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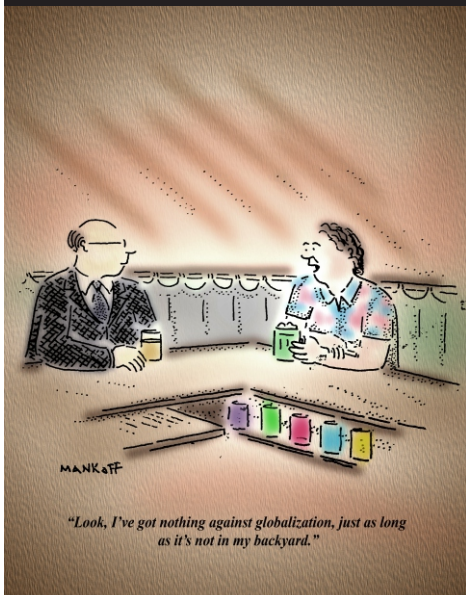
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Spatial Knowledge & Information Management for **Energy Efficiency**



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, Environment & Public 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 use of Geographical Information Systems (GIS) for solar energy in the Gulf Cooperation Council (GCC) countries. Due to their geographic positioning; abundant sunshine and vast areas of open land, GCC countries are in a unique position to take advantage of the gradual shift to renewable (specifically, solar) energy. Currently, GIS technologies are being used to analyze the potential of solar and other alternative energy sources. GCC countries, along with other countries in the Middle East, would substantially benefit from investments in solar and other alternative energy sources. They are discovering that solar and other renewable energy resources are available,

cost-efficient, and the goals are achievable. GIS, along with other technologies, are playing their roles in creating a new future.

In this issue, a comprehensive article on ambulance management systems, by Muhammad Bazil, explains as how ambulance management can improved emergency response. He explains, that GIS or GPS devices can be used to increase efficiency on multiple levels. Ambulances equipped with GIS and GPS devices would be able to respond on the scene faster, provide improved pre-hospital care, and transport the patient to the nearest hospital more effectively.

'GIS and Environmental Monitoring in the Persian (Arabian) Gulf', by Michael Calabrese presents the picture of environmental damage, caused by multiple wars, industrial pollution and oil spills from drilling operations, tankers and storage facilities. He explains, how GIS can be used for environmental monitoring.

In her article 'Impact of Technology on the Finance sector,' Rabeea Wajeeha explains how the use of technology in the financial sector, such as mobile banking, internet banking and biometric identification technologies, can reduce transaction costs and provide better service to customers. A comprehensive article on internal security by Muhammad Akhtar, highlights Pakistan's internal security

challenges and looks at the latest technologies to prevent terrorism and insurgency.

Kimberly Anne Klemm talks about water scarcity and drilling methods in agricultural, industrial and energy production sectors in her article 'Water Conservation and Drilling Methods.' She explores alternative drilling technologies like Zero Tillage (ZT) drilling, Hydrothermal Spallation, and Sonic Drilling, and offers some best practices.

The Business Psychology section of the magazine brings to you a very thought provoking article by John Weaver, 'Lost and Found'. On a lighter note, 'Kiran Zahra' provides tips about holistic living. Lastly, a case study is presented by 'Mohammad Qasim and Syed Shabih-Ul-Hassan Zaidi' on 'Ensuring Sustainable Development through Urban Planning in Pakistan'.

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
Executive Editor
bokhari@alhasan.com

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Published by
ALHASAN
SYSTEMS PVT LTD

FOUNDER/
EXECUTIVE EDITOR
MR. MEHDI BOKHARI

SENIOR EDITOR
MR. SAEED AHMAD CH.
MR. FAYYAZ ALI KHAN

COPY EDITOR
MR. MICHAEL CALABRESE

SUB-EDITOR
MS. RABEEA WAJEEHA
MR. MUHAMMAD AKHTAR

GRAPHIC DESIGNER
MR. NOUMAN ALI

GIS & MAPPING
SPECIALIST
MS. MAHWISH MUZAMMIL
MS. SIDRAH HAFEEZ

DIRECTOR TECHNICAL
MR. NAEEM AHMAD

CHIEF OPERATING OFFICER
MR. BADAR GILLANI

BUSINESS PSYCHOLOGIST
Dr. SYEDA JAVARIA BOKHARI (Ph.D)

398-2416 Main St.
Vancouver, BC, Canada
V5T 3E2
Tel: +1.604.357.7592
Fax: +1.604.591.5426
E-Mail: skim@alhasan.com

Evacuee Trust Complex
205- 2nd Floor
Sector F-5/1, Islamabad
Pakistan 44,000
Tel: +92.51.282.0449
+92.51.835.9288
Fax: +92.51.835.9287

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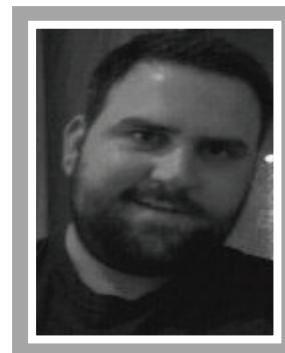
CONTRIBUTORS



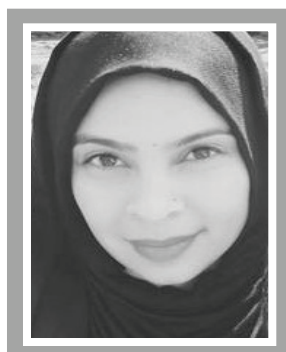
Michael Calabrese has been writing throughout his professional life. As a business writer, Michael's proposals have won government contracts from the Department of Defense, Justice, the EPA and the SEC. Earlier in life, Michael was Director for Public Information for the National Space Society. He lives in Cincinnati, Ohio, USA.



