later learning. As he grew older, he would go to Baghdad where he continued his studies. Caliph Al-Ma'mun, the seventh Abbasid Caliph, was setting up the "House of Wisdom" in Baghdad around the time Al-Kindi was receiving recognition as a scholar. Al-Ma'mun was a patron of learning and founded an academy called the House of Wisdom where Greek philosophical and scientific works were translated. Al-Kindi was appointed by Al-Ma'mun to the House of Wisdom together with Al-Khwarizmi and the Banu Musa brothers. The main task that Al-Kindi and his colleagues undertook in the House of Wisdom involved the translation of Greek scientific manuscripts. Al-Kindi was also tasked with translating old scientific Greek texts. This likely had an influence on his interest in astronomy and math.

Al-Ma'mun had built up a library of manuscripts, the first major library to be set up since the library at Alexandria, collecting important works from Byzantium. In addition to the House of Wisdom, Al-Ma'mun set up observatories in which Muslim astronomers could build on the knowledge acquired by earlier peoples.

#### **Becoming a Philosopher**

Al-Kindi was not a man who was skilled solely in one area of learning or thought. He would gain great acclaim as a philosopher and his work was reflected in more than 250 books that he had written. Twelve of his books dealt with physics and 32 books dealt with geometry. Other books covered topics of medicine, philosophy, and logic. Al-Kindi was mostly influenced by the writings of Aristotle, Plato, Porphyry and Proclus, whose ideas can be seen in Al-Kindi's writings. However, it should be noted that Al-Kindi did not merely borrow from these earlier writers, as he built their ideas into an overall framework of his own invention.

As is the case with many of his contemporaries, many of the works of Al-Kindi and others during his era were lost, but the work reflected in the texts he completed were so significant that Geralomo Cardano, a great scholar from the Renaissance era, called Al-Kindi one of the greatest minds of his era.

Well into the 20<sup>th</sup> century, 24 of the lost books written by Al-Kindi were actually found in the archives of a library in Turkey. While it is not likely more lost books will be discovered, the possibility does exist that copies of his work might be found somewhere.

#### Contributions to Astronomy, Medicine & Mathematics

Since he is mostly known for his work in philosophy, some of his accomplishments in the field of astronomy are overlooked. There are eight known texts he had written on the subject of astronomy. Several epistles on the subject were also written. There is also the possibility some of his works that dealt with subjects related to astronomy are among the lost texts. Of the works that do exist, the topics range from the movement of the planets, what stellar rays are, the revolutions of the year, and even hypotheses about the nature of the planets in our solar system.

From the works that exist, it is clear that Al-Kindi was a follower of the beliefs of Ptolemy. This means he looked at the solar system from the perspective that the earth was found in the center of various planets and stars. He connected all of their movements and activities as being connected to the divine will of God. According to this line of thought, the various celestial bodies moved in the way they did based on their acknowledgement of the existence of a God and followed along with God's directives to move in a set way.

He also made the case that the seasons were relative to the position and arrangement of the sun at different times of the year and promoted the notion that the difference in skin tone of the people of the earth were based on the arrangement of celestial bodies over their respective locations.

Al-Kindi was also a physician, and was the first pharmacologist to determine and apply a correct dosage for most of the drugs available at the time. As an advanced chemist, he was an opponent of alchemy and rejected the myth that simple, base metals could be transformed into precious metals such as gold or silver.

His works on arithmetic included manuscripts on Indian numbers, the harmony of numbers, lines and multiplication with numbers, relative quantities, measuring proportion and time, and numerical procedures and cancellation. Al-Kindi also popularized the Hindu-Arabic numerals among the Arabs. He "proved" that space and time were finite, with a paradox of the infinite. In geometry, he wrote a text on the theory of parallels, and he wrote two works on optics which later influenced Francis Bacon. At that time, little was known about the scientific aspects of music. Al-Kindi noted that each of the various notes that combine to produce harmony has a specific pitch, and that the degree of harmony depends on the frequency of the notes. He also demonstrated that when a sound is produced, it generates waves in the air, which strike the eardrum, and suggested a way to determine pitch.

#### Legacy and Death

Al-Kindi died in Baghdad, Iraq, in 873 A.D. He was 72 years old at the time of his passing. He left the world with a legacy of work and contributions that solidified his position as a major figure who helped spread Greek philosophy and theories of astronomy throughout the Islamic world and beyond.



#### The Influence of Female Accomplishments in Kuwait Society

"I'm not a heroine, I'm a fighter. I *had* to do what I did." This was the first response Dr. Samira Al-Saad gave when asked about her life's accomplishments. Fatima was a preschooler when her mother, Samira Al-Saad, realized that she was a poor communicator. However, despite the poor communication skills, Fatima displayed a sharp, if not peculiar, aptitude in relation to particular tasks and repetitive behaviors. Her parents soon became certain that Fatima needed counselling to followup on her behavioral development. Although she did not lack intellect, her dilemma was indeed vague.

#### **Diagnosis and Education**

"In the 1980s, we had never heard of a disease called autism. We believed that Fatima could be cured simply by taking pills," Dr. Samira said. Today, there are many methods used to screen for autism, such as the Modified Checklist for Autism in Toddlers (M-CHAT), the Early Screening of Autistic Traits Questionnaire, and the Checklist In order to commemorate the recent celebration of International Women's Day, The Kuwaiti Digest recently sought out a number of female role models in Kuwait from various fields who have created their own success stories through sheer determination, skill, and hard work.

for Autism in Toddlers (CHAT). Testing helps to specify the disorder in order to control the symptoms and increase the quality of life and functional independency of the individual.

When Autism Spectrum Disorder (ASD) is diagnosed in a child, a training strategy is designed according to their level of ASD. This is done to educate the child *and* the child's caregivers by putting them under an intensive behavior therapy regimen that commences at home as the autistic child acquires self-care and job skills. In the 1980s, neither diagnosis or therapy was available in Kuwait. At the time, Fatima's mother was advised to seek a cure for her daughter's health issue in Colorado, USA, where she was diagnosed with ASD by a developmental pediatrician.

#### **Exploring the Autism Society**

ASD is a developmental disorder caused by a mixture of genetic and environmental elements. In fact, how ASD affects the information process in the



brain is still not entirely understood. The disorder is evident throughout early childhood as delayed prattling, uncommon gesticulation, diminished responsiveness, and vocal patterns that are not synchronized with the caregiver. In the second and third year, an autistic child produces less frequent and less diverse prattling, consonants, words and word combinations. Other symptoms such as defects in social interaction and communication, limited inquisitiveness and repetitive behaviors can also be signs of ASD. Those with autism express no impressions about others and show less concern to social stimuli. For instance, many do not respond to their own names, smile, or even make eye contact. Also, they are unable to express simple expressions like responding to emotions, pointing at things, less likely to make requests, and are more likely to simply repeat others' words or reverse pronouns, while children with highfunctioning autism suffer from more intense and frequent loneliness.

The journey of discovering Fatima's case began when her parents made a decision to emigrate to the United States. Sheikh Jaber Al-Ahmad Al-Sabah paid attention to Fatima's case and said to her father, Dr. Fouad Al-Omar, "May Allah bless you. Come back with treatments for your daughter and other Kuwaitis with the same issue."

At first, the family settled down in Colorado and Fatima was admitted to special needs classes. "In the US, every school in the neighborhood must include special needs classes with specialists and assistants to educate students. The classes are supervised by the Department of Education, where they pay close attention to special needs students and their parents as well. Various trips to shopping malls and other public facilities are arranged to immerse students with special needs in the society."

"At first, all that I had in mind was to stand by Fatima," Dr. Samira said. During her time in the United States, Dr. Samira participated in seminars and courses in autism training. She then enrolled in an MA program which focused on autism at Boston University, where the family soon moved to.



Dr. Samira Al-Saad is the first woman in the Middle East to obtain a PhD in Autism Training.

