SKIM

Spatial Knowledge & Information Management

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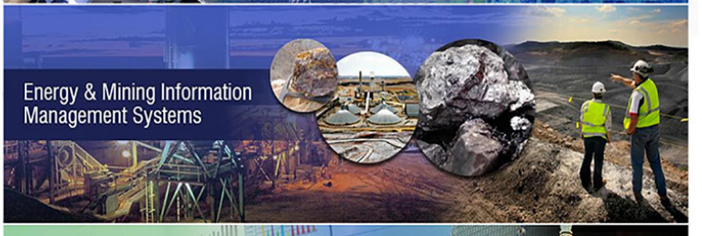

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Spatial Knowledge & Information Management for **Bringing Simplicity to Business Processes**

Spatial Knowledge & Information Management [SKIM] focuses on acquiring, analyzing, using, and sharing specific and useful information that enable its users to integrate a huge wealth of data for enhanced decision making, both at the corporate and policy level. Many fields contribute to the SKIM framework including: Information and Communication Technology, Geographic Information System, Governance, Education, Health, Public & Environmental Safety, Agriculture & Natural Resources, and Energy. The monthly SKIM magazine covers the most pressing issues from its contributing themes and provides the latest information to enhance quality of discussion on the issues.

In the cover story, we take a look at The Sorry State of Education in Pakistan, which gives an in-depth analysis of the current education emergency and makes the reader to think about the possible solutions. Rafey Rajper highlights that, in the Pakistan, due to lack of education, a majority of the population is not aware of their basic right to education. There is an immediate need to raise awareness about the importance of education amongst the masses and deal with various systemic problems.

In this issue, a comprehensive article on "GIS, Agriculture and the Changing Environment of the Persian Gulf", by Michael Calabrese, provides an analysis of how the GIS technologies can prove to be a useful tool in learning about the changes in climate and their impact on agriculture. 'Prevention and Treatment of Thalassemia in Pakistan' by Bazil Qureshi talks about the prevalence of Thalassemia and various challenges faced by the patients in Pakistan.

In his article 'Pakistan's Energy Crisis – A Conundrum or a Catastrophe' Syed Salman Rizvi explains the impact of current energy crisis on daily life and economy. He explores various causes behind the problem and takes a look at possible solutions. While a comprehensive article, 'Monitoring Democracy and Elections with Advanced Technological Gadgets' by Fizza Khalid, describes how the latest technologies can be used to establish a fair election process and a true democracy.

'Infrastructure Planning and Development in Pakistan' by Halar Rajper talks about how the GIS technologies can be used in the long term planning of the nation. These technologies can be useful in planning for floods and infrastructure planning and development.

The Business Psychology section of the magazine brings to you a very thought provoking article by John Weaver, 'Phantom of the Workplace'. On a lighter note, 'Diane R. Randall' provides tips about holistic living in her article "Wellness After 30: Getting the Most Out of Later Life". Lastly, a case study is presented by 'Mohamed A. Dawoud and Mohamed M. Al Mulla' on 'Environmental Impacts of Seadwater Desalination: Arabian Gulf Case Study'.

This SKIM Magazine presents latest news on various geospatial technologies and ICT technological developments from the countries of the region including; GCC countries, Iran, Iraq, Yemen Afghanistan and Pakistan, to help our readers relate better to the different events in our neighborhood.

It will give me immense pleasure to hear from those who would like to contribute to this pioneering effort.

Mehdi Bokhari
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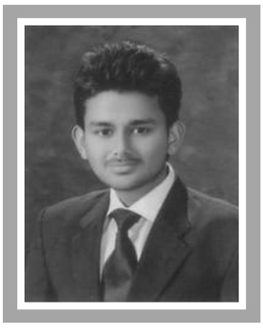

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GIS, Agriculture and the Changing Environment of the Persian Gulf

By: Michael Calabrese

Like the rest of our planet, the Persian Gulf states face the challenges of climate change. It's ubiquitous. While the Gulf shares in those common problems, a series of factors combine to make the issues confronting individual nations unique. These factors are geographic and geophysical; economic and political. Most states will employ advanced Geospatial Information Systems (GIS) to support better decision making, The Gulf Cooperation Council (GCC) will need to act, ensuring that sound development and meaningful enforcement policies will be put in place, governing the region as a whole.

Climate presents a large, overarching issue for the GCC as long-term weather patterns create new conditions on our world. Those conditions are specific to the Gulf and its unique environment and its surrounding lands. One is tied to the other, and so are the fortunes of the nations and people living throughout the region. In most ways, borders will hardly count. The rivers that flow into the Gulf, the nature of the water and the need to produce food for the people who live there don't pay attention to borders. Neither will the solutions. The "Cooperation" part of the GCC, will the

most important, so will the information gathered to support decision making.

GIS provides critical information for agriculture. Photographic and false-color satellite imagery provides information on land use, soil assessment, ground and crop cover. Multi-temporal imaging generates a progressive record of change across the land. Throughout the Persian Gulf, that picture is one of persistent drought and land degradation.

The Pakistan Space & Upper Atmosphere Research Commission (SUPARCO) began monitoring agricultural yields in cooperation with the Ministry of Food, Agriculture and Livestock (MINFAL) in 2005-2006 in three districts. The satellite image-based project was expanded to 43 districts in 2007-2008 in NWFP, Punjab, Sindh, Balochistan Provinces.

The Northwestern and all of the Southern Gulf Coasts can be defined as a salt basin. The high salt content of the Persian Gulf's water is matched by the high salt content of the surrounding land and ground water, where it is found.

Water-flow reduction in the region's rivers has become a problem as water for human consumption, irrigation and hydroelectric generation is reduced and agricultural lands grow increasingly arid. GIS supported decision making will point the way toward better solutions by identifying lands where increased irrigation can support crop growth and judge which crops should be planted.

GIS mapping incorporates a wide range of data. It's not just geography, it's geophysical properties. Soil quality and composition assessments will help to set priorities for irrigation projects, and establish yield estimate for future growing seasons. Soil salinization is assessed numerical and thematic maps. There are multiple factors impacting soil quality. These will include the surface geology and slope; water quality, the depth of the water table; climate and others. These are recorded and used to develop various levels of risk to agricultural production. Geophysical surveys (like most elements of GIS) incorporate "ground truthing" or on-site sampling and testing to confirm satellite-based observations. This will provide new layers of data for assessment and develop a clearer image of a district. How much water retention does this soil have as opposed to another? Can reforestation help preserve this particular type of soil? Answering these questions will provide solutions to the larger question: Where should the state invest in irrigation systems and soil remediation.

Drought Resistant Crops

Developing a comprehensive understanding of the land and our changing weather patterns will support a wide range of policy decisions. Among them will be new regional agricultural policies. Pakistan, Iran and Iraq in particular have deep agricultural history and a host of crops that have traditionally supported the people and the national economy. Those crops may no longer be the ones to plant.

New drought resistant crop aren't magic. Scientists have isolated plant gene factors that allow certain plants to regulate their water requirements during times of shortage. It operates as a thermostat within the plant. All crops require larger amounts of water when first planted and during early growth. However genetic engineering to enhance the OSCA-1 gene means that those times will be better understood allowing water resources to be dedicated to one particular crop and then reassigned to another once critical periods have passed. Crops are commonly planted in rotation today. Those rotations may change to account for water requirements, and the water services can be rotated as well. It will be a new planning regime for agriculture.

Regional governments are hardly standing still in the face of the new challenges, In June 2014 Pakistan's Ministry of Textile Industry, Federal Seed Certification Registration Department approved almost 18,000 metric tons of improved cotton seed for planting while the National Bio-safety Committee (NBC),

Ministry of Climate Change cleared 28 varieties of cotton seed for commercial planting.

The last decade has seen advances in plant genetics that have resulted in staple crops that are resistant to both drought and disease. Among them are maize, several varieties of spring and winter wheat and barley. Determining which is best suited to which districts during the growing season will mean all the difference to the people of the Gulf.

Among the problems confronting farmers throughout the region is soil salinity. High salt concentrations in the soil inhibit the amount of water most crop roots can absorb. In a region where irrigation is a constant need, the use of water which generally also contains elevated salt levels only worsens the difficulty over time. A number of crops are naturally more tolerant of the salt. Among these are date palms, barley, sugar beets and cotton, asparagus and spinach – most of which are already grown in the region. Some crops are moderately tolerant and include cereals like wheat, oats, rice and maize.

As the drought continues, a number of steps may be required to enhance crop yields. Unfortunately, the dominant method involves irrigation with fresh water that reduced the salt levels through leeching, and the excess water must be removed by drainage. This may simply prove unworkable and uneconomic over larger areas and the increase in food prices is already a damaging factor. As water grows ever scarcer, the volumes of water required for salt reduction may be untenable.

The Shift to the Sea

As the droughts in the Gulf States continue to reduce arable lands and with it, reduced crop production, the Persian Gulf will grow in importance as a source for food. That sea grows increasingly salty and warmer limiting the harvest of fish and other seafood. Over fishing has become an issue and here again, GIS mapping will define areas for increasing investment in protected fisheries. At the same time, the Gulf is the sole source of water for desalinization for every state that does not border the Sea of Oman. Each time the brine from desalinization is returned to the Gulf, the salt content increases, diminishing the habitat for fish and marine creatures.

Aquaculture isn't a new venture in the Gulf. In 2003 Regional Fisheries Commission (RECOFI) established their working group on Aquaculture to advise the Commission on policy issues and technical development, identify development trends, conduct surveys and recommend courses of action. These including the promoting investment in aquaculture as a major food source and coordinating the policies of the member states. Bahrain, Islamic Republic of Iran, Oman, Saudi Arabia, Kuwait, Qatar, the United Arab Emirates and Iraq are all full members.

In 2007 the Commission opened the Regional Aquaculture Information System (RAIS) , hosted in Kuwait, to gather information and provide an up-to-date open source research tool in aquaculture for the Gulf. RAIS is an example of GIS in action producing national profiles on the state of the fisheries, project revenues and risk assessments. Part of the overall mission is to teach member states about the utility of GIS generated information in creating development policy. RAIS research covers the use of fingerling stocks to seed fish populations, impact statements on cage fish farming and the impact of point and non-pollution sources on the fisheries.

A Balancing Act on the Shifting Sands

The GCC leadership faces the large challenge of making choices between competing requirements. All of those requirements are legitimate and crucial to the lives of everyone who lives in the Persian Gulf region. The member nations must provide fresh water for human consumption and commercial needs; assure that food production from the land and the sea meets the needs of a growing population; and they need to do both while supporting economic growth and delivering benefits to society. All of it will happen against the backdrop of a changing landscape, and a changing seascape as well. It's no mean trick.

As the Gulf grows more stressed, new regulations and controls of pollutants will become critical. The various fines imposed on ship discharges and tank cleaning, are not sufficient now and will be less so later. The point of regulation will not be to punish offenders or impose some monetary loss. The point will be to stop them. Coast Guard and harbor police will be tasked with increased enforcement, regardless of whose ship is washing out its tanks. On the land side, commercial enterprises will have to be accountable for the discharge of wastes in all forms, but industrial waste that reaches the Gulf will be twice as serious as more people some to depend on the water for their food.

GIS information systems will play an ever increasing role in sound policy making. From tracking point and on-point pollution sources via satellite, to monitoring agricultural yields, land use and the water sheds to managing fisheries, GIS will become the essential element in supporting better decision making by government. ■

United Nations Expert Praises UAE's Food Security Efforts

Abu Dhabi - A United Nations food expert has said the UAE has made great strides towards making sure it has food independence.

Speaking at an event to mark World Food Day, Ad Spijker, subregional office coordinator for the Food & Agriculture Organization (FAO) of the UN, said that it had reached many of the Millennium Development Goals set by the UN in 2000 to improve the lives of the people of the world.

"The UAE has cut the extreme poverty rates by half as well as reducing the proportion of hungry people and levels of undernourishment," he said.

The UAE was also playing its part in strengthening global food security "as a result of the excellent infrastructure and transmission lines that link the state with most countries of the world", he said.

The event, at Excalibur Farm in Al Shahama, was also to launch the International Year of Family Farming (IYFF) in the UAE.

The FAO has teamed up with the Ministry of Environment and Water to raise awareness of and promote family farms and organic produce. Farmers, scientists, agriculture experts and students participated in the launch.

The Ministry has launched several initiatives to boost farming and preserve and develop the country's agricultural industry.

These include Nakheelna, which aims to strengthen efforts to combat agricultural pests, particularly those that infect date palms.

According to the FAO, the 2014 International Year of Family Farming aims to raise the profile of family farms in the drive to eradicate hunger and poverty, improve food security and livelihoods, and protect the environment.

New Qatar Farming Center to Meet Domestic Fish, Shrimp Demand

A new aquaculture development project has been launched in Qatar, designed to meet domestic demand for fish and shrimp, reports Zawya.

The site is also designed to create a suitable environment for investment in the sector. Work on the Aquatic and Fisheries Research Centre (AFRC) officially began on Oct. 14 with the laying of the foundation stone, in Al Khor, by minister of environment Ahmed Amer Mohamed al-Humaidi.

It will look to develop the growth of local fish like Hamour (or brown spotted reef cod), Safi (or rabbitfish) and shrimp. The expected production capacity is around 8,000t of fish annually and 6,000t of shrimp per season [actually reported by Zawya at 8 and 6 million tons, but this is likely an error].

The AFRC is being built at an estimated cost of QAR 230m [$63.1m] on a space of 110,000 square meters, and expected to be completed by September 2015.

It would be also furnished with the most sophisticated equipment and technology in the field, said al-Humaidi.

GCC Fertilizer Sector Plays Central Role in Fortifying Global Food Security

Arab Forum for Environment and DevelJeddah - The GCC's export-oriented fertilizer industry is set to play a key role in fortifying global food security, says a new report by the Gulf Petrochemicals & Chemicals Association (GPCA) and Nexant.

According to The Role of GCC Fertilizers in Addressing Food Security, upcoming fertilizer capacity additions for ammonia and urea products will be critical for the farmlands in South and South East Asia, highly populous regions which often lack natural resources to produce fertilizers for strengthening agricultural productivity.

"In addition to gaining valuable export revenues for the region's economies, fertilizer producers will soon make significant contributions to the global food banks," said Dr. Abdulwahab Al- Sadoun, Secretary General, GPCA. "By 2030, the world will need to feed an estimated 2 billion more people, so fertilizers will be crucial in ensuring that these individuals have access to edible, sufficient and nutritious food."

The Gulf's fertilizer capacity reached 42.7 million tons in 2013, nearly half of which was exported to markets across the world, as per GPCA data. The GCC's fertilizer sector is also growing: production gained 4 percent from the previous year, while the global fertilizer industry grew by just 1.7 percent in the same period.

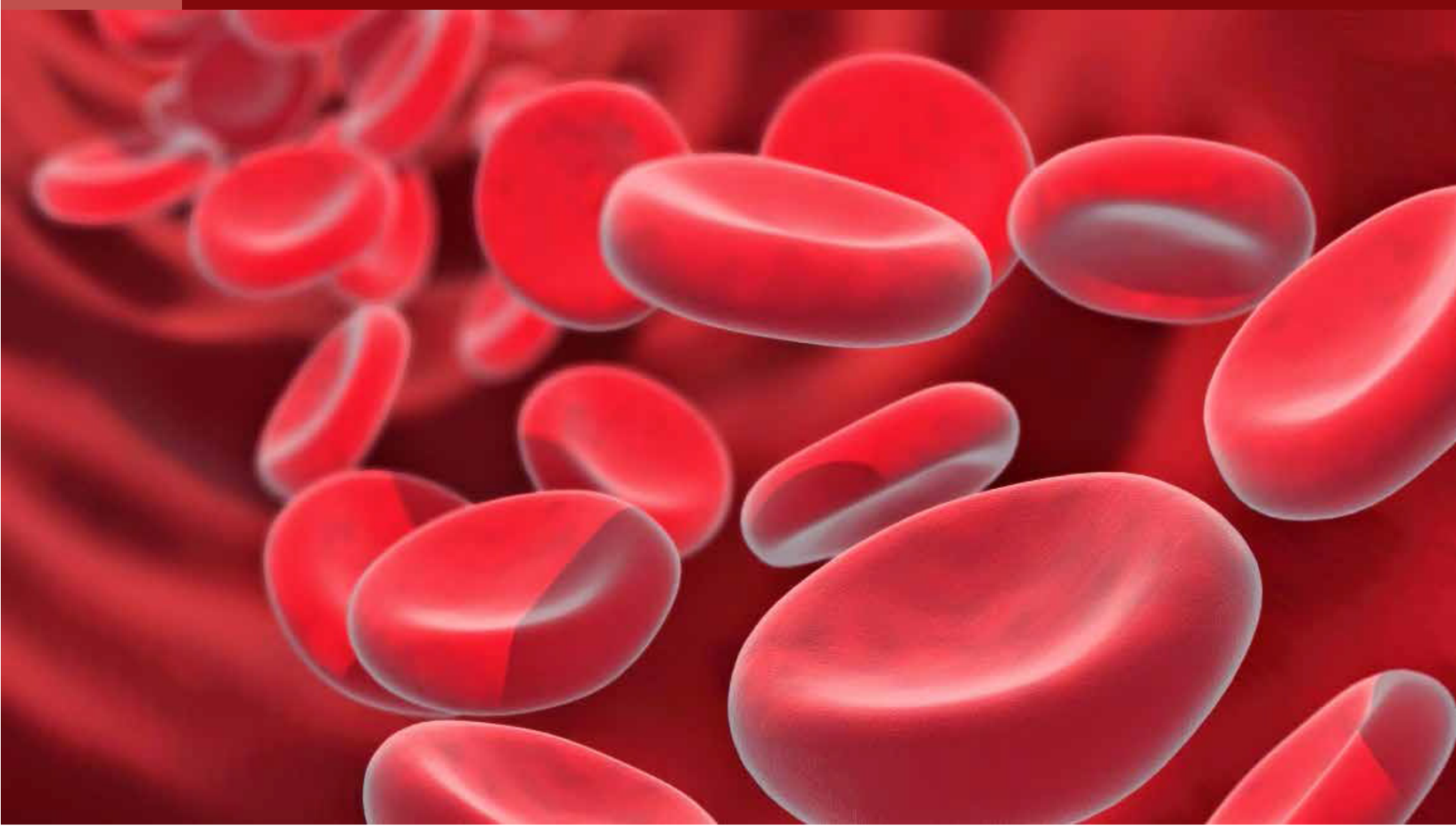
Fertilizer sector growth has been augmented by the GCC's vast reserves of natural gas, essential for producing ammonia and urea fertilizers. With relatively low domestic demand, the Gulf's fertilizer exports are set continue to rise in the long term.

Saudi Agriculture Industry Eyes Solar-Diesel Hybrids

Riyadh - Solar-diesel hybrid solutions may hold the answer to reducing fuel costs and increasing energy security for Saudi Arabia's agricultural sector. The poultry industry, in particular, could benefit from hybridizing diesel generators with solar photovoltaic (PV) systems, as attendees discussed at a recently held roundtable in Riyadh.

"Hybrid solar-diesel systems are a viable solution to provide power to Saudi Arabia's poultry producers, many of which are not connected to the national electric grid. Such solutions can help reduce the industry's heavy reliance on diesel fuel," highlighted Abdulmohsen Al Shoaibi, managing partner of DarSolar. Dar Solar, a Saudi-owned company that assists solar engineering companies to become established in the Kingdom and the MENA region, is currently examining a solar-hybrid solution for a hatchery that consumes 900,000 litres of diesel annually through four generators.

The roundtable saw attendants from a number of local and foreign establishments, including environmental technical consultancy Altermia Asesores Técnicos, as well as Al Fakieh Poultry, Al Watania Poultry, National Centre of Palm and Dates, and IYA Investment. The event will bring together more than 150 stakeholders and decision makers from across the Saudi Arabian solar industry and beyond, including executives from Air Liquide MENA, E.ON, King Abdullah University of Science & Technology (KAUST), Tokyo Electron Taiwan, as well as Solairedirect and First Solar.