Muhammad Bazil is a freelance journalist based in Pakistan. He has written hundreds of published articles and blog posts for numerous international news websites and magazines. His articles have been featured on the homepage of Yahoo! and MSN.



Nicholas Denittis is a freelance journalist from United States. He has a broad writing experience including academic articles, research papers and business writing. He has a MBA from Walden University and MS from Troy University. He currently resides with his wife Elisabeth in Michigan, USA.



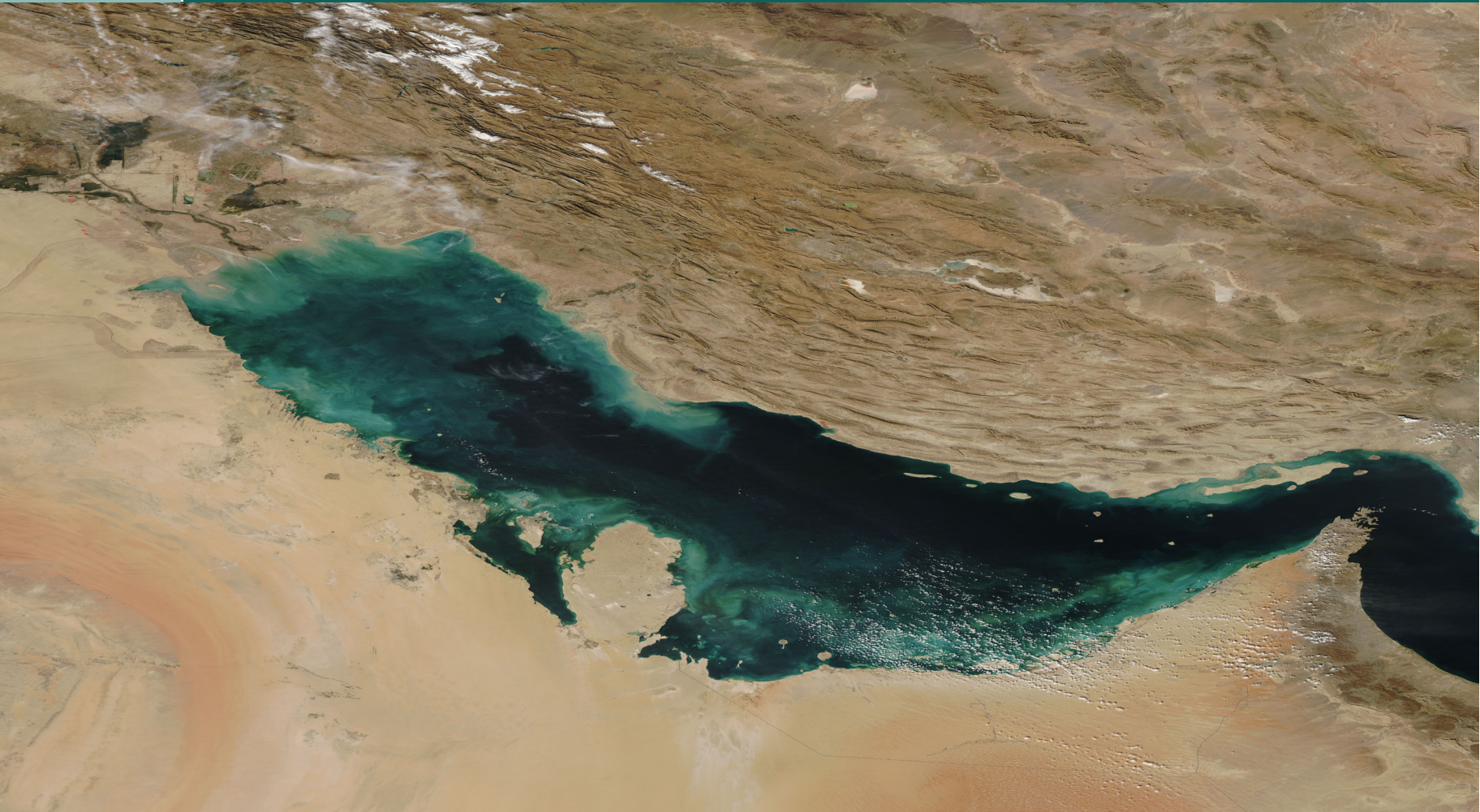
Rabeea Wajeeha is a freelance journalist and Sub-Editor for SKIM Magazine. In the past, she has worked with the Arbitrage Magazine (North America's largest, student-driven business magazine) as a Director and a contributor. She grew up in Toronto and received her education from York University, Toronto, Canada.