In 1987, Dr. Kitahara was asked to share her well-known method for educating autistic children, called *Daily Life Therapy*, in the US. With a sponsorship from the Commonwealth of Massachusetts, she opened the Boston Higashi Private School, as there was an evident and increasing interest and demand for proper education and training from families across the globe. A few months later, Fatima joined the school and Dr. Samira conducted her training for six months.

- Bachelor Degree in Geology, Kuwait University.
- MA in Special Education in Autism, Boston University, USA.
- PhD in Autism Training, University of Leicester, UK.
- Accomplished her practical course at Boston Higashi School in 1987.
- Co-founder of Kuwait Center for Autism, 1994.
- Established the first Arab magazine which focused on autism, *Silent Cry*, in 1997.
- Dr. Samira Abdul Latif Al-Saad started the program of teaching and training children with autism in her home in 1989. During the Iraqi invasion of 1990/91, the activities of the program continued in Jeddah, Saudi Arabia. In 1993, she contributed to the establishment of the Jeddah Autism Center.
- Participated in the establishment of a specialized and integrated program in the education and training of people with autism, represented by the Kuwait Center for Autism Center, in 1994. It was the first regional specialized center in the Arab world.
- Chairman of the Kuwaiti Association for Autism, 2002.
- Translated notable series of children books such as *My Brother is Different* and *Captain Salem*.
- Contributed to the establishment of the first series of Arabic language versions of the printed and audio-visual versions of autism and special categories called *Series of Awareness* of *The Special Groups*, which was the nucleus of the first book *My Suffering with Autism*, published in 1991.
- Participated in establishing the Friends Center in Jeddah, 1992.
- Chairman of the Special Cases Committee, 1998-2004.

"They had a firm system, longer working hours, extra meetings, and teachers had to do everything from classroom management to toilet cleaning," Dr. Samira recalled. "They focus more on individual training rather than group work, unlike the American approach. It was a tough place to work in, but with great benefits for children."

The concept of the program focuses on three pillars: Physical stamina building, emotional stability, and intellectual stimulation, which develops body awareness, self-control, social development, mood stabilization, and academic achievement.

#### Similar Cases in the Gulf

In 1991, Dr. Samira authored My Suffering with *Autism* when the family moved to Jeddah. She was stunned by the amount of feedback and letters she received. Dr. Samira soon became very aware of the amount of autistic children in Jeddah. She started by starting a class in her house that consisted of three children. A few months later, she collaborated with Maha Al-Juffali Ghandours, the CEO of the Help Center for Children with Special Needs, to institute after-school classes for autistic children. In 1992, Dr. Samira participated with Fahda Bint Saud Al-Saud, President of Al-Faisaliyah Women's Welfare Society, to start the Friends Center in Jeddah that was opened on June 13, 1993. At first, the classes consisted of six autistic children and five teachers with the following objectives:

- 1. Improving the social and communication skills of children with autism.
- 2. Training the children to be self-reliant and develop their social skills.
- 3. Educating children based on their intellectual capacity.
- 4. Modifying unacceptable behaviors.

Doctors and specialists from King Saud University teamed up with Dr. Samira to train and hire more staff in order to accept more students when Engineer Abdul Aziz Kamel provided the center





with a new building in the Salama neighborhood. The center opened in 1995 with more than 20 children and 17 qualified staff members.

In 2015, statistics indicate that autism affects 24.8 million people around the world and that it occurs four-to-five times more often in boys than girls. In Kuwait, although statistics are uncertain, it is estimated that autism affects 19,625 people, with only around 150 cases officially registered at the Kuwait Center for Autism.

#### Cost

According to a US study, an average lifetime cost of \$4.2 million is estimated for families dealing with autism, with 10% spent on medical care, 30% on additional education and other care, and 60% allocated for lost economic productivity; however, this number is on the high end. Another statistic indicates a 14% average loss of annual income in families with an autistic child and high probability that childcare issues will greatly impact parental employment as well. In Kuwait, it was almost impossible for families to afford treatment programs for children with ASD in the 1980s because the disorder itself was unknown. There were various trace lines behind the founding of Kuwait Center for Autism. First was Dr. Samira's contribution to the establishment of the Jeddah Autism Center. Second was the requisition of Sheikh Jaber Al-Ahmad Al-Sabah. Third was responsibility. When asked whether the center was established to provide satisfactory care for Fatima, Dr. Samira said, "It was not like that at all. Being capable and qualified after a very thorough educational and training experience is like a superpower, and with a superpower comes great responsibilities. A responsibility towards the families of ASD children who cannot afford to treat their children, and a responsibility towards those children. My motherhood duties just grew larger."

In 1994, Dr. Samira established the Kuwait Center for Autism with sponsorship from the Kuwait Awqaf Public Foundation, funded by the Islamic Development Bank. At first, the center was placed in a small building in Al-Rawda. The approach *REACH* (Research and Education for Autism in Children) used at the center received a certificate from the International Organization for Standardization (ISO) and the Global Accreditation for the Technical Program. Eventually, more than



150 students were enlisted in the center, and the demands for a new building increased. The new building was opened in 2008 in Mishref, at a cost of KD 3.5 million, and is considered to be one of the best autism centers in the Middle East.

#### People with ASD

The number of geniuses throughout history who were diagnosed with ASD is astonishing. Wellknown individuals such as Wolfgang Amadeus Mozart and Albert Einstein are on that list, as are many, many more. In fact, scientists announced last year the discovery of 40 new genes linked to human intelligence, and that many people with the genes were also on the autistic spectrum. Benjamin Banneker (1731-1806), a famous author, surveyor, naturalist, astronomer and inventor, was one of the cases that simplified the link between intelligence and ASD. He was eminent for being obsessed with fixing certain objects, such as friends' watches, until that obsession led to an experiment of invention of his own. Another connection is the poor communication skills displayed by those with autism. Many people with ASD develop writing skills to communicate with the outer world, or are better able to interact with children. Accordingly, notable novelists such as Lewis Carroll, the author of classics books for children such as Alice in Wonderland, Hans Christian Andersen, the author of The Little Mermaid and The Ugly Duckling, and James Joyce, the author of Ulysses and Finnegan's Wake had many curious mannerism which appeared somewhere on the spectrum.

#### Where is the Autism Society?

Islam compels us to create a civilization that builds its societal foundation on moral values. Dr. Samira responded to a question about autism by recalling something which occurred to her in Saudi Arabia: "I was in Mecca praying next to a young girl with cerebral palsy who was lying down near her mother. A group of women were staring at her as if she was an extraterrestrial being. The child shed a tear since she could not defend herself, while being completely aware of the situation. That scene still haunts me and I aspire to deliver the message that disabled children are gifts from Allah."

Dr. Samira's approach has two directions. The first one is to inject disabled people into the society and to modify people's beliefs about disabilities, especially those with autism. "If you have an autistic friend at school or if you encounter autistic people at work, you will understand that autism is not a processing error. It is just a different operating system." She demonstrated that because people with ASD are part of our society, they must be active, visible members. For that to occur, Dr. Samira proposed that the Ministry of Education establish classes for children with ASD in public schools in order to elevate the culture of accepting people with special needs in the future.

"What if medical students practiced here at the Kuwait Center for Autism? What if we understood that those people are different, but the same?" Dr. Samira mentioned that one of the main obstacles that the center faces is the lack of volunteers. She assumed that being unaware of autism's characteristics is behind that shortage because people are still concerned about what they may believe to be aggressive behavior in children with ASD, and they may not understand how to interact with them properly.

The second direction is to assure support for adults with ASD. For that, a proposal that encourages the Civil Service Commission to assure government jobs for those with ASD was put forth. Meanwhile, the center established a vocational rehabilitation center for adults with ASD. The center allows them to produce handicrafts and arts crafts based on their abilities, with the aim of strengthening their skills. In addition, there are different departments in the center where students are classified, such as librarians, teaching in certain subjects, carpentry, weaving, and other related undertakings.