Prevention and Treatment of Thalassemia in Pakistan

By: Muhammad Bazil

Thalassemia is a hereditary blood disorder, which lowers hemoglobin – the protein that carries oxygen in the blood cells - in the human body, thus leading to anemia. Since the disease is inherited, at least one of the parents is the carrier of Thalassemia as a result of a genetic mutation or an omission of particular key genes.

There are two main types of Thalassemia

Alpha Thalassemia (α-thalassemia) occurs when at least three missing or mutated genes affect the production of the alpha-globin protein in the blood, thus lowering hemoglobin levels. Less than three faulty genes may be associated with mild anemia or may cause no effect to the person. People with origins from the Mediterranean, Middle East, Africa or Southeast Asia are more likely to be the carriers of α-Thalassemia or to develop the disease because Thalassemia protects people in these regions against malaria.

Beta Thalassemia (β-thalassemia) requires at least four similar mutated genes to affect the production of the beta-globin protein in the blood. β-thalassemia major, also known as Cooley's anemia, is a serious disease that leads to chronic anemia. People with origins from the Mediterranean are more likely to develop β-Thalassemia,

Distribution of β-Thalassemia mutations in Pakistan's various ethnic groups									
Mutation	Sindhi	Baloch	Pathan	Memon	Immigrant (India)	Punjabi	Saraikee	Hazara	Total
IVS1-5(G-C)	134	60	19	14	13	22	3	-	265
Fr8-9	38	7	21	6	12	10	8	-	102
Del 619	34	-	1	29	7	-	1	-	72
IVS1-1(G-T)	30	4	-	10	5	4	-	-	53
Cd-30(G-A)	30		11	4	1	4	2	-	52
Fr41-42	9		1		12	8	2	3	35
Cd-5(-CT)	4		8		1	1	-	-	14
Cd-15(G-A)	8	2			2	4	-	-	16
Cap+1(A-C)	2		1	1	2	2	-	-	8
Fr16(-C)	-	3	3	0	-	-	-	-	6
Hb S	-	3	-	-	1	-	-	-	4
Hb E	5	-	-	1	3	4	-	-	13
Uncharacterized	-	-	2	-	4	1	1	-	8
Total	294	79	67	65	63	60	17	3	648

Table 1: Adapted from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3243455/

whereas Asians and Africans may be affected to a lesser extent.

Unborn babies with four faulty genes rarely survive pregnancy (stillbirth). Children born with Cooley's anemia develop severe anemia during the first year of life. People with minor forms of Thalassemia face no symptoms of anemia during their lives. Finally, carriers of Thalassemia genes may not be aware that they are carriers. Anyone who plans to have children should have the special blood tests to eliminate the possibility of passing down any faulty genes to the next generation.

The major symptoms of Thalassemia include fatigue, shortness of breath, fussiness, weakness, paleness, poor appetite, bone deformities in the face, enlarged organs, yellow skin (jaundice) and enlarged organs, among others.

Transfusion of red blood cells every two to three weeks is the most commonly practiced treatment for Thalassemia to provide the patient with a temporary supply of blood red cells with normal hemoglobin and carry the necessary oxygen in the body. Other treatments include bone marrow transplant, spleen and/or gallbladder removal and medication.

Thalassemia Statistics in Pakistan

Pakistan's history of invasions and commercial interactions account for the country's remarkable genetic diversity. Additionally, the strong cultural preference for same blood-group marriages is responsible for a relatively high possibility of inherited blood disorders like β-Thalassemia. Pakistan's various ethnic groups present different levels of β-Thalassemia mutations. The Sindhis and the Balochis are the most prevalent groups (Table 1). It is estimated that the average life expectancy for β-Thalassemia patients in Pakistan is ten years.

According to Dr. Kashif Ansari, Director of the Omair Sana Foundation, 5 percent of the Pakistani population are Thalassemia patients, whereas nearly 8 million Pakistanis are Thalassemia carriers. Currently, nearly 400 patients are registered with the Omair Sana Foundation for blood transfusion and other treatments to help them increase the hemoglobin levels in their blood and spread the oxygen throughout their body.

Dr. Humaira Ghous, a Consulting Hematologist with the Patient' Welfare Association ((PWA) of Civil Hospital, Karachi (CHK) estimates that 5,000 babies are born with anemia every year. According to an Omair Sana Foundation study, nearly 62.2 percent of the siblings who are already diagnosed with thalassemia major were diagnosed with thalassemia minor as children. Six percent of Pakistan's population are known Thalassemia minor carriers since birth. If they marry another person who is a Thalassemia minor carrier, they have a 25 percent chance of giving birth to a Thalassemia major child, each time they have a child. Given that the average family in Pakistan has four children, it explains how Thalassemia is exponentially spread from one generation to another. These statistics make it imperative to detect the disorder before birth.

Pakistani doctors have succeeded in finding a new treatment for the disease that does not require a blood transfusion. After nearly a decade of work with patients at the National Institute of Blood Diseases, Dr. Saqib Hussain Ansari confirmed that 41 percent of patients (62 out of 152) can be treated without a blood transfusion, and 39 percent (59 out of 152) need half of the blood transfusion as originally thought. Twenty percent (31 out of 152) are unresponsive to treatment.

Thalassemia care organizations in Pakistan such as the Fatimid Foundation, the Thalassemia Society of Pakistan, the Thalassemia Federation of Pakistan, or the Sundas Foundation, among others, provide blood transfusion services and medical support to thalassemia patients and are offer great help to Pakistani doctors in offering an alternative treatment.

Challenges of Thalassemia Treatment in Pakistan

Pakistan's healthcare delivery system presents major challenges in the diagnosis and treatment of Thalassemia:

Lack of registration of thalassemia patients for continuous management

Government institutions in Pakistan offer diagnostic services for women and children and have well-equipped Blood Banks for transfusion services. However, the registration of thalassemia patients is inadequate. Therefore the services offered cannot meet the treatment needs of all thalassemia patients.

Lack of specific diagnostic facilities

Thalassemia minor can be effectively treated if diagnosed at an early stage. However, due to lack of specific diagnostic facilities, many carriers and patients don't know they have the disease. This facilitates gene transmission to the next generation and increases of the number of thalassemia patients in Pakistan.

Lack of coordination among organizations and various sectors

Both NGOs and the public sector are unable to coordinate their treatment of thalassemia to offer patients an improved quality of life. There are no referral

agreements in place between NGO's and public facilities where patients can receive proper treatment, and patients are practically forced to find medical services on their own. This places an enormous financial burden on the patient on the top of their health issues.

Lack of health education and consultation services

According to Dr. Humaira Ghous, Thalassemia puts a socioeconomic burden on the Pakistani economy as the society is not accustomed to making voluntary blood donations that could save the Thalassemia patients. Lack of health education, blood collection, rehabilitation services and psychosocial support for the patients and their families often makes blood transfusion arrangements difficult. Additionally, the lack of consultation services makes the situation even worse as the Pakistani society is not aware of the extent of the problem, thus people don't take the necessary precautions against the spread of Thalassemia to the next generation. "Awareness among the public is necessary in order to prevent the coming generation from Thalassemia disease," Dr. Ghous states.

Conclusion

Thalassemia is a hereditary disorder that lowers hemoglobin in the human body. Thalassemia patients are more likely to develop anemia at a later stage of their life, depending on which type of Thalassemia they suffer from. Typically, β-thalassemia patients suffer from chronic anemia, which can even lead to death.

Thalassemia thrives in Pakistan mainly as a result of a reduced genetic diversity, consanguineous marriages and the lack of diagnostic facilities and health education. However, this disease requires special attention to develop and implement an adequate prevention program and decrease the number of new patients, especially before birth. At the same time, allowance programs should be developed to support of thalassemia patients, seeking treatment with their own resources due to lack of referral agreements between the NGOs and the public sector with medical treatment facilities.

The management of Thalassemia in Pakistan is quite perplexing. Lack of facilities and coordination among organizations and various sectors make the treatment difficult in a variety of ways. Lack of public awareness about Thalassemia make arrangements for blood transfusions quite difficult, and the high cost of bone marrow transplant often place treatment beyond the reach of Pakistani families.

The effective prevention and treatment of Thalassemia in Pakistan requires a cost effective strategy that will capitalize on the limited resources, and will encourage the private sector to be actively involved in the problem. Prevention of this disease is extremely important. If people are aware of thalassemia and the possibilities of a minor carrier transferring thalassemia major to the next generation through marriage to another minor carrier, the transmission will be lower. This will be a major breakthrough and a ray of light for millions of people who struggle with financial hardships and the effects of the Thalassemia in Pakistan. ■

MERS Cases on the Rise in Saudi Arabia

Saudi Arabia's Ministry of Health urged residents of Saudi Arabia to renew precautions against Middle East Respiratory Syndrome (MERS) after 23 new cases of the disease were confirmed in teh month of September. MERS is a deadly virus which causes coughing, fever and sometimes fatal pneumonia. In addition to the 12 cases detected in September, this brings the total number in the kingdom to 777 since it was identified in 2012, of which 331 died.Other cases have been found elsewhere in the Middle East, in European countries, the Far East and in the United States, but many of those were found in people who had travelled in Saudi Arabia.

The increase in cases in October has been evident across the country, Health Ministry figures show, with seven confirmed cases in Riyadh, six in Mecca, five in Taif and one each in Medina, al-Jouf, Najran, Hofuf and Jubail. Three of the new cases were health workers.Scientists are not sure of the origin of the virus, but several studies have linked it to camels and some experts think it is being passed to humans through close physical contact or through the consumption of camel meat or camel milk.The disease can then spread between people, and the largest previous outbreaks, including one in Jeddah in April and May that infected hundreds, have been linked to poor infection control procedures in hospitals.

International health monitors had worried that the disease might be spread abroad through the hajj pilgrimage, which took place early this month in Mecca.Saudi authorities said at the end of hajj that they had not detected any new cases of MERS among pilgrims, but of the new cases confirmed in October, seven were in the pilgrimage centers of Mecca and Medina and five in nearby Taif, which many pilgrims also visit.

Oman MOH Gives a Big Push to Private Hospitals

As Oman aspires to become a top medical tourism destination. The Ministry of Health in Oman plans to build five new hospitals across the country as well as 17 healthcare centres in different governorates.

Underpinned by the government's Health Vision 2050, Oman's health industry is currently in the process of massive development as infrastructure and facilities are being enhanced to meet the growing demand. Growth projections indicate that the healthcare market will be worth $2 billion by 2015, due to population growth, lifestyle-related health setbacks and increased health insurance.

According to reports, healthcare spending is set to increase by 84 per cent — from $1.3 billion in the Seventh Five-Year Plan to $6.47 billion in the Eighth Five-Year Plan — with the increase attributed chiefly to the improvement in existing facilities and the setting up of several new hospitals. The budget of the Ministry of Health will have to almost double by 2020 ($12.9 billion), which could see the private health sector taking on a greater role.

Several private developers are set to open hospitals and medical facilities over the next five years. The number of hospital beds required to meet the demand is expected to increase from an estimated 5,722 to 6,300 by 2015.

To date, there are 236 government healthcare facilities and while 250 health centres are scheduled to be completed during the period covered by the current Five-Year Plan (2011-2015).

Kuwait Revamps its Healthcare System

The cabinet at its session this week said that the health ministry would recruit outstanding consultants from all over the world to treat patients in Kuwait instead of sending them abroad, local daily Al Qabas reported.

The health ministry will also work on encouraging renowned clinics to open facilities in Kuwait in a move that reduce the number of patients who seek treatment abroad.

Measures and requirements will also be eased for local investors to open medical facilities in the country and boost the standards of local medical services.

Up until now Kuwait's healthcare had allowed Kuwaiti nationals to go abroad for treatment but this generous scheme will be reformed, reducing the daily allowances offered to patients and their companions. This decision is a result of new policies to improve local healthcare and reduce the need to send patients for treatment aboard.

Under the new plan adopted by the cabinet, a patient who is sent abroad for treatment will get KD75 a day instead of KD100. His first companion will receive only KD50 per day, down from KD100, while the second companion will no longer be offered the KD100 financial benefit and will only receive support for the air ticket.

Several lawmakers claimed that the scheme had been abused at several levels, including the process of selecting the patients who are sent abroad. Health officials pledged to address the issues.

Qatar to Fund $2.3m for Syrian Children

The Qatar Charity's collaborative $2.3 million funding will enable International Medical Corps to assist those affected by the conflicts in Syria and Central African Republic as well as help contain the spread of Ebola virus in Sierra Leone.

International Medical Corps and Qatar Charity had formed a global strategic partnership earlier this year based on their common mission to assist and strengthen the capacity of vulnerable communities worldwide.

Now in its fourth year, the conflict in Syria has resulted in 6.5 million displaced people, 50 percent of whom are children.

Due to disruptions in routine health care, overcrowding of living areas due to displacement and damage to the water and sanitation infrastructure, many are at high risk of communicable and preventable diseases.

International Medical Corps, with support from Qatar Charity, will provide lifesaving health care to Syrian children displaced by the conflict.

The Sorry State of Education in Pakistan

By: Rafey Rajper

As alarming as it may sound, a number of people in Pakistan are not aware of the fact that education to a certain level is a basic human right for all. But one has to realize that they, which is referred to as the masses, need to be educated to know all their basic rights in the first place. Similar is the story of the level of education in Pakistan, people are not educated enough to know that they need to be educated. And in this phrase lies the whole problem of the situation. But the situation may not be as bad as thought to be; for a fact, the literacy rate in Pakistan is rising. With greater awareness and focus on education by classes above the lower- middle class, education still survives. This article will present the current state of education and analyze in depth, the current problems faced by the educational system and propose solutions to these problems.

Education is vital to the development of a country. It raises human skill levels that are essential for leading the economy to a sustainable future. Pakistan relies mostly on the educational system the British left behind at the time of Partition. That system is generally divided into five levels: primary (grades one through five); middle (grades six through eight); high (grades nine and ten, known as Secondary School Certificate); intermediate (grades eleven and twelve, leading to a Higher Secondary

Source: USAID

Certificate (HSC); and university programs leading to undergraduate and graduate degrees. The federal government oversees the system by providing the curriculum and the finances and the respective provincial governments are responsible for providing education up to the HSC level. Apart from the state sponsored education, there are private educational institutions as well. The private schools are far better in terms of educational quality for the masses but unfortunately they are too expensive. As most of the population is poor, private education is not possible for them.

The total percentage of students enrolled, who are of age to attend secondary and tertiary schools is tremendously low as compared with other countries. The number of children going to secondary schools is only 35 percent and those attending universities is as low as 10 percent, as indicated by World Bank in 2011 (World Bank Data). According to the Higher Education Commission (HEC), Pakistan only has around 150 universities whereas India on the other hand is far ahead with around 700. University level education is essential for developing skillful human capital. Pakistan needs to ensure it invests more in building numerous quality universities.

According to the World Bank, Pakistan's adult (aged 15+) literacy rate was 55 percent, in 2011. Literacy is defined as the ability to understand, read and write the short statement used in everyday life. Such is the state of education in the country. With so alarming a low literacy rate it is the responsibility of the people and the government to take immediate steps to improve the situation.

It is quite clear Pakistan lack education for her people, but the real question is: What are the actual reasons behind lack of genuinely educated people in Pakistan? The question has a many answers.

There is more to education than simply literacy rates, and it maybe that part of the problem are the things that are taught in all the educational institutions. The curriculum is the set of ideas and standards followed by all educational institutions in a country and it also defines the content of what is taught by all schools and colleges. The curriculum plays a pivotal role in shaping the minds of the people and helps them reach their true potential. It forms the basic ideologies and the knowledge base of the masses. In Pakistan, the federal government has the responsibility of providing curriculum to the schools. Unfortunately, what is actually taught in our schools is not up to the standards maintained by other more-educated countries. It still focuses on old styles and methods no longer used by the world.

The UNESCO Statistical Yearbook points out specifically that the textbook quality is not good. The books need to communicate effectively to cover all the objectives and simultaneously arrange the content in a logical, coherent and stimulating manner. Additionally, in most textbooks there are no self-test problems and activity pages.

Teacher quality is a major issue as many are not academically qualified to use the curriculum for instruction or deliver

Source: ILO

comprehensive lectures comprehensively (UNESCO). The government schools especially suffer from the teacher's lack of knowledge in particular areas.

Finally, the curriculum lacks an evaluation part. The teachers only focus upon the text in the books and generally ignore the educational objectives. There is need for evaluating what is understood by the students keeping the objectives in mind. Hence, as long as there is no revision of the curriculum by the federal government, Pakistan will lack a truly educated public.

Apart from the curriculum, other factors need to be considered before putting forth a verdict over why the country lacks an educated class. The socio-economic background of the local people is one of the factors. Most of the Pakistani population lives in poverty with approximately 15 % of the population living well below the poverty line (World Bank). For them, education is a need that isn't on their priority list. They are concerned more with surviving and filling their bellies and a night's sleep. Another 30 % percent of the population is moderately poor and the members of these families work along with their their children. Hence in most cases these children are not sent to school.

There are considerable gender differences in the country as well and as a consequence many female children do not go to school just because of discrimination and reservations regarding women. The percentage ratio of females to males in primary and secondary education was 30/70% in 2010. That means despite the equal population in the country, many females miss out on education. These numbers need to be improved and to improve them the government must take actions to raise awareness especially in the rural areas of Pakistan that females also deserve to be educated.

The startling state of education in Pakistan means that immediate action needs to be taken. There are solutions and many can be found by examining the latest methods adopted by other countries.

For a better system of education it is vital that the country's top level leadership such as the Prime Minister, the National Assembly member recognize that education is crucial to Pakistan's progress and they must be committed to it improvement. They must be the ones to bring a serious discussion on education to the table.

The first thing Pakistan's education system needs is a bigger budget. Pakistan has allocated a meger 5.1% (DAWN) to education in the 2014-15 budget. (DAWN). The UK allocated 18% of its budget solely to educational development (UKPUBLICSPENDING). Pakistan's investment in education is 28% of the UK's. When the spending on education is compared with other developed countries or even developing ones, Pakistan is way behind.Other nations routinely spend a large chunk of their revenue on education. As a result, they reap the benefits in the long run, Pakistan must follow in the footsteps of these countries.

Aside from the budget increase, we must revise the school curricula. The issues with the textbooks and untrained teachers must be solved. The school books have low quality content. Textbooks by world known publishers such as Oxford should be embraced at a national level to increase quality and ensure standardization.

Emphasis must be placed on teacher training, compensation, retention and evaluation. How we teach teachers, how we value their work and efforts and how we measure their performance are all critical.

Language skills must be increased to include written and spoken communication in English beginning in the primary level and continued in the secondary. In today's world English is the language of business internationally. English is widely used in almost every country in their educational institutions. To equip Pakistani students with the tools to succeed in their lives, English must be taught.

Decentralization and privatization (to some extent) of the education system should be considered. The federal government should give the power of budget allocation on education to the provinces. Only the curriculum should be in the hands of the federal government and they should ensure they issue a curriculum that is embraced by all institutions of the country. Moreover, with the advent of privatization it has become quite clear to the world that privatized institutions are far more effective and efficient than the public ones. The total privatization of the education system may seem too extreme a step and ineffective in Pakistan's case, semi-privatization should be adopted. With this, the current inefficiencies such as corruption could be eradicated from the system and at the same time ensure the government has control over the fee charged to the students.

Last but not the least, the educational system lacks proper infrastructure. In government schools there is no modern equipments to support student learning. Computer labs, playgrounds along with sports equipment, projectors, and boards should all be built. Modern day education relies on computer assisted learning and the web brings libraries and science and history to the desktop. In Pakistan, people do not know how to operate a computer let alone use it for educational purposes.

