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Dear Colleagues:

On behalf of the SAE eNewsletter Subcommittee, I am wishing you and your families a Happy 1396 New Year. We are looking forward to the prosperity and peace in Afghanistan and the entire world.

It is a pleasure to provide you the second issue of the 2017 SAE eNewsletter (newsletter). This is the seventh year of the quarterly update from the Society of Afghan Engineers (SAE) through the publication of this newsletter. Thanks for your comments, suggestions, news, and articles that you have sent for publication in this newsletter.

This issue of the SAE eNewsletter features an article by Dr. Said Sharif Hossainy, written about the architectural design of the new Parliament Complex of the Islamic Republic of Afghanistan.

Dr. Gul Afghan Saleh has written an article about the effects of climate changes on

Afghanistan's water resources and environment

There is a report by Mr. Ghulam M Feda about Tele-Education in Afghanistan.

We are looking forward to the receipt of your technical news, articles, comments, suggestions, questions, and opinions about SAE activities, especially this publication.

Very Truly Yours,
G. Mujtaba, MS- CE, P.E.,
CPM;

Editor- In- Chief, SAE
eNewsletter

"This issue of the SAE eNewsletter features an article by Dr. Said Sharif Hossainy about the architectural design of the new Parliament complex of the Islamic Republic of Afghanistan."

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GREETINGS FROM THE SAE PRESIDENT

Dear SAE Colleagues Salaam:

I wish everyone a Happy, healthy, and prosperous new year 1396.

The start of my third year in the office has begun with hosting of the Society's Annual General Assembly Meeting (GAM). Initially, the Executive Committee wanted to duplicate on the success of last year's General Assembly Meeting 2016 by combining the GAM with a seminar and in person participation of members and guests, but due to the unpredictable winter weather of the Washington metro area, in consultation with the Board of Directors the decision was made to separate to two. In compliance with the SAE bylaws, the Annual General Assembly was held via teleconference participation of the membership on January 7, 2017. The summary of the General Assembly Meeting minutes is provided in this issue of the SAE eNewsletter.



The idea of hosting a larger seminar was extensively discussed both with the Executive Committee and the Board of Directors. The consensus was to hold the meeting in late summer 2017 and discuss the relevant technical issues of Afghanistan. The announcement of the Seminar will be made soon.

The Executive Committee and local members of the Board of Directors had the opportunity to host a dinner reception for the Acting Mayor of Kabul, Mr. Abdullah Habibzai, who was on a brief travel to Washington, DC. We had a productive, constructive, and healthy discussions on many topics of interest to both Kabul Municipality and the SAE. We had a lengthy conversation on SAE's involvement and assistance to the Kabul Municipality. The Acting Mayor was very receptive and enthusiastic to the idea of SAE helping his office. He requested to sign an official Memorandum of Understanding (MOU) with SAE, to formalize the relationship and for SAE to become an advisor/consultant to the Municipality.

The SAE drafted the MOU last month and forwarded it to the acting Mayor Habibzai for modification, we are waiting for his response. As I have previously stated, the government of Afghanistan and now Acting Mayor Habibzai has given the SAE an open invitation and the opportunity to participate and contribute in Afghanistan's development and its construction efforts. This is our opportunity to prove that SAE is indeed a professional, experienced, and effective organization.

This year the SAE members will elect the President and 9 members of the Board of Directors for the years 2018-2020. I am hoping that all SAE members participate at this unique opportunity to either be candidates for the positions or nominate other qualified members and upon their elections take the realm of SAE's leadership and lead us for the next three years. This will be a great opportunity for our talented members to lead and take the Society to a better place beyond what the current and past leadership could lead. I am looking forward for your active participation in this process. Your participation will be greatly appreciated.

Sincerely,

Atiq Panjshiri,

The SAE President

The New Parliament Complex of the Islamic Republic of Afghanistan

by

Said Sharif Hossainy, Eng. Arch. PhD



Main Elevation - The New Afghan Parliament

My esteemed readers know that the renovation of the old parliament building was completed and officially inaugurated on 19th December 2005 (28- 09-1384 HS) by H.E. Former President of the country Hamid Karzai. This was a happy occasion for our beloved country because the Parliament started to work again after decades of war.

The renovated old parliament building was not able to accommodate both the upper and lower houses of the parliament. The accommodations were insufficient, especially for the joint session of both houses for the President's speeches. Therefore, the Government of Afghanistan decided to construct a new parliament building complex for the parliament. As the result of discussions with the Indian Government, they agreed to aid with the design and construction of the new Afghan parliament complex.

For this purpose, the author undertook the responsibility for the preparation of the Program for building's design and construction requirements, both Dari and English languages. This task was completed with the grace of God on 03th January 2005 (14-10 -1384 HS). The Program was officially sent to the Afghanistan's national archives and to be kept as a historic document.

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The Program of requirements was given to the visiting Indian team of architects and engineers. It was decided that preliminary architectural drawings would be prepared accordingly.

The Program was prepared by keeping the present and future needs of Afghanistan at sight.

For example, provision for 360 members of the Lower House (Wolsi Jirga) was made against the present requirement for 249 members and for the Upper House (Meshrano Jirga) provision for 120 members was made against the present requirement for 102 members in anticipation rise of population in the future.

The main building of New Afghanistan Parliament is briefly explained below:

(1) Block-A: Plenary hall, Lower House which can accommodate 360 members. This hall can also be used for joint sessions of the parliament for the President and visiting dignitaries. A room for the President and foreign dignitaries has been provided which can be accessed through a separate special entry. The layout of the house has been laid out in a half-circle with enough space so every member can move individually from their seat without causing any disturbance to others.

The seats of the parliament members have Amphitheater arrangement. A 1.5-meter-high Dais, has been provided facing the hall to accommodate the Honorable Speaker's chair so that he/she can have a full view of all the members in the house. All members of the house can also view the speaker. Seating arrangements for the Speaker's staff have been made in the front of the Speaker's chair at a lower elevation.

The greatest dome in the region has a diameter of 22 meters and its height from the roof level reaches 15 meters. A large crystal chandelier will be provided in the central position of the hall. It will provide diffused light without any glare to the occupants of the house, so there will be no cause for emotional fatigue for the audience. I should point out that because of the great dome, I, Dr. S.S. Hossainy, suggested a custom designed chandelier 10 meters in diameter and 11 meters in height with a weight of 2400 kg. This weight has already been calculated in the design of the dome. The proposed chandelier would fill the enormous void, and give the ceiling of the plenary hall a special aesthetic impression. Purchase and installation of the crystal chandelier have been postponed at present.

The plenary hall is equipped with the latest technology, CCTV (closed circuit television), ICT (Information and Communication Technologies), microphones and video cameras are provided for clear communication and visibility. The image of members participating in house debate, are being projected on a screen. Sound and acoustics are important and have been taken into consideration in the design.

Because time management is essential for discussion in the houses, microphones have preset cut off timers and will automatically switch off at the end of the set time. An electronic voting system is set in the Upper House and Lower House.

Around the inner corridor in both houses there are offices for the speaker, chairman, deputies, secretary general as well as lounges. On both sides of the plenary hall in both houses, there are galleries for cabinet and ambassadors on the first floor and press and translation galleries on the second floor. In addition, there are also galleries for visitors on the second floor.

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Two prayer halls are provided in the basement of (Block- A) for ladies and gentlemen. Parliamentarians can access the mosque using elevators or stairs in Blocks -B and D. Restrooms and wash areas have been provided near the prayer halls.

(2) Block- B: Surrounding the central hall (Lobby) on the ground floor there is a reference library, a computer room, press conference for both houses and dining hall for members of the Upper House. On the mezzanine floor, there are lounges, a dining hall for members of the Lower House. Separate kitchens for both Houses are located on the ground floor and on the mezzanine floor. On the first floor, there are 13 committee rooms. The ceiling of the central hall is covered by a sky light which provides adequate day light for all three floors.

(3) Block-C: This is a great ceremonial hall of 1000 square meters to be used for gatherings. It is connected to the main entrance. The initial area planned was less but subsequently increased from 600 to 1000 square meters at the initiative of Dr. Hossainy and architect Mr. Nabi Neda. On the second floor, there are 5 committee rooms. A large three stepped fountain is provided at the center of the hall.

A skylight made of glass and stainless steel has been installed to provide natural lighting and offer a modern look. There are also eight Doric style columns which have been proudly designed by the author Dr. S. S. Hossainy and architect Mr. Nabi Neda and added to the structure. These 15-meter-high Doric style columns have added elegance and have also enhanced the appearance of the building's main entrance. Two auxiliary entrances are in the ceremonial hall, one in the south west, the other in the south east. This entrance provides a handicap ramp which is designed by author.

(4) Block -D: The Upper House can accommodate 120 senators. All facilities provided in the Lower House are also provided in the Upper House.

It is pertinent to mention here that the main parliament building was in a low-lying area. The author Dr. S. S. Hossainy strongly recommended that the building be raised 6 meters off the ground, so that the height of the parliament building can be comparable to the height of the existing Dar-ul-Aman palace.

As mentioned, the parliament building has been divided into four parts: Block A, Block B, Block C and Block D. Each part except Block C has projected staircases beyond the building envelope giving a regal view like Afghan forts towers. This is in vogue in Afghanistan and forms a part of Afghan culture. This monument's dome, windows and eight towers creates an Islamic- Afghan architectural style.



The central portion with eight Doric style columns and skylight were designed by Dr. Said Sharif Hossainy and Dipl. Arch. Nabi Neda

An additional eight fire escape doors as well as staircase from the ground floor to the basement in the Block-B have been added to the working drawings by the author, Dr. S.S. Hossainy.

Service Block: A service block is part of the parliament complex. Provision has been made for an HVAC system (Heating, Ventilation and Air Conditioning) to keep the building heated in winter and cooled in summer. The chiller systems, all outside windows, are double glazed to save the energy. An electrical sub-station is also provided in the service block. The parliament complex is equipped with a water supply and a sewage system. A covered parking lot is also provided in this service block for VIPs.

Reception building: An ample separate reception building is in the east part of the Parliament complex for clientele and visitors.

Two open parking lots for more than 600 vehicles are provided in the eastern and southwestern areas.

It is worth mentioning that this magnificent and splended monument has 33,000 square meters area and 8,000 square meters of white marble from the Chishti Sharif District in Herat province used on the elevations of the building.

The dome is clad with durable copper sheeting. This will produce various aesthetic effects throughout the different seasons. The copper clad dome was included at Dr. S. S. Hossainy's insistence.

At the author's insistence, the building has 12 OTIS made elevators. Two elevators were added on both sides of the main entrance to provide access for physically challenged people up to the ceremonial hall floor level.

Landscaping with grass, rose gardens and decorative trees will have a suitable impact on the protection and preservation of the environment and will undoubtedly add to the beauty of the parliament complex. Fountains and a large basin are situated in front of the main entrance, called the Water Body. Behind the basin there is

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a long 2 ½ meters tall wall with a waterfall, providing a wonderful view. The waterfall will be enhanced at night by color projectors. In hot summer time the basin and waterfall has distinctive effect on the site's Micro Climate.