### Jinan Al-Enezi: A Messenger of The Rohingya Case in Kuwait

*"If good men kept mum about wickedness, the wicked people will assume that they are on the right path."* 

- Ali Bin Abu Talib





The Kuwaiti Digest recently met with Jinan Al-Enezi, founder of the Kuwait-based Rohingva Relief Team, to learn more about the plight of the Rohingya people. Jinan's story began in 2012, when she was a law student assigned to write a research paper about the Rohingya refugee crisis. Despite the media blackout on the critical humanitarian situation, the Rohingya refugee crisis of 2012 brought into sharp focus the stateless status of the Rohingvas. In June of 2012, more than 500 members of the Rohingyas traveled across the Nat River into Southeast Bangladesh, escaping large-scale sectarian strife between the Rohingyas and the Buddhist population. This event received international media attention, and several strategies arose which sought to address the crisis. At the time, Jinan made contact with the Arakan Rohingya Union (ARU) and attended the Rohingya Convention at the Organization of Islamic Cooperation (OIC) held in Jeddah. The convention, which involved more than 61 Rohingya organizations, proposed to represent the political and humanitarian dilemmas faced by the Rohingya ethnic minorities and reclaim their citizenship that was denied by their government.

#### What is the Rohingya Refugees Crisis?

The Rohingya are an ethnic group centered in Arakan, known now as Rakhine State in Myanmar. The area is located between the Indian subcontinent and Burma, facing the Bay of Bengal. Due to its vital location, Arakan was a key center of international maritime and cultural trade for centuries. In the 3<sup>rd</sup> century, Arab merchants reached the Arakan coasts, and later married local women and settled there, causing the Muslim community to grow. In the 19<sup>th</sup> century, the area was ruled by the British colonial power which then left after World War II began. In 1962, Burma's military junta reigned over the country while the Rohingyas had been deprived of their social and political rights.

#### The Refugees Crisis Since 1962

After the Burmese coup in 1962, racial discrimination against people with Indian origins increased as the socialist military government nationalized all properties of the Burmese Indian community. As a result, 320,000 Burmese Indians were forced to leave the country between 1962 and 1964. The Rohingya endured military repression in 1978, 1991/92, 2012, 2015 and in 2016/17. In 2017/18, more than 700,000 Rohinyas were expelled from the country into neighboring Bangladesh.

As Jinan Al-Enezi pointed out, one of the most brutal attacks occurred in 2012, when a conflict between the Rohingyas and Rakhine Buddhists broke out. This resulted in 650 Rohingya murdered, 1,200 missing, and more than 80,000 expelled. Evidence found by the UN revealed that Myanmar security forces were conducting "summary executions, enforced disappearances, arbitrary arrests and detentions, torture and ill-treatment, and forced labor" against the community.

There were an estimated 1 million Rohingya living in Myanmar before the crisis in 2016/17, and by December 2017, an estimated 625,000 refugees had crossed the border from Rakhine to Bangladesh.





The UN reported that the Rohingya people are one of the most persecuted minorities in the world. The 1982 Myanmar nationality law denies the Rohingya citizenship and restricts their freedom of movement, education and civil service jobs. As described by the UN and Human Rights Watch (HRW) officials, "Myanmar's persecution of the Rohingya is an ethnic cleaning. The long history of discrimination and persecution of the Rohingya community... could amount to crimes against humanity," said Yanghee Lee, the UN investigator who warned of the dire situation.

Today, the Muslims in Burma have been living in very grim conditions. Entire families have been forced to escape from the brutality of killing and abuse to the border of Bangladesh. Several humanitarian and media organizations have announced shocking numbers of 355,000 homeless people, 16,000 dead, and 300 mosques and schools demolished.

#### Jinan AlEenzi: A Messenger of The Rohingya Case in Kuwait

"The research I wrote about the Rohingya, along with the horrific facts of human rights violations was a wake-up call. In order for action to be taken, the public must be aware of the sheer amount of people who have been affected by this crisis," she said.

In 2012, Jinan Al-Enezi authored *Muslims of Myanmar: Facts Behind The Curtains*, as she tackled the truth of the tragedy of the Muslims of Burma and the violation of their human rights. The book alluded to the claims of the offenders, who attempted to justify massacre of the Muslims in 2012. The book also illustrated in detail the human rights violations which the Rohingya people had suffered under for years. Perhaps the most horrendous facts concerned the massacres committed in 2012, which forced Muslim clerics





to prostrate themselves before Buddhist officers, converting mosques into temples and digging up Muslim graves.

In April of 2013, Jinan organized the first Rohingya Conference in Kuwait, entitled Cries Without a Voice at the Movenpick Hotel. The conference was sponsored by the late Sheikha Fareeha Al-Ahmad Al-Jaber Al-Sabah, President of the Kuwait Association for the Ideal Family, who stated to the press that she was, "Proud to participate in this conference, which will discuss the unjustified massacre and genocide of the Rohingya people in order to draw the attention of the international media and community." The contributions were targeted to support 1,000 Rohingya refugees, with KD 20,000 alone donated by the Morning Cooperative Association, directed by Abdul Razzaq Al-Ruwaili. The conference succeeded in organizing campaigns to aid the Rohingya refugees in Thailand, Bangladesh and India. It also covered the costs for meals during Ramadan, Eid Al-Adha, support for orphans, in addition to providing medical care and other social services.

#### The Rohingya Relief Team

Jinan focused on creating a team with a solid foundation under the umbrella of Al-Najat Charitable Society. Her intention was for the campaign to keep functioning, even if she stopped. In 2014, two years after the establishment of the team, Jinan changed her major in college from Law to Pharmacy, and this change halted her humanitarian work for some time. "We were grateful to be the first team in the world to reach particular refugees zones in Malaysia and Indonesia," she said. Jinan confirmed that the condition of refugees in Malaysia was better compared to other countries such as Thailand and India.

Two years later, Jinan was back on track and managed more effective projects to support the Rohingya refugees. "This October, another campaign will be launched to relieve the Rohingya refugees in Malaysia. We will reach another five zones to provide medical and educational services. The budget is estimated to be KD 7,000 and it will provide aid for 1,000 people, medical care for 500 people and funds for two schools for one year."

#### The Team's Accomplishments

In August of 2017, the Bangladesh authority finally enabled all humanitarian aid to reach the Rohingya refugees. There are more than 600,000 Rohingyas at the border of Bangladesh living in tents and absolute destitution. Jinan professed that although the contributions collected were significant, the size of the crisis surpassed donations. She also maintained that 13 articles out of 30 of the Universal Declaration of Human Rights had been violated against the Rohingya people. Eventually, the HRW announced that the Rohingya population was one of the most persecuted minorities in the world, and they are taking action against the Burmese regime which is considered to be committing crimes against humanity.

"I actually call this year (2018) the year of accomplishments," Jinan said as she listed the considerable accomplishments of the Kuwaiti Rohingya Relief Team:

- The provision of Iftar meals to more than 200 Rohingya Muslims inside Burma during Ramadan (2018).
- The construction of more than 20 bamboo dwellings in Bangladesh and schemes to continue constructing bamboo dwellings to shelter more than 500,000 Rohingyas in Bangladesh (2018).





- Publishing the first magazine, *Helping Hands*, which highlighted the crisis of the Rohingyas (December 2017).
- Filming and producing a documentary about the Rohingya crisis and the contribution of Kuwait relief campaigns called *The Hands of Kuwait*. The documentary is currently being re-filmed in Bangladesh by *Unwanted*, a US production company, as the team aspires to be nominated for global awards (2018).
- Planning proposals to cooperate with the UN in launching the world's largest Rohingya relief campaign (2019).
- Plans for another campaign to Malaysia to aid more than 160,000 refugees (2019).
- Authoring a book titled *Rohingya: The Crisis of The World's Conscience* to publicize the latest details of the Rohingya issue (2019).

#### **Upcoming Plans: The Refugees Bracelet**

Jinan maintained that one of the major obstacles faced by all humanitarian organizations is determining the needs and location of refugees. For instance, during a 16-hour road trip to the Rohingya refugees of Sumatra, Jinan and her team faced a major flood which hampered the delivery of food provisions.