Although problems are severe, the current educational system can become effective in stimulating the minds of this day's youth if reform measures are implemented correctly. Despite flaws in the educational system, Pakistan continuously produces gems who are known throughout the world for setting education records. Overflowing with talent, the country needs sound policies and propoer decisions making to get it going. ■

GOVERNMENT SPENDING ON EDUCATION

Pakistan's estimated population in 2014

186 Million

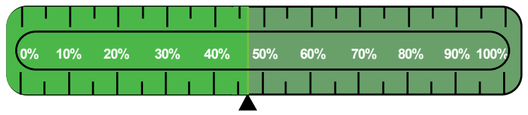
Literacy Rate May, 2014

56%

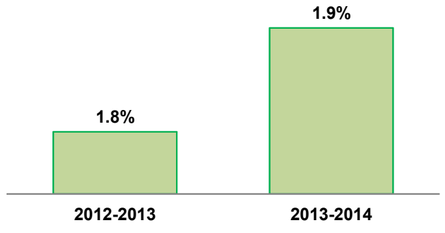
Children Out of School

47%

According to Ali Ailaan
There are 52 million children in Pakistan between the age of 5 & 16, of which 25 million or 47% are out of school.



Percentage of GDP Allocated to the Education Sector of Pakistan



Total Provincial Budget (Rs. Millions) - 2013 -14

The School Infrastructure Availability in Pakistan

Education Score - 2014 Pakistan

Legend

Recurrent & Development Expenditure on Education (Rs. Million)

Percentage of Education Budget to Total Provincial Budget 2013 - 2014

- No Record
- 9.47
- 17.80
- 21.76
- 29.76

Education Score 2014

- 47.23
- 47.23 - 58.09
- 58.09 - 62.99
- 62.99 - 72.62
- 72.62 - 83.75

Date of Creation
Sep 26, 2014
Projection/Datum
WGS 84 Geographic

N

0 75 150 300

Kilometers

Data Source(s):
Education in Pakistan: State of affairs at a glance 2013
Alif Ailaan Pakistan District Education Ranking - 2014

Malala Yousafzai Wins Nobel Peace Prize

Malala Yousafzai was honoured with the Nobel Peace prize along with Kailash Satyarthi. Yousafzai, the 17-year-old Pakistani activist for human rights and female education who survived being shot in the head two years ago by the Taliban, received the 2014 Nobel Peace Prize along with Indian child rights activist Kailash Satyarthi.

Yousafzai is the youngest Nobel laureate in history. The two were named winner of the £690,000 (8m kronor or $1.11m) prize by the chairman of the Nobel committee - Norway's former prime minister Thorbjoern Jagland. Malala also received the US Liberty Medal and pledged her $100,000 award to education in her homeland Pakistan. The Liberty Medal is awarded to people who strive to secure freedom for people around the world.

In a television interview in Birmingham, Malala said she would spend the prize money on education for the children in Pakistan.

Talking about the Malala Fund, she said its funds were being utilised on the welfare of the local people and education of children in Swat.

The youngest peace prize winner said she also had plans to establish a state-of-the-art educational institute with modern facilities for students in Pakistan.

She added that her only mission was to help ensure that every child in Pakistan went to school.

Malala further said that she felt more empowered after winning the Nobel, and could spread her message more effectively.

In response to a question, she said all political parties needed to work to resolve the issues in Pakistan.

Malala called on countries around the world to stop spending money on weapons and instead invest in their children´s futures.

Oman's EM Plans to Overcome Teacher Shortage

Ministry of Education in Oman is recruiting part time teachers to make up for the shortage of teachers in certain subjects. Teachers who have retired or resigned from their jobs are encouraged to take up the opportunity.

There was a mixed reaction from the public about the announcement. While some welcomed the move, others expressed unhappiness with the ministry's announcement.

Welcoming the move, Sultan Al Abri, the Shura member representing the wilaiyat of Ibri, through a twitter post nominated himself to work in one of the Sultanate's schools.

"I am ready to work without receiving any salary to help push the wheel of education," Al Abri said through his account.

While on the other hand, Husein Al Rahbi, who works in the government sector said "This (shortage of teachers) is a result of closing down the college of education in the Sultanate." He also said that the ministry's decision to close down several colleges of education was not the right decision.

He also said that the ministry of education still depended upon expatriate teachers, while the government claimed that Omanisation drive was being carried out in the private sector. "The ministry should bring back the institutions producing Omani cadres and try to carry out Omanisation drive to its maximum in the education sector," said Al Mani.

Agreeing with Al Abri, a teacher working in the private sector, Huzeim Al Mani said, "It was because of the shutting down of colleges that the ministry reduced the number of new intakes in each college."

The ministry also mentioned in the announcement that it will contact applicants for the part time job in keeping with each governorate's requirements. The ministry will decide when they will have to join work.

UAE Presents a Huge Opportunity in Education Market

According to The Parthenon Group, a leading international advisory firm focused on strategy consulting, stated that Dubai is seen as an attractive market for setting up international higher education institutions due to its untapped potential for growth. UAE recorded a 6% growth rate in the higher education segment, in international sutdents entering tertiary education, according to the latest available date. UAE market size for 1-12 education is valued at $1.9bn, which is significantly higher when compared to other fastest growing markets such as China at $1.7 bn and $0.7bn in Singapore.

At the higher education level, the UAE also shows promising opportunities for transnational education (TNE) operators. Dubai's education landscape has seen the establishment of branch campuses of many international higher education systems.

In fact, again based on the research conducted by The Parthenon Group, the TNE market in Dubai is among the fastest growing in the world, recording a 15% growth rate in the last few years, with revenues reaching $148mn.

25 Million Children of Pakistan Are Out of School

The Constitution of Pakistan states that every child has the right to free and compulsory education, yet millions of children in the country remain deprived of their Constitutional right. According to a new report by Alif Ailaan, a local alliance for education reform, 25 million children of Pakistan are out of school between the ages of 5 and 16 years of age. 23% of these children are of primary-school-going age, while the proportion increases significantly with the rise in level of education and almost 85% children do not reach higher-secondary level.

According to the report, in absolute terms more than half of country's out-of-school children (OOSC), ie, 52% live in Punjab; 25% in Sindh; 10% in Khyber-Pukhtunkhwa (K-P); 7% in Balochistan; 3% in Fata; 2% in Azad Jammu Kashmir; 1% in Gilgit-Baltistan (G-B) and 0.2% in Islamabad Capital Territory.

For the purpose of study, the NEMIS has relied on the data of federal government's National Institute of Policy Studies (NIPS).

According to NIPS, currently there are 52.91 million children in Pakistan between the ages of 5-16. Among this group, calculations show that only 27.89 million attend an education institute (government or private), leaving 25.02 million children out of school.

Pakistan's Energy Crisis – A Conundrum or a Catastrophe

By: Syed Salman Rizvi

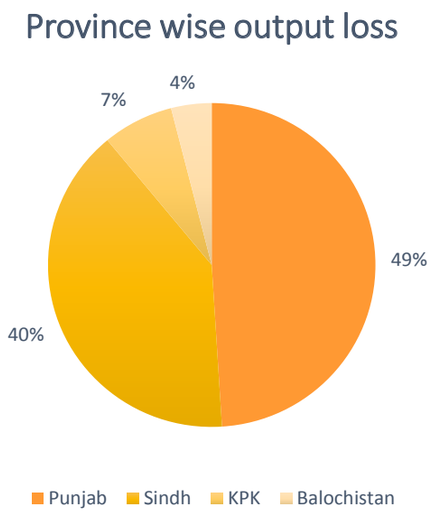
Energy crisis has long been a chronic issue in Pakistan. It impacts the nation's socio-economic condition, by limiting growth and thwarting progress. The situation has undoubtedly gone from bad to worse, and the energy crisis impacts the business sector in alarming ways. Governments come and go; dates for the eradication of load-shed are put forward, but there is no progress. In peak seasons, the demand-supply gap reaches to an alarming 5,500 to 6,000 MW. That translates into load shedding up to 12 hour periods in the urban centers. This has had major social implications for individuals and on a larger scale poses serious questions to policy makers regarding the economic growth of the country. Although a variety of other factors contribute to Pakistan's sluggish economic growth (hovering at 2-3%), the energy crisis is unarguably a major factor.

The Root Causes

The greatest hole in Pakistan's energy generation system is the damage from institutional transmission and distribution (T&D) losses that equal 27% of energy revenues. Approximately 50% of that loss stems from errors in billing, general mismanagement and theft. The other half are losses due to technical factors and can be remedied with an investment in network

Resource	Status
Indigenous Oil	Expected to be exhausted by 2025.
Domestic gas reserves	Expected to run out by 2030.
Hydroelectricity	Climatic changes leading to decreased rainfall.

upgrades, "smart-grid" controls and laying new underground distribution lines. A 27% loss in revenue from power generate equals general failure, no matter what other measures are put in place. There is no recovery from such losses.



Supply side factors

On the supply side, the lack of vision in Pakistan's planning. No accounting for population growth is apparent. Combined with the scarcity of resources, Pakistan now experiences a supply and demand gap of some 5,000 Megawatts, commonly referred to as load shed.

Coming to resource scarcity, studies suggest that domestic gas reserves are expected to run out by 2030 while the indigenous oil reserves shall be exhausted by 2025. Furthermore, with fast-evolving climatic changes, Pakistan is experiencing a great reduction in rainfall, which impacts hydroelectric generation.

Demand side factors

Looking at the demand side, a population increasing about 1.7-1.8% annually has contributed significantly towards the rising energy demand . It's a simple economic principle, more hands reaching a fewer resources would definitely leave some un-served. There has also been considerable urbanization in Pakistan recently. People from the rural and peri-urban areas have started making their way to the more developed cities in search of lucrative job opportunities. The failure to account for population growth and migration is indicative of a critical malfunction in management, planning and due diligence.

On average we produce electricity at Rs.12 per unit which is highest in Asia after Japan . Economists are of the opinion that a major chunk of this high electricity cost is largely due to over dependence on fossil fuels which must be imported. Studies suggest that generation via furnace oil alone creates 8% inflation in the country. Rising costs have had three key implications; firstly high tariff rates lead to lower recovery ratios, secondly consumers have a greater inclination for electricity theft and thirdly chronic business costs have inhibited economic growth both in the short and long term.

A wide range of factors have gone wrong in the overall process. Some question the long-range vision of policy makers' and their approach; while others demand quick actions to meet the ever widening immediate demand-supply gap. For instance in the FY13-14 budget, "Life-Line Consumers" (with consumption up to 50 units) were to be exempted from the tax increase that was to be imposed in the power sector. At the same time, measures are needed to assure we as a society are culturally developed enough to not use this as an incentive to indulge in illegal activities. It's a matter of regulation and implementation. Certainly a point to ponder!

The energy crisis in Pakistan costs roughly 4% of the country's GDP every year. The prevailing energy situation in the country has led to a 26.5% increase in the cost of production for industries . All this increases tariff pressures on the economy and business has had to resort to generators to provide power, further increasing the costs of production. Industrialists believe that the worsening power shortage operates directly against a conducive business environment. Pakistan needs emergency measures, immediately.

Business Implications

The Textile industry, a sector that has carried the national's economic growth on its shoulders for decades, has probably suffered the most due to the energy crisis. On average, international consignments have been delayed by 69 percent. Coupled with rising production costs Pakistan is no longer competitive in the international market. Consequently, businesses are exploring alternative source opportunities such as Bangladesh and Sri Lanka.

The energy crisis translates to the loss of an average of 3.44 labor hours every day in Pakistan. With industries outsourcing due to hard times, there is no sustainability

DISCO	FY2013	FY2012
Islamabad Electric Supply Company (IESCO)	24.80%	18.00%
Quetta Electric Supply Company (QESCO)	31.30%	22.70%
Lahore Electric Supply Company (LESCO)	15.40%	15.70%
Gujranwala Electric Power Company (GEPCO)	18.90%	19.00%
Faisalabad Electric Supply Company (FESCO)	18.20%	19.70%
Hyderabad Electric Supply Company (HESCO)	29.00%	34.10%
Sukkur Electric Supply Company (SEPCO)	46.90%	47.30%
K-Electric Limited (KE)	27.80%	29.70%
Average T&D Loss	**26.54%**	**25.78%**

and daily wage earners have lost their jobs. Research suggests that about 300,000 workers have lost their jobs due to energy crisis. In monetary terms, the loss to the industrial sector amounts to PKR 210 billion every year.

Of all the issues faced by the distribution companies, high T&D (Transmission and Distribution) losses are the worst . They have a direct impact on the sector. Most of this loss stems from infrastructural irregularities that are present in the distribution network and ineffectiveness on the part of DISCOs to ensure that every consumer is being charged for the power that is consumed.

Although a few DISCOs such as K-Electric (formerly Karachi Electric Supply Company Limited) have shown improvement by reducing its T&D, mostly due to its segregated load-shed model. That model has been praised by economic regulators domestically and the World Bank and the International Monetary Fund. K Electric is the supplier to Pakistan's business hub and instituted the model over the last 3-4 years.

A Comparison with Afghanistan's Power Sector

Most of the economies around the world, particularly the GCC countries depend solely upon local resources to meet their energy demands. A major reason behind this is the abundance of oil and fossil fuel reserves in these economies. Therefore the cost of production is low when compared to Pakistan and India.

A key takeaway from Afghanistan's power sector is the importance of small power projects in the private sector and the introduction of alternate energy resources. In the last 6 years, with assistance from US, Afghanistan has started five projects of varying sizes in the power sector to meet the country's future energy needs. They have invested in efficient, sustainable and renewable resources such as wind and solar power generation.

However, the Pakistani government's approach towards alternate sources of energy has definitely been questionable with the imposition of hefty taxes in the recently introduced Finance Act 2014. By virtue of that act, options for solar power generation have essentially been put aside. Again, with such policy measures, the power crisis in Pakistan is only likely to worsen, leading to troublesome times for the national economy.

Sector	Scope
Residential	25%
Industrial and Commercial	30%
Agriculture	20%
Overall	Energy demand is expected to grow by 2.2% annually Energy conservation may restrict it to 1.8%

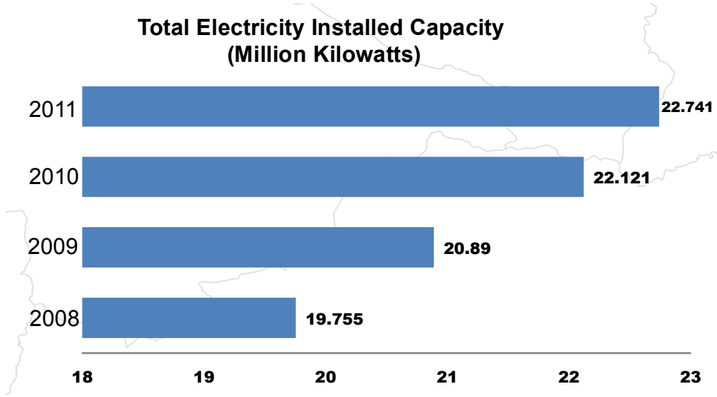
What may be done

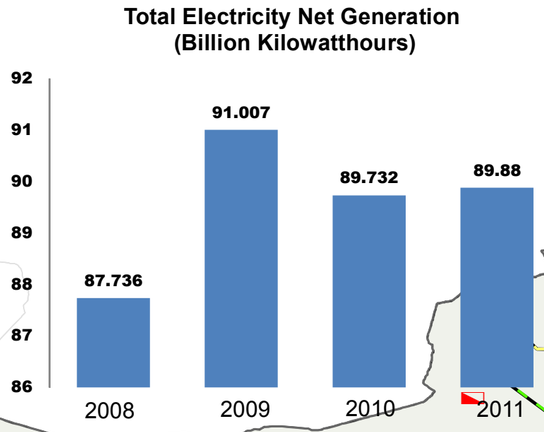
Although as individuals, we can do little about policy making at the top, each one of us must acknowledge the difference that energy conservation could make in context of the prevailing power situation. Proper energy management requires the efficient use of available energy resources to maximize productivity. A study conducted in UK estimated that their country can save up to 11 billion pounds if nationals adopt sound energy conservation practices. In countries like Pakistan and India it is imperative that incentives are offered to the population. India does this incredibly well with the introduction of its Energy Conservation Awards for business at state and national levels.

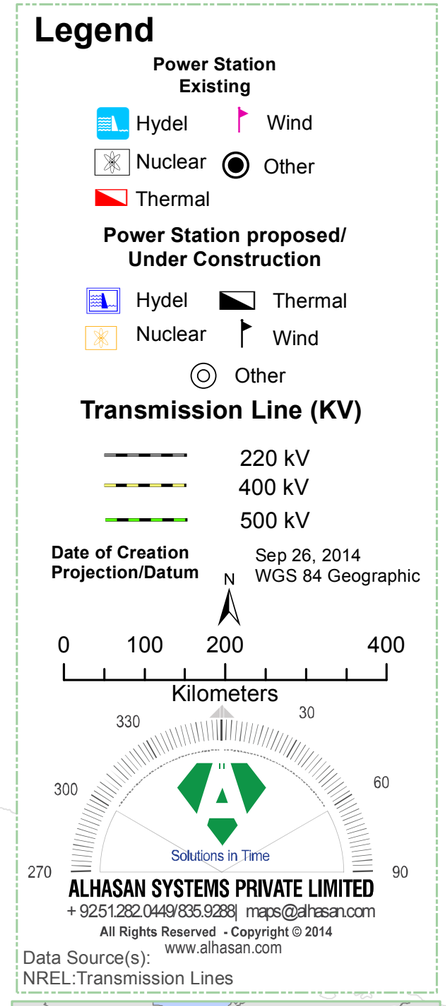
A major issue with energy conservation is creating awareness. Back in 2010 there was severe water shortage in Mumbai and to educate people on how to conserve and responsibly use water, the Maharashtra government took Sachin Tendulkar on board with the slogan, 'Conserve Water Save Mumbai.' This campaign was highly effective and significant changes in the consumption pattern were observed within 10 days. Therefore, the DISCOs and government should join hands and take well known members of the society on board to create awareness on how energy conservation can bring about a difference. Adding to the point, an MIT graduate recently published a study where she concluded that 70% of the load-shed crisis in Karachi could be dealt with by responsible behavior in how we consume electricity.

It is imperative that we recognize our individual roles in energy conservation and the entire energy crisis as a whole. What's gone is gone, what's done is done. We need to look what's going to come our way. Each one of us must step up and play our roles effectively, not only for today but for an improved Pakistan and generations to come in the future. ■

PAKISTAN ENERGY INFRASTUCTURE







Shedding Light on Pakistan's Energy Crisis

Impact of Economy

7.5 %
of labour force losing jobs

Shaving off up to **2 %** points from annual GDP

Pakistan has sacrified up to **10 %**
of its GDP over the last 5 years due to power shortages

Supply and Demand Gap

Need **14,000 MW - 15,000 MW** /Day

Current production **11,000 MW** /Day

Shortfall **4,500 MW - 5,500 MW** /Day

Indigenous Resource Potential

Coal Potential - Thar Desert contains the world's **7th largest** coal reserve capable of generating **100,000 MW** for two centuries

Hydropower Potential - 100,000 MW

Solar power Potential - Potential 2.9 million MW

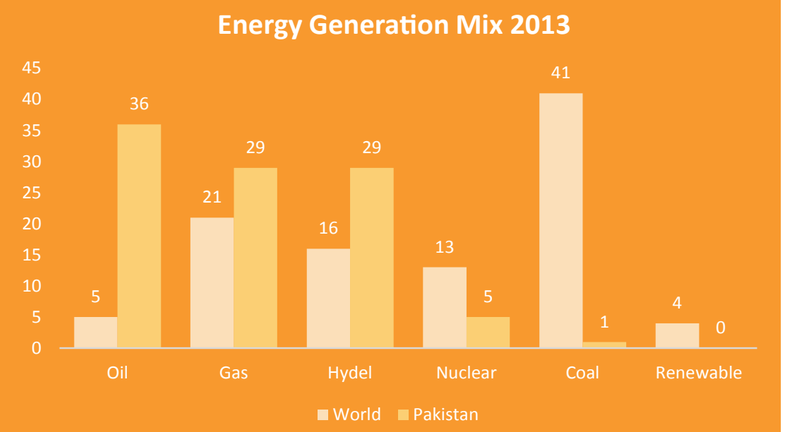
Wind power Potential - Potential be 346,000 MW

As well as tremendous Nuclear, Biomass and Oil & Gas Potential

Root Causes

Heavy relience on oil as a source of power generation

Global fuel prices average **$50/barrel** at the beginning of 2007 a nd peaked at **$147/barrel** in July 2008



High price per unit
~ Rs 23 / unit - not affordable by the general public

Unutilized Power Generation Capacity
WAPDA and IPPs thermal power plants are running at an average plant factor of about 50 percent.