View of the fountains, large basin and waterfall - The building in the background are the ruins of the historic palace of Dar-Ul-Aman.



Night view of the water fall light up with projectors

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The boundary wall of the new building consists of a beautiful ornamental and decorative 2500 meters long picket fence. This boundary fence has 5 gates, two for formal events, one for staff and visitors, one for the service block and another for the future residential complex.

It is worthwhile to mention that initially a 4-hectare (20 girib) area was planned. Subsequently through the efforts of Dipl. Eng. Pashtoon, former Minister of the Urban Development Ministry, this was increased to more than 45 hectares (225 girib).

The building has too many details to be discussed in this brief report. It is stated that Indian and Afghan officials including the author had a series of serious discussions in Kabul and Delhi. Due to the professional conduct of the author the future requirements of Afghanistan have been incorporated in the prepared program documents. The government of India initially donated \$25 million USD in aid for the project which has increased to around \$100million USD. We greatly appreciate their aid.

In a formal event, the foundation of the New Afghan Parliament building complex was laid by Baba-e-Millat King Zahir Shah in the presence of H.E. former Afghan President Hamid Karzai and H.E. former Indian Prime Minister, Manmohan Singh during his visit to Kabul on the 29th of August 2005 (06-07-1384 HS).

It should be remembered that H.E. former President Karzai, deeply cared about the reconstruction of the country and specifically the Afghan Parliament Building. Despite his busy schedule he has taken time on several occasions to meet with the former Urban Development Minister Pashtoon, myself, and the Indian Ambassador to solve some of the concerns with this project.

The New Afghan Parliament Complex was Inaugurated and turned over for use on December 25, 2015 (04-10-1394 HS) by H.E. Dr. Ashraf Ghani, President of Afghanistan, and Narendra Modi, Prime Minister of India.

Future Buildings:

A – Executive Block: (Administrative building). At the author's insistence, the architectural drawings of the Executive Block were designed under the author's direct supervision by architect Mr. Ahmad Zia Hamid.



Executive Block (Administrative building)

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The Central Public Works Department (CPWD) in Delhi prepared the engineering and mechanical drawings as well as the bill of quantity.

As the results of further discussions with the Indian authorities, they agreed to provide aid for the construction of the 25,000 square meters Executive Block. We greatly appreciate their aid.

B – Mosque, with a capacity for 400 people.

C – Library with a capacity of one hundred thousand books.

D- Residents for VIP's

E- Over 350 Residential apartments, to be built to high standards. Each apartment will have a capacity of 6 bedrooms to be used by Lower House, members of parliament and senators. These apartments will belong to the government of Afghanistan. Lower and Upper house members will use them only when they are in office.

Author's recommendation

The New Afghan Parliament Complex is now a historical monument with historical events. The Indian Government spent the expenditure through their embassy and the CPWD (Central Public Works Department), Kabul Office. I, Dr. S.S. Hossainy, Senior Advisor to the Minister of Urban Development and my team supervised and maintained the quality control, which was very precise, patriotic and loyal. Indeed, this New Afghan Parliament Complex is Symbol of cooperation between Afghanistan and India. It can be a pilot project and an example for other Afghan government projects in the future.

Acknowledgments:

It is necessary to place on record my gratitude to H.E. Dip. Eng. Yusuf Pashtun, former Minister of Urban Development who has acted more as a colleague rather than a Minister. He has supported the project through difficult times. Also, I would like to express my appreciation for the administrative contributions of the secretarial general staff of the Lower House, specifically, Secretary General H.E. Khodai Nazar Nasrat.

I must thank Dipl. Arch. Nabi Neda for his partnership in this project. Thanks to all staff members of architectural department of the Ministry of Urban Development, especially its director Dipl. Arch. Fatema Sadat. I am grateful to the mechanical department staff members of the Ministry of Urban Development for their partnership and cooperation, especially its Director, Dipl. Eng. Homaira Rahimi. At last, but, not least, I should thank Structural Engineer, Dipl. Eng. Wasiullah Faqiry and Architect, Dost Mohammad for the cooperation that they provided during design and construction phases of the project.

Author's Biography



Said Sharif Hossainy, Eng. Arch. PhD.

Former Deputy Minister,

Ministry of Urban Development (MoUD)

Senior Advisor to the Minister (MoUDH)

Canadian Architectural Registration No: 2280

Member Board of Directors of The Society of Afghan

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Member in the Roster of CANADEM No: 2808 - CANADEM is an Ottawa based non-profit, government related organization, originally designed as Canada's national roster

of civilian experts. He has received an award from the Speaker of the House of Parliament, on January 12, 2016 (22-10-1394 HS)

Dr. Said Sharif Hossainy was born on October 29, 1944 (1322 HS) in Kabul, Afghanistan. He came from a family of famous calligraphers and artists in Kabul. He graduated from Habibia High school in 1962 (1340 HS). He then studied at the Czech Technical University of Prague starting in 1964 where he earned a master's degree in Architectural Engineering and later went on to earn his PhD. in Architecture.

Dr. Hossainy returned to Afghanistan where he designed and supervised several projects while working in the Ministry of Public Works. In December 1982 (1360 HS) he and his family immigrated to India. In September 1985, they immigrated to Canada. While living in Canada he worked with several architectural firms on multiple projects. Dr. Hossainy was one of the designers of the award-winning tower at Surrey, called Central City, which cost \$135 million and is 1,000,000 sq. ft. in gross area.

From April 2003, the Canadian International Development Agency (**CIDA**) Asia Branch sent Dr. Hossainy as the Technical Assistant and Senior Advisor to Minister of Urban Development (MoUD) of Afghanistan. He started some architectural design programs to build the human technical capacity at the ministry. His contributions regarding the architectural staff created a higher speed and quality in the completion of projects at MoUD. After the completion of his contract with **CIDA**, he worked as a Deputy Minister of Urban Development and continued his services in the Ministry since September of 2004. In addition to the administrative and technical duties, he created and designed the Program for the Project of the New Afghanistan Parliament Complex. Dr. Hossainy has made numerous international trips to see parliament buildings in various countries such as Australia, India, Iran, Turkey, Germany, and Canada. These trips were valuable for the design and construction phases of the project. After his retirement in 2010, he continued his role as senior advisor and technical assistant. He worked as an advisor and responsible consultant with the team of Indian designers as well as one of the architects on the project. He insisted on the high quality per international standards for the future needs of Afghanistan. Dr. Hossainy also revised the working drawing plans several times. The original preliminary plans were about 30,000 square meters, finally, it was expanded to 33,000 square meters. Due to the professional involvement of Dr. S. S. Hossainy, the future needs of Afghanistan parliament complex have been incorporated in the prepared program documents.

He has also published several articles on architecture in Dari and English. Dr. Hossainy has been married to Mrs. Parwin Waleh for 36 years and they have two children.

The Effects of Climate Change on Afghanistan's Water Resources and Environment

By

Gul Afghan Saleh, PhD

Abstract

Afghanistan is a country bestowed with sufficient volume of water resources to fulfil its needs. However, due to the lack of sufficient development, coordination and proper management—that has limited its water resources control and storage capacity—the country is vulnerable to water scarcity resulting from climate change induced droughts. Water resources in the country are unequally distributed into five major river basins with varying degree of water availability and consumption. This makes water resources preservation, engineering and development even further essential to ensure equitable distribution of the resource for optimal consumption. Inconsiderate extraction of both ground and surface water resources in the presence of recurrent droughts has severely depleted the available water resource base resulting in a water quantity and quality crisis. Demographic and climatic changes are other key drivers of increased stress on the country's water resources. In addition, intensive deforestation has degraded the upland watersheds and impacted downstream ecosystems resulting in more frequent floods and droughts. Although the Afghan Government has launched substantial policy and legal reforms to strengthen water resources planning, coordination and management, yet less attention is paid to build human capacity and new required infrastructure. Care for operation and maintenance of the existing or newly build systems to complement the reform process and ensure sustainability of these investments is also inadequate¹. Considering the magnitude and complexity of these challenges and the resource requirements to cope with them, broad participation of all water sector stakeholders is needed to ensure water security in Afghanistan.

This paper briefly reviews a few aspects of the water resources management in the context of population growth and climate change predictions. It highlights the impact of pollution on ground and surface water quality, the need for access to potable water, sanitation and wastewater services, the potential threats of flood and drought, and the need for investment in water resources infrastructure and capacity building. The paper concludes with a few key recommendations pointing out the need for building water resources data and information base, improving water use efficiency, building additional storage capacity, raising community awareness, developing human capital and technical knowledge base, and intelligently managing this precious natural resource in line with the principles of Integrated Water Resources Management (IWRM). The overarching aim of this paper is to promote mainstreaming environmental and climatic change considerations into Afghanistan's water resources development, thus ensuring sustainable water security where people have reliable access to an adequate quantity and acceptable quality of water to meet their needs, sustain economic growth, and maintain ecosystem services upon which all life depends.

Introduction

Water is one of the most precious natural resources with the potential to be one of the key drivers of economic and social development in Afghanistan. The country has sufficient water resources to fulfill its immediate and long term needs; however, the lack of necessary infrastructure, sound management, and considerate use of natural resources has brought water resources under increasing pressure. The uncoordinated and unmanaged extraction of both ground and surface water resources in the presence of recurrent droughts has severely depleted the available water resource base resulting in a water quantity and quality crisis. Other drivers such as demographic and climatic changes have further increased the stress on the country's already fragile water resources. This is clearly reflected in the National Peace and

¹ For references please refer to the respective number at the References section of the article.

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Development Framework (NPDF) 2017-2021² which read “Afghanistan is also highly vulnerable to natural disaster and weather-induced shocks, whose impacts are magnified by the lack of preventive and adaptive infrastructure and social insurance.”

The most likely adverse impacts of climate change in Afghanistan are drought and flood related, including their associated dynamics of desertification and land degradation. The climate models built for studying the socio-economic impacts of climate change in Afghanistan show that the country will be confronted by a range of new and increased climatic hazards³. Nearly all of Afghanistan’s 34 provinces have already been hit with one or more natural disasters, including flooding, landslides, drought, and extreme heat and freezing weather. Afghanistan is classified as the world’s second most flood-prone country, after Bhutan, on the basis of average annual number of flood-related deaths per million people⁴. The topography, climate, and land cover of the mountainous regions result in the mountain valleys being prone to flooding. Typically, heavy rain in the spring and early summer combined with snow and glacier melt cause flash flooding and damage villages, roads, river banks and farmlands. Significant losses also result from inundation of crops and irrigation facilities combined with the downstream effects of land degradation and loss of vegetative cover. Afghanistan was among the top 10 countries by number of reported events in 2013⁵ (Annual Disaster Statistical Review 2013). Drought is likely to be regarded as the norm by 2030, rather than as a temporary or cyclical event. Therefore, disaster preparedness and early warning systems must be strengthened, and water resources management, planning and operation of farming activities must adapt to these circumstances.