"However, what refugees really needed was medical supplies and clothing rather than something to eat," she said. For that reason, her intention is to patent what she called *The Smart Refugees Bracelet*. Her objective is to be able to communicate with the refugees and determine what their needs are in real-time. The bracelet will also allow the team to communicate with the refugees by sending them messages. In brief, *The Smart Refugee Bracelet* will include the refugee's name, age, medical condition and educational level in order to track him or her, identify conditions and call for emergency support.

Jinan concluded that she will not stop working in the field of humanitarian work, as she believes she is helping to spread an important message. She anticipates that her major in pharmacy will allow her to add medical aid to her campaigns, allowing her to provide care to refugees all over the world in the future.





### HEALTH Managing Stress

In Kuwait, citizens and residents alike have been blessed with a social and economic environment that eliminates many sources of stress and worry that exist in the modern world. For example, many basic necessities are subsidized in Kuwait, such as food, petrol, and healthcare. In addition, a tax-free environment allows everyone to worry less about money and more about their personal health and happiness. However, despite these blessings, there still exists many opportunities for stress to enter one's life. Issues in the workplace, traffic, bureaucratic red tape, and personal or family hardships can all contribute to the buildup of stress in one's life.

Stress occurs when you perceive that demands placed on you - such as work, school or relationships - exceed your ability to cope. Some stress can be beneficial at times, producing a boost that provides the drive and energy to help people get through situations like exams or work deadlines. However, an extreme amount of stress can have health consequences, affecting the immune, cardiovascular and neuroendocrine and central nervous systems, and take a severe emotional toll.

Untreated chronic stress can result in serious health conditions including anxiety, insomnia, muscle pain, high blood pressure and a weakened immune system. Research shows that stress can contribute to the development of major illnesses, such as heart disease, depression and obesity. However, by finding positive, healthy ways to manage stress as it occurs, many of these negative health consequences can be reduced. Everyone is different, and so are the ways they choose to manage their stress. Some people prefer pursuing hobbies such as gardening, playing music and creating art, while others find relief in more solitary activities: meditation, yoga and walking.

We have two instinctive reactions that make up our stress response. These are the "fight or flight" response, and the General Adaptation Syndrome (GAS). Both of these reactions can happen at the same time.

Walter Cannon identified the "fight or flight" response as early as 1932. It is a basic, short-term survival response which is triggered when we experience a shock, or when we see something that we perceive as a threat.

Our brains then release stress hormones that prepare the body to either "fly" from the threat, or "fight" it. This energizes us, but it also makes us excitable, anxious, and irritable.

The problem with the fight or flight response is that, although it helps us deal with life-threatening events, we can also experience it in everyday situations – for example, when we have to work to short deadlines, when we speak in public, or when we experience conflict with others.

In these types of situations, a calm, rational, controlled, and socially-sensitive approach is often more appropriate.

#### General Adaptation Syndrome (GAS)

The General Adaptation Syndrome (GAS), which Hans Selye identified in 1950, is a response to longterm exposure to stress. Selye found that we cope with stress in three distinct phases:

- 1. The alarm phase, where we react to the stressor.
- 2. The resistance phase, where we adapt to, and cope with, the stressor. The body can't keep up resistance indefinitely, so our physical and emotional resources are gradually depleted.
- 3. The exhaustion phase, where, eventually, we're "worn down" and we cannot function normally.

Everyone reacts to stress differently. However, some common signs and symptoms of the fight or flight response include frequent headaches, frequent heartburn, stomach pain or nausea, panic attacks, excessive sleeping or insomnia, persistent difficulty concentrating, obsessive or compulsive behaviors, social withdrawal or isolation, constant fatigue, irritability and angry episodes, significant weight gain or loss, and consistent feelings of being overwhelmed or overloaded.

Below are five healthy techniques that psychological research has shown to help reduce stress in the short and long-term.

Take a break from the stressor. It may seem difficult to get away from a big work project, a crying baby or a growing credit card bill. But when you give yourself permission to step away from it, you let yourself have time to do something else, which can help you have a new perspective or practice techniques to feel less overwhelmed.

**Exercise.** Research shows that exercise benefits your mind just as well as your body. We keep hearing about the long-term benefits of a regular exercise routine. However, even a 20 minute walk, run, swim or dance session in the midst of a stressful time can give an immediate effect that can last for several hours.

**Smile and laugh.** Our brains are interconnected with our emotions and facial expressions. When people are stressed, they often hold a lot of the stress in their face. Laughs or smiles can help relieve some of that tension and improve the situation.

**Get social support.** Call a friend or send an email. When you share your concerns or feelings with another person, it does help relieve stress. However, it's important that the person you talk to is someone you trust and you feel can understand and validate your feelings. If your family is a stressor, for example, it may not alleviate your stress if you share your works woes with one of them.

**Meditate.** Meditation and mindful prayer help the mind and body to relax and focus. Mindfulness can help people see new perspectives, develop self-compassion and forgiveness. When practicing a form of mindfulness, people can release emotions that may have been causing the body physical stress. Much like exercise, research has shown that even meditating briefly can reap immediate benefits.

*Parts of this article were sourced from information published by the American Psychological Association.* 

### THIS ROAD IS MADE FROM WASTE PLASTICS

### HI-TECH Can Recycled Plastic Save Kuwait's Roads?

While Kuwait enjoys a modern transportation system that is currently being developed even further through various infrastructure projects, almost every motorist has a "loose piece of flying gravel cracked my windshield" story. Kuwait's extreme summer temperatures, coupled with seasonal rains in the winter, wreaks havoc on the nation's road system. Many people on the roads accept the fact that it is a foregone conclusion that, at some point, their windshields will be broken by a piece of flying gravel. What if this issue could be a problem of the past? What if the possibility existed for an entirely new form of road to be built that would eliminate this problem entirely?

In recent years, engineers have successfully accomplished what was previously thought impossible by constructing roads made of recycled plastic. However, before we delve into the details of how such an undertaking was made possible, some background information about current plastic production and consumption is required.

Since its commercial introduction more than six decades ago, worldwide plastic production has hit record levels. We now live in a world where plastic items are used daily by almost every individual on the planet, whether they realize it or not. From plastic packaging to household appliances, and from computers to cars, plastic finds its way into just about everything that is produced on earth today. However, our appetite for plastic comes at a cost. Since the 1950s, our growing taste for plastic has resulted in about 18.2 trillion pounds of plastic that now exists on the planet. About 80% of that plastic is currently buried underground in landfills around the world. Unfortunately, some of that plastic also pollutes our oceans and open spaces. As a material that does not readily decompose, most plastic produced in the past century will be around long after all of us are gone. This begs the question: What are we to do about this problem with plastic?

While some environmental groups are looking for ways to reduce the production and use of plastics in consumer goods, some scientists are finding new and innovative ways to use plastic throughout the global economy. One way that scientists and engineers are recycling plastic items is in the application of plastic roads.



What makes plastic a potential alternative to asphalt, the thick black sticky substance that has long been the material of choice for highway engineers? A road constructed out of recycled plastic would be able to survive temperatures as low as -40° and as high as 80°C, making it ideal for a country like Kuwait, where extremely high temperatures wreak havoc on the majority of materials exposed to direct sunlight and heat. By some estimations, plastic roads have the potential to last three times as long as normal roads - potentially as long as 50 years. A plastic road would also be "unaffected by corrosion" and require less upkeep, which theoretically would mean fewer traffic jams, also making it an ideal choice for Kuwait.

Ditching asphalt for plastic also makes sense if you consider what the more traditional building material does to the environment. Asphalt is to blame for 1.6 million tons of  $CO_2$  that stream into the atmosphere every year, which makes up for 2% of all road transport emissions.

#### A Case Study from India

In 2002, construction on a road in India began; however, this road was not traditional in any way, shape, or form. The road, known as Jambulingam Street, has survived major floods, monsoons, heat waves, and heavy traffic without any evidence of the usual signs of wear and tear an asphalt road would have shown. What sets this road apart from normal roads is that it was constructed from a rather cheap and unremarkable material: polymer glue made from shredded waste plastic. "Kuwaiti Digest 35

The environmentally conscious approach to road construction was developed in India around 15 years ago in response to the growing problem of plastic litter. As time wore on, polymer roads proved to be surprisingly durable, winning support among scientists and policymakers. The plastic tar roads have not developed any potholes, rutting, raveling or edge flaw, and today, there are more than 21,000 miles of plastic road in India.