Line Losses
upto **24%** of the total power generated
poor infrastructure, mismanagement, and theft of electricity

Increasing Demand
Annual Increase in Energy Demand **8-12%**
population growth, urbanization, industrialization, rural electrification, growth in agriculture and service sectors

Circular Debt
$37 billion in year 2000
$59.5 billion in 2011
$1 billion in overdue energy bills

Weak governance structure and lack of coordination between government ministries and agencies

BY FOCUSING ON EVEN JUST ONE OF THE INDIGENOUS RESOURCES PAKISTAN CAN ACHIEVE ENERGY SECURITY

US Ledges $14 billion for Diamer-Bhasha Dam Project

The United States pledged support for Pakistan's massive $14 billion 4,500MW Diamer-Bhasha dam project as top officials and business leaders explored investment prospects, amid exponential energy needs of America's 'critical partner' nation, reported this week.

The officials from both countries spoke at a joint platform organized by the the US Chamber of Commerce the USAID and the US-Pakistan Business Council to highlight the tremendous potential and opportunities for American and international investors in the 'transformational' power generation and water storage project in Pakistan.

Pakistan needs 10,000MW of power to meet its rapidly growing domestic, industrial and agrarian requirements. The materialization of Diamer-Bhasha dam will be a giant step in that quest for Pakistan's energy security.

Besides producing 4,500MW of power, the dam will help with four million acre of water for irrigation, save millions from flash flooding, boost other hydro projects and contribute vitally to extending life of Tarbela Dam by 30 years.

The Obama administration officials assured the investors of effective results, citing results from US-financed energy up-gradating projects in Pakistan.

"We know that success can take hold," Dr Shah said in reference to completion of small projects and addition to power generation capacity of large dams.

Daniel Feldman said the US and Pakistan have a wide-ranging strategic partnership and that Washington is in for a long-term economic and investment relationship with Pakistan, particularly in the energy field. "Investment in Diamer-Bhasha dam is the smartest choice for Pakistan."

Saudi Arabia to Generate 30% of Kingdom's Energy from Nuclear and Solar Power

Keeping in view the growing demand for energy, Saudi Arabia plans to diversify its energy portfolio by incentivizing both private and public investments in energy sources other than oil.

The Royal Family intends to invest $80 billion in nuclear and $240 billion in solar, within the next 20 years. It hopes to generate 15% of the Kingdom's energy from nuclear (18 GWe) and another 15% (40 GWe) from solar. The investment will provide funds to build more than a dozen nuclear power plants, with the first reactor becoming functional in as little as eight years.

Energy consumption in Saudi Arabia is growing faster than any other country in the Middle East, and almost all of it is fueled by oil and natural gas. Total electricity consumption in Saudi Arabia exceeds 200 billion kWhs per year and is expected to double by 2030. Industrial consumers are now allowed to generate their own power and sell excess back to the government. Parts of the state-owned Saline Water Conversion Corporation will be privatized.

With more than 500,000 square miles of arid cloudless land, Saudi Arabia is well suited to both photovoltaic and concentrating solar technologies. And to have significant renewables over such a large area separated by long distances from the main population centers, there has to be sufficient base load capacity for support. And that is nuclear's primary strength.

Recently the UAE opened what was, at the time, the largest solar plant in the world, the 100 MW Shams 1 at a cost of about $600 million. But two hundred Shams 1 arrays will be needed to equal the output of the four Barakah nuclear reactors when Kepco brings them online for Abu Dhabi in several years.

Saudi Arabia Pfive Solar Energy Plants by the End of 2015

On the request of the Saudi Electric Company (SEC) King Abdullah City for Atomic and Renewable Energy (KACARE) plans to construct solar energy-based plants in Qaisumah, Rafha, Wadi Al-Duwasir, Mahd Al-Dhahab, and Shororah

The announcement comes with the KACARE's intention to enter into the field of power production to provide citizens with alternative energy sources. KACARE announced plans to produce limited electric power from an old waste dump in Jeddah, a local daily said.

Regulatory approvals have been completed for the implementation of the projects, the source said.

KACARE has received lands allocated for the proposed plants in the five areas and, in cooperation with SEC, prepared to accept proposals (bids) to construct the plants beginning from Mahd Al-Dhahab, Madinah Region, he said.

Recently, the kingdom announced its plans to generate electricity from a landfill in Jeddah. As part of this plan, KACARE has inked a deal with Jeddah Company for Development and Urbanization to generate 5-10MW power from the dump site. The project is likely to commence in 2015.

In 2013, the country announced its plans to set up 17 nuclear power stations with an investment of over $100bn by 2030.

China to Invest in Pakistan's Energy Sector

In line with Chinese government's policy to provide economic support to Pakistan, China's Exim Bank has pledged to invest billions of dollars in Pakistan's quickly deteriorating energy sector, said Lei Wentao, deputy general manager of Exim Bank at a press briefing held in Islamabad.

In this connection, a framework of credit financing will be signed during the forthcoming visit of Chinese President Xi Jinping to Pakistan. The bank has already provided $800 million to Pakistan as financial support for carrying out its development projects, mainly in energy and transport sectors.

Lei said a number of agreements and memorandum of understanding (MoU) will be signed during the president's visit to Pakistan to help improve its economy. To a question, he said that the financial arrangements with Pakistan have been smooth and positive in the past. "Pakistan has a very good credit record," he said.

He further said that the Chinese leadership attached great importance to Pakistan and wished active participation of its socioeconomic development, adding that the bank is willing to provide maximum support to Pakistan for overcoming its electricity shortage.

Monitoring Democracy and Elections with Advanced Technological Gadgets

By: Fizza Khalid

People living in 21st century belong to a completely transformed version of earth in comparison to their ancestors' lifestyle in terms of technological advancement. We have progressed leaps and bounds on the technological front and today are surrounded by some fascinating devices that offer unlimited functionalities that once were just a fantasy. From processing tons of information in seconds to tracking thousand miles distant places, we have devices that can perform these difficult tasks within no time. GIS technology is also an outcome of these revolutionary ideas that offers assistance to multiple important departments by managing all the geographical locations of the world. It is a computerized GeoTagging system that can process and analyze all sorts of geographical data by bringing ease to the authentication procedure.

This technology can benefit all the government administrating departments due to its facilitated locating ability. All high authorities should utilize its immense power of mapping the world for getting their desired information with accurate locations within seconds. For bringing democratic reforms in a particular area, for monitoring the health facilities of a specific city, for checking out the progress of a development project or for getting the

particulars of a wide area for elections or an upcoming census we can make use of this technology. The calculated idea of the location under discussion results in a more realistic policy that can benefit a big chunk of population. In a similar way, already defined policies on convincing grounds can be reused for different up gradations in the existing strategies.

Benefits of using GIS Technology in Democratic and Voting Procedures

GIS is an amazing mapping technology that assists us in measuring the most precise estimate of the residents of a particular area as we can benefit ourselves by studying the maps of the cities. We can set up improvements on different fronts after getting a clear idea about the population density of a certain area. We can bring multiple reforms related to education, health and other important sectors because we have the exact intended idea of the people living there. We can get a better insight about their financial statuses and their political aptitude and formulate the policies accordingly.

Further, we can access the level of political awareness by conducting surveys after measuring a specific city's residents' interests and knowledge about democracy and its elected leadership via maps studying. This approach aids in focusing on the people by dividing them according to their qualification and social stratum and developing strategies in the light of it. It not only facilitates the administrative bodies in the formulation process but also eases the implementation procedure. This empowers the inhabitants by developing a sense of security in them and thus leading the country towards the path of success.

Similarly, the democratic leadership can plan a new city keeping in view the geographical location of a particular place as we can not only calculate the cost of development but also can facilitate the masses by providing them all the basic facilities in the newly developed area. This is the blessing of GIS technology through with we can handle all the delicate planning phase problems efficiently.

Moreover, GIS offers us multiple benefits to carry out electing democrats impartially. We can have a correct manual error free estimate of the population of a particular constituency, consequently, reducing the chances of fake identities casting votes on behalf of actual voters. In a similar fashion, potential zones can be defined by dividing the cities for holding fair election campaigns. Registered voters of a particular area can be formulated in the form of multiple lists after locating their origin via GIS and it will reduce the chance of rigging in elections. By defining everyone's constituency we can lessen the problem of bogus votes and multiple votes polled by a single voter.

Another big problem that usually arises due to manual voting system is the complaints from different democratic parties about stealing their mandate. This issue weakens the newly established democracy as different political parties keep on arguing and blaming each other behind their defeat. So, by utilizing the GIS technology we can launch e-voting systems for different constituencies. Similarly, we can shift the manual data storage methodologies to computerized databases that results in error free voters list. Furthermore, assist people by uploading the voters list on election commission's websites and introduce an efficient e-voting cell that informs the people about the right procedure of casting votes on e-voting machines. Additionally, take benefit of the advanced technological devices and bring an efficient SMS inquiry service from where everyone can inquire about his or her polling station. GIS can benefit us in this regard as we can have all the figures related to population above the voting age by collaborating with National Databases Authorities. It can assist in conducting a free and fair election process that will strength the democratic culture of a country.

Using Revolutionary GIS Technology for Pakistan,

Afghanistan

Government's administrating bodies in countries like Pakistan and Afghanistan do not make use of the amazing GIS technology in an effective way for framing and updating existing policies. They still follow the manual system of tackling things that is a lengthy process and requires far more time before the final version of the strategy is brought to the general assembly of elected members. Further, more time is required in the discussion phase as different political parties have their own thoughts about the agenda under discussion and sometimes after spending long hours on preparation phase the agenda is dumped by putting it in the list of debatable topics. This war of words arises because of improper planning before presenting any agenda for the betterment of the people.

Same situation is observed when it comes to conducting transparent elections as these countries follow the manual system of casting votes through a ballot that arises multiple questions afterwards. Claims are made that the election commission, the body that supervises the election procedure is not independent or the polling stations were rigged by the opponent party's workers. This chaos can be minimized if GIS technology is implemented in the important government bodies as it will help in maintaining transparency.

Countries under discussion are faced by multiple problems such as weak economy and the ever growing problem of cross border and within the border terrorism. Their closely linked borders give an increase to the number of bloodshed of innocent people and disturb the whole system of the government. Similarly, all of them are lacking in ensuring that the basic health and education facilities reaches everyone. All these challenges can be solved if they start utilizing the GIS technological advanced systems for coping up with these problems.

Terrorism stricken zones can be identified via maps and planning can be done to deal with it. Governments can plan the democratic process of dialogue to deal with the insurgents by first identifying the locations that needs instant attention. Also, the important forces can plan their counter strategies by locating the main hubs of terrorism and can divide the city into small divisions for dealing with terrorist groups. This division can assist in monitoring their movements and they can be controlled without additional bloodshed.

On the similar front, governments can ensure the adoption of checking all the possible scenarios before planning any new democratic reform so that they can achieve progress on the idea they plan to implement. After the necessary homework done by studying the geographical location, solid points can be put up in front of the elected members for discussion and it reduces the chances of rejecting a good proposal.

Additionally, clashes in between the political leadership due to unfair electoral process can be minimized if GIS technology usage is made mandatory for monitoring the whole procedure. We can likewise, increase the voters turnout as e-voting not only assist the people living in the country but also

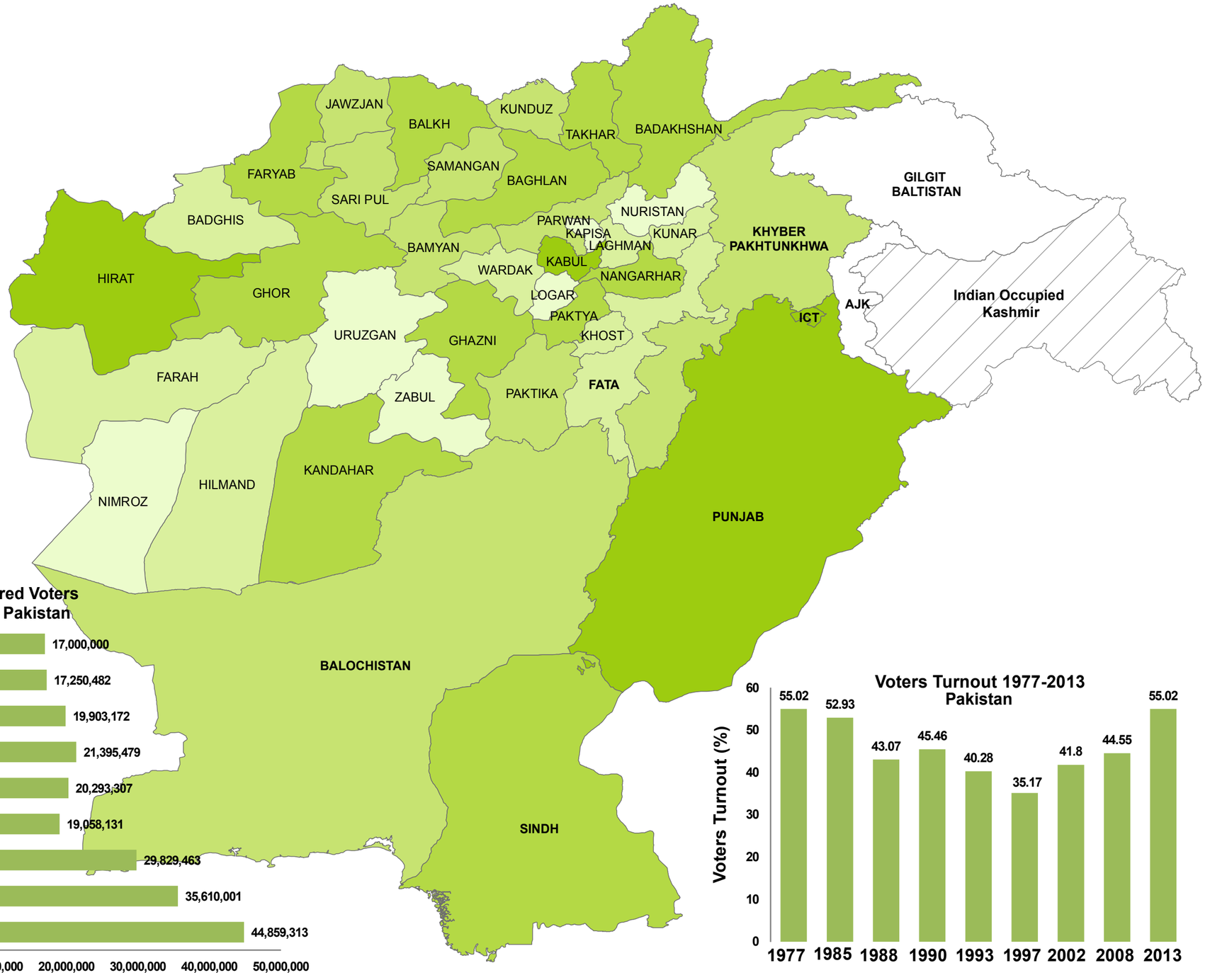
gives a chance to those living in different other countries to cast their vote and fulfills their duty. Similarly, optical scanners in the e-voting systems can read and verify the voter's mark and the rigging complaints regarding the unverified paper ballots can be solved within no time thus, satisfying every political entity.

Moreover, the complaints related to casting multiple votes by a single person or casting votes in your favor using women ID cards in distant rural areas can be tackled easily. We can also introduce the picture of the voter on the e-voting system so that no one can buy anyone's vote. This system also provides a chance to the disabled people to cast their vote without any difficulty . Besides, these systems are a onetime investment and they save us from the additional ballots printing and transportation costs.

These changes can not only strength the ruling democracy of these countries but will also support them on economic front. They can also take benefit of their joint borders by setting up useful projects after studying their geographical locations. Such projects will benefit everyone in the long run and it can all happen if they make use of this revolutionary technology to a larger extent.

In culmination, national prosperity of a country is linked to its ability to utilize the technology for gaining benefits. Once, these third world countries start using technological advancement like GIS they will be on the track of accomplishing bigger goals. They can become a role model for other neighboring countries where democracy seems to have no future. So, win the trust of your people by giving them a facilitated lifestyle that is the beauty of democracy. ■

PAKISTAN AND AFGHANISTAN VOTER TURNOUT



Legend

Pakistan Voter Turnout (%) - 2013

National Assembly

- 1 - 36
- 37 - 45
- 46 - 54
- 55 - 62

Afghanistan Number of Voter Turnout - 2014

- 24,557 - 70,754
- 70,755 - 136,257
- 136,258 - 230,137
- 230,138 - 442,043
- 442,044 - 835,964

Date of Creation Sep 26, 2014
Projection/Datum WGS 84 Geographic

N

0 100 200 400

Kilometers

ALHASAN SYSTEMS PRIVATE LIMITED
+ 92.51.282.0449/835.9288| maps@alhasan.com

Data Source(s)

Election Commision of Pakistan
Afghanistan Election Data

Bahrain's Parliament Elections On November 22

Manama: A record number of 322 candidates will be on the ballot in Bahrain's parliamentary race next month, more than double the figure of the 2010 elections.

The elections are scheduled for November 22 and the run-off in constituencies where no candidate received more than 50 per cent of the votes will be held one week later.

Around 350,000 Bahraini men and women are eligible to cast their ballots to choose the lawmakers for the 2014-2019 parliament term.

Parliamentary and municipal elections were held in 2002, 2006 and 2010 following the promulgation of a new constitution that allowed women to vote and run in national polls.

Figures indicate that 191 candidates in 2002 submitted applications for the 40 seats in the lower chamber of the bicameral parliament. The elections were then boycotted by some opposition societies asking for more constitutional reforms.

However, the figures went up to 221 candidates in 2006, following the overall satisfaction with the first parliament experience and the decision by the opposition societies to reverse their boycott and participate in the elections. Al Wefaq, the dominant society in the opposition, won 17 seats.

In 2010, the number of candidates went down to 149 and Al Wefaq carried the 18 constituencies where it fielded candidates, all men.

In the absence of Al Wefaq, three women were able to win and to join MP Lateefa Al Gaood who made history in 2006 when she became the first woman in the Gulf to be elected to parliament.

The 40 members of the Shura Council, the upper chamber of the parliament, will be appointed by King Hamad Bin Isa Al Khalifa, as stipulated by the constitution.

The outgoing council had 11 women.

Ashraf Ghani Declared Winner of Afghan Poll

Election commission declares former finance minister winner of presidential poll after months of political stalemate.

Afghanistan's election commission has declared Ashraf Ghani the winner of the country's disputed presidential election.

The commission's announcement on Sunday came hours after Ghani signed a power sharing agreement with rival Abdullah Abdullah, who will fill the newly created position of Government Chief Executive.

The final vote tally from a UN-audit was not released by the commission, but its chairman, Ahmad Yousuf Nuristani, acknowledged grave flaws in the election process and said that the UN audit could not detect all voting issues.

The unity deal reached on Saturday puts an end to months of political turmoil following June's presidential elections in which both candidates claimed victory; destablising the nation at a time when US-led NATO combat troops prepared to leave after 13 years of fighting the Taliban.

The White House welcomed power-sharing deal, which it said "helps bring closure to Afghanistan's political crisis."

Preliminary results released in July showed Ghani ahead of ex-foreign minister Abdullah with 56 percent of the vote.