Renewable Water Resources

Total renewable water resources in Afghanistan are 65.33 cu km (CIA world Fact Book 2014) with 57 billion m³ surface water out of which only 33 percent is being used in the country. Over 80% of Afghanistan’s total water resources originate in the high mountains of Hindu Kush where most of the precipitation falls in the form of snow at altitudes above 2,000 meters. The glaciers and permanent snowfields combined with seasonal snowfall, which accumulates during the winter months and melts during spring and summer (April to August), forms the main water resources base of the country, and feeds major perennial rivers through surface runoff as well as recharges groundwater. Afghanistan’s agriculture and human settlements are heavily dependent on the state of winter snowfalls that forms these frozen natural reservoirs, and provide irrigation during the summer months when there is virtually no precipitation in the lowlands to support agricultural production.

The Amu Darya Basin that covers only 15% territory in Afghanistan accumulates approximately 55% of the country’s water resource²⁶ (NEPA/UNIP 2008). As one of the largest water body, the Amu River has massive potential for irrigated agriculture; however, in some part the water flows in lower elevation, and unless water is pumped it may not be possible to use the water for the irrigation, and pumping water for irrigation is not an economically viable option. Helmand River flow range in Afghanistan is 49%, and holds only 11% of Country’s water. Surface water account for 85-90% for agriculture use; however, 10-15% is coming from the groundwater resources. Due to mismanagement of surface water, many of Afghanistan’s wetlands are completely dry and no longer support wildlife populations or provide agricultural inputs. Heavily dependent on annual rainfall and snow, most falling from December to May, Afghanistan’s water sources are very vulnerable to climate change which affects both surface and groundwater. Early and accelerated snow-melt of glaciers in high mountainous elevations resulting from higher temperatures due to global warming decreases the water available for irrigated crops over the summer months when virtually there is no precipitation.

Afghanistan’s Water Stress Index

Intensive deforestation has degraded the upland watersheds and impacted downstream ecosystems resulting in more rapid runoff, increased land erosion, reduced groundwater recharge and more frequent floods and droughts. Many wetland ecosystems are being lost due to periodic droughts. In according with most references, Afghanistan with current annual per capita water availability far above the benchmark of 1,000 cubic meters is not under water stress. However, unless the current trend is reversed, despite being a well-endowed country from a water perspective, it is unfortunately expected that by the year 2050 Afghanistan’s renewable freshwater resources will also fall below this benchmark, and the country will likely to experience chronic water scarcity sufficient to impede development and harm human health⁶. Review of the literatures worldwide indicates that water supplies stored in glaciers and snow cover are

projected to decline in the next few decades, reducing water availability in many regions supplied by melt water from major mountain ranges. World Resources Institute, a global research organization, using a group of climate models and socioeconomic scenarios, scored and ranked future water stress² in 167 countries by 2020, 2030, and 2040. Their analysis revealed that 33 countries, including Afghanistan, will face extremely high water stress in 2040.

Water Resources Management

Water resource management in Afghanistan involves balancing water demands for irrigation, hydropower, environmental, water supply & sanitation and groundwater, while also considering transboundary water and flood control issues. Additionally, water resources in the country are unequally distributed into five major river basins with varying degree of water availability and consumption. This imbalanced distribution and the temporal and spatial variability of precipitation in the country require well-organized management for water resources to be effectively conserved and equitably distributed. To do this, a key challenge for Afghan policy makers across the board is the scarcity of data to help craft prudent plans and policies, including transboundary treaties, and to thus manage water per Integrated Water Resource Management and Development (IWRMD) principles. Groundwater resource data is especially scarce, and a data bank is urgently needed. There is also a pressing need to expand public awareness, using professional media for a lasting national campaign both in the rural and urban areas of the country, to prevent the water misuse or overuse beyond natural recharge, promote environmental protection, natural resource conservation, and the sustainability of the environment.

Water Resources Development

Less than 10% of water resources have been developed in Afghanistan. Currently, only 30% of the agricultural farmland receives adequate water⁷ and modern domestic water supply and waste treatment systems do not exist. Decades of war have destroyed much of Afghanistan's irrigation and other water supply systems, which are vital for the agricultural economy. Afghanistan has 9.61 million ha of arable land out of which 5.5 million ha has irrigation potential, but only 2.1 million ha has irrigation facilities at various level (Source: FAO country statistics–Afghanistan). It is believed that another 2.26 million-ha can be brought under irrigation⁸. Based on the review of many National Priority Programs, increased irrigation and per hectare crop yields are a major priority for the Afghan government and the international community, a fact which will likely require increased water demands and usage in the future. Therefore, it is imperative that new water resources are developed, and existing supplies managed effectively. Lessons learned by the development community indicates that policy and legal reforms to strengthen water resources planning, management and governance yield more lasting change than building water infrastructure. However, Afghanistan having one of the lowest storage capacities in the world—estimated at 80 m³/capita/year⁹—also need to simultaneously focus on improving water use efficiency, building additional storage capacity to properly distribute and supply water for various uses, and protecting and restoring stream and river banks to provide wildlife habitat and safeguard water resources. The government needs to invest in water infrastructure throughout the country. At least 10 reservoirs with existing feasibility studies are available only in Kabul Basin that could be advanced to the design and construction phase. These reservoirs can generate power, reduce erosion, help flood control and regulate flows for downstream. Some of them could be built run-of-river hydropower dams with little impact on river flow and thus should not cause any significant transboundary issues.

Meeting the growing demands on sustainable fresh water of sufficient quantities and quality requires action by all water sector stakeholders in the country. The Government, despite of limited resources in staff and capital, have taken substantial steps to improve resources management for water security by enacting laws and developing necessary rules, regulations, strategies and institutions to serve the sector. For example, the new Water Law which combines modern public management principles, such as the division of tasks and private sector involvement, with sound hydrological and environmental principles, such as IWRM in river basins and mechanisms for public participation in decision-making, forms an excellent enabling environment for good water governance. However, unless fully supported by the water users, donors, and the private sector, it is unlikely for the government alone to ensure water security in Afghanistan where people have reliable and sustainable access to an adequate quantity and acceptable quality of water

² A measure of competition and depletion of surface water

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to meet their needs, sustain economic growth, and maintain ecosystem services upon which all life depends. Dealing with water issues requires commitment at the highest political level coupled with the necessary technical and financial support from donors, water users, and the private sector. Water security will only be reached when political leaders and managers, whether in the government or private sector, take the lead, make the tough decisions about apportioning diminishing supplies between ever-increasing demands and follow through with financing and implementation.

Capacity Building

The Afghanistan National Development Strategy (ANDS) outlines its strategic vision to improve the quality of life of the people of Afghanistan through conservation of the nation's resources and protection of the environment (ANDS, 2008). This is clearly encompassing the surface and groundwater resources conservation and development which cannot be envisioned without improving the skills, knowledge and capacity of the individuals and organizations with water-sector responsibilities. The water sector capacity building policy highlights that a major indicator in determining the developmental status of the water sector in Afghanistan is the human capital at its disposal. The need to strengthen the skills of the workforce is well articulated in the Water Sector Strategy: "there is a shortage of adequately experienced and trained staff and an inequitable gender balance" in the water sector of Afghanistan, which must be addressed to meet sustainable development goals¹⁰. Water resources preservation, engineering, development and equitable distribution are top priorities for the Afghan government to advance, and prepare the Afghan young generation to accomplish them. Capacity building needs to happen at all levels of institutions and individuals. The government should consider the active participation of the citizens (water users) with special attention to promoting women participation in all aspects of this vital resource development.

Access to Water Supply and Sanitation

The livelihoods of the Afghan people are critically associated with access to water supply and sanitation. Drinking water comes from a variety of sources including piped water, dug wells, springs, Karezes³, streams, irrigation canals, rivers and ponds- most of them unprotected. To ensure water quality standards, the National Environmental Protection Agency (NEPA) and the Ministry of Public Health have set limits on the level of certain contaminants in drinking water; however, it is uncertain how much application of these water quality standards is enforced. According to The World FACTBOOK 2015¹¹ access to potable water in Afghanistan is 55.3% (78.2% urban and 47% rural), and access to improved sanitation is 31.9% (45.1% urban and 27% rural). However, there are a lot of discrepancies between these figures as reported by different organizations. In 2014, the WHO/UNICEF announced that Afghanistan had met its Millennium Development Goal (MDG) target eight years ahead of schedule¹², considering that, based on its 2012 estimates, 64 percent of the population had access to protected water sources. However, in a discussion paper published by Afghanistan Research and Evaluation Unit (AREU) in December 2015¹³, the author, Vincent Thomas, warns that this progress on access to safe water should be taken with great caution because it may not give a real picture of the actual situation. The paper argues that this is due to a combination of issues, including inflated data, methodological discrepancies between different national surveys, biased trend assessments, and unrealistic assumptions about the long-term sustainability of existing water systems. The Afghanistan MDGs report of 2012¹⁴ indicates the proportion of people with sustainable access to an improved water source as 30% and to improved sanitation 8%. While there are huge discrepancies in collection, analysis, and report of data, what obvious is that there has been significant improvement in this subsector in the past couple of years. Based on a survey of the Afghan people by The Asia Foundation in 2015, Afghans reported the highest level of satisfaction (71.8%)¹⁵ with access to drinking water, with rural and urban residents reporting satisfaction at similar rates.

Water Quality and Wastewater Services

Water resources are being polluted due to indiscriminate disposal of untreated industrial and domestic effluents, and the discharge of household and street waste into streams. In some aquifers the concentration of hazardous chemicals exceeds hygienic standards. In Kabul city, which is mostly supplied by ground-water sources, water quality varies depending on the location. In some places the quality of groundwater is acceptable; in others, the presence of pollutants

³ Karez is a tunnel system used to extract shallow groundwater.

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makes it unsafe for consumption. Studies conducted by the USGS, in conjunction with the Afghanistan Geological Survey (AGS), highlight elevated concentrations of nitrate, boron, dissolved solids, and fecal pollution in many of Kabul's water supply sources. These findings clearly reflect the absence of waste- and wastewater-treatment facilities, and may also indicate contamination from surface sources. The Kabul River channel is filled with litter and solid waste during the times of the year when there is little or no flow. Solid waste and raw sewage is readily observed at many locations. The use of agrochemicals and the poor storage of pesticides can pollute surface and groundwater alike.

Improving water quality and expanding wastewater services are essential to the healthy development of Afghanistan's water sector. Improving water quality will help lower Afghanistan's child mortality rate which is largely due to preventable waterborne diseases. Other than in Kabul, there has been little meaningful development or planning regarding wastewater collection, treatment, and disposal in urban or rural Afghanistan. Emphasis has been placed on water supply; however, for every liter of water added to the current supply, about 85 percent contributes to wastewater flow that needs to be discharged off the city. Technical difficulties and the city's limitations of its mountainous landscape are understandable, but where sewage collection and treatment is not feasible the quality of construction and management of septic tanks needs to be improved and regulations enforced. Many existing buildings, enterprises, and settlements still rely on obsolete water disposal technologies that are inefficient, damage the environment, and worsen the public health crisis.