#### Reduce, Re-Use, Recycle

Utilizing recycled plastic in road construction is not a new concept, but this approach to sustainable roadway design is starting to see newfound attention. Not only can this approach to roadway construction and repairs improve the strength of roadway surfaces and pavement, but it also reduces the amount of plastic that goes to landfills.

Pavement that is constructed using waste plastic has many benefits outside of reduced cracking, including:

- Improved drainage of drier roads with better grip even in rain and snow.
- Increased resistance towards rainwater and stagnant water.
- Reduced development of potholes and cracks in the pavement.
- Enhanced binding of the asphalt mixture.
- Dampened roadway noise pollution from traffic patterns.
- 1 km of roadway saves about 1 ton of plastic and 1 ton of bitumen.
- Reduced roadway construction costs and maintenance over time.
- Introduce employment opportunities to search and sort plastic waste materials.

As innovative construction methods utilize new materials like recycled plastic, engineers will need to work with policymakers to find ways to reduce the burden of waste on our environment. While cities become more populated and our impact on our environment increases, utilizing recycled plastic waste in our roadway construction projects could be one way to reduce pollution and financial stress on annual budgets while also improving public safety for all motorists.

### TRAVEL Visit Singapore

As the scorching heat of another Kuwaiti summer subsides, many will begin to set their sights on winter activities. Spending more time outdoors, camping in the desert, or simply going for a walk outside is how many in Kuwait will be spending their winter. But for those who are unable to quench their thirst for travel, why not consider the island nation of Singapore?

In recent decades, Singapore, a tiny island in Southeast Asia, has become one of the world's most prosperous countries. Spend any amount of time on the island and visitors will see all the features of an ultramodern society, complete with impressive skyline, contemporary architecture, high-end shopping malls, and a highly efficient subway system. However, despite its outward appearance as a high-tech city of the future, Singapore retains much of the ethnic and cultural diversity that earned it its nickname of "The Melting Pot of Asia."

#### What to See & Where to Stay

Famous for its shopping and food, Singapore is also a great introduction to Asia. Clean, orderly and affluent, you can dip your toes into Chinese, Indian and Malay culture without ever leaving the island. You don't have to be a retail junkie or foodie to have fun in Singapore. Visitors can walk around the mosques and cafés of the Arab quarter, visit the shops in Chinatown, have breakfast with an orangutan at Singapore Zoo, catch a show at the Esplanade or have their fortunes told by a parrot in Little India.

There are plenty of hotels in Singapore. High-end and mid-range options are the norm, but there are budget options (the majority in little India and Chinatown). If you're stuck, Singapore Hotel Association has desks at the airport and will find you a room for a small fee.

Food is an obsession with Singaporeans/ Most people eat in unpretentious food courts or food halls where Asian food is served up at bargain prices. Chinese, Indian and Malay food is abundant. Look for fish-head curry, char kway teow (clams and noodles in a chilli and black bean sauce) and nasi lemak (coconut rice with fried anchovies). Vegetarians should be careful – meat and fish have a way of creeping into 'vegetarian' dishes.

Located next to Marina Reservoir, Gardens by the Bay offers breath-taking waterfront views. This multi-award winning horticultural destination spans 101 hectares of reclaimed land, and is made up of two main areas – Bay South Garden and Bay East Garden. Bay South Garden is the largest of the gardens. Inspired by an orchid, the design resembles Singapore's national flower. You can't miss the massive Supertrees here. These tree-shaped vertical gardens are between nine to 16 storeys tall. Walk on the suspended walkway between two Supertrees to enjoy a bird's eye view of the gardens. In the evening, catch the sky show of choreographed lights and sounds at the Garden Rhapsody amidst the Supertrees.

#### **A Brief History**

Singapore was known as *Temasek* (Sea Town) when the first settlements were established in AD 1298-1299. During the 14<sup>th</sup> century, this small but strategically-located island earned a new name. According to legend, Sang Nila Utama, a Prince from Palembang (the capital of Srivijaya), was out on a hunting trip when he caught sight of an animal he had never seen before. Taking it to be a good sign, he founded a city where the animal had been spotted, naming it "The Lion City" or Singapura, from the Sanskrit words "simha" (lion) and "pura" (city). The city was then ruled by the five kings of ancient Singapura. Located at the tip of the Malay Peninsula, the natural meeting point of sea routes, the city flourished as a trading post for vessels such as Chinese junks, Arab dhows, Portuguese battleships, and Buginese schooners.

Modern Singapore was founded in the 19<sup>th</sup> century. During this time, the British empire was eyeing a port of call in the region to base its merchant fleet. Singapore, already an up-and-coming trading post along the Malacca Straits, seemed ideal. The British Lieutenant-Governor of Bencoolen (now Bengkulu) in Sumatra, landed in Singapore on 29 January 1819. Recognizing the immense potential of the swamp-covered island, he helped negotiate a treaty with the local rulers and established Singapore as a trading station. The city quickly grew as trade hub, attracting immigrants from China, India, the Malay Archipelago and beyond.

In 1822 the British addressed the issue of growing disorderliness in the colony by establishing ethnic residential areas that were segregated into four areas. The European Town had residents made up of European traders, Eurasians and rich Asians, while the ethnic Chinese were located in presentday Chinatown and south-east of the Singapore River. Ethnic Indians resided at Chulia Kampong north of Chinatown, and Kampong Glam consisted of Muslims, ethnic Malays and Arabs who had migrated to Singapore. Today, many slices of Singapore's multi-cultural, colonial and wartime past are preserved in and around the city. You can visit monuments, museums and memorials, or for a real trip through time, take a walk along a heritage trail.



### THE KUWAITI FAILAKANS ORAL HISTORY CIS PROJECT Preserving the Untold Stories of Failaka Island

Submitted by Dorothy Watkins With photographs by Tariq Malallah

What is Kuwait's greatest resource? Many would say oil, and they would be correct. In the past, however, fresh water was more important and scarcer. Think back to pre-oil days when Kuwaiti ships were used predominantly for fishing, pearl diving, and trade; not for sailing to places such as Shat al Arab to import water, and before the desalination plant had been built. Failaka Island supplied fresh water to the town of Kuwait for much of its history, especially during the bad times. The Kuwaiti Failakans also provided fish, fresh grain and vegetables to the town of Kuwait throughout the centuries. Below is an image of a typical seaside kiosk, available along the western shores of Failaka Island for selling fish, or trading and selling other goods. These kiosks were available to local fishermen as well as passing trade vessels.



Today Failaka Island is virtually abandoned, but not forgotten. A unique project is underway to record and preserve the oral histories of Kuwaiti Failakans, so that current and future generations will be able to understand what it meant to live on this island, as well appreciate their roles in Kuwaiti society and culture; individually and collectively. It is unfortunate that pictures of bullet ridden homes from the Iraq invasion have become the iconic images we associate with Failaka Island today. This affects how we perceive the island, and how it is remembered. One of the problems with those images of destruction is they do nothing to teach us about the day to day lives of the Kuwaiti people who made the island their home for centuries.



Failaka Island is a unique place in the Arabian Gulf in general, and Kuwait specifically. It is famous for its rich and diverse archeological sites. Where else can you find so much extraordinary evidence of human diversity within such a small space? Failaka Island has been an active archeological site since approximately 1957. Numerous ancient settlements and artifacts are present on the island, going back millennia. The island has Bronze Age Dilmun monuments, an Iron Age burial jar, a Hellenistic period fort settlement, and evidence of a pre-Islam Christian church. It is estimated more than 80% of the island consists of archeological remains, much of it documented and mapped, but not yet explored. What is being overlooked is that the Kuwaiti settlements of Failaka are, by definition, an important archeological site and there is an urgent need to preserve the geography, culture, and history of the Kuwaiti Failakans who once lived there. An archaeological site is generally defined as a place where human activity occurred and materials were left behind. An archaeological site is also defined as a place, or group of physical sites, in which evidence of past activity is preserved; either prehistoric or historic or contemporary.