Election Commission of Pakistan Decides to Amend Electoral Laws

Islamabad - The Election Commission of Pakistan (ECP) has decided to amend the electoral laws of the country. The ECP has sent the draft of the amendments to the Electoral Reforms Committee.

According to our reports, the president will no longer be eligible to announce the election date and the election date will be announced after consultation with ECP.

Returning officers will work under the Election Commission of Pakistan. The polling scheme will not be changed one month prior to the election. An increase in the election commission's budget has also been recommended.

Yemen Appoints New PM to End Political Crisis

Islamabad Yemen's president has appointed the country's UN envoy as new prime minister, in a move welcomed by Houthi rebels who control the capital.

President Abd-Rabbu Mansour Hadi named Khaled Bahah as prime minister on October 13, 2014, just days after the Houthis rejected the appointment of Ahmed Awad bin Mubarak.

Signaling an easing in the country's prolonged political crisis, Abdelmalek al-Ejri, a member of the Houthis political bureau told the Reuters news agency, "he [Bahah] is the right person."

"His appointment will help the country overcome the difficulties it is going through," he said.

Bahah will have 30 days to form a government after rival political groups gave their backing to his selection, state media reported.

The appointment is part of a peace deal brokered by the United Nations after Houthis swept through Sanaa and took over army barracks, ministries and vital state institutions last month.

The power-sharing deal aims to bring the Houthis and the wing of a separatist group into a more inclusive government.

Armenia, Kuwait Develop Inter-parliamentary Ties

On September 18, the members of the Armenian National Assembly's Armenia-Kuwait Friendship Group met with the members of the Kuwaiti Parliament, the Armenian parliament's press service reported.

Araik Hovhannisyan, the head of the Friendship Group welcomes the guests from Kuwait noting the need to further develop this important relationships. He said that mutual visits would promote the expansion of inter-parliamentary ties between the two countries in the future. Hovhannisyan spoke about the potential to advance the economic and cultural ties between the two states.

The Head of Kuwaiti Parliament Delegation, Faisal Fahd Al Shaya, thanked Mr. Hovhannisyan for the warm reception, and agreed that the mutual visits will promote the expansion of cooperation and enhance international structures between the two nations.

Both parties mentioned that there are wide opportunities for cooperation and investment in many fields. Interaction in agricultural, industrial development as well as educational and healthcare was highlighted within the framework for investments and mutual interest. The increase international trade between the two countries was underscored as well.

Infrastructure Planning and Development in Pakistan

By: Muhammad Halar Zaman

Infrastructure and development are not praise worthy elements in Pakistan's past, nor are they today. Previous governments allocated less than five percent of our national budget to the development of the country. In order to put Pakistan steady course, the government must direct 27 -37% of its budget towards the Public Sector Development Program (PSDP).

At the same time it must improve its governance by increasing tax to GDP rate, which is the lowest in the region. Pakistan should enforce increased taxes rates on the wealth, while reducing the direct tax burden from poor. In order to attract foreign investment to improve our industrial sector, it will be essential to improve our law and order situation. Moreover, corruption and laws that permit it should be eliminated from society.

The Government should take drastic steps to secure justice so that the public's trust for government will be increased. One of those steps should be the transfer of resource management

mechanisms into the hands of autonomous provincial government. This will increase accountability and transparency and increase the role of regional stakeholders.

Pakistan suffers from a series of problems, they are essential core issues in governance and development. A number of obstacles in physical and non-physical infrastructure development must be removed. Physical infrastructure plays a pivotal role. It is the base upon which the development of a country occurs.

Pakistan is engulfed in severe energy crisis. That crisis has weakened the economy and made the lives of common people miserable. In order to recover Pakistan must engage short time line, cheaper energy development programs. Renewable energy such as wind, solar and geothermal energy projects should be initiated by government at every opportunity. The maintenance and installation costs of each of these is cheaper than hydro-power development projects, which are expensive, controversial and have very long time lines.

Pakistan has an installed capacity of around 23,048 Megawatts, but only 50% of that capacity is being used. Most of this is due to mismanagement and non-maintenance. If line losses are controlled and theft is reduced, and there is proper management of installed capacity and billing losses recovered much of the problem of electricity shortage will be resolved. Over the years Pakistan has shifted its energy production from hydro to thermal. But, thermal power is now more dependent upon furnace oils than gas. This is the most expensive option and has led to an increase in inter-circular debt. Energy production can be improved if thermal energy is provided by natural gas which is diverted to CNG sector. Pakistan needs be more dependent on renewable and nuclear energy which will produce cheaper and abundant energy.

Aside from energy crisis, Pakistan has grave infrastructure problem in water and solid waste management. Pakistan has been hit hard by environment change and has witnessed severe floods from 2010 and onwards. Pakistan needs informed, proactive disaster prevention and recovery programs to protect the country its people and all of our assets. Increased funding must be allocated for the National Disaster Management Authority and the various Provincial disaster programs.

Early warning systems and Web-based GIS inventory programs should be introduced at important and perilous points throughout floodplains of our rivers and watersheds. New government mechanisms should be put in place to create stronger embankments on rivers, canals and other drainage systems designed using stone pitching or other effective new methods.

At the province level construction programs to build small dams to protect housing and other assets and reservoirs for fresh water could address our various storage problems and provide potable water when flooding occur. As always, public awareness campaigns need to be developed to help avert future flooding crises

GIS assessments of our flood plains will enable better decision making by authorities at both the federal and provincial level, and within each distract. GIS mapping will present the location of critical facilities such as power and fresh and waste water plants, hospitals, schools and clinics. It will identify key lines of transportation whether they are roads and bridges that will be in danger, rail lines and most of all, route of escape and access for medical rescue and later, engineering crews. Even rudimentary GIS assessments will show elevations in the land, population concentrations and at least an estimate of open and closed routes based on flood level. This is what proper planning looks like.

The water shortage due to the drought impacts the entire country. There have been decreased in ground, surface and rain water and reduced resources for irrigation and commercial use. Once again, GIS could define solutions for policy makers. There are answers to irrigation in drought conditions, land leveling, and the construction of water recycling facilities for agriculture in advantageous locations can provide relief.

Sanitation is a major impediment to clean water management in Pakistan. According to a survey inadequate sanitation causes an annual loss of 4% to nation's GDP. In this case Municipal authorities are doing a commendable job and their hierarchy and mechanisms can be replicated. There are many pilot projects such as Orangi Pilot Project and Lodhran which have successfully shown result on micro levels. Such projects can be modified to work on macro levels in our country.

There can be no increase in development or prosperity without a modern and compact transportation system. Pakistan is lagging behind in quality roads. They are imperative for domestic development and all commercial business activities. Federal

and National highways authorities are marked by mismanagement and corruption. Today, Pakistan has 263,735 kilometers of roads. Unfortunately, only 3.5% consists of National Highway and 0.87 % are Motorways. According to World Bank report, poor performance in the transport sector costs 5 % of Pakistan's GDP annually. To improve the situation it will be necessary to support new public-private investment ventures such as the Hyderabad-Mirpurkhas Highway. Additional financing can be sought from China to boost projects under the National Trade Corridor program (NTCP) and China-Pakistan Economic Corridor (CPEC). These projects include the Karakoram Highway, Karachi-Lahore Motorway, Multan – Sukkur section and construction of East Bay Expressway.

The Provincial Governments should be made responsible to arrange finances by public-private ventures and reduce impediments between the market and farm roads and highways. China has arranged a 10 billion dollar investment under China-Pakistan Economic Corridor for infrastructure improvement.

Railways is an important sector that needs drastic improvement. Pakistan's railways are suffering badly due to locomotive shortages, outdated service and rolling stock and infrastructure and increased fuel prices and fare rates. As a result railway revenue has declined and increasing maintenance expenditures are borne by government. To improve the Railways certain reforms are necessary. Benchmarking performance, tariff structures, and the purchase of new locomotives and increased repair are minimum requirements

A number of administrative reforms are needed including the disbursement of salaries and pensions via NADRA software, and the initiation of more public-private projects such business express trains. Pakistan has allocated 39.3 billion for rail service development but more funds can be injected by public-private partnerships including the China-Pakistan Economic Corridor.

Pakistan International Airlines have been facing losses beginning in 2002. There are various reasons for its ineffective performance including over employment, unprofitable route selection, mismanagement, corruption and competition in aviation market. According to official figures of PIA's report of 2013, PIA's operation expenses are Rs 126,164 billion while operation revenues are Rs 95,771 billion. The government has taken serious steps, yet radical reforms are necessary for improvement at PIA. These include the purchase of new fleet or lease, contract renegotiation, decreasing number of employees by giving "golden handshakes." Hajj operations can be made effective and we can discontinue service on loss producing routes such as Frankfurt, Kandahar and Zahedan. New flights on profitable routes to Dubai, Manchester, Kuala Lumpur and Muscat can be added.

The role of communication cannot be ignored as it is a major factor in modern life and contributes to the economy of any country. Pakistan is vibrant nation; hence, Telecom revenues have a significant contribution every year. According to the Pakistan Telecommunication Authority's report the five year average revenues of the Telecom sector has been 119 billion Rupees.

Pakistan's High population is a ready-made market that can attract investors with the introduction of flexible laws to allow new schemes such as mobile banking, e-education, observing sale channels of cellular mobile companies, illegal voice transmission, establishing of web blocking call center, e-health and mobile debit cards. Government has taken commendable steps including the auctioning of band-width for the Next Generation Mobile Service such as 3G and 4G. New laws can provide added security with the introduction of biometric verification system for sale of SIMS.

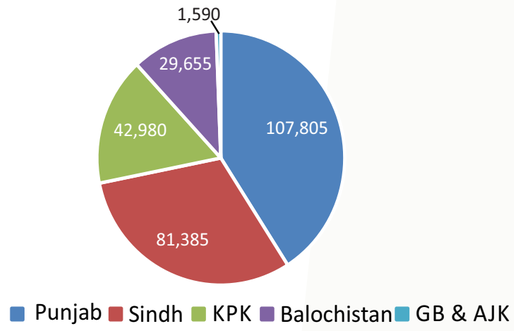
New regulations can make the Pakistan Telecommunication Authority more influential player in the market. Broadband users are not generally active as telecom users; however this platform may be enhanced with mobile internet and introducing new broadband competitors in the market. New Television channels have become a house name in Pakistan resulting in millions of Rupees in revenue to national treasury. The investment of 3.5 billion rupees in private channels that has generated 200,000 jobs for Pakistani people.

For this sector to thrive, Pakistan must make media free and modern by amending outdated laws within the Pakistan Electronic Media Regulatory Authority. Adequate attention should be spent on Pakistan's Postal Service to make it a success story and generate billions of revenues by incorporating more modern methods and technologies such as a computerized counter system, electronic money order service, e-collection of utility bills, payment of Benazir income support program, computerized pension system, and the general promotion of innovative services and products. We also have to improve our delivery systems to compete for local and international orders.

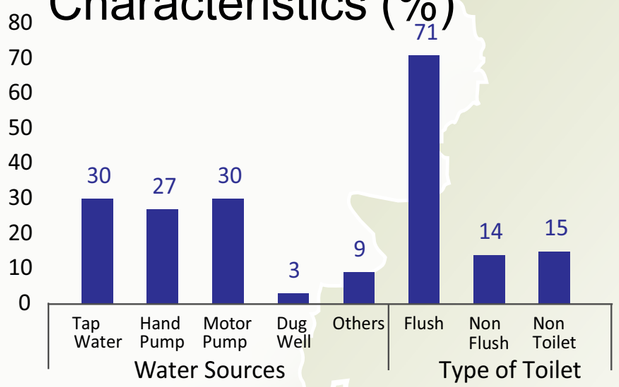
When all is said, it may be concluded that Pakistan has all of the ingredients to consolidate its physical and non-physical infrastructure and mobilize toward development. Pakistan has all the potential to grow its Gross Domestic Product to 7 to 10 %. However, its physical infrastructure is in shables but it can be improved by proper planning, budgeting and effective execution. The government's outdated laws are proving to be a hindrance and they must be amended to meet the demands of a growing nation. ■

INFRASTRUCTURE AT A GLANCE - PAKISTAN

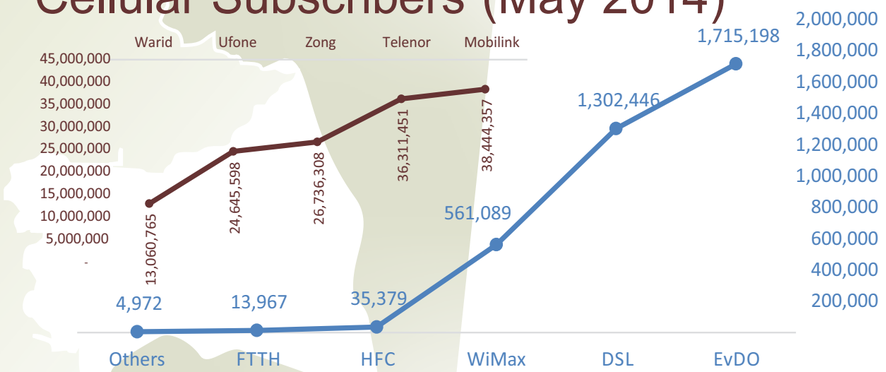
Estimated Length of Roads
by Province (Km) 2012-13



Households by Different Characteristics (%)



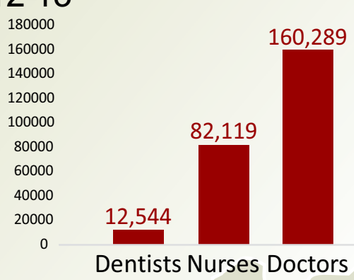
Cellular Subscribers (May 2014)



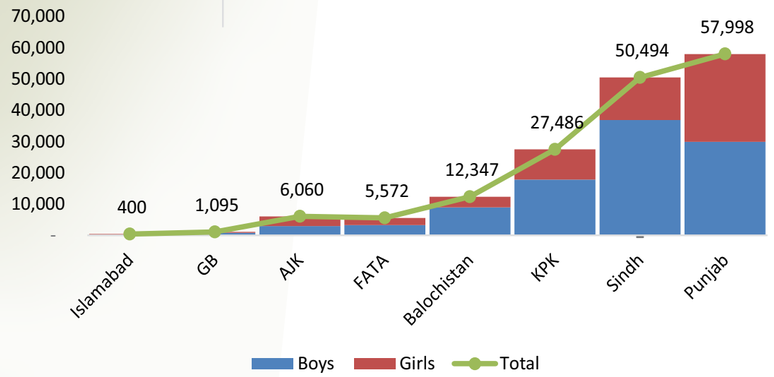
Broadband Subscribers By Technology (April 2014)

Population per Unit (2012-13)

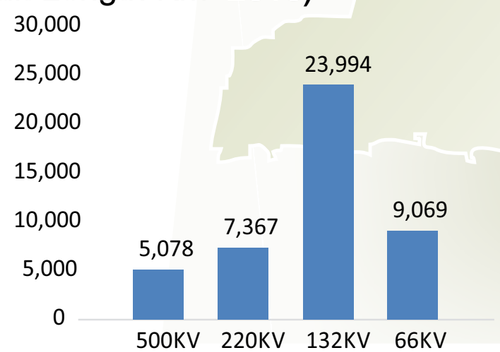
Registered Health Staff 2012-13



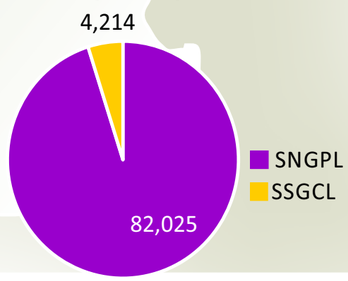
Number of Schools by Gender
(Primary-H. Sc) 2011-12



Transmission Lines
(Circuit Length Km-2010)



Natural Gas Distribution Network (Km)



Source(s): Pakistan Economic Survey 2013-14
PSLM 2012-13
www.sngpl.com.pk, 2010-11
www.ssgc.com.pk, 2009
www.ntdc.com.pk
Pakistan Education Statistics, AEPAM

UAE in top-3 Infrastructure Investment Markets

UAE is the third most attractive market in the world for investment in infrastructure, according to EC Harris, the global asset consultancy company. The UAE ranked third globally and second regionally for its strong business environment, healthy pipeline of development work and growing economy, making it an attractive country for investors including pension funds and banks.

The findings come from the second ARCADIS Global Infrastructure Investment Index, which ranks 41 countries by their attractiveness to investors in infrastructure. The study looked at various issues including the ease of doing business in each market, tax rates, GDP per capita; government policy, the quality of the existing infrastructure and the availability of debt finance. Combining all of these factors provides a strong overview of the risk profile for each market and how attractive each one is likely to be to potential investors.

"Good infrastructure is critical for the long term economic development of a country, and the U.A.E. is becoming more promising for investors in this regard," said Tim Risbridger, Partner and Head of Infrastructure - Middle East, at EC Harris. "Almost half of the investment planned in the region is related to transportation, with every major city in the region planning to follow Dubai in building a metro system with lines being constructed simultaneously in a relatively short period of time."

The report also underlined that the key risk in these markets is inflation in construction resources from manpower and specialist skills to construction commodities. Despite the potential for rising inflation, the Gulf countries' strong credit ratings and enviable taxation regimes will continue to appeal to investors.

Bahrain to Invest $22bn in Infrastructure Development

Bahrain has announced plans to invest over $22 billion on infrastructure projects over the next four years, according to Bahrain Economic Development Board (EDB).

Major infrastructure projects in the island kingdom include the Bahrain International Airport modernization project, the development of Al Jazair Beach, projects in Durrat Al Bahrain, expansion of the aluminium smelter at state-owed Alba and a project being carried out by Bahrain Petroleum Company.

The government is also investing heavily in improving housing other and related infrastructure projects. Bahrain aims to build 40,000 new housing units along with investment in educational facilities to support the growth, EDB said.

"These are important investments that promise opportunities to international investors as well as strengthening connectivity with the region," said Kamal bin Ahmed, minister of transportation and acting chief executive of the EDB.

Bahrain's economy, which has suffered substantially from political unrest that began in 2011, has started to rebound strongly.

The country was named the freest economy in the region, according to the Heritage Foundation's 2014 Index of Economic Freedom.

ADB Loans for Infrastructure Projects on Cards

Islamabad: The Asian Development Bank (ADB) is likely to approve multi-million dollar loans to Pakistan for transport infrastructure projects, during the current visit by ADB President Takehiko Nakao, to Islamabad, the News learnt on Monday.

The loans are to finance the construction of National Trade Corridor (NTC) phase for establishing road linkage from Hassan Abdal to Karakorum Highway (KKH).

The ADB President will be visiting Islamabad at a time that talks between Pakistan and Fund have been temporarily stalled in the wake of lingering political instability. The political crisis has also largely compromised Islamabad's ability to deliver on key prior performance criteria such as increasing electricity tariff. ADB's President is visiting Pakistan for the first time in eight years, the to hold different meetings to accelerate the process of disbursing committed loans, totaling $3 billion within next three years, starting from the current fiscal year 2014-15 to 2016-17.

During his visit, Mr. Nakao will meet the Pakistani leadership including President Mamnoon Hussain, Finance Minister Ishaq Dar and the Governor of the State Bank of Pakistan, Ashraf Mahmood Wathra. According to his schedule, Mr Nakao is set to hold meeting with Prime Minister Nawaz Sharif on Wednesday. The ADB President is keen to learn about the current government's development agenda and how his organization can support it.

Iran Can Help Develop Turkmen Infrastructure: Rouhani

Iranian President Hassan Rouhani says the Islamic Republic is ready to offer help to Turkmenistan to develop its infrastructure. Iran is also ready to provide the Central Asian country with required commodities and products, Rouhani said.

The Iranian president made the remarks in a meeting with his Turkmen counterpart Gurbanguly Berdimuhamedow in the Tajik capital, Dushanbe, on Friday on the sidelines of a summit of the Shanghai Cooperation Organization (SCO).