The high social burden of communicable diseases, which has led to high morbidity and mortality, is due in part to poor access to quality public services (health, water, and sanitation) and in part to inadequate public awareness, which must be aggressively expanded to overcome cultural and social limitations. Twenty-five percent of children were reported to be suffering from diarrheal diseases and in some provinces, the rate was as high as 40%¹⁶ (National Nutrition Survey Afghanistan 2013). Poor drinking water quality as well as inadequate water quantity, sanitation and hygienic conditions cause illness, loss of working hours, and hospital expenses, which have created a large poverty trap. A comprehensive master plan which covers wastewater for greater Kabul is needed immediately. While the city planning authorities have already missed a golden opportunity to have initiated this before reconstruction, failure to undertake its preparation now will delay implementation of badly needed sewerage infrastructure, and lead to further deterioration of the environment and health conditions in Kabul¹⁷.

Effects of Drought and Population Growth on Groundwater Supplies

The groundwater supplies in most of the largest cities are under serious threat due to inadequate sanitation and waste management practices. Majority of the citizens mainly utilize septic tanks or pit latrines. Water quality is threatened by contamination from waste dumps, chemicals, open sewers, and urban rainwater runoff. Kabul City currently with estimated population of nearly 5 million is growing rapidly due to periods of relative security and the return of refugees. With uncontrolled urban transformation and rapid growth of informal settlements, the city and its sub-urban areas are currently suffering from severe shortage of water, and it is expected that with further population increase and expected temperature rises the city will need six times more water by 2050¹⁸. Population growth and recent droughts have placed new stresses on the city's limited water resources and have caused many wells to become contaminated, dry, or inoperable in recent years. The water table has dropped unprecedentedly, and thousands of settlements faces severe water crisis. A study by the US Geological Survey between 2004 and 2012 revealed that groundwater levels in Kabul city had fallen by an average of 1.5 meters/year during 2008-2012. The main reason is that the groundwater extraction rate is faster than the recharge rate. Inadequate development of surface water resources has resulted in putting more pressure on groundwater.

In Ghazni, Helmand and Urozgan provinces, farmers heavily rely on the groundwater resources i.e. karezes, springs; therefore, they are vulnerable to water shortage due to drought affecting their livelihood. In accordance with the Draft Groundwater Resources Management and Development Policy¹⁹, Ministry of Energy and Water (MEW) is responsible to develop a groundwater use strategy and prioritize the need for its utilization. Item No. 19 of the Water Law requires MEW to establish a system for issuing permit for the groundwater utilization while many ministries share other groundwater responsibilities. For example, the Ministry of Public Health (MoPH) is responsible for groundwater quality while Ministry of Urban Development Affairs (MoUDA)/Afghanistan Urban Water and Sewerage Corporation (AUWSSC) and Ministry of Rural Rehabilitation and Development (MRRD), with responsibilities for urban and rural water supply, respectively, are other big users of groundwater resources. Other important groundwater users are

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Ministry of Agriculture, Irrigation and Livestock (MAIL), using it for irrigation, and Ministry of Mines and Petroleum (MoMP), for mining purposes. The NEPA is in control of groundwater pollution, analysis of its environmental impacts, developing policy and protecting the groundwater-reliant ecosystems. Involvement of so many stakeholders makes groundwater management difficult. There is a strong need for close coordination and collaboration between these entities and other stakeholders at all levels—national, basin and sub basin—for the proper development and responsible utilization of this strategic resource vulnerable to climate change. The projected vulnerability of Afghanistan to climate change (World Resource Institute- Water Stress by Country 2040)²⁰ and observations of diminishing glaciers in Afghanistan²¹ have heightened concerns for future water availability in the Kabul Basin.

Water Sector Governance

The water sector in Afghanistan historically has been managed primarily by rural local entities and to a lesser extent by the central government. Afghanistan's institutional water structure is organized on a sector basis with seven government bodies having authority over water-related issues. Management of water resources for domestic supply at the national level of the GIRoA has been entrusted to seven ministries, NEPA, and the Kabul Municipality—each one with specific role and responsibility. The NEPA is responsible for monitoring and regulating the environmental dimensions of the water sector. Formed in 2009, the Afghanistan Urban Water Supply and Sewerage Corporation (AUWSSC) oversees the Kabul water supply and sanitation system and the North, South, East, and West systems, each serving the municipalities of their respective geographic areas. AUWSSC is only responsible for piped systems, and there is no clear jurisdiction over on-site water supply and sanitation systems that serve most of the population. Due to the importance of irrigation and effective water allocation to promote food security in Afghanistan, a community-based system of mirab⁴ works in parallel to other authority structures in rural areas. The Afghanistan Water Law capitalizes on this traditional system by authorizing the establishment of local Water User Associations to manage canal systems and available water resources. The law also authorizes MEW to establish Sub-Basin Agencies.

To manage the water sector in the context of Afghanistan's other developmental needs, a number of instruments and institutional arrangements have been created, including Millennium Development Goals, the ANDS Water Sector Strategy, National Priority Programs (agriculture and rural development, and infrastructure development cluster NPPs), the Afghanistan Water Law, recently adopted UN's Sustainable Development Goals (SDGs 2017-2030), and the Supreme Council of Land and Water (SCoWL) that basically replaced the previously established Supreme Council for Water Affairs Management (SCWAM). Chaired by The President and supported by two Technical Secretariats—Water and Land—members of the council include ministers of all water and land line ministries. Responsibilities of the Technical Secretariat for land are vested with the Afghanistan Land Authority (ARAZI) and responsibilities of the Technical Secretariat for water have been assigned to the MEW. Also, there are periodic national and international conferences, workshops and seminars held that play a vital role in the coordination and strengthening water sector governance. For example, the Fourth National Water Conference dedicated to “Water and Sustainable Development” has been scheduled for March 6-7, 2017 in Kabul to provide a platform for discussion among stakeholders. The goal of the conference is to obtain stakeholder's feedback and recommendations on future water sector development strategy in Afghanistan in line with SDG goals and Afghanistan's water sector development programs. It is expected that important water sector challenges and opportunities will be discussed and better coordination between the line ministries emphasized. The ANDS has adopted the IWRM approach for the governance of Afghanistan's water sector²². While the approach is ideal, coordination between the different ministries seems still weak. Many ministers focus on their own institutions and their activities, so joint efforts seem limited. Successful implementation of such an approach depends upon a specific institutional arrangement, an adequate management information system, good governance, a sound justice system and legal framework, financial security, stakeholder participation, and an overall plan that is socially, economically, and environmentally sustainable. This approach, new to Afghanistan, involves managing the resource so that all aspects—economic, environmental, social—are in balance and the approach is sustainable.

⁴ A traditional community governance structure utilizing a “water master” for local control and allocation of resources

Transboundary Water Resources

Transboundary water and its associated economic, political, technical, social, and security dimensions are among the few most important and most complex topics in Afghanistan, and require substantial elaboration. However, considering the limitations of this eNewsletter, it was deemed advisable to leave this topic for the future and in this paper, only reference it's environmental and climate change relevance. Although Afghanistan has been relatively reluctant to opening water dialogues with neighbor countries, the government has drafted a National Policy for Transboundary Water to guide negotiations with other nations in memoranda of understanding, cooperative agreements and treaties. Two of the six objectives of this policy relating to the focus of this article are: 1) better manage flooding and drought events, mitigation of erosion, and develop adaptability towards climate change, and 2) ensure protection of the environment, including reducing the risk of pollution²³. These objectives appear to be sound policy guidelines advancing environmental concerns into potential agreements on Afghanistan transboundary water. The overriding principles in the context of sharing water resources would be equity and the just distribution of riparian resources²⁴ (National Priority Program NPPI-Agriculture and Rural Development Cluster).

Conclusions and Recommendations

Afghanistan surface and groundwater resources are under ever increasing pressure. Climate change induced droughts, pollution, and environmental degradation coupled with rapid population growth is threatening both the quantity and quality of water resources. While challenges on the way to achieving sustainable development, goals are huge, opportunities to address them are also fortunately promising. Effective conservation and considerate utilization of the water resources will bring about substantial social and economic development so long as broad based participation, synergy and pooling of resources happen, and vulnerabilities to climate change and population growth are addressed. Balancing water demand for various purposes and maintaining a reliable supply to where and when the resource is needed can only occur through increased resource control and storage capacity. In the absence of an effective IWRMD, natural disasters such as flooding and drought will continue to take a big toll on the lives of people.

Best industry practices suggest good planning as the key to successful IWRMD. However, good planning in this contest cannot be undertaken without professional human capital equipped with full knowledge and information about supply and demand side data to inform decision-making. Afghan officials led by the SCoLW need to establish a sound knowledge base and understanding of the issues concerning competing uses of the water resources on a basin-by-basin basis. This is a must to bring about practical development plans and policies that could be translated into practice. It is also a prerequisite for negotiating national transboundary water resources issues.

Current statistics of river flow rate data and other necessary data, knowledge, and information on the quantity and timing of surface and ground-water inflows, outflows, storage and needs estimates are in scarce supply, which makes planning, development and negotiations difficult. The installation of 174 hydrological stations by FAO across Afghanistan²⁵, which provides measurement for rainfall, relative humidity, water level, water quality, temperature and sunshine, is an excellent development that needs to receive additional support. Similar initiatives to help build water resources data and information base are needed to facilitate planning and development of crucially needed preventive and adaptive infrastructure, and the associated institutions to maintain them. Without sound data and reliable decision support systems practical water resources conservation, engineering, development and equitable distribution that is based on IWRM principles cannot happen. While these technical aspects lay the foundation, water security will only be reached when political leaders step up—with strong political will—to provide the enabling environment for IWRMD, and follow through with financing and implementation.

Further emphasizing these points, and based on the other key issues reviewed in this paper, the following recommendations are made:

1. Water security in Afghanistan cannot be envisioned without improving the skills, knowledge and capacity of the individuals and organizations, including public, semi-public and private institutions, with water-sector responsibilities. Therefore, enhancement of planning and implementation capacity and building up the required knowledge base of the relevant Afghan individuals and ministries is highly recommended. Actual capacity will only start to develop by participation and practical work on real projects to serve as a catalyst for further development.

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2. Effective application of IWRM requires substantial data on water use, land use, hydrology, climate change, statistics of river flow rate data, and other necessary data, knowledge and information in order for policy makers to make informed decisions in their management of water supply and demand. A water database including a groundwater data bank would enable decision makers to analyze the water sector from a sub-basin, basin, or nation-wide perspective to better plan resources and coordinate accomplishments and needs.

3. The future of Afghanistan's economy will depend, among other things, mainly on irrigation-dependent agriculture and how it's industrial and commercial base and infrastructure facilitate the mining industry and the country's overall growth. Two of the important resources needed are irrigation and industrial water supply and the environmentally sound treatment and disposal of wastewater. So, the government needs to invest in water infrastructure throughout the country, improve land and water productivity, and adopt best water management practices. A comprehensive master plan which covers wastewater for greater Kabul is also needed immediately.

4. Strengthening regional and international collaboration as well as inter-ministerial coordination on water resources management and associated environmental and climate change aspects is highly recommended.

5. Decision making in the water sector must be based, among other considerations, on the principles of population growth, water scarceness, water use competition, participation, climate change, and environmental and gender considerations. It is also vital that both management and decision-making processes are decentralized, and information sharing is encouraged.