They are the most recent people to settle on the island, with a rich and fascinating history that is estimated to be at least 300 years. It has been more than 25 years since the Kuwait Failakans had to abandon their homes during the invasion. This means the surviving population is ageing and it will only become more difficult with time to acquire firsthand information, and preserve an understanding of what it meant to be a Kuwaiti Failakan.

It is worth noting that Failaka Island is on the UNESCO List of Tentative Sites, as well as Boubyan Island and Mubarak Al Kabeer Marine Reserve. Included in the list for Failaka Island is the Sheikh Ahmad Al Jaber Rest House built in 1927. There are anecdotes in the British archives that infer the British understood Sheikh Ahmed often visited the island for a respite from British politics, and they had the good sense to leave him in peace when he was at Failaka.

cartographers mention Failaka European (Pheleche/Pheleechi) Island in as early as 1716. In 1855 the British Navy, India Office, published a comprehensive terrestrial and nautical survey and report on Kuwait titled, Trigonometrical Plan of the Harbour of Grane or Koweit in the Gulf Of Persia, by Lieutts, J.M. Guy, and G.B. Brucks, H.E.I.C. Marine. This document includes a report titled the Harbour of Grane (or Koweit), and the Island of Pheleechi, prepared by Lieutenant J. Felix Jones of the British Indian Navy, including the map produced by Guy and Brucks dated 1825 and published in 1828.

The report and associated maps include depth shown by detailed soundings in fathoms, mud flats and areas partly dry at low water indicated with anchorage for shipping and boats marked. The report also includes an informal census of the four communities existing on Failaka at that time,



including their names, the number and types of boats available, and the recent devastation to the communities of Failaka as a result of plague. At the time of Lt. Jones investigation of the island, three of the four communities were vacant, meaning that the Failakans lost an estimated 75% of their residents. In 1830-31, an epidemic of plague affected the entire Persian Gulf region. The disease began in the fall of 1830 with an outbreak in Tabriz, northern Iran, and this may have been the event that spread to Failaka and Kuwait town. It is noteworthy that the Arabian Gulf and Persian regions experienced multiple outbreaks of plague during this period in history, and it is possible, based on the publication dates, that what Lt. Jones witnessed was the result of an earlier plague outbreak and requires further research.

Lt. Jones reported, "The island (Pheleechi)...has three towns, *Toor* the western, *Saidee* the northern, and *Grane* the eastern; the former (Toor) which is the only one at present inhabited; the other two having been depopulated by the late plague. It contains 70-80 houses and about 150 inhabitants." He continues to report, "They possess 15-16 bungalows that trade to Bussora (Basra) and from 45-50 small boats made from the date branch exclusively for fishing....they rear a few onions, melons, and wheat occasionally." Note there was also a village and date grove mapped in the southeastern area of the island, but not named in his report.

#### Relevance

The Kuwaiti Failakan Oral History GIS project is relevant to Kuwait for a number of reasons. First, the Kuwaiti Failakans are of special interest because they were neither urban nor nomadic. Their landscape and resources were different from the Kuwait mainland. They had slightly better soil and water for agriculture compared to mainland Kuwait. They lived in relative isolation, and as a result were resourceful, lived sustainably, and relied on marine travel for connectivity to the rest

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of their society. Additionally, their sense of place included the remnants of all the other settlements before them. Imagine your rooftop overlooking the ancient Greek columns, or strolling past the old shrine of Al Khidr on your way home from your relative's home.

Second is the opportunity to capture the human geography of a unique subculture within Kuwait society first hand. Failakans have an important and interesting story to share and it should be preserved before it is too late. The results will be valuable to future cultural and historic studies and research. Despite the oil wealth, Kuwait is still a developing country and is becoming more modernized every day. Kuwait is often described as a giant construction site. It is likely that Failaka Island will eventually be developed into a large scale tourist site, or a commercial port. Alternatively, some would prefer the island be restored as a living heritage site that would support cultural tourism and the community. Time will tell what the future holds for the island, but it is inevitable that its sense of place and landscape, will change once again.

Third, Geography and the GIS (Geographic Information Systems/Science) professions need to be promoted in Kuwait. For example, KOC has a well-developed GIS Department that has served KOC for more than 10 years performing digital mapping and spatial analysis. Most of the Ministries are currently investing in developing GIS mapping and analysis capabilities. It is a fascinating field of work that is scientific, artistic, analytical, and creative. It is used to solve problems, explore scenarios, tell stories, and communicate information and data graphically across language barriers. It can be considered the most human technology in use today.

Kuwait University offers undergraduate and master degrees in GIS, but many students aren't encouraged or made aware of GIS as a viable career choice, despite the growing need for GIS professionals in Kuwait. Individual professional courses are available through Openware (www. openware.com.kw) Kuwait's official distributor of ESRI GIS software, and their course certification is recognized worldwide by GIS professionals (www. openware.com.kw/training/Training.aspx). There is an urgent need for young Kuwaitis to enter this field as a profession. As a result of this project, the



young adult Kuwaitis volunteering on this project and all of the Failakan participants will be exposed to human geography and GIS.

Fourth is the involvement of young Kuwaiti professionals and students as volunteers. This approach serves two purposes. One is exposing the volunteers to traditional geographic field work, GIS technology, and oral history interviewing techniques, which will increase their skill sets, improve their ability to work as a team, and ultimately increase their employability. The team of volunteers contributes a variety of skills, including interpreting Arabic-English, art and photography, event management, oral history experience, marketing, economics, traditional cooking and hospitality, database / computer skills, environmental preservation, and in return they will learn about field work, GIS, human geography, and the Failakan heritage.

Another important benefit to the volunteers is that the project depends on human interaction across generations; people talking one-on-one, face to face. Each narration shared by the participant is their unique life experience. It isn't something that can be texted, or messaged on your smartphone. It requires listening, and being fully engaged and interested in what this person has to share. It provides an opportunity for the volunteers to disconnect from social media and reconnect with members of their communities in a meaningful way.



#### **Project Methods and Results**

Oral history is a method of conducting historical research through recorded interviews between a narrator with personal experience of historically significant events and a well-informed interviewer, with the goal of adding to the cultural or societal historical record. Because it is a primary source, an oral history is not intended to present a final, verified, or "objective" narrative of events, or a comprehensive history of a place. It is a spoken account, reflects personal opinion offered by the narrator, and as such it is subjective. Oral history can consist of spoken memories, stories, and songs, and the study of these is a way of communicating and discovering information about the past. Oral histories may be used together with other primary sources, such as photographs, artifacts or documents, as well as secondary sources to gain understanding and insight into culture, society, traditions and history of a time and place.

This project is being accomplished through community outreach and the participation of Kuwaiti Failakans to record their oral histories, traditional geographic field work, data collection, compilation and analysis to develop individual case files for each participant or "narrator". A GIS database will be developed to map the case files to their relevant locations. GIS is a methodology and technology designed to capture, store, manipulate, analyze, manage, preserve and present all types of geographical data. The key word to this technology is Geography – this means that some portion of the data is spatial. In other words, data that is in some way referenced to a place.

GIS can be used as tool in problem solving, creating scenarios, illustrating thematic information, and aid in decision making processes, as well as for visualization of data in a spatial environment. For example, geospatial data can be analyzed to determine: the location of features and relationships to other features, such as where the most and/or least of some feature exists, the density of features in a given space, what is happening inside an area of interest, what is happening nearby some feature or phenomenon, and how a specific area has changed over time, and in what way.

As the oral histories, and any photos, maps, documents or memorabilia are shared; it will be collected in a traditional digital library. The library will be developed first as an independent, standalone archive so that it will be accessible through conventional digital access, such as Windows Explorer.