"Iran and Turkmenistan are two neighboring and brotherly nations with common roots, and it is necessary that they utilize their untapped potential in bilateral ties," Rouhani said. He called for the presence of Iranian entrepreneurs and investors in Turkmenistan's energy, development and transportation sectors.

Pointing to the soon to open Iran-Turkmenistan-Kazakhstan railway, Rouhani said Iran would be a safe and secure route for the transit of goods through the Central Asia and the Persian Gulf region. Rouhani also called for the development of cultural, scientific and tourism ties between the two neighboring countries.

For his part, Mr.Berdimuhamedow highlighted Iran's key status on the regional and international scenes and welcomed the further enhancement of ties between Tehran and Ashgabat at the highest level.

President Rouhani is on a tour of the Central Asian states of Kazakhstan and Tajikistan. He is scheduled to deliver a speech at the SCO summit later on Friday. The SCO is an intergovernmental organization (founded in 2001) in Shanghai by the leaders of China, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, and Uzbekistan. Iran has an observer status at the organization.

Phantom of the Workplace

Acknowledgement

The SKIM Magazine gratefully acknowledges John Weaver for his kind permission to reprint article, entitled "Phantom of the Workplace", originally published at http://psychologyforbusiness.com

By: John Weaver

In Phantom of the Opera, the heroine, Christine, is searching for her "angel" of music. This "angel," spoken of by her father, will help her to unlock the talent within her and will lead to her fame and success as a singer. But the "angel" is hidden in the shadows and draws on the dark and uncontrollable forces of the night. The only way for Christine to discover her voice is to work with the Phantom. At the same time, she is engaged in a struggle not to be overcome and wholly possessed by him.

This is often our experience in the workplace. We have a talent that lies dormant within us. To learn about it and to express it will require stepping outside the normal boundaries of daily responsibilities into an ill-defined shadow world. It is a world that is both alluring and frightening to us.

The daily jobs before us are carefully spelled out in job descriptions with duties and tasks that are laid out in great detail. We have looming deadlines and supervisors who expect us to remain on schedule.

But every once in a while we catch a glimpse that there could be more for us. We could pursue a path that would take us to a new and exciting place. That path is the path of creative discovery. It might lead to a more effective way of doing something in our organization. It might be

the opportunity to start an initiative that will address a need we have uncovered. It might lead to a new product or service that will be valued by our customers. It might even be the opportunity to unearth the talent that we had, dormant, within us that had never before been expressed.

There is, of course, a catch. To get there we need to cross into a world of shadows and danger, like the underground caverns inhabited by the Phantom of the Opera. The face of our deepest talent is very much the face of the Phantom, half disfigured and resentful that it is unacceptable to the sensibility of everyday life, and half filled with a beauty that is profound and moving to the deepest regions of the soul.

Because the disfigured form is repulsive but also because the beauty is not able to be controlled and brought forth on schedule, there is no room for this Phantom talent in the ordinary day-to-day of our work world. So our personal "Phantom" remains hidden beneath the masks we wear in our daily interactions.

Of course, no true creativity is part of the ordinary day-to-day of our work. It is extraordinary. It is beyond the humdrum of our regular responsibilities. That is what sparks our dreams of a better and a more fulfilling way to work. That is why the moments when we do catch a glimpse of the potential that lays dormant within us is so disturbing to us. It becomes harder to endure the routine, but it also takes great courage to pursue.

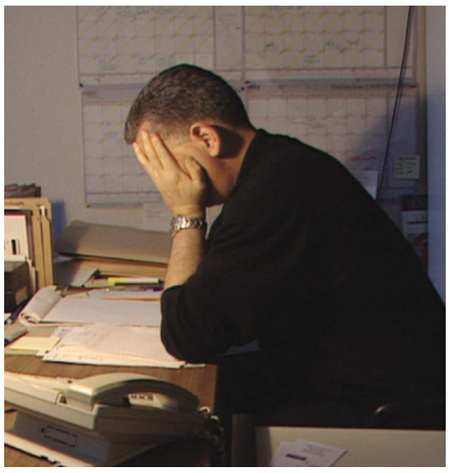
We are tempted to throw off the ordinary and explore these dark caverns of creativity.

Yet we are also afraid to enter and so find ourselves resenting both our insight and that no one else has thought of it and brought it forward so that we won't have to take the journey into the night. The metaphor of the Phantom suggests that it is only our decision if we are to encounter this talent within us; no one else can do this for us. Do we enter the shadows and pursue our creative ability or not?

This is our dilemma. There is a clear path to follow in the workplace. It is laid out in our job description and carefully supervised by our managers. If we follow the clear path we will be the good understudies who are paid for doing what we are told. But, every once in a while, we realize that there is something more. The creative urge is one that will take us off the well-defined road into a more shadowy, more dangerous and potentially more fulfilling role.

Do we risk it?

Encountering the "Phantom" of our talent will take us out of the day to day routine. Many creative projects are initiated outside of work hours and off the work site. Once we have glimpsed the creative talent that lies deep within us, it is difficult to ignore it. The talent begins its process of possessing us.



At first, it may seem like we are only dreaming. Could this idea really find a place in our organization? Why would anyone listen to me? What could I offer that the "star" of the organization has not done and done better than I? To put forth the idea is to risk rejection. In my metaphor, this is what the disfigured side of the face of the Phantom represents. The creative impulse is not one that is readily accepted or easily finds in place. It is often experienced as strange or even repulsive because it is new and different. When our talent is rejected it is easy for us to become resentful toward the organization. This is the dark and dangerous side of our deepest impulses. If we never allow ourselves to become acquainted with the creative impulse we will not have to deal with the shock or dismissal by others. The price is that we will also never encounter the beauty of the music the Phantom produces.

The desire to design the workplace that will rescue us from the struggles and difficulties of our creative impulses contains an equally hollow promise. In my metaphor, the well-meaning Raoul misunderstands the nature of the Phantom. He sees the Phantom as evil, as the fallen angel. But the Phantom is a more complex figure who represents the reality that some of those aspects of myself that are most valuable only emerge with great struggle and great courage. The workplace that is without challenge, completely efficient, with no chance to encounter the messiness of our own Phantom does not rescue us but dooms us to a shallow and meaningless work experience.

We often yearn for the executive who will provide a comfortable job that is completely safe. We hope for the organization that will be always at our side, protecting and soothing our fears. The price of a career that is completely safe is that we will never find our true talent. It is a journey that no one can take for us. If we are to be truly alive and to truly express our deepest talent we must voluntarily travel past the point of no return.

It is a journey that some will never take, too afraid of the chaos or the potential to fail.

Others battle with the Phantom and are able to discover how to bring their talents into the light of day. This is never an easy process but becomes the opportunity for both the individual and the organization to find new ways to grow and flourish.

Organizations and executives must resist the impulse to take the role of Raoul because they cannot promise to make us safe from ourselves. A fully efficient and safe workplace offers no real opportunity for growth. We must design our organizations to tolerate the darkness and danger of the discovery of talent. Raoul becomes effective in his efforts for Christine only after she has entered the underground of the Phantom and he follows her to find her in the darkness. Christine did not need a Raoul to keep her safe, she needed someone who could help her to face her challenge with courage and who would stand beside her during her journey. This is the true role of the mentor. It is also the most common quality that is mentioned as a description of the leader who is truly effective and who brings out the best in his or her employees.

Most new ideas have taken years of work and struggle and even defeat in order to be truly beneficial to the human community. It is a struggle that is metaphorically similar to the battles related in the Phantom of the Opera. The organizations that have been able to foster those discoveries have had to find ways to be patient with the messy processes of creative endeavors. Those who are unafraid of the dark caverns of creativity are those who have built the American culture we all enjoy today. ■

Wellness After 30: Getting the Most Out of Later Life

Acknowledgement

The SKIM Magazine gratefully acknowledges Diane R. Randall for her kind permission to reprint article, entitled "Wellness After 30: Getting the Most Out of Later Life", originally published at http://ahha.org

By: Diane R. Randall

How do you define your Wellness? How does it show up in your life currently? About 15 years ago, I ask myself these questions many times. When I was in my early thirties, I watched my body, my health, my emotions and my sense of "self" slip away. I did not know what it felt like to wake up with a purpose and the will to move forward. I wanted to get a handle on my life and find a better way of living, one that would enhance the quality of my life as I aged.

After researching, soul searching, educating and defining what was important to me, I've come to believe that incorporating wellness habits into your life on a daily basis is the key. I recognize that wellness is unique to each person; it encompasses every aspect of your life and requires work, determination and commitment to bring about change. The change needed to bring balance and harmony to your life. This means wellness is a choice. What an enlightening discovery, I thought. Once I realized that it was a choice, I found a way to tap into my "self" strength and saw a time of change as an opportunity to be a better me.

Wellness is a choice. It requires that you do something every day to honor your body, mind and spirit. Achieving wellness means taking control and directing your life where you want it to go. It means you

are in command of all aspects of your life: physical, career, relationships, finances, spiritual, environment and emotional well-being. As you know, this is easier said than done. I've been a wellness coach for several years and find the denial of self-improvement and the lack of effort to achieve wellness, especially for those over the age of 30, dangerous.

The dictionary definition of wellness is: *"The state of optimal well-being, not simply the absence of illness, but an improved quality of life resulting from enhanced physical, mental, and spiritual health."*

Many people are not willing to do the work to achieve wellness and go into denial about how well they really are. After a while they find comfort within their denial and use it as a coping strategy to avoid bigger problems. They will continue avoiding small problems until a major crisis develops, and sometimes even then it doesn't trigger any action. The areas of life someone thinks about in the privacy of his or her heart (or alone in the dark) are exactly the areas that need to be honored--the mind, body and spirit.

Some reasons why adults don't incorporate wellness activities into their daily lives include lack of time, effort, desire and commitment. I was talking to a client of mine the other day and he told me a co-worker had challenged him to run in a race. My client has been a heavy smoker for years and has not been physically active. I asked him how he planned on running the entire distance. He then told me about what a great runner he was in high school - more than twenty years ago. I explained to him that he had become very comfortable with denial about his health and wellness, and that I needed him to accept the truth about his overall well-being. We then set some goals to get him through a race at a later time, which included kicking the smoking habit as a first step.

It's not only the physical being that affects wellness; stress is a growing contributor and excuse preventing people from taking control of their own destiny. Investigating where your time is going and then adjusting your priorities to free up time to incorporate activities important to your health and wellness reduces stress. You must re-evaluate your daily priorities and approach them in order of importance for your efforts to be successful. One suggestion might be instead of working 12 hours per day, work 10 and spend the two extra hours honoring your well-being.

According to time-use researchers and exercise experts, we're making excuses about our time. "People certainly do have time. There are about 40 hours a week of free time in this country," says John Robinson, a professor of sociology at the University of Maryland and co-author of Time for Life: The Surprising Way Americans Use Their Time. People are watching TV an average of 15 to 20 hours a week, so they have "room to carve out more time to be active."

The main thing you should do is put yourself at the top of your priority list. Wellness is important, especially after age 30, because getting older brings with it an abundance of new metabolic, physical, physiological, emotional and mental challenges. And while change can be unsettling, this time of change can also be viewed as an opportunity to get the most out of life.

Later life can be a time of rest, fun, relaxation, maybe even retirement, and most of all a time to enjoy life. It should be a time to embark on new adventures whether it's travel, a hobby or a fun job. Here are some suggestions to start creating a life that honors your wellness:

1. Be honest about how well you really are. Realistically look at the areas of your life: physical, career, relationships, finances, spiritual, environment and emotional well-being. Identify the area(s) that need improvement. Set goals to achieve desired results one step at a time. Buy a journal to track your activity.

2. Assess your readiness for change and willingness to embrace it. Identify and write down the benefits of wellness to your life and your willingness to make the necessary changes. Remember: every move, forward or back, is part of the normal process of change.

3. Identify and eliminate barriers and challenges that could impede your success. There are always barriers to overcome as we move toward our goals. Select one barrier to work on at time. For every negative message you encounter, turn it into a positive one. For example, "I don't have enough time" can turn into "everything that needs to be done will get done." Learning to replace the negative messages with positive ones is a matter of establishing new habits. It takes time and practice.

4. Set clearly defined and measurable wellness goals. Create fun and interesting ways to fulfill your goals. For example, to be more physically active at work, you may want to take a two-minute walk every hour around your work environment. Break your goals down into small, incremental steps.

5. Create meaningful wellness priorities. Take a closer look at how you spend your time on an average day. Record your daily activity. Find opportunities for wellness activities you might not have known existed and incorporate them into your daily life.

6. Challenge your wellness changes and strive to achieve even more. Make simple changes first and then take a look at the things that are harder and that will require the most change to achieve your desired results. Tackle them one at a time.

7. Design and refine your goals so you'll get the most out of them every day. If you don't get the results you want in a reasonable amount of time, go back to the "drawing board." Re-design and refine your goals to fit what works for you. You may even want to get some professional help.

8. Make lasting changes to your lifestyle. Identify and celebrate your accomplishments. Reward yourself! Review your favorite activities. Try new activities to renew your motivation.

The pace of today's world is so fast that we expect quick solutions to everything. If results are not immediate we're quick to quit. However, the long-term results that extend our lives are well worth the time, work and effort that we put into taking care of ourselves. Wellness is a way of life. Get yours back! ■

Environmental Impacts of Seawater Desalination: Arabian Gulf Case Study

By: Mohamed A. Dawoud and Mohamed M. Al Mulla

Acknowledgement

The SKIM Magazine gratefully acknowledges Mr. Mohamed Dawoud and Mr. Mohamed M. Al Mulla for their kind permission to reprint material from case study namely, "Environmental Impacts of Seawater Desalination: Arabian Gulf Case Study published at "www.sciencetarget.com".

1. Background

Desalination is widely used in Gulf Cooperation Council (GCC) countries as a main source for fresh water supply for domestic sector due to the scarcity of renewable natural fresh water resources. Some other Middle East countries have already started building desalination plants such as Egypt. The largest number of desalination plants can be found in the Arabian Gulf. Most of the desalination plants are combined with power plants for power production. At present there more than 199 plants and there are a plan to add 38 in the future. The total seawater desalination capacity is about 5000 million m3/year, which means a little less than half (45%) of the worldwide production. The main producers in the Gulf region are the United Arab Emirates (35% of the worldwide seawater desalination capacity), Saudi Arabia (34%, of which 14% can be attributed to the Gulf region and 20% to the Red Sea), Kuwait (14%), Qatar (8%), Bahrain (5%) and Oman (4%) (Lattemann and Höpner, 2008). The expected increase in the total capacity is about 1800 million m3/year by 2013. The total capacity of desalination in GCC countries increased

from 3000 million m3/year in 2000 to about 5000 million m3/year by 2012. It is expected that the capacity will increase to be about 9000 m3/year in 2030.

Although desalination of seawater offers a range of human health, socio-economic, and environmental benefits by providing a seemingly unlimited, constant supply of high quality drinking water without impairing natural freshwater ecosystems, concerns are raised due to potential negative impacts (Dawoud, 2006). These are mainly attributed to the concentrate and chemical discharges, which may impair coastal water quality and affect marine life, and air pollutant emissions attributed to the energy demand of the processes.

The list of potential impacts can be extended; however, the information available on the marine discharges alone indicates the need for a comprehensive environmental evaluation of all major projects (Lattemann and Hoepner, 2003). In order to avoid an unruly and unsustainable development of coastal areas, desalination activity furthermore should be integrated into management plans that regulate the use of water resources and desalination technology on a regional scale (UNEP/MAP/ MEDPOL, 2003).

In summary, the potential environmental impacts of desalination projects need to be evaluated, adverse effects mitigated as far as possible, and the remaining concerns balanced against the impacts of alternative water supply and water management options, in order to safeguard a sustainable use of the technology.

The effects on the marine environment arising from the operation of the power and desalination plant from the routine discharge of effluents. Water effluents typically cause a localized increase in sea water temperatures, which can directly affect the organisms in the discharge area. Increased temperature can affect water quality processes and result in lower dissolved oxygen concentrations.

Furthermore, chlorination of the cooling water can introduce toxic substances into the water. Additionally, desalination plants can increase the salinity in the receiving water. The substances of focus for water quality standards and of concern for the ecological assessment can be summarized as follows: Although technological advances have resulted in the development of new and highly efficient desalination processes, little improvements have been reported in the management and handling of the major by-product waste of most desalination plants, namely reject brine.

The disposal or management of desalination brine (concentrate) represents major environmental challenges to most plants, and it is becoming more costly. In spite of the scale of this economical and environmental problem, the options for brine management for inland plants have been rather limited (Ahmed et al., 2001).

These options include: discharge to surface water or wastewater treatment plants; deep well injection; land disposal; evaporation ponds; and mechanical/ thermal evaporation. Reject brine contains variable concentrations of different chemicals such as anti-scale additives and inorganic salts that could have negative impacts on soil and groundwater.

By definition, brine is any water stream in a desalination process that has higher salinity than the feed. Reject brine is the highly concentrated water in the last stage of the desalination process that is usually discharged as wastewater. Several types of chemicals are used in the desalination process for pre- and post-treatment operations. These include: Sodium hypochlorite (NaOCl) which is used for chlorination to prevent bacterial growth in the desalination facility; Ferric chloride (FeCl3) or aluminum chloride (AlCl3), which are used as flocculants for the removal of suspended matter from the water; anti-scale additives such as Sodium hexametaphosphate (NaPO3)6 are used to prevent scale formation on the pipes and on the membranes; and acids such as sulfuric acid (H2SO4) or hydrochloric acid (HCl) are also used to adjust the pH of the seawater.

Due to the presence of these different chemicals at variable concentrations, reject brine discharged to the sea has the ability to change the salinity, alkalinity and the temperature averages of the seawater and can cause change to marine environment. The characteristics of reject brine depend on the type of feed water and type of desalination process. They also depend on the percent recovery as well as the chemical additives used (Ahmed et al., 2000). Typical analyses of reject brine for different desalination plants with different types of feed water.

2. Environmental Impacts Assessment

There many potential environmental impacts of desalination process in GCC countries similar to any other industry. However there are effects more specific to desalination plants such as impingement and entrainment of marine organisms due to the intake of seawater, the Green House Gases GHG) emission due to a considerable energy demand of fossil fuel, and brine water discharge to the marine environment. A general overview on the composition and effects of the waste discharges is given in a recent WHO guidance document (WHO, 2007), and discussed in detail in Lattemann and Höpner (2003) and MEDRC (2002). In recent publications, special attention is furthermore given to some regional seas with high or increasing desalination activity, such as the Arabian Gulf (Lattemann and Hoepner, 2008; Khordagui, 2002), the Red Sea (Hoepner and Lattemann S., 2002), the Mediterranean or the coastal waters off California (AMBAG, 2006). Based on these and other sources, a list of the potential environmental impacts of desalination on the environment can be given as follows:

2.1 Seawater Intake

Seawater desalination plants can receive feed water from different sources, but open seawater intakes are the most common option. The use of open intakes may result in losses of aquatic organisms when these collide with intake screens (impingement) or are drawn into the plant with the source water (entrainment). The construction of the intake structure and piping causes an initial disturbance of the seabed, which results in the resuspension of sediments, nutrients or pollutants into the water column. After installation, the structures can affect water exchange and sediment transport, act as artificial reefs for organisms, or may interfere with shipping routes or other maritime uses.

2.2 Marine Water Salinity

All desalination processes produce large quantities of brine water, which may be increased in temperature, contain residues of pretreatment and cleaning chemicals, their reaction (by-) products, and heavy metals

due to corrosion. High concentration of salt is discharged to the sea through the outfall of desalination plants, which leads to the increased level of salinity of the ambient seawater. Generally, the ambient seawater salinity in the Gulf is about 45 ppm and the desalination plants increases this level in its vicinity by about 5 to 10 ppm on average above the ambient condition. Also, chemical pretreatment and cleaning is a necessity in most desalination plants, which typically includes the treatment against biofouling, scaling, foaming and corrosion in thermal plants, and against biofouling, suspended solids and scale deposits in membrane plants. The chemical residues and by-products are typically washed into the sea. Negative effects on the marine environment can occur especially when high waste water discharges coincide with sensitive ecosystems. The impacts of a desalination plant on the marine environment depend on both, the physico-chemical properties of the reject streams and the hydrographical and biological features of the receiving environment. Enclosed and shallow sites with abundant marine life can generally be assumed to be more sensitive to desalination plant discharges than exposed, high energy, open-sea locations (Hoepner and Windelberg, 1996), which are more capable to dilute and disperse the discharges. The desalination process and the pretreatment applied have a significant influence on the physico-chemical properties of the discharges.