6. To effectively implement the IWRM approach in Afghanistan, it must be applied in a flexible way that allows for adaptation to the local social, cultural, economic and environmental contexts. Community-based development methodologies, taking advantage of local traditions, use of simple technologies, local materials, and leadership structures should be pursued to ensure development sustainability and an equitable balance of water distribution for both human and environment consumption.

7. The need for a national public awareness program is evident. This would include developing public information capacity to include data collection, assessment and dissemination to raise public awareness regarding sanitation, environment, best practices in agriculture and land use, as well as water conservation.

References

1. Water Resources and Irrigation Policy in Afghanistan- International Journal of Social Science Studies Vol. 4, No. 4; 2016, by Kenji Nagata, Japan International Cooperation Agency
2. National Peace and Development Framework (NPDF) 2017-2021
3. Socio-economic impacts of climate change in Afghanistan-Department for International Development by Matthew Savage, Bill Dougherty, Mohammed Hamza, Ruth Butterfield and Sukaina Bharwani
4. Kabul Managed Aquifer Recharge Project | Asian Development Bank
5. Annual Disaster Statistical Review 2013
6. The Eastern Mediterranean Health Journal - S. Atallah, M.Z. Ali Khan and M. Malkawi
7. Water Sector Briefing and Recommendations by Guy Fipps, PhD, P.E., Professor, Texas A&M University, April 15, 2007
8. National Irrigation Program (NIP) Nov-2015
9. Developing transboundary water resources: What perspectives for cooperation between Afghanistan, Iran and Pakistan- page 5 (Vincent Thomas with Mujib Ahmad Azizi and Khalid Behzad) May 2016
10. Water Sector Capacity Building Strateg
11. CIA/The World FACTBOOK 2015 estimates <https://www.cia.gov/library/publications/the-world-factbook/geos/af.html>

A QUARTERLY UPDATE FROM THE SOCIETY OF AFGHAN ENGINEERS

12. WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation-2012 update
13. Afghanistan Research and Evaluation Unit (AREU)- Household Water Insecurity: Changing Paradigm for Better Framing the Realities of Sustainable Access to Drinking Water in Afghanistan December 2015, by Vincent Thomas
14. The Millennium Development Goals 2012-Afghanistan Report
15. AFGHANISTAN IN 2015 A Survey of the Afghan People-The Asia Foundation
16. National Nutrition Survey Afghanistan 2013
17. Water Sector Project Atlas 2008, USAID/Afghanistan Infrastructure and Rehabilitation Program AIRP/LBG-B&V JV
18. Kabul Facing Sever Water Crisis- July 10, 2016 | Mohammad Zahir Akbari
19. Groundwater Resources Management and Development Policy draft dated May 8, 2016
20. Water Stress by Country: 2040 – Water Resources Institute
http://www.wri.org/sites/default/files/uploads/water_stress_table_large.jpg
21. Glaciers in Afghanistan are generally small and debris covered and have been retreating or down wasting for a long time https://pubs.usgs.gov/pp/p1386f/pdf/F3_Afghanistan.pdf
22. Afghanistan National Development Strategy (ANDS 2008) and ANDS Water Sector Strategy
23. Afghanistan Draft National Policy for Transboundary Water
24. National Priority Program NPP1-Agriculture and Rural Development Cluster
25. The United Nations Food and Agriculture Organization (FAO) country statistics–Afghanistan
26. Afghanistan’s environment 2008 – NEPA/UNEP

About the author



Gul Afghan Saleh is a civil engineer with a Ph.D. in Urban Planning and Design and over 30 years of professional experience. He currently works as an expert with ACCIONA Engineering (Spain) in developing a Country Environment Profile for Afghanistan. Recently he was Business Development Advisor with Sheladia Associates, Inc. (USA). For the last 21 years he has developed/managed donor-funded projects in Afghanistan including for USAID as a Direct Hire employee for eleven years; the United Nations World Food Program and the United Nations Office on Drugs and Crime for five years, and for the Pamir Reconstruction Bureau, an Afghan NGO, for five years. Additionally, for the Afghan Government he served as a project manager, design and construction engineer for 10 years.

Dr. Saleh is a certified Project Management Professional (PMP) with substantial international development experience in analyzing, designing, and managing all aspects of sustainable development projects, including technical assistance and capacity building, institutional development and change. Dr. Saleh has worked and/or studied in 10 countries, including Afghanistan, USA, Pakistan, Japan, Egypt, UAE, Thailand, India, South Africa, and Germany.

During his 11 years work with USAID/Afghanistan (2003–2014) Dr. Saleh served as Contracting Officer’s Representative (COR) and Program Manager for one or more major infrastructure projects with funding levels ranging from \$50M to \$300M. He provided a full range of analytical, technical and management services on large, complex programs in the energy and water sectors.

Dr. Saleh is a member of SAE’s Executive Committee. He is also member of the American Society of Civil Engineers (ASCE) and a founding and Board Member of Afghanistan Engineers’ Association (AEA). As UN-certified trainer

and mentor, he has been supporting the United Nations Training and Research UNITAR's Hiroshima Fellowship for Afghanistan Program since 2013. Dr. Saleh currently serves UNITAR Iraq Program as a mentor.

Tele-Education in Afghanistan

By

Ghulam M Feda, MS EE and Computer

CEO of Afghan Education for a Better Tomorrow (AEBT)

Abstract

Tele-education is the use of advanced information and communications technologies to deliver virtual education programs to a designated location. In Afghanistan's institutions of higher learning it can dramatically expand access to education and training for both students and educators in a resource constrained setting by exposing underserved populations to experts in various disciplines from diverse geographical and experiential backgrounds. The aim of this paper is to briefly highlight the state of higher education in Afghanistan and then describe the activities of a newly-launched Tele-Education project in Herat University, touching on its impact on students and teachers and pointing to some of the challenges it will address.

Introduction

Afghanistan lags significantly behind the rest of the developing world in education. Nowhere is this more evident than in the system of higher education, which was devastated by almost four decades of war and instability. Many institutions were closed, rigorous academic research was not conducted, women were excluded and more than half of all faculty members and staff were lost across the country. Education became highly centralized and guided by political and ideological imperatives. Teaching as a profession suffered immensely as educators became increasingly out of touch with the latest developments in their fields. As a result, university graduates entered the job market ill-equipped, lacking the specialized skills required in a fast-changing, competitive modern economy.

Fortunately, in the last ten years some of the institutional damage has been repaired, but the quality of higher education continues to be plagued by a lack of access to resources, corruption, a shortage of qualified teachers and some political interference - all of which perpetuate poverty and undermine socioeconomic development. Therefore, it is critical that adequate measures are taken to address and safeguard the growth of human development which remains fragile. While the education system is undeniably in a dire state, recent technological advances make it possible to bridge the ever-widening knowledge gap that exists between Afghanistan and other nations.

Applying Tele-Education in Herat



Herat University Tele-Education Ribbon Cutting Ceremony 11/27/2016

From left to right: Dr. M.Nader Sina dean of College of Stomatology, Dr. Khalil Azar dean of College of Medical, Eng. Ghulam M Feda president of Afghan Education for a Better Tomorrow, Mr. Juma Hanif dean of College of Theology, Mrs. Shakila Momtaz chief of department of Stomatology of Herat Public Hospital, Mr Yahya Hazin dean of College of Literature, Dr.Hassan Frid Vice President of Herat University.

Recognizing that computer and information technologies are the keys to transforming the delivery of education and sparking social and economic progress, Afghan Education for a Better Tomorrow (AEBT), an Afghan-focused non-profit organization, has been at the forefront of expanding opportunities by providing educational resources to various institutions inside the country. Most notably, AEBT has just embarked on a groundbreaking Tele-Education, or eLearning, program at Herat University. In November 2016, Mr. Ghulam Feda, AEBT's CEO, attended a ribbon-cutting ceremony in Herat to mark the official launch of the project, where he shared his vision of making top-notch distance learning platforms widely accessible to Afghans and brightening their outlook on the future.

This collaboration pairs Afghan expatriate professors in the sciences and humanities with students and educators at Herat University to increase the depth of learning, enhance classroom performance and productivity, and expose the students and faculty to relevant and cutting-edge international best practices. Tele-Education allows for real-time, synchronous video conferencing between students and remote teachers linked by satellite and the internet. Insofar as it generates a conducive environment for quality instruction and nurtures 21st century skills, Tele-Education is vital for an underdeveloped Afghanistan, serving as the only means to provide its students with the types of rich and rewarding learning experiences and limitless options available to their counterparts around the globe.

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Dr. Nahid Aziz conducted the first Tele-Education class via satellite from Washington D.C. to Herat University in late November 2016. The lecture on Stress Management was live and interactive. The 35 students in attendance could pose questions and get immediate feedback from Dr. Aziz; and they, along with the faculty, were extremely receptive to an innovative concept which they realize will ultimately improve their academic performance and enable them to make critical decisions on a wide range of information at their disposal. They are quickly discovering why Tele-Education is gaining a foothold in many places: because it allows people to push through geographical, physical and other barriers in pursuit of knowledge. And the methodology adopted is simple and readily exportable to other locations in Afghanistan. AEBT provides the necessary equipment, absorbs operational costs, and finds potential collaborative partners in the diaspora to set up supplemental seminars and lectures for selected classes. Herat University sets aside adequate classroom space, identifies specific needs for eLearning and supports these efforts through wider participation by its faculty and staff. AEBT is also creating an eLibrary that will record and catalog the classes and function as an online repository for future reference.



Dr. Nahid Aziz, AEBT vice president, teaching a stress management class to the Students of Herat University from Washington DC.



Dr. Nahid Aziz's presentation to the Students of Herat University from Washington DC.

This will help students and teachers master concepts and retain knowledge. The classes are provided free of charge to students and faculty and participation from remote instructors is done on a voluntary basis.

Potential Obstacles

While the impact of Tele-Education on students is easily understood, its effects on teachers can't be overstated. Teachers will play a pivotal role in integrating this technology into the education system to enhance learning. How seamlessly that happens will depend on how well they can exploit the potential of these new potent tools to build competence and confidence in themselves and develop their proficiency in classroom management. This requires a more flexible approach to teaching that will result in a shift from instructor-centered pedagogy to student-centered pedagogy - a trend that's gaining momentum everywhere and redefining the future of teaching and learning.

Operating in Afghanistan presents many other challenges, not the least of which is a stable power source. To this end, AEBT has installed solar panels to harness the sun's energy, and to serve as back up, in the event of a power outage in Herat. They have also installed a satellite dish for high speed internet access - reliable internet connectivity is essential to facilitate uninterrupted online service - and have designed and adapted materials to better suit students' needs. The results have been very promising so far.