The digital library will then be developed in an interactive GIS platform, so that users can access



the data based on location, such as their family home and listen to oral history recordings, view family photos and other documents. This GIS database will include archival map layers that are overlaid, located in real space, so that the user can look at Failaka Island over time by clicking layers on and off. For example, above is an image of an archival 1825 map, and early master plan spatially referenced to real world coordinates on a current satellite image (not pictured). This type of archival map layering allows the viewer to explore change over time, or in the case of the early master plan, consider various development scenarios.

Preparation, outreach and networking are already successfully taking place. Failakans are coming forward to learn about the project and participate. Anyone who has lived on Failaka Island is encouraged to take part in the project. Participants will be interviewed wherever they are most comfortable: at home, a coffee shop, on Failaka, etc. It is anticipated that some individuals will wish to participate anonymously for the sake of privacy, or other reasons, such as war trauma, old family disputes, health issues, etc. The project has been developed to accommodate anonymous participants and all participants may discuss or decline to discuss any topic the interviewer asks. Additionally, it is important to collect the narrations of both men and women of all ages who lived on Failaka. The project will benefit from collecting as many points of views and experiences as possible.

Extensive field work will be conducted to GPS photograph all structures, homes, and landmarks to include in the individual cases, and to reference them spatially to their locations on the island, along with all historic photography and documents. We are encouraging participant to visit us while we are doing field work on Failaka to help identify home and landmarks, if they have the time and interest. The field work site will offer hospitality, including places to rest, and plenty of food and beverages. A car will be available for those who wish to share their favorite or meaningful places on the island but have limited mobility.

The resulting digital libarary and GIS library will be presented to the Amiri Diwan, Council of Culture, Arts and Letters, Kuwait University, KISR and other cultural and educational institutes for historic preservation and research. With the permission of the participants, the results may be further developed as an online libarary.

If you have memories of Failaka Island that you would like to share, please send an email to dorothywatkins@hotmail.com.

### **A HISTORY OF PAPER**

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Paper, one of the most ubiquitous materials in modern life, was invented in China more than 2,000 years ago. Nearly a millennium passed, however, before Europeans first used it, and they only began to manufacture it in the 11<sup>th</sup> and 12<sup>th</sup> centuries, after Muslims had established the first paper mills in Spain. The German Ulman Stromer, who had seen paper mills in Italy, built the first one north of the Alps at Nuremberg in the late 14<sup>th</sup> century.

ATCH PETTING

How did paper get from China to Europe? Soon after its invention, Chinese merchants and missionaries transmitted paper, and knowledge of papermaking, to neighboring lands such as Japan, Korea, and Central Asia. It was there that Muslims first encountered it in the eighth century. Islamic civilization spread knowledge of paper and papermaking to Iraq, Syria, Egypt, North Africa and, finally, Spain. This pivotal role is evident in the way we still count paper in units - today they are units of 500 sheets - called reams. That word came into English via the Old French *rayme* from Spanish *resma*, which in turn comes from the Arabic *rizmah*, meaning a bale or bundle. Most accounts of the history of paper focus either on its origins in China or its development in Europe, and simply ignore the centuries when knowledge of paper and papermaking spread throughout the Islamic lands. Some of this neglect is due to the difficulty of studying Islamic paper, since Islamic papers, unlike later European papers, do not have watermarks and are consequently very difficult to localize and date. Nevertheless, the diffusion of paper and papermaking skill in the Islamic world in the period between the eighth and the 14<sup>th</sup> centuries wrought enormous changes in such diverse realms as literature, mathematics, commerce and the arts, just as printing with moveable type spurred a conceptual revolution whose effects are still being felt today.

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Europeans long debated the origins of paper. Until relatively recently, most people thought that paper derived from papyrus or that Europeans or Arabs had invented it. Indeed, the word *paper*, attested in English since the 14<sup>th</sup> century, does derive, via Old French and Spanish, from the Latin word *papyrus*. Medieval Muslims, on the other hand, knew that paper came from China. As early as the 11<sup>th</sup> century, the Arab historian Abd Al-Malik Al-Tha'alibi, wrote that "paper is among the specialties of Samarkand, and it looks better and is more supple, more easily handled, and more convenient for writing than papyrus and parchment," the two major writing materials known in antiquity. According to Al-Tha'alibi, Chinese prisoners captured by the Arab commander Ziyad ibn Salih introduced papermaking to Samarkand after the battle of Talas in 751. "Then paper was manufactured on a wide scale and passed into general use, until it became an important export commodity for the people of Samarkand," al-Tha'alibi wrote. "Its value was universally recognized and people everywhere used it."

Whether or not one takes Al-Tha'alibi's account at face value, paper was undoubtedly introduced to the Middle East through Central Asia. Specimens of very old paper have been discovered at various sites in eastern Central Asia, where the extreme dryness of the climate helped preserve them. In 1900, a Chinese Buddhist monk accidentally discovered more than 30,000 paper scrolls in a cave at Dunhuang, in China's Gansu province. One of the letters was wrapped in silk and enclosed in a cloth envelope addressed to Samarkand, which lay about 2,000 miles farther west. The find shows that paper was used by Silk Road merchants throughout the oasis cities of Central Asia even before the coming of Islam.

This Central Asian diffusion route is confirmed by the first Arabic word for paper, kaghad, and by the Turkish word, kâğıt, used to this day. Both derive from Soghdian and Uighur words, which themselves derive from the Chinese word guzhi, "paper made from paper-mulberry bark." Qirtas, another early Arabic word for paper, was borrowed from the Greek chartes and initially referred to papyrus, papyrus rolls and parchment. Qirtas appears in this sense in the Qur'an (Sura 6, "Cattle," verses 7 and 91) with reference to writings on separate sheets. Perhaps the most common Arabic word for paper - and the one in use today - came to be waraq, literally meaning "foliage" or "leaves," probably as a short form of the expression waraq girtas, "a leaf of paper."

By the reign of the Abbasid caliph Harun Al-Rashid (786-809), enough paper was available



The Thousand & One Nights (879).

in Baghdad for bureaucrats to use it for recordkeeping instead of papyrus and parchment. According to the great 14<sup>th</sup> century North African historian and philosopher Ibn Khaldun, the vizier Al-Fadl ibn Yahya introduced the manufacture of paper to Baghdad when parchment was in short supply and he needed more writing materials. The vizier, whose family came from Balkh, now in northern Afghanistan, was probably familiar with paper from his youth. "Thus," Ibn Khaldun writes, "paper came to be used for government documents and diplomas. Afterward, people used paper in sheets for government and scholarly writings, and the manufacture reached a considerable degree of excellence." Ibn Khaldun did not mention one of the greatest advantages of paper: Since it absorbed ink, writing could not easily be erased from it, as it could from papyrus and parchment. Documents written on paper were therefore more secure from forgery.

The new availability of paper in the ninth century spurred an extraordinary burst of literary creativity in virtually all subjects, from theology to the natural sciences and belles-lettres. Religious scholars collected and codified the traditions (hadith) of the Prophet, which had been preserved orally following his death in 632, and committed them to ink and paper. New types of literature, such as cookbooks and the tales we know as The Thousand and One Nights, were copied on paper for sale to interested readers. Although earlier caliphs had maintained libraries, it was Harun's son and successor Al-Ma'mun (813-833) who enlarged the

caliphal library, which came to be known as the *bayt al-hikmah*, or "house of knowledge." Scholars and copyists translated Greek texts, written on parchment and papyrus, into Arabic, transcribing them onto sheets of paper which were then bound into books.

A Greek manuscript now in the Vatican library is believed to be the oldest surviving manuscript written on Arab paper. Consisting of a miscellaneous assemblage of the teachings of Christian church fathers, the manuscript was probably copied at Damascus in about 800, and shows that the use of paper was not limited to the Muslim bureaucracy in Baghdad. It was used also by Christians living under Muslim rule in Syria, a community instrumental in the great translation projects of the time.

The oldest surviving dated book copied in Arabic script on paper is generally believed to be a fragment of Abu Ubayd Al-Qasim ibn Salam's work on unusual terms in the traditions of the Prophet. Preserved in the Leiden University Library, and dated to November or December of 866, the manuscript is on dark brown, opaque, stiff paper; it is strong, of medium thickness, and has clearly undergone some polishing on both sides. Thus, we know that paper was used in the Islamic lands for Christian, secular, and theological manuscripts at least from the ninth century.