2.3 Marine Water Temperature

In all GCC countries most of the desalination plant is combined with a power plant in which the water temperature of the effluents of the power plants will be high and will increase the seawater temperature of the ambient water in the plant vicinity. In summer the ambient seawater temperature is about 35 °C on average and the power and desalination plants cause an increase in the temperature level in its vicinity by about 7 to 8 °C above the ambient condition. Most organisms can adapt to minor deviations from optimal salinity and temperature conditions, and might even tolerate extreme situations temporarily, but not a continuous exposure to unfavorable conditions. The constant discharge of reject streams with high salinity and temperature levels can thus be fatal for marine life, and can cause a lasting change in species composition and abundance in the discharge site. Marine organisms can be attracted or repelled by the new environmental conditions, and those more adapted to the new situation will eventually prevail in the discharge site. Due to their density, the reject streams of RO and thermal plants affect different realms of the sea. The concentrate of RO plants, which has a higher density than seawater, will spread over the sea floor in shallow coastal waters unless it is dissipated by a diffuser system. Benthic communities, such as seagrass beds, may thus be affected as a consequence of high salinity and chemical residues. In contrast, reject streams of distillation plants, especially when combined with power plant cooling waters, are typically positively or neutrally buoyant and will affect open water organisms.

2.4 GHG Emission

Water desalination in GCC countries is an energyintensive activity with non-renewable fossil fuel.

One of the key concerns with the proposed desalination project is its potential effects on climate change. Much effort has gone into reducing these impacts. However, it is important to distinguish between reducing GHG emissions and reducing fossil fuel energy use. Only with renewable energy projects can both GHG emissions and fossil fuel energy use potentially be reduced. Because of the great public and regulatory concern with the potential climate change and energy impacts of the proposed desalination project, an Energy Technical Working Group, composed of recognized experts, was established to assist in evaluating and reducing the project's potential GHG impacts. This effort eventually resulted in an initial recommendation of 16 projects/programs which, after additional analysis, was reduced to 11. Each project/program has the potential to reduce energy usage and GHG emissions with feasible capital and annual costs. A number of individual projects and combined portfolios could reduce the indirect GHG emissions to a net-carbon-neutral status.

Due to high energy consumption, the desalination industry is exacerbating air pollution through NOx and SO2 emissions. However, NOx emissions are decreasing due to technological upgrades and SO2 emissions fluctuate depending if oil is used instead of natural gas. In addition, the water production sector is the second largest emitter of CO2 and contributor to climate change after the oil sector in GCC countries.

2.5 Dissolved Oxygen

Dissolved oxygen in water in the plant vicinity is affected by the brine discharges. The concentration and saturation of oxygen will decrease due to the higher temperature and salinity of the effluents. The concentration of dissolved oxygen depends on the seawater temperature in the plant vicinity, concentration of oxygen in the discharge and the mixing of the discharge with the ambient water.

2.6 Chlorine Concentration

In most desalination plants, chlorine is added to the intake water to reduce biofouling, which leads to the formation of hypochlorite and mainly hypobromite in seawater. FRC levels (the sum of free and combined available chlorine residuals) of 200–500 µg/L have been reported for distillation plant reject streams, which is approximately 10– 25% of the dosing concentration. In RO plants, the intake water is also chlorinated but dechlorinated again with sodium bisulfite before the water enters the RO units to prevent membrane damage. Chlorine concentration in the effluents of the plants depends on the dosing rates used in chlorination of the seawater. Increasing the concentration of residual chlorine may affect the water quality of the ambient water and hence, the ecological system. The concentration of Chlorine in the discharge depends on the number of dosing per day concentration of the Chlorine used in each dosing. Following discharge, a further decline in FRC levels by up to 90% is expected (Shams El Din et al., 2000), which yields estimated concentrations of 20–50 µg/L in the discharge site.This is consistent with observed levels of 30–100 µg/L in the mixing zones of large distillation plants (Ali and Riley, 1986; Abdel-Jawad and Al-Tabtabaei, 1999).

Due to environmental and health issues raised by residual chlorine and disinfection by-products, several alternative pretreatment methods have been considered. These include e.g. sodium bisulfate (Redondo and Lomax, 1997), monochloramine (DuPont, PERMASEP, 1994), copper sulfate (FilmTec, 2000), and ozone (Khordagui, 1992). None of

these has gained acceptance over chlorin use, however, chlorine dioxide is presently evolving into an alternative to chlorine dosing in many areas of the Arabian Gulf.

2.7 Heavy Metals

Copper-nickel alloys are commonly used as heat exchanger materials in distillation plants, so that brine contamination with copper due to corrosion can be a concern of thermal plant reject streams.

The RO brine may contain traces of iron, nickel, chromium and molybdenum, but contamination with metals is generally below a critical level, as non-metal equipment and stainless steels predominate in RO desalination plants. Copper concentrations in reject stream are expected to be in the range of 15–100 µg/L. The presence of copper does not necessarily mean that it will adversely affect the environment. Natural concentrations range from an oceanic background of 0.1 µg/L to 100 µg/L in estuaries.

In the Arabian Gulf, for example, copper levels were reported in the range of <1 µg/L Qatar to 25 µg/L Kuwait. It is generally difficult to distinguish between natural copper levels and anthropogenic effects, e.g. caused by industrial outfalls or oil pollution (Elshorbagy and Elhakeem, 2008). The discharge levels of thermal plants, however, are well within the range that could affect natural copper concentrations.

2.8 Un-ionized ammonia

Ammonia is one of the substances of concern as unionized ammonia (NH3) is very toxic to aquatic species. In the environment, both ionized and unionized species occur. The ratio of the two species is a function of the pH. If pH is high then the concentration of the un-ionized ammonia is high and may affect the marine life. The concentrations and levels of these substances in the plant vicinities depend on the size of the plant and the ambient seawater conditions. Generally the concentrations and levels of these substances should be within the water quality standards to avoid the negative impact on the environment.

3. Arabian Gulf Ecosystem

The main hydrodynamic forcing in the Arabian Gulf is the tide. Large areas of tidal flats are in the Arabian Gulf. These areas are flooded during high tide and dried during low tide. Tidal flats, subtidal areas and mudflats are good environment for many habitat and species. The following ecotopes are the main ecosystem in the Arabian Gulf region:

3.1 Mangrove swamps

They are extensively grown in the tidal flats. The combinations of the mangrove swamp and the large neighboring mudflat is an important eco system for many birds.

3.2 Seagrass meadows

Dense and spare seagrass were observed in large areas in the Arabian Gulf water. They differ in types and density from one location to another. Seagrass plays an important role in the Gulf marine environment. About 9 % of the Gulf's faunal texa are endemic to seagrass meadows (48 out of 530 recorded species). Of these, about half are molluses. Seagrass also play a major role as a sole food for endangered species such as dugong and the main food source for all marine turtle species, but in particular green turtle. Among the commercial species, the pearl oyster often settles in or near seagrass beds and of course many important fisheries species, such as shrimps. Seagrass helps in stabilization of mobile sands and therefore shorelines.

3.3 Corals

Coral areas in the Arabian Gulf are primarily ontrolled by the availability of suitable substratum. They are extensively found in the Gulf region with marvelous colures. Coral reefs are the most diverse environment of the marine realm. They are not only important biodiversity batteries, but also important for fisheries. While the mortality of a part of the coral reef system may have somewhat decreased the number of fishes.

4. Conclusions and Recommendations

Environmental impact assessment (EAI) of desalination process is very important. At present, a standard EIA procedure for evaluating and minimizing the effects of desalination projects is not available. The existing general concept of EIAs (which can be applied to all development projects) should thus be underpinned by reference material and a methodological approach that is specific to desalination projects, in order to facilitate the implementation of EIAs for desalination projects on a broader scale. This should include basic information on all relevant impacts of desalination activity, a modular framework for conducting monitoring activities in order to investigate the environmental impacts of each project, the establishment of criteria for evaluating and assessing the monitoring data, and a decision making tool for balancing the benefits and impacts of desalination and of other water supply options against each other.

Reject brine management represents a major environmental and economical challenge for most desalination plants. The current options for brine management are rather limited and have not achieved a practical solution to this environmental challenge. A new approach that involves reactions with CO2 in the presence of ammonia has proven to be effective in reject brine management and capture of CO2. Research and development must examine energy issues for desalination that can reduce cost, environmental friendly, improve energy utilization, efficiency and develop new technologies. The following must be considered:

- Hybrid solar and solar/conventional fuel desalination plants;

- Development of energy efficient small desalination systems;

- Assessment of the impact of fuel cell integrated recovery systems and technology on desalination;

- Innovative alternate energy desalination plants. The relevant power and water authorities in arid region in general and specially GCC countries must direct efforts towards more accurate evaluation of the possible cost reductions of energy consumed for existing desalination processes by upgrading system efficiency and adopting the off peak desalination concept.

Cooperation and experiences exchange between the water research centers in this field will definitely lead to the optimum use of desalination plants with a minimum impact on the environment.

Exchange experience and information on different desalination techniques used in the Arab countries are very essential. ■

Pakistan - Flood Affected Heritage Site (2010-2014)

Legend

- Heritage site affacted /damaged
- River
- Flood extent 2014
- Flood extent 2010
- Flood extent 2012
- Flood extent 2011
- National Boundary
- Provincial Boundary
- District Boundary

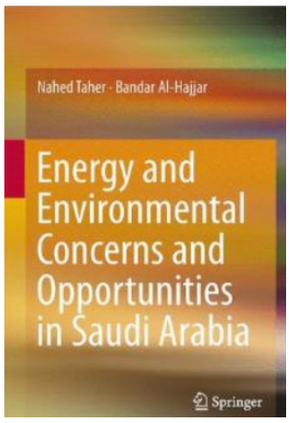
Creation Date: Sep 25, 2014
Projection/Datum: WGS 84 Geographic
Page Size: A3

N

0 75 150 300
Kilometers

Data Source(s):
baltistaan.wordpress.com
GIS analysis

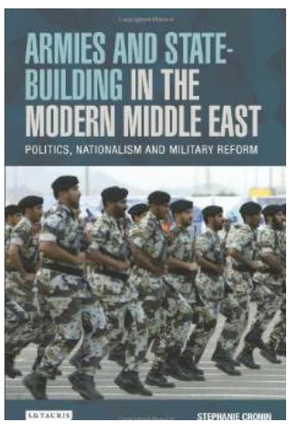
BOOKS CORNER



Energy and Environment in Saudi Arabia: Concerns & Opportunities

By: Nahed Taher & Bandar Al-Hajjar, Price: $112.79, Hardcover: 203 pages, Publisher: Springer International Publishing; 1 edition (December 16, 2013)

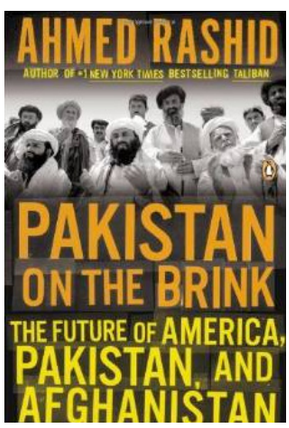
The vast oil resources in Saudi Arabia have for decades encouraged a generous system of oil subsidies, making the Kingdom one of the leading countries in the world with the cheapest domestic price of oil. Such subsidies have, however, encouraged inefficient utilization of oil, which is largely consumed in the power, water and transportation sectors, contributing substantially to CO2 emission in the country. These problems are exacerbated by demographic dynamics, urbanization, changes in income and consumption patterns, and industrialization. On current trends of domestic consumption patterns, Saudi Arabia will consume the whole of the oil it will produce by 2030, which will reflect negatively on the financial capacity of the government to execute its development programs. It is this revenue constraining concern, rather than ecological challenges, that has started to attract policy attention in Saudi Arabia. This book gives a unique perspective on these challenges by looking at them as investment opportunities, not financial constraints on the government budget. It sets out to examine the nature and extent of the energy and environmental challenges facing Saudi Arabia, and to explore various options for turning these challenges into profitable investment opportunities that could create jobs, boost income, develop capability in clean energy technology and promote environmental sustainability.



Armies and State-building in the Modern Middle East: Politics, Nationalism and Military Reform

By: Stephanie Cronin, Price: $24.00, Paperback: 320 pages, Publisher: I. B. Tauris (February 27, 2014)

The uprisings of 2011, which erupted so unexpectedly and spread across the Middle East, once again propelled the armies of the region to the centre of the political stage. Throughout the region, the experience of the first decade of the twenty-first century provides ample reason to re-examine Middle Eastern armies and the historical context which produced them. By adding an historical understanding to a contemporary political analysis, Stephanie Cronin examines the structures and activities of Middle Eastern armies and their role in state- and empire-building. Focusing on Iran, Afghanistan and Saudi Arabia, Armies, Tribes and States in the Middle East presents a clear and concise analysis of the nature of armies and the differing guises military reform has taken throughout the region. Covering the region from the birth of modern armies there in the late-nineteenth and early-twentieth centuries, to the military revolutions of the 1950s and 60s and on to the twenty-first century army-building exercises seen in Iraq and Afghanistan, Cronin provides a unique and vital presentation of the role of the military in the modern Middle East.



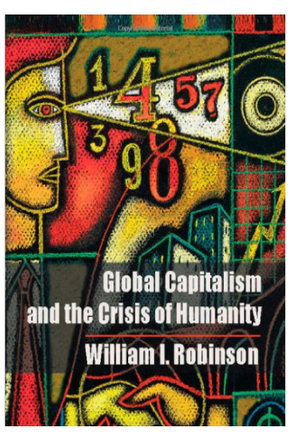
Pakistan on the Brink: The Future of America, Pakistan, and Afghanistan

By: Ahmed Rashid, Price: $12.57, Paperback: 256 pages, Publisher: Penguin Books; Reprint edition (February 26, 2013)

Ahmed Rashid is a journalist who has been covering Afghanistan, Pakistan, and Central Asia for more than twenty years. He is a correspondent for the Wall Street Journal, Far Eastern Economic Review, Daily Telegraph, and The Nation, a leading newspaper in Pakistan. His #1 New York Times bestseller Taliban has been translated into more than twenty languages

An urgent, on-the-ground report from Pakistan—from the bestselling author of Descent into Chaos and Taliban.

Ahmed Rashid, one of the world's leading experts on the social and political situations in Pakistan and Afghanistan, offers a highly anticipated update on the possibilities—and hazards—facing the United States after the death of Osama bin Laden and as Operation Enduring Freedom winds down. With the characteristic professionalism that has made him the preeminent independent journalist in Pakistan for three decades, Rashid asks the important questions and delivers informed insights about the future of U.S. relations with the troubled region. His most urgent book to date, Pakistan on the Brink is the third volume in a comprehensive series that is a call to action to our nation's leaders and an exposition of this conflict's impact on the security of the world.



Global Capitalism and the Crisis of Humanity

By: William I. Robinson, Price: $26.99, Paperback: 280 pages, Publisher: Cambridge University Press (July 28, 2014)

This book discusses the nature of the new global capitalism, the rise of a globalized production and financial system, a transnational capitalist class, and a transnational state and warns of the rise of a global police state to contain the explosive contradictions of a global capitalist system that is crisis-ridden and out of control.

This exciting new study provides an original and provocative exposé of the crisis of global capitalism in its multiple dimensions - economic, political, social, ecological, military, and cultural. Building on his earlier works on globalization, William I. Robinson discusses the nature of the new global capitalism, the rise of a globalized production and financial system, a transnational capitalist class, and a transnational state and warns of the rise of a global police state to contain the explosive contradictions of a global capitalist system that is crisis-ridden and out of control. Robinson concludes with an exploration of how diverse social and political forces are responding to the crisis and alternative scenarios for the future.

Events

Dubai International Food Safety Conference 2014

The 9th Dubai International Food Safety conference is organized by the Food Control Department of Dubai Municipality with support from the International Association for Food Protection (IAFP), International Union of Food Science and Technology (IUFoST) and the Institute of Food Technologists.

The program is designed for food safety professionals from the food industry, regulatory authorities and academic institutions, policy makers and students. Various workshops, technical sessions, and poster presentations during the conference will feature more than 200 presenters from all across the globe. 1700 delegates from 50 countries attended the conference in 2013, a number that has been increasing each year and 2000 delegates are expected to attend in 2014.

When: 08 - 11 November 2014

Where: Dubai World Trade Center, Sheikh Rashid Hall

For registration please visit
www.foodsafetydubai.com

10th Annual HSE Forum in Energy

With almost a decade of experience in this sector, The HSE Forum in Energy has become the principal platform for vital and relevant discussions on health, safety and environment processes that are affecting the energy sector. With a congregation of senior HSE professionals from across the Middle East and globally, the forum aims to benefit participants with highly charged presentations and discussions on current topics.

Endorsed by international organizations and associations such as the American Society of Safety Engineers (ASSE), the British Safety Council, Institution of Occupational Safety and Health (IOSH), The Chartered Society for Worker Health Protection (BOHS) and the National Examination Board in Occupational Safety and Health (NEBOSH), the forum will also host the HSE Solutions Pavilion - An exhibition area dedicated to HSE solutions providers.

When: 03 - 05 November 2014

Where: Grand Hyatt Hotel, Doha, Qatar

For registration please visit
www.hse-me.com

Saudi Nuclear New Build Summit

The Saudi Nuclear Energy Program is the second most advanced program in the region next to United Arab Emirates. Saudi Arabia is working towards building a number of nuclear reactors in the near future and has decided to collaborate with France to develop those for peaceful application of Nuclear Energy.
Saudi Nuclear New Build Summit will focus on advancing an effective and safe Nuclear Energy Development Program for the Kingdom of Saudi Arabia, encouraging dialogue between potential asset owners, policy makers and solution providers. The summit will intend to achieve consensus on technologies, investments and policies which will drive the Saudi Arabian Energy program for the next two decades.

When:
November 5 - 6, 2014

Where:
Riyadh, Kingdom of Saudi Arabia

For more information, please visit:
http://saudinuclearnewbuild.com

2nd International Conference on Research in Education

The unique idea behind 2nd International Conference on Research in Education (ICORE 14) is to provide an opportunity for leading academicians, social scientists, researchers, teachers, and various industry professionals from around the world to share their research based knowledge, experiences, new advancements, research results and innovations in the field of education.

This event will present a wonderful opportunity to network and to have a discussion on the latest advancements in the education sector. The theme for this year's conference is "Innovations in Teaching and Learning". ICORE 14 will address multiple topics and issues of interest in the field of education and expose the audience specialized sessions, presentations, and an Educational Exhibition.