Conclusion

Afghanistan urgently needs quality higher education to revive its moribund economy, promote life-long learning, empower its citizens, and improve its practices and methods of teaching in a 21st century context. Otherwise it will be trapped in a vicious cycle of extreme poverty, unable to narrow the wide gulf that separates it from the rest of world. Tele-Education offers a practical and feasible solution - and access to a first-rate education for disadvantaged and marginalized groups to facilitate their participation in the highly integrated and interconnected global economy. In Afghanistan, it can help change attitudes toward education by bringing about a paradigm shift in the way in which the curriculum is defined and technology is used. AEBT hopes that its successful partnership with Herat University will pave the way for other fruitful collaborations with interested institutions of higher learning across Afghanistan. Invariably in an environment that is as fluid as Afghanistan's, there will be some hurdles to surmount due to technical, financial, security and other considerations. But the Tele-Education program in Herat University has demonstrated convincingly that modern telecommunications technology, which is constantly evolving, can be deployed effectively as a teaching medium in Afghanistan; diverse communities can easily adapt to modern technologies; and that such a project can upgrade the quality of instruction in subjects (math, science, IT) that are needed to get the economy going and society energized.

This program is open to all colleges and universities in Afghanistan. If your institution is interested in participating or if you have questions, please contact Ghulam Fedá, President/CEO of AEBT, at info@afghaneducation.org. You can also call (916) 505 -2364 to speak directly with Mr. Fedá. Registration for the program is a simple process and can be done at AEBT's website: afghaneducation.org. AEBT will provide participating institutions a suite of services, including technical and non-technical materials, information about the technologies employed, and a roadmap for implementation.



About the author

Mr. Ghulam M Fedá is a graduate of the University of Cincinnati with a master's degree in electrical and computer engineering. He has more than 30 years of leadership experience in industrial R&D projects including but not limited to organizational efficiency. He has also served on the advisory boards of several state colleges and universities, was a founding member of science and technology centers in the U.S. and abroad, and has been the recipient of a patent award in "Glass Technology" and a Congressional award for his work in the implementation of innovative energy efficiency projects.

Engineer Fedá is passionate about projects that make promising uses of technology to transform education (e.g., tele-education) primarily to foster deeper learning in underserved and under-resourced communities in parts of the world where the need is greatest.

An avid traveler, Mr. Fedá has written several articles on the architectural techniques of ancient civilizations and about Afghan history and culture. He is co-founder and the president/CEO of Afghan Education for a Better Tomorrow, an organization at the forefront of developing and delivering educational resources to war-torn Afghanistan.

Membership News

Achievements and Awards

The newsletter will inform their readers of winners of awards or any other successes of Afghan professionals and students, especially, their Society members. You can help the SAE eNewsletter editors by providing the news of the achievements, award winners, promotions, retirement, and any other success stories.

“Advise us of success stories or achievements of the Society members and any Afghan professionals and students.”

The 2017 SAE Election

This year the SAE Election Committee will conduct the election process for the positions of the Board of Directors and the President of the Society. The elected members will serve in their positions during the years 2018 - 2020. The Election Committee will schedule and start the election process at the times so that the results of the election will be announced prior to the fifteenth day of December 2017.

The first step of the election process is the appointments of the Election Committee, which consists of Committee Chairperson and four Committee members. The Committee is formed during the election years and will be dissolved upon completion of each election process.

The President nominates the Chairperson of the Committee and proposes it to the Board of Directors for review and approval. The four Committee members will be appointed by the Board of Directors through seeking nominations from the Society members.

Every SAE member may recommend two qualified members to serve in the Election Committee. The President prepares the list of the nominees and submit it to the Board of Directors for review. The Board of Directors considers the recommendations received from the SAE members and selects four members from the recommended names as Election Committee members. Upon their appointments, the Election Committee performs the Election in accordance with SAE bylaws.

For this round, the President nominated Mr. Abdul Manan Khalid as Chairman of the Committee. Four Committee members were also nominated by Society members. The nominees of the Election Committee Chairman, and its members have been unanimously approved by the Board of Directors.

The following is the list of the Committee members who will serve as the 2017 Election Committee members:

1. Mr. Manan Khalid, Chairman
2. Mr. Fayeque Fasihi, Member
3. Mr. Homayon Ibrahim, Member
4. Mr. Ghulam Qadir, Member
5. Mr. Sayed Amir Zahori, Member

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The Election Committee will soon start the 2017 Election process in accordance with the Society bylaws. In the July issue of the SAE eNewsletter a detailed report about the progress of the Election process will be included.

The Biographies of the Election Committee Members

A. Manan Khalid, P.E, LEED (BD+C) - Election Committee Chairman



Mr. Abdul Manan Khalid was born in Kabul in 1958 and graduated from Afghanistan Institute of Technology (AIT) in the winter of 1975. He went on to graduate from the Department of Civil Engineering of the Faculty of Engineering of Kabul University in January of 1981.

His dream job was to teach, and while still on his last year of studies, he was given the opportunity to teach. He continued to teach at the Faculty of Engineering up to July of 1983. He was then awarded a scholarship for post graduate studies to one of the oldest engineering universities, Roorkee University (now Roorkee IIT), in India. He finished his masters in the field of Hydrology and was awarded university's gold medal of that graduation year. He completed post graduate studies in the field of rehabilitation of Infrastructure at Polytechnic University (now part of NYU) in New York. He also completed post graduate studies in Leadership at Baruch College in New York.

In 1984, right after completing his studies in India, he was hired by an electromechanical company involved in the construction of power stations and power distribution systems in the Kingdom of Saudi Arabia. He worked as a structural engineer and designed many buildings during his tenure. He was a key player in the creation of a sister company within the larger company providing capacity to complete all construction and design work in-house rather than hiring consultants and subcontractors. In his final years, he worked as projects coordinator reporting directly to the General Manager of a 1400- employee company.

After immigrating to the United States, he joined the ranks of civil service with the City of New York in 1999. He first worked for the Bureau of Bridges of the New York City Department of Transportation working on the rehabilitation of some of the land mark bridges, such as, Brooklyn and Manhattan Bridges. For a short period, he also worked in traffic planning and construction mitigation and control.

He then moved on to become an administrative engineer with the New York City Housing Authority (NYCHA) managing a portfolio of \$300 million in rehabilitation projects. NYCHA owns 2700 low and high rise buildings throughout the city. He managed in-house and consultant design, in house construction management teams and construction management firms.

Currently, he works as a Managing Engineer with the New York City School Construction Authority, which has a five-year capital budget of over \$13 billion dollars. As for design, at any given time, there are close to \$1 billion dollars of projects in design. In his current capacity, he manages the design of the rehabilitation of existing, and the design of new school buildings. He sets on the building code and standards committees.

A QUARTERLY UPDATE FROM THE SOCIETY OF AFGHAN ENGINEERS

Over the past two decades, he has acquired valuable knowledge and experience in the rehabilitation and forensics of structures, particularly bridges and buildings.

Since 2007, he has made several trips to Afghanistan and has been involved in capacity building. First of such trainings happened at the Faculty of Engineering and it was to train entrepreneurs who were interested in establishing architectural and engineering based companies. Subsequent trainings were done at MEW on Project Management and Construction Monitoring and Evaluation.

Mohammad Fayeq Fasihi – Election Committee Member



Mr. Mohammad F. Fasihi (Fayeq) moved to the state of Virginia from Afghanistan in late 2000. He studied civil engineering at George Mason University, where he received a B.S. degree in Civil, Environmental, and Infrastructure Engineering in December 2013, and proceeded to work as a land development design engineer and project manager immediately after graduation. With encouragement from friends and family members, Fayeq decided to pursue his Master's degree in Construction Project Management in January 2016 at George Mason University.

In his free time, Fayeq loves to spend time with his family/friends, play soccer, run, work on computers, and learn new challenging things.

Hamayon Ibrahim – Election Committee Member



Mr. Hamayon Ibrahim was born in Kabul City, Afghanistan. He received his high school diploma from Afghan Institute of Technology (AIT) and his B.S degree in Architecture from the Faculty of Engineering of Kabul University in 1983. He worked as a licensed Architect in Islamabad for 2 years and then moved to USA in late 1986. He is living in Northern Virginia and has been working as a project manager with a private engineering firm since then. His expertise is in the city planning infrastructure; and urban and land development design. His past 30 years work experience in US is including; but not limited to the designs of roadways; land and utilities such as water, sewer, and storm water for commercial and residential projects. He has taken numerous training classes and attended seminars in George Mason and Old Dominion universities to bring himself up to the American design standards and update himself to the daily changes in design industry.

Mr. Ibrahim's recent works in Afghanistan was design and construction of recreational and sports parks in 3 major cities of Afghanistan in 2011.

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He has two children whom both are attending engineering schools in Virginia Tech and Georg Mason universities. While he has free time, he likes to play music, hike and bike.

Ghulam Qadir – Election Committee Member

Mr. Ghulam Qadir received his B.S. degree in civil engineering from the Faculty of Engineering of Kabul University in 1982, Post Graduate Diploma in hydraulics engineering from the International Institute for Hydraulics and Environmental Engineering, Delft the Netherlands in 1991 and Master of Engineering degree from University of Florida in 1999. He registered professional engineer in the State of Florida.

Mr. Qadir has worked nearly for 35 years in different positions; including, civil engineering, teaching undergraduate courses, construction inspection, project management, roadway design; and design of storm water management facilities and structural design of reinforced concrete structures. Currently he is working as a Chief Engineer with Orange County Public Works Department, responsible for the management and coordination of County-wide transportation improvement projects.

Sayed Amir Shah Zahori – Election Committee Member



Mr. Sayed Amir Shah Zahori was born in Kabul, and studied in Habibia High School. He graduated from Kabul Polytechnic University, with MS degree in Civil/ Hydraulic major. After graduation, he worked in different civil engineering and construction projects with Helmand Construction Company- Central Unit (Ministry of Energy and Water) in Kabul, and northern provinces- Mazar-e Sharif and Samangan.

He continued working in civil engineering positions, and hydro-technical projects in Iran (Esfahan, and Khorasan-Mashhad and Esfarrayen) for about 10 years.

In the United States, Mr. Zahori worked in civil engineering and construction jobs in the engineering testing laboratories with private companies, engineering consulting firms, and government (Caltrans- district 4 Castro Valley office) for 5 years. He has been working in Engineering and Transportation Department of the City of Redwood City in California for about 13 years.

A QUARTERLY UPDATE FROM THE SOCIETY OF AFGHAN ENGINEERS

The Society of Afghan Engineers' 2017 Annual General Assembly

The Society's Annual General Assembly Meeting was held on Saturday January 7, 2017 in Alexandria, Virginia. The Minutes of the meeting has been prepared by Mr. Nazeer Babacarkhail, the Executive Director of the Board of Directors.



SAE
Society of Afghan Engineers

[P.O. Box 11097 Alexandria, Virginia 22312](mailto:info@saef.org)

**MINUTES
OF
Annual General Assembly Meeting**

Saturday, January 7, 2017

2:00 to 4:00 PM EST (Washington DC.)