There seems, however, to have been some resistance to using this new material for transcribing the Quran, the most important and popular book in the Islamic lands, which was normally copied on leaves of parchment. Parchment is made from goats; it is strong and durable, but expensive to make, for, in addition to the labor of preparing it, the animal must be killed to get its skin. Eventually paper triumphed as a writing material and, at the same time, the majestic Kufic scripts developed for writing on parchment gave way to angular "new style" and then more flowing, or cursive, styles of writing. In addition, the typical book format changed from horizontal to vertical. Perhaps the most famous early paper manuscript of the Quran is that copied in 1000-1001 by Ali ibn Hilal, known as Ibn Al-Bawwab, who was then the leading calligrapher of Baghdad.

By the late 10<sup>th</sup> century, paper had entirely supplanted papyrus, which had been used uninterruptedly in Egypt for four millennia. Despite

\_ م اله الرحيل الرحيين فلطمن سلماد الفادي حديث شلمات إنه فالراحته إمال الس السايكة عراجد حم مرجد به والام وملعتاة ( قد ) عبد هار ملعاة ( قد التر معد له لاجره العاد الوعسم حد بناء مر و ال بر بعود عر للم بن مُتَّمَد ؟ [ لا جمع عن الله بركم يعن فكم ته وسلمان ٥ قاد الوديد و غير ، قو له علقاء مين المعتر وحقدوا لعدش والمقدلة مرالف ما وهى الممون مادمنه متدنية مدن ملدوسا الما محك فلو فيتد وا لوى داد سلما والعاد م و الم و الفي و م النوم النوم الم فمجه من العباد الصلوه وسطهو تدويه تهدد 2 أو 1 إلك موضع تلغناة وهو هيد المعنى س فاحد و و له اجلوا ماس المشاب وانه الدالف. وا بعساستعدهما عسان منا عورد عاسة الاسودان المتز والمأوانعاا ليتولط للمروجة وهفوهم منتها العمدي وانعاعما إيو يصر وعمر وهذاكار المجتوب ادا حان التربع عنوه ذما تتدوم حمعا اسعاجد هما وقد فترباه عقدهد الوص الوعد ع حد بد سلمان او بات و حاد دها الميض و بات اخل بعداً العرار و تذ حد اله اردا الم الفظا مادار ع الدعر سلمتر التسم عدار عنو عن المال ال له القشار واحد The Book of Linguistic Difficulties in the Traditions of the Prophet, the oldest surviving Arabic book (866).

the introduction of parchment in Roman times, papyrus had retained its importance throughout Egypt's Greek, Roman and early Islamic periods for letters and documents, as well as for copying literary works. Surviving documents and Arabic sources indicate that papyrus was still made in Egypt during the early Islamic period for local and foreign consumers, such as local governors and the Byzantine and papal chanceries.

Paper began to be used in Italy at the very end of the 11<sup>th</sup> century, first in Sicily, where the Normans followed Arab custom, and then in the northern trading cities. European papers also began to make their way east, although they faced stiffer competition from the local product there. A singlevolume manuscript of the Quran in the Nour Collection, for example, was transcribed on Italian paper datable to the 1340s. Heavily watermarked with a double-key design surmounted by a cross, the paper is almost identical to examples from Arezzo and Torcello near Venice. The European paper confirms that Genoese and Venetian



merchants like Marco Polo had carried Italian goods, including paper, to Iraq and Iran, where they may have traded them for carpets, silks, and spices to bring home.

The appearance of European paper at this date in Iran and Iraq, in contrast to North Africa and Egypt, is all the more surprising because local production was then at its apogee. From the 13th century, the availability of large sheets of locally manufactured fine white paper in Iran had spurred a second revolution in the Islamic book, the effects of which would continue to be felt for another two centuries there and in Egypt, India and the Ottoman Empire. Before the 13th century, most books written on paper had usually been small, normally no bigger than a sheet of modern office paper, implying that the sheet of paper from which they had been made was about twice as large. A sheet of this size was made in a mold that could easily be held in the papermaker's hands. Larger sheets of paper were more difficult to make and consequently too expensive to use freely. Even when caliphs and sultans needed long scrolls for documents and decrees, they were made from smaller sheets pasted together.

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From the 13<sup>th</sup> century, however, the size and quality of paper available in Iran for books and other uses increased dramatically, but the causes of these changes are not immediately apparent. As always, the Quran continued to be the most important and popular text, and famed calligraphers penned splendid large copies. Larger sheets of paper allowed larger and more monumental examples of the calligrapher's art, but they also allowed production of books with increased numbers of larger illustrations, and from the early 14<sup>th</sup> century the illustrated book became a major form of art in the Islamic world. In previous centuries several types of books had been illustrated with relatively small drawings and paintings to clarify specific points in the text. Thus, books on astronomy would have been practically useless without small diagrams of the constellations, and books on pharmacology might have been dangerous

without small illustrations of the useful plants the author discussed.

The increased availability of paper from the 13*th* century also spurred another artistic revolution in the Islamic lands. Architects and artists began to take advantage of the medium to work out designs before the work of art was actually executed, and for transmitting designs from one place to another. The most obvious new role for paper was in architectural plans.

Builders in antiquity had, of course, sometimes used plans and drawings, and there are occasional references to plans in the first seven centuries of Islam, but most construction was based on empirical knowledge transmitted by the spoken word, by gesture, and by memory from one builder to another and from one site to another. From the 14<sup>th</sup> century, however, builders in the Islamic lands increasingly took advantage of plans and drawings to supplement their traditional skills. Within each cultural orbit, the result was an increased uniformity in architecture, as the new method of representing architecture allowed someone working in the capital to design a building for a provincial city he might never have visited. The clearest example of this new approach comes from the Ottoman Empire, where, after the conquest of Constantinople in 1453, the office of the chief court architect in Istanbul became responsible for designing buildings, bridges, and aqueducts for sites throughout the realm, to be constructed by local workmen. Ottoman architects were thereby able to achieve an impressive uniformity in their work, and the Ottoman presence in a particular region was immediately visible as hemispheric lead-covered domes and pencil-thin minarets defined the skyline.

The increased availability of paper in the Islamic lands also spurred a change in the other arts, such as metalwork, ceramics and particularly textiles, as artists increasingly created designs on paper that artisans applied to their work. Now the increased presence of designs on paper led some artisans to work in different ways: Potters learned their designs from pattern books and weavers learned to follow the encoded instructions in large cartoons or smaller graphs. Not only did this development signal a split in the traditional unity of artist and artisan, but it also meant that old and new designs were free to be attached to whatever medium the



copy of the Quran (972).

artisan chose: Similar designs, for example, might now appear on textiles, ceramics, metalwork and in book illumination.

In both China and Europe, the start of paper manufacture was quickly followed by the development of printing, first with wooden blocks and then with moveable type. Block printing was also known in the Islamic lands, perhaps as early as 10<sup>th</sup> century Egypt, where it was used for decorating textiles and producing inexpensive amulets, but it seems to have died out in the 14th century. Why was the idea of printing books or literary texts not seriously entertained in the Islamic lands until the 18<sup>th</sup> century? It was difficult to design a complete font of Arabic type, since some 600 sorts, or separate pieces of type, might be needed, as compared to 275 for a European language, including italics, points and figures. Furthermore, typeset Arabic would inevitably compare unfavorably with the fluid handwork of a calligrapher - indeed, it is still considered inferior today. Finally, traditional Islamic society accorded great respect to calligraphers and their work.

Thus printing came late to the Islamic lands. The first book printed in Arabic script was printed in Europe, and is believed to be the edition of the Quran that Paganino de' Paganini printed in Venice in 1538, of which a single copy was discovered in 1987. Only in the 18<sup>th</sup> century were the first presses established, with European help, at Aleppo and Istanbul. Knowledge had thus come full circle: Having given paper to Europe, the Islamic lands learned printing from Europeans.

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