When: November 18 - 20, 2014

Where: *Lahore, Punjab, Pakistan*

For more information, please visit:
www.icore-ier.com

Tenders

GOVERNMENT OF PAKISTAN
Ministry of Communications
National Highway Authority (Regional Office Northern Areas)
TENDER NOTICE

1. National Highway Authority (Northern Areas) Region Abbottabad intend to execute following Special Maintenance Works, on single stage two envelops brief of which is as under :-

S. #	Contract No	Location at KM	Route	Estimate Cost (Rs)	Bid Security of Engineer Estimate (Rs)	PEC Requirement	Tender Fee (Rs)
a.	SM-NA-2013-14/N-35/01	83 - 84	N-35	9,483,890.00	2%	Category C-5 & Above Specialization Code CE-01 for the year 2014	1,000.00
b.	SM-NA-2013-14/N-35/02	84 - 85	N-35	7,413,286.00	2%	-do-	1,000.00
c.	SM-NA-2013-14/N-35/04	36 - 37	N-35	1,780,691.00	2%	-do-	1,000.00

2. NHA invites pre-qualification of Firm (s) for above mentioned work. All interested parties are requested to submit following documents for pre-qualification of the subject works:-
   i. Details Professional / Main Power
   ii. Details of Machinery/Equipment.
   iii. Experience - NHA, Other Agencies and Financial Works of Executed works.
   iv. Financial Statement Showing at least Credit or Financial Capacity Rs. 20.00 Million.
   v. Pending Litigation information/No Litigation Certificate on Judicial Stamp Paper.
3. Interested eligible bidders may obtain further information and collect bid documents Form by depositing a non-refundable fee as mentioned above in form of demand draft pay Order in favour of "General Manager (NA's) National Highway Authority, Abbottabad, (Instead of NHA), during the office hours, by 10th November 2014 from the Office of Director (Maint) NHA House No 394 Street No 3, Jinnahabad Abbottabad. Tender Documents are also available on NHA Website for downloading. Sealed Technical Bid documents/ Financial Bids completed in all respect duly signed/stamped shell reach to this office on or before 14th November 2014 at 1100 hrs and shell be open on the same day at 1130 hrs, in the presence of Contractor/representative.
4. Financial Bids of the firms will be sealed immediately by the Committee in presence of the participating bidders/authorized representatives. After conducting Technical Evaluation, pre-qualified firms shall be informed accordingly for opening of their Financial Bids while bids of unqualified firms shall be returned unopened.
5. The Firms providing unsubstantiated/incorrect information are liable to legal action and disqualification.
6. Original Registration Certificate of Pakistan Engineering Council for the Current Year shall be shown by all interested bidders.
7. National Highway Authority reserves the right to accept or reject any or all APPLICATION as per PPRA Rules 2004 (as amended in 2006).

DIRECTOR (MAINTENANCE) NA'S NHA Abbottabad

Cadet College Larkana
Tender Notice

1. Sealed bids are invited from contractors/firms registered with Pakistan Engineering Council and tax department on "single stage single envelope basis" for following works:-

S.No.	Name of Work	Tender fee (Non-refundable)
a	Extension of Mosque	Rs. 2000/-
b	Fabrication of Furniture for Junior Section	Rs. 1500/-
c	Renovation of Buildings	Rs. 1500/-
d	Construction of Car park	Rs. 1500/-
e	Construction of Garrages	Rs. 1000/-
f	Fabrication of furniture	Rs. 1500/-
g	Extension of M.I.Room	Rs. 1000/-
h	Verandah for Auditorium	Rs. 1000/-
j	ISSB Training Area	Rs. 1000/-
k	Chiller Plant	Rs. 500/-
l	Extension of Cafeteria	Rs. 1500/-
m	Construction of Stadium (Remaining Work)	Rs. 1500/-

2. Earnest money at the rate of 2% of the estimated cost shall be deposited in form of Bank Draft/Pay Order in favor of the Principal & Project Director Cadet College Larkhana. The tenders without earnest money shall not be entertained.
3. The tender document can be obtained on payment of tender fee (In shape of demand draft/Pay order in favour of Principal & Project Director Cadet College Larkana) from 27 October 2014 to 15 November, 2014 (1200 hrs) from the College Consultants M/S.ESS-I-AAR, Suite No. 314, 3rd floor, Mashrique Center Sir Shah Sulaiman Road, Gulshan-e-Iqbal, Block-4, Karachi Ph. 34852589. The bids shall be submitted in the office of the Principal & Project Director Cadet College Larkana on 15 November 2014 at 1230hrs. and will be opened on the same day at 1300 hours in the presence of the bidders or their authorized representatives at the same office.
4. Principal, Cadet College Larkana reserves the right to accept, or reject any or all the tenders or terminate / postpone the proceedings at any stage as per provisions of the SPPRA rule 2010. Tender notice will be available on SPPRA's web site www.pprasindh.org.pk and college web site.

Personal Development

Developing a Resource Mobilization Strategy

Introduction:

Developing a right plan for resource mobilization can help organizations to access multiple sources of funding and implement programs with flexibility. The growing competition for scarce funding sources requires new thinking, and creating innovative ideas in order to acquire funding. This training will provide a guideline to the participants to develop and implement fundraising/resource mobilization strategy in accordance with the nature of their organization.

Training Contents:

- Understanding Fund Raising /Resource Mobilization
- Preparing for fund raising
- Planning fund raising activities
- Identifying funding opportunities
- Developing a financial/operational plan

Registration Deadline: 10 Nov 2014
Duration & Timing: November 17-18, 2014

Where: Islamabad, Pakistan

For Further Information and registration, please contact:
Center for Resource & System Management
Phone: +92(51) 4862 554, +92 (321) 5565 072
Email: training@crsmanagement.net

Proposal and Report Writing

Training from RedR UK

Proposal and report writing serve important functions in humanitarian agencies and are common and necessary tasks for staff in various levels and roles throughout the organization. The ability of NGOs to deliver aid is dependent on their access to funds, and the quality of project proposals determines whether or not fundsare ultimately received.

What does the course cover?

- Elements of proposals and reports: structure and components
- Tools for planning and preparation
- Formal and informal reporting
- Identifying proposal purpose and understanding donor requirements
- Writing skills, including language, layout, format, structure, flow and finishing
- Common mistakes and best practices

Registration Deadline: 25 Nov 2014
Training Date: 26 Nov 2014 to 28 Nov 2014

For further information:
Please contact our training
team on pakistan@redr.org.uk
Visit our website: www.redr.org.uk
Call us: +92 (0) 51 8357974-75

Conflict Resolution and Peace Building - Learn Peace Building and Conflict Transformation Skills

Training Overview:

To successfully intervene in a conflict, we need to understand its sources and patterns of escalation. The causes of conflict are complex and multi-layered, and are perceived differently by different groups. Joint analysis deepens mutual understanding and can lead to more sustainable solutions.

Among others, the main objective of this training is to enable practitioners to learn peace building and conflict transformation skills.

Training Contents:

- Understanding and defining conflict
- Approaches/ styles to manage and resolve conflict
- Conflict Mapping Process
- Community based approaches to peace building
- Alternate Dispute Resolution (ADR)
- Skills to facilitate the process of peace building
- Interfaith harmony
- Community mobilization for peace building
- Youth and peace building

Registration Deadline: 19 Jan, 2015
Training Date: 26 - 28, 2015
Where: Islamabad, Pakistan

For more information, please email:
training@crsmanagement.net

Monitoring and Evaluation

Training from RedR UK

Improving the quality of humanitarian practice and ensuring the effectiveness of responses to complex emergencies is a key aim shared by humanitarian agencies. Thus, monitoring and evaluation are essential activities for any project or programme. Careful monitoring of progress against targets allows timely changes to be made to maximise impact. Evaluation ensures accountability to all parties concerned, and allows learning to be carried through to future interventions.

This course aims to develop the competencies needed to monitor and evaluate interventions in humanitarian and development contexts. Through proactive and participatory activities, this course aims to instill a solid understanding of appropriate monitoring and evaluation tools as well as the ability to apply these tools in practice.

Regidtration Deadline: 23 Nov 2014
Trainging Date: 24 - 25 Nov 2014

For more information, please visit www.redr.org.uk

For any inquiries related to the course, please write to:
pakistan@redr.org.uk or call +92 (0) 51 8357974-75

The Global Innovation Fund Grants

Description
The Global Innovation Fund is an independent global nonprofit organization which invests in social innovations that aim to improve the lives and opportunities of millions of people in the developing world.
Through their grant programme they look for innovative solutions to global development challenges with the potential for substantially greater impact than existing approaches, especially for poor and vulnerable groups. GIF is open to funding a wide range of innovative organisations and projects at varying stages in their development, ranging from early start-up stages to larger scale implementation. GIF offers three stages of financing to pilot, test and scale innovations. It supports innovators who are committed to using and generating rigorous evidence about what works, and invests the largest funding amounts in innovations that can demonstrate evidence of success and that have potential to spread across multiple emerging markets.

Eligibility
GIF supports teams from social enterprises, for-profit firms, non-profit organizations, government agencies, and researchers across all relevant sectors and doing work based in any eligible country in the developing world.

Grant
GIF offers grants, loans (including convertible debt), and equity investments ranging from £30,000 to £10 million.
Applicants are asked to indicate their preferred capital type and amount on their application.

Application
The GIF's application process involves three steps:
1. Initial application: applicants must register and submit a summary business plan or project proposal with an explanation of how the innovation creates social impact.
2. Full application: after submitting an Initial Application, the most competitive applicants will be invited to provide additional information through the submission of a Full Application, which requires a more detailed description of the applicant's innovation plan.
3. Grant agreement: once an application has been conditionally approved through GIF's review process, GIF will negotiate a funding agreement with the applicant.

There is no deadline for this grant scheme. **Applicants are encouraged to apply at any time, and GIF will review applications on a rolling basis.**

For further information please visit www.globalinnovation.fund

Social Innovation Award

HIVOS SOCIAL INNOVATION Award 2014

Hivos invites individuals, organisations and companies from Asia, Africa and Latin America to share their most innovative ideas and best practices that contribute to more open, democratic and green societies.

Addressing the major challenges to the future of people and the planet requires new ideas. In the face of persistent inequality, an unsustainable economic system and threats to freedom and dignity, Hivos is continuously looking for new ways, new practices and new alliances that will contribute to systemic change.

This year, Hivos is launching its first Social Innovation Award. The award is meant to encourage new solutions for social change by supporting innovative ideas and practices which expand and defend freedom or create productive ecosystems that sustain human progress.

The Hivos Social Innovation Award has two categories:
- A prize for a promising innovative idea that needs support to develop into a prototype.
- A prize for a proven innovative approach that needs support to scale up and increase impact.

Both awards entail a €15,000 prize which must be invested in further developing the concept. The first category award consists of a € 5,000 prize and a coaching trajectory worth € 10,000 to develop the idea into a prototype. The second category prize is intended as an investment in scaling proven approaches within the next two years.

The semi-finalists are selected online by the public together with Hivos. They are then offered an interactive learning trajectory that will enable them to elaborate their proposal. After a jury determines who the top 3 finalists per category are, they will get the opportunity to pitch their proposals in Amsterdam, the Netherlands. The deadline for the first round of submissions is 9 November 2014. The Award Ceremony will be on 5 February 2015.

https://hivossocialinnovationaward.org/

Chief of Party – Afghanistan

Chemonics seeks a chief of party for the anticipated five-year, USAID-funded Health Sector Resiliency project in Afghanistan. The project aims to support the government of the Islamic Republic of Afghanistan to foster a strengthened, reformed, and increasingly self-reliant health system. This effort will help prepare the health system for the decreased donor support anticipated over the coming decade. The project will act as a resource and catalyst to the Ministry of Public Health, as well as other Afghanistan government entities, as it considers and implements critical, sector-wide reforms. We are looking for individuals who have a passion formaking a difference in the lives of people around the world.

Responsibilities include:

- Provide technical leadership and overall project management and supervision while ensuring compliance with USAID requirements, U.S. government regulations, and Chemonics policies and procedures
- Identify and implement the use of technical resources, such as health care services, to support capacity development and sustainable institutional strengthening with government entities and civil society and private sector organizations
- Liaise with senior host-government counterparts, U.S. government-funded and other donor-funded programs, and local development partners to coordinate activities and facilitate monitoring and reporting of project objectives and achievements
- Supervise the project's technical assistance team with a focus on core results, achievement of work plan and targets, and timely implementation

Qualifications:

- Master's degree in international public health, public administration, or related field
- Minimum five years of chief of party experience on similar international donor-funded programs
- Minimum 10 years of experience in the field of health system strengthening
- Expertise in health systems governance, institutional strengthening, health sector financing, human resources management, public-private partnerships, capacity building and training, and citizen outreach programs
- Ability to interact regularly and professionally with senior host-government counterparts on policy and other strategic planning issues

How to apply:

Send electronic submissions to AfghanistanHSR@chemonics.com by November 5, 2014. Please include "Chief of Party" in the subject line.
No telephone inquiries, please. Finalists will be contacted.

In addition, please download and complete Chemonics' equal employment opportunity self-identification form and submit it separately to EEOselfidentify@chemonics.com with only "Chief of Party-HSR" in the subject line.

Chief of Party, Pakistan

World Learning seeks a Chief of Party (COP) for the USAID-funded "Training for Pakistan Project." (2013-2017). Duration: approximately 2.5 years. Location: Islamabad, Pakistan. Recruitment is contingent upon USAID approval of the candidate. Qualified Pakistani nationals & international applicants will be considered. Please note that this is an unaccompanied post.

The USAID Training for Pakistan Project provides participant training and capacity development services to USAID/Pakistan's contractors, grantees, and partners, and at times to the Mission directly. The Project supports USAID development objective teams with training for Pakistani nationals, with training in Pakistan, in the US and in third countries. The Project also supports follow-on efforts such as an alumni organization.

Chief of Party's Responsibilities:

- Provide leadership for all aspects of field-based project implementation and management and ensure the highest quality of programming and administration
- Oversee management of field office in Islamabad, including operations, field office budget, finance, and supervision of approximately 20 Pakistan-based staff
- Oversee coordination with USAID, implementing partners (including Government of Pakistan) and other stakeholders on training needs assessments, planning, implementation and evaluation of training programs
- In collaboration with USAID Development Objective team representatives, plan and direct institutional diagnoses of USAID/Pakistan's partner organizations and develop annual training plans
- Advise and educate partners and stakeholders on training policies and services offered by the Project
- Oversee overall coordination with local subcontractors and partners
- Oversee Project strategies for communications, performance monitoring and support
- Ensure compliance with Pakistani law and contract provisions, including USAID's ADS 252 and 253, and ensure submission of routine reports, work plans and deliverables
- Transfer knowledge to local staff; conduct annual staff performance reviews
- Coordinate activities with World Learning and regularly report to headquarters
- Travel in Pakistan as necessary

Qualifications:

- Graduate degree in management, international development, organizational development, or a related field (or career/experience equivalent)
- Strong background in senior management of USAID-funded projects
- Minimum of 10 years of international experience with capacity to manage large, complex programs in a multi-cultural environment, including significant staff supervision experience
- Strong background preferred in training and capacity building and/or performance monitoring
- Experience with organizational capacity building and performance improvement initiatives
- Strong knowledge preferred in USAID participant training regulations (ADS 253)
- Senior management experience in Pakistan strongly preferred (candidates with relevant experience elsewhere will be considered)
- Skills in helping clients/partners analyze problems and devise/adopt solutions
- Strong interpersonal and leadership skills
- Availability for non-accompanied post
- Ability to travel in-country
- Urdu language skills a plus

To apply, please visit: www.worldlearning.org

Classifieds

DRIVER REQUIRED IN DUBAI

Urgently required family driver salary aed 2000 + food + accommodation. Visit us M-15, Gold Building, opp. Canadian Hospital Abu Hail, Deira Dubai. **Email: wahaa.dubai@gmail.comail.com**

FEMALE CALL CENTER AGENTS REQUIRED

Fluency in English required, excellent communication skills, customer service oriented, computer literate, able to work 5 days, Age 18 -25 years, Timings: 9 am – 6 pm, Location: Dubai, Karama Salary: 3500 DHS
Email: obsdxb04@gmail.com

FILIPINO FEMALE DRIVER

Location: Mirdiff
Position Type: Permanent
Urgently filipino female driver wanted for a family in Dubai. Full time driver, live in. Salary: 3, 000 Dirhams.
Call 0563488442

COMPOUND VILLA FOR RENT

Location: Al Nahda – Behind SAMBA Bank – Prince Sultan Street, North Jeddah, 95 K/Year
No. of Bedrooms: 3, No. of Bathrooms: 3, Covered Parking, Maids Room, Pets Allowed, Private Garden, Security, Shared Gym, Shared Pool. **Tel: 0504427471**

REQUIRED FEMALE HOUSEKEEPING STAFF

Female cleaners are required to work well in team environments. Contracts include residential and commercial. Flexibility for days and evenings, weekends/weekdays will be expected.
Contact: 0558734950
Email: john@ultimacleaningservices.com

NISSAN X TRAIL 2009 4WD FOR SALE

Manual Air-Conditioner, Front and rear electric windows, Remote central locking, Rear parking sensors, Fog lights, Halogen headlights, Outside Temperature Gauge, AED 40,000
Please call: 050732163
Email: gurmitdharwal@gmail.com

CIVIL ENGINEER REQUIRED

Civil engineer with 2 – 5 years of experience required in Ajman, Abu Dhabi
Please send your CV at **cvalajbangroup@gmail.com**

SENIOR EXECUTIVE – OUTBOUND TOURS

A leading and established travel company in UAE is seeking to hire a Senior Executive – Outbound Tours. Min 4 years of experience with Tour operators in Sales & Operation FIT Holiday Tours, Min 1 year UAE experience, Passionate & Result oriented, Excellent communication Skills
Email: monisha.ganapathy@alabbas.com

COMMERCIAL OFFICE FOR RENT

Attractive location close to Lotus Hotel and The Canadian Hospital Specialists – Dubai, Close to Al Qiyadah Metro Station and Abu Hail Center. Key Amount: AED 250,000 Only with a yearly rent: 155,000 AED Only.
For more information feel free to **call: 0509394978**

TOYOTA PRADO GX FOR SALE - DUBAI

Model: Toyota Prado GX 2009, Color: Black, AED 67,500
Dual-zone climate control air-conditioning, front and rear electric windows, remote central locking, fog lights, AM/FM radio, USB connectivity, driver and front passenger airbags, power door mirrors, rear A/C ventilation. **Call: 0551434975**
Email: mahmood.rash81@yahoo.com

PROFESSIONAL CLEANING SERVICES

Location: Dubai, UAE. Position Type: Part time
We provide professional cleaning services in Dubai. We clean villas, flats, shops, apartments, houses, hotels, office towers, and much more.
Call: 055-866 9468, Email: a_mbcs@yahoo.com

SALES EXECUTIVE WANTED

Wanted Sales Executive for a Target oriented job in Sharjah. Interested candidates send CV to Email:
mstationers@hotmail.com
Call: 065595632

FEMALE SECRETARY REQUIRED

A highly-motivated and pro-active female candidate with multi-tasking skills is required in Dubai. In addition to acting as Partners' Executive Secretary, the candidate should be able to work with multicultural team of professionals. A minimum of five years UAE experience is required. Email your CV with photograph to **support@ardentadvisory.com**

BRAND NEW VILLA FOR SALE

Brand New Villa for Sale in Warqaa, Dubai. Bedroom/hall: 5, Balcony: 2, Store Room: 2, Majlis: 2, Kitchen: 3, and Study Room, Garden, Covered Parking, with lift and central A/C. Price 6.5 million Plus 2% Land Department, Plus 2% Agency Fees.
Call for more information **055-9895130**

BABYSITTING AVAILABLE

Location: Dubai, UAE, Position Type: Part time Baby Sitting available for Infants, Toddlers and School Going Children. I got 17 yrs of experience. Baby Sitting Available For Hourly Basis, Daily Basis, Weekly Basis And Monthly Basis. Please email:
maribello1289@hotmail.com
Call: **056-7811570**

JEEP GRAND CHEROKEE FOR SALE

AED 17,000.00, Model: Grand Cherokee, Year: 2003, Color: Black, Mechanical Condition: Perfect inside and out, Seller Type: Owner. Body Type: SUV, No. Of Cylinders: 6, Transmission Type: Automatic.
Contact No.: 0506979645
Email Address: adonis_toni9@hotmail.com

BUSINESS DEVELOPMENT MANAGER

A leading company in the household industry is looking for a Business Development Managerin Dubai. Candidate should be a graduate, around 35years of age, with pleasing personality. Interested candidates can send their CVs to
monisha.ganapathy@alabbas.com
Call: 043521000

"Walter, this may interest you. Charles and I are thinking of forming a commune. Just Ph.D.s, of course"

"Someday, all this will be infrastructure"

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