11:00 to 1:00 PM Pacific Time (California)

Teleconference Phone Number: 712-775-7000

Code No. 388028#

Introduction

The SAE Annual general assembly meeting started at 2:00 PM EST/ 11:00 PM PST on Saturday, January 7, 2017. The following members attended the teleconference:

	Name
1	Mr. Atiq Panjshiri
2	Mrs. Sohaila Shekib
3	Mr. Amanullah Momandi
4	Mr. Salah Keshawarz
5	Mr. Najim Azadzoi
6	Mr. Nazeer Babacarkhial
7	Dr. Hassani
8	Dr. Zarjan Baha
9	Mr. Manan Khalid
10	Mr. Hasim Rayek
11	Mr. Hasim Baluch
12	Mr. Samaizy
13	Mr. Farid Abbas
14	Mr. Najib poya
15	Mr. Naimi
16	Dr. Gul afghan Saleh
17	Mr. Reza Afshar
18	Mr. Fayek

After a brief greetings and roll call by the Executive Director of the Board of Directors, Mr. Nazeer Babacarkhail, the Annual General Assembly (GAM) was called to order by Mr. Atiq Panshiri, SAE President. He discussed the updated agenda items. The President iterated that since most of SAE’s activities have been covered by the quarterly publication of the Society “SAE eNewsletter”, therefore, there is no need to repeat those items. He briefly reviewed the summary of the main activities of the year 2016. The Chair of the Board of Director Ms. Sohaila Shekib provided a brief welcoming remark on behalf of the Board.

Discussions

Below is a summary discussions during the meeting:

1. SAE president, Mr. Atiq Panjshiri’s, Brief remarks:

- a. Initially, the Executive Committee wanted to duplicate the in person, face-to-face successful GAM of last year, but due to unpredictable winter weather in Washington, it was decided to host it via teleconference.
- b. The Executive Committee in consultation with the Board of Directors planned to host a seminar on important subjects of interest, both in Afghanistan and USA sometimes in late summer 2017, which most the SAE membership as well as interested international organizations could participate. Last year’s annual general assembly meeting was well attended and well received by over 60 participants. We are hoping to duplicate and make the next seminar even better and more successful.

- c. The Executives Committee and Board of Directors have been working for past two years to advance the goals of SAE, by working collaboratively together with our sister organizations as well as the relevant technical Ministries in Afghanistan.
- d. The SAE needs from the entire general membership to advance the organization's agenda and to be successful in promoting development and be involved in the construction and development of Afghanistan now and in the future.
- e. The Executive Committee is holding their meetings every 2 or 3 weeks
- f. In 2016, Mr. Panjshiri, Mrs. Shekib, Mr. Azadzoi and other members met with Afghan Government officials in Kabul. These meetings have been very productive and well received by the government officials. A few such meetings were held with the Chief Advisor to the Afghanistan President, Dr. Hodayun Qayoumi; Minister of Urban Development, Mr. Sadat Naderi; Kabul City Acting Mayor, Mr. Abdullah Habibzai; and the Afghanistan Ambassador in Washington, D.C, Dr. Hamdullah Mohib.
- g. Mr. Panjshiri thanked the SAE Executive Committee members and Board of Directors for their hard work over the past two year and asked the Chairwomen of SAE Board of Directors, Ms. Sohaila Shekeb to give a brief report of the activities of the SAE Board Directors.

2. Ms. Sohaila Shekib's discussions

Ms. Shekib started her discussions with name of God and thanked everyone for participating in this meeting as well as the hard work of the Board of directors. She stated that the Board of Directors has held their meetings every two months, unless needed to discuss a special issues. She highlighted the following:

- a. Mentioned the names of 9 members of Board of Directors
- b. The SAE website maintenance cost was approved by the Board of Directors.
- c. Special joint meeting with SAE Executive Committee were held three times last year, to discuss ways to improve and increase SAE members as well as future activities of the Society.
- d. Discussed ways to attract members and organization from inside Afghanistan
- e. Mentioned the SAE capacity building project inside Afghanistan
- f. The Board of Director and the Executive Committee jointly collaborated on the idea of establishing the "Afghanistan Institute of Architectures and Engineers (AIAE)" in Afghanistan. This idea has been shared and discussed with Dr. Qayoumi and other Afghan officials
- g. She thanked Mr. Panjshiri and Mr. Azadzoi advancing the cause of SAE and meeting Afghanistan government officials and private technical organization, while on their personal trip in Afghanistan.

Mr, Panjshiri thanked Mrs. Sohaila Shekeb for making her office available for SAE meetings and conferences. He also, Requested Mr. Azadzoi to report the highlight of his trip to Afghanistan.

3. Mr Naim Azadzoï's report

Mr. Azadzoï has already email the details of his trip and most of the members might have read themt. He mentioned the highlight of his trip to be very productive. He visited the Ministry of Agriculture several times. He met with Afghan officials and SAE members in Afghanistan, he discussed with them the establishment of the "Afghanistan Institute of Architecture inside Afghanistan. This topic attracted the Afghan Government officials and other professional organizations.

Mr Azadzoï added that in every meeting, the involved parties expressed their desire for help from SAE and iterated that without SAE's involvement, creating and establishing a competent and credible institute may be nearly impossible or at least very difficult and challenging. He stated that Faculty of Engineering at Kabul University is not in good standing and they need professors and wanted to hear about American professional experiences.

After Mr. Azadzoï's brief report, there were a series of Q & As where members got engaged in the lively discussion.

4. Dr. Abdul Wahid Hassani's presentation

Dr, Abdul Wahid Hassani, Member of the SAE eNewsletter Committee provided the activities of the Newsletter Subcommittee on behalf of the Chair of the committee, Mr. Ghulam Mujtaba who could not attend the GAM meeting.

Dr. Hassani stated that publication is one of the successful activities of the organization, which has received compliments on its usefulness of information and keeping in touch with the membership. He indicated that SAE eNewslettter publication has started in January 2010 and the January 2017 issue was the 25th issue of its consecutive seventh year of its quarterly publication This activity has continued without any interruption. Each volume is emailed to all members and is uploaded on the website. Dr. Hassani's presentation related to the SAE newsletter is included in the Appendix of the GAM.

Mr. Panjshiri thanked all members of the publication committee, Chairman and Editor-in- Chief of the SAE eNewsletter, Ustad Ghulam Mujtaba; and Subcommittee members; Dr. Abdul Wahid Hassani; Mr. A. Manan Khalid as well as the new volunteer Borad of Directors' Counselor, to the Committee, member of the Board of Director, Mr. Hafizullah Wardak.

5. Annual SAE financial Report

Mr. Panjshiri provided report of SAE's financial on behalf of the Treasurer, Mr. Ashraf Roshan who was out of the Country and unable to join the meeting.

6. Questions and answers

The last portion of the meeting was allocated for Questions and Answers and open discussion on topics of interest. This session was lively and beneficial where everyone shared their ideas, concerns and constructive suggestion on SAE's future activities.

7. Closing remarks

The closing remarks were stated by Ms Sohaila Shekib who thanked everyone and asked every member for their involvement and cooperation in promoting SAE and advancements of its goals.

The meeting was adjourned at 4:16 PM EST

APPENDIX

MINUTES OF

Annual General Assembly Meeting

SAE e-Newsletter Subcommittee Report

By: Abdul Wahed Hassani PhD, P.E., MASCE;
Member SAE eNewsletter Editorial Board

Dear colleagues:

Technical achievements of a society need joint efforts of every member of the society in all aspects of its activities. The SAE eNewsletter publication is one of the successful achievements of the Society with your active participation. I will present a brief report about the history of the SAE eNewsletter and its Subcommittee activities.

The development of guidelines and publication policy for the eNewsletter was a tremendous job which was successfully completed in 2010. The publication guidelines and policies were approved by the Board of Directors on November 10, 2010. The revised version of the SAE eNewsletter guidelines were approved by Board of Directors on May 14, 2014. The Guidelines describe the newsletter's publication policies; including the contents, format, and style and responsibilities of the Subcommittee members.

In accordance with the guidelines, the Subcommittee members will consist of SAE eNewsletter Regional Representatives and Editorial Board. A Board member may serve as Counselor in the SAE eNewsletter Subcommittee. Currently the following SAE members are serving as members of the Subcommittee:

Ghulam Mujtaba: Editor –In- Chief and Subcommittee Chairman

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Abdul Wahed Hassani: Member of the Editorial Board and Subcommittee Member

Abdul Manan Khalid: Member of the Editorial Board and Subcommittee Member

Hafizullah Wardak: Member of the Editorial Board and Subcommittee Counselor

Abdul Hamid Layan: Subcommittee Regional Representative -Kabul

The Editorial Board actively worked under the dynamic leadership of the Chief editor during the past six years and had a great amount of achievements regarding publication of the eNewsletter. I would like to highlight the major activities pertaining to the publication of the e-Newsletter.

So far the e-Newsletter is a quarterly publication. The Editorial Board successfully published 25 quarterly issues of the eNewsletter, since its inception in January 2011, on the scheduled times without any delay and interruption. The January 1, 2017 SAE eNewsletter was the first quarterly issue of seventh year of its publication. All issues of the newsletter publications are posted on the Society website.

Each issue of the newsletter features the latest events at the SAE and any other issues important to the growth of the Society and its members. The topics of the newsletter may include the following topics:

- A summary of the activities of the Society Board of Directors, Executive Committee, and other Committees of SAE.
- Information about general assembly meetings, seminars, symposiums, announcements, advertisements, job vacancies, and student scholarships.
- News about SAE members; including their promotions, new appointments, awards, graduations, achievements, retirement, death and obituaries.
- News about the past, present, and future SAE related projects that are performed by SAE members or their companies.
- News about architectural and engineering activities in Afghanistan.
- Brief technical articles of interest, essays, or abstracts of the research projects or current practices.
- Interviews with successful Afghans who are serving or served as executives, managers, presidents, deans, professors, architects, engineers, and other professionals.
- Brief greetings from SAE President and/or Chairperson of the Board of Directors.
- Case studies of projects and book reviews.
- News about new members and other miscellaneous topics.

The published newsletters generally have been about an average of 30 pages. A few issues of the newsletter have exceeded to more than 40 pages. The submitted articles, interviews, and other materials are reviewed by the editorial board, and sometimes, by other experts for their contents and appropriateness. The review comments and recommended modifications are sent back to the authors for the preparation of final revision. After the necessary revisions, the document will be included in the publication of the newsletter.

The SAE eNewsletter is distributed to all the members of the society who have updated e-mail address with the Society or registered with Yahoo group of SAE. The eNewsletter is also posted on the SAE website. Upon the dissemination of each issue, numerous comments, suggestions,

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notes of appreciations and kind words were received from the readers which were replied accordingly.

The success of the SAE publications, including SAE eNewsletter, depends on the active participation of the Society members to send their technical articles and news. We recommend that the number of the newsletter regional representatives should be increased so that we get more technical news about each region. The members who are interested to serve as regional representatives within or outside Afghanistan should let us know.

At last but not the least, it is worth mentioning that preparation of the SAE eNewsletter is a team work, but the tireless effort of the chief editor and the amount of time he spends on each issue to review, organize, format and present the SAE eNewsletter in the final form is extraordinary. We sincerely thank Ustad Mujtaba Khan and wish him all the success for continuation of excellent work.

On behalf of the SAE eNewsletter Subcommittee, I take this opportunity to thank all colleagues who have contributed in the past to the activities of the newsletter by sending their technical articles, news, comments, and valuable suggestions. We are wishing for your continued participation in the advancement of the quality of your newsletter.

Thanks

Abdul Wahed Hassani, PhD, PE, MASCE
Member, SAE eNewsletter Editorial Board

Announcements:

(1) The 2017 SAE Membership Renewal

Dear Members of the Society:

The Management of the Society of Afghan Engineers (SAE) would like to remind all members that 2017 membership renewal and Annual fee of \$60 are due. Your membership fee collectively would enable us to pay for some basic needed services of the Society such as Website security monitoring, updating and maintenance. Also, your membership fee would provide SAE's management of the financial means to organize and host events and seminars on relevant technical topics. The membership renewal application can be downloaded from our website at www.afghanengineers.org

Please visit the SAE Face book when you get the opportunity.

We appreciate your kind attention to the membership due request.

Sincerely,

Atiq Panjshiri, President
The Society of Afghan Engineers

(2) SAE eNewsletter-regional Representatives

The positions of the SAE eNewsletter Regional Representatives are open. Please let us know if you are interested to volunteer for one of these positions or if you want to nominate other qualified members to serve in these positions. The representatives will inform the newsletter Editorial Board of any technical news in their regions and contact authors for their contributions in the activities of newsletter. For additional information please send an email to SAE eNewsletter Editorial Board: Ghulam Mujtaba, E-Mail: mujtabaghulam@bellsouth.net; A. Wahed Hassani, Email: awhassani@gmail.com; A. Manan Khalid, E-Mail: manank10@gmail.com; and Hafizullah Wardak, Email: hwardak@comcast.net

(3) The SAE Membership Renewal Updates

The following are the status of the membership renewal fee payments and donations to the Society of Afghan engineers during Years 2015 - 2017. The SAE management would like to thank all members for their financial support and other contributions to the Society activities.

MEMBERSHIP RENEWAL FEE AND DONATIONS IN 2017					
The Society of Afghan Engineers					
Date	First Name	Last Name	Fee Paid	Donation	Total Payment
1/7/2017	Atiq	Panjshiri	\$60	0	60
2/8/2017	Ghulam	Mujtaba	\$60	\$100	\$160
2/8/2017	Yacob	Munir	\$60	0	\$60
1/27/2017	Steve	Rossi	\$60	\$60	\$120
1/27/2017	Gul Afghan	Saleh	\$60	\$40	\$100
1/7/2017	Abdul Nazeer	Babacarkhial	\$60	0	\$60
2/8/217	Abdul Manan	Khalid	\$60	0	\$60
1/7/2017	Sayed F.	Abass	\$60	0	\$60
1/7/2017	Reza M.	Afshar	\$60	\$140	\$200
1/27/2017	Najib	Poya	\$60	\$200	\$260

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1/7/2017	Hashem	Baluch	\$60	0	\$60
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MEMBERSHIP RENEWAL FEE AND DONATIONS IN 2016

The Society of Afghan Engineers

Date	First Name	Last Name	Fee Paid	Donation	Total Payment
3/8/2016	Atiq	Panjshiri	60	0	60
1/19/2016	Hafizullah	Wardak	120	0	120
1/19/2016	Yacob	Munir	60	0	60
2/27/2016	Steve	Rossi	60	40	100
2/22/2016	Gul Afghan	Saleh	60	40	100
1/24/2015	Abdul Nazeer	Babacarkhial	240		240
3/8/2016	Abdul Wahed	Hassani	60	0	60
2/22/2016	Abdul Manan	Khalid	60	0	60
3/8/2016	Reza M.	Afshar	60	0	60
3/8/2016	Yar M.	Ebadi	120	0	120
1/19/2016	AM Structure		120	0	120
2/8/2016	Ghulam	Mujtaba	60	60	120
2/22/2016	Shoaib	Ahrary	60	0	60
3/8/2016	Najb	Poya	60	40	100
3/30/2016	Hashim	Rayek	60		60
3/30/2016	Nadir	Sidiqi	60	60	120
3/8/2016	Ahmad Farid	Haidari	60	0	60
6/11/2016	Homayon M.	Ibrahim	60	0	60
6/11/2016	Sayed F.	Abass	60	0	60
6/11/2016	Sohaila S.	Shekib	60	0	60
6/11/2016	Hashem	Baluch	60	0	60
6/11/2016	Zarjan	Baha	120		120
2/13/2016	Mahmoud	Samizay	60	0	60
2016	Ashraf	Roshan	120	120	240 ⁴

Membership Renewal Fee and Donations in 2015

The SAE Membership Renewal Fee and Donations - December 31, 2015

Date	First Name	Last Name	Fee Paid	Donation	Total Payment
7/14/2014	William H.	Haight III	60	40	100
1/1/2015	Ahmad Farid	Haidari	60	0	60
1/1/2015	Homayon M.	Ibrahim	60	0	60
1/1/2015	Rafaat	Ludin	60	140	200
1/1/2015	Ashraf	Roshan	60	60	120
1/1/2015	Atiq	Panjshiri	60	0	60
1/12/2015	Hafizullah	Wardak	60	0	60
1/12/2015	Ghulam	Mujtaba	60	40	100
1/12/2015	Yacob	Munir	60	0	60
1/12/2015	Fahim	Panjshiri	60	0	60
1/12/2015	Steve	Rossi	60	60	120
11/22/2014	Gul Afghan	Saleh	60	0	60
1/24/2015	Abdul Nazeer	Babacarkhial	240		240 ¹
2/6/2015	Abdul Wahed	Hassani	60	0	60
2/12/2015	Abdul Manan	Khalid	60	0	60
	Mohammad				
3/6/2015	S.	Keshawarz	120	0	120 ²
3/6/2015	Abdul Saboor	Rahim	60	0	60
3/6/2015	Najim M.	Azadzoi	60	0	60
3/6/2015	Sayed F.	Abass	120	0	120
3/6/2015	Sohaila S.	Shekib	60	0	60
3/6/2015	Aziz	Ghani	60	0	60
3/6/2015	Mahjan	Saleh	60	0	60
3/27/2015	Sayed Aziz	Azimi	60	190	250
3/27/2015	Zarjan	Baha	60	40	100
4/1/2015	Mahmoud	Samizay	60	0	60
4/2/2015	Abdul	Chahim	60	0	60
4/11/2015	Aziz	Ghafoory	60	0	60
4/10/2015	Reza M.	Afshar	60	0	60
4/25/2015	Painda M.	Fakoor	60	0	60
4/25/2015	Sadeq A.	Ezzat	60	0	60
5/27/2015	Yar M.	Ebadi	120	0	120 ²
08/2015	Zabi	Zaca	120	0	120 ³

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- 1- Mr. Babacarkhial has sent his membership fee for period of four years -Payment for 2014-2017
- 2- Dr. Keshawarz and Dr. Yar M. Ebadi have sent their membership fees for 2 years
- 3- Mr. Zabi Zaca sent membership fees for 2015 and 2016.
- 4- Mr. Ashraf Roshan has sent his \$120 membership fee and \$120 donations for the years 2016 and 2017.

The attached form includes application for the new members and membership renewal. The application forms may be viewed at SAE website. The members are requested to take a few minutes of their time to inform the Society by sending their updated contact information. **The completed application/renewal forms may be mailed to**

Mr. Atiq Pnajshiri,
SAE President
P.O. BOX 11097
Alexandria, Virginia 22312

Thanks to members who have updated their membership renewal and have paid their annual membership fees. Thanks for their generosity.

Comments and Suggestions about SAE eNewsletter

The Editor-In - Chief of the SAE eNewsletter has received comments/suggestions regarding the January 2017 issue of the SAE eNewsletter. The following are the comments/suggestions and Editor's responses:

1. Ustad Hafizullah Wardak's Comments/Suggestions

Dear Ustad Mujtaba Asalaam

Happy new year 2017, our Dua is to make this a year of peace, prosperity and normal life for Afghanistan, and a year of good health and happiness to you and your family and always.

Thank you for the timely release of the newsletter, it has been excellent past 7 years of getting news about the Society and its members and general technical issues about Afghanistan

Your support of the Newsletter is greatly appreciated, may Allah reward you for your effort

With Warm Regard

Hafizullah Wardak

Editor's Response

Dear Ustad Hafizullah Wardak Walaikum-Us-- Asalaam

Happy New year 2017 to you and your respected family. Thanks for your Dua for peace, prosperity, and normal life for Afghanistan. Yes, we need peace in Afghanistan and in the entire world.

You have mentioned about the timely release of the newsletter and its quality in the past 7 years. I should indicate that the work is the result of the joint efforts of the SAE eNewsletter Subcommittee and Editorial Board. I should thank you, Hassani Sahib, Khalid Sahib, and Layan Sahib for the team efforts and valuable contributions in the advancement of the quality of the publication. May God reward all of you.

Best regards,
Editor-In-Chief SAE eNewsletter

2. Dr. Gul Afghan Saleh's Comments/Suggestions

Dear Mujtaba Saheb and other Editorial Board of SAE eNewsletter, Asalaam-u-Alaikum!

Hope this message finds you at the best of health and spirit.

First, I would like to thank you for your hard work in keeping SAE eNewsletter regularly issued and distributed to its intended beneficiaries. Since joined SAE, I have witnessed several achievements but none has been so impressive to me as its eNewsletter. I have always enjoyed reviewing its valuable contents and would like to thank you for making it available to its readers.

To take part in your endeavor, I also wrote an article that reviews Afghanistan water resources from environmental and climate change perspective.

Best regards,

Gul Afghan Saleh Expert
Country environment profile for Afghanistan

Editor's Response

Dear Dr. Sahib Saleh Walaikum -u-Alaikum,

On behalf of the Editorial Board/SAE eNewsletter Subcommittee, I would like to thank you for your comments about the publication Society's newsletter. The quality of the newsletter is the results of the joint efforts of the newsletter Subcommittee, authors, and other Society members, which you have been part of the team.

Thanks for your contribution in the development of the newsletter by sending us your article. We greatly appreciate

A QUARTERLY UPDATE FROM THE SOCIETY OF AFGHAN ENGINEERS

your efforts and time that you have taken from your busy schedule to prepare the article about an important issue "Afghanistan Water Resources from Environmental and Climate Change Perspective"

Once again, thanks for submittal of the article.

Best regards,

3. Ustad A. Manan Khalid and Engineer Sahib S. Mohammed Omar's Comments

In the January 2017 issue of the SAE eNewsletter, there is a Section entitled "A Glance at Books and Publications". Item No. 2 of the book review included information about a Dari book "El-ixir of Life (اکسیر زندگی), written by Mr. M. Qaseem Naimi.

In the author's biography, the graduation date of Mr. Niami from Habibia High School is written 1964 in lieu of 1961.

I apologize for the typographical error. Thanks to Khalid Sahib and Omar Sahib for thorough review of the newsletter and bringing the editorial error to our attention. As mentioned, Mr. Naimi's graduation date from Habibia High school is 1961.

Best regards,

Editor -In-Chief

THE SOCIETY OF AFGHAN ENGINEERS ORGANIZATION

SAE E-Executive Committee Members: President: Atiq Panjshiri, Vice President: Farid Abass Treasurer: Ashraf Roshan, Secretary: Farid Haidari, Manager: Gul Afghan Saleh

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