Muhammad Akhtar is a freelance journalist and sub-editor of SKIM Magazine. Previously, he has worked in an International NGO as a review consultant. He holds a Master of Defence & Strategic Studies from Quaid-i-Azam University Islamabad.



Kimberly Klemm is a technical writer with a BS in Business Management from Southern Wesleyan University. She has written freelance articles for the IT, Business, and Energy sectors and her work has been published on Energy Pulse, azcentral, and eHow. She lives in Charleston, South Carolina, USA.



GIS and Environmental Monitoring in the Persian (Arabian) Gulf

For 10,000 years, the Persian Gulf has been the cradle of human civilization; the home of our first cities, a crossroads linking central Asia and Africa, India and the West. The Gulf is a source of petroleum wealth for much of the world, and like all other crossroads, a focus of politics and conflict. Today, we also see the Persian Gulf as a rich, diverse environment under threat from industrial pollution, climate change and war.

The Persian Gulf is a shallow sea with an average depth of 50 meters. Its deepest waters run to 90 meters and in the heat of Western Asia, evaporation plays a key role

in making the Gulf one of the saltiest bodies of water anywhere in the world. Connected to the Gulf of Oman by the narrow Straits of Hormuz, the Persian Gulf (called the Arabian Gulf by the people of the region) has evolved as a small sea with a diverse ecology surviving in a delicate balance and unique in the world.

Over the last 6,000 years, the Gulf has been shrinking. Many of the ancient cities that were once ports (like Ur) have been abandoned for 2,500 years and more. The major source of fresh water comes from Iraq via the Shatt al Arab and fed by the Tigris and Euphrates Rivers. Climate change has taken its toll. A 40% decline in rainfall throughout Syria, Iraq, Turkey and

By: Michael Calabrese

Iran has reduced the flow of fresh water into the Gulf. Silting in the Shatt Delta continues to clog the mangrove swamps and pushing the coastline further into the Gulf.

The Persian Gulf has endured decades of damage from multiple wars, industrial pollution and oil spills from drilling operations, tankers and transfer and storage facilities. The failure to end common industrial pollution has been serious, but the environmental damage from war was been disastrous to the Gulf. From the attack on the Kharg Island facilities, the “Tanker War” (Iran/Iraq War 1980-1988) and Saddam Hussein’s release of 4 million barrels of oil from Kuwait’s Sea Island oil terminal, the Gulf has suffered a level of damage that might only be partially recoverable. Earlier estimates stated that long term damage was minimal. Recent studies disagree and show that while tidal action has helped to clean rockier coastlines and even beaches, mangrove swamps covering 50% of the Gulf’s shoreline have had no recovery at all. A thick sludge and tar covers the sea bottom and it may be that no remediation is possible.

There are four major issues of immediate concern: the ongoing need to monitor water and air pollution from the oil/petro-chemicals industry; the dumping of raw sewerage into the Gulf and in-land waterways flowing into it (the lack of municipal waste-water management and industrial waste); the dispersal of air-borne hydrocarbons (changing wind patterns throughout the region); and the pollution of multiple wars

If the situation is grim, it is not hopeless. There are solutions and the governments throughout the gulf moving to understand the problems and develop responses.

GIS and Knowledge-Based Solutions for the Gulf

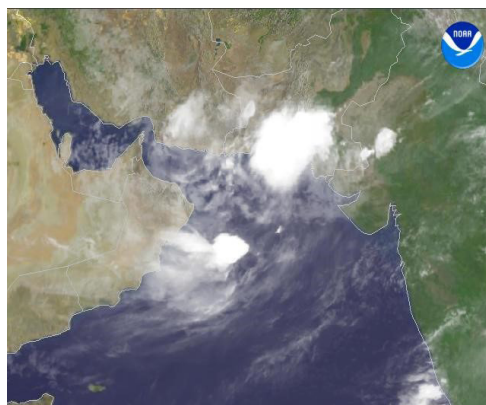
Geographic Information Systems present policy makers with a unified, picture of a region. It is the integration of computer hardware and software, mapping, and sensor data (air, land and sea) to deliver a comprehensive, graphic view of patterns and relationships. Any assessment of the Persian Gulf, its environment and eco-systems involves the compilation of millions of data points. The Gulf’s coastlines, water depth, the sea-bottom geography and tides, currents and wind patterns form a baseline in developing models for analysis. Those points

form layers of the whole picture known as the “geographic approach.” It is the key to finding solutions through knowledge.

When most people think of GIS applications, they think of satellite imagery, but it is only one element in a larger integration of technologies. Satellite mapping provides the most cost efficient monitoring of large areas and allows for real-time tracking oil spills and industrial pollutants; and fishery and wildlife management. Combined with knowledge of tides, currents and wind patterns, it allows researchers to:

- Understand the scope of the problem like the size, shape and density of an oil spill
- Create projections on where the spill will be in the future
- Identify high-risk areas (fisheries, wildlife, wetlands, beaches and facilities)
- Monitor the spill’s integrity (is it intact or breaking up)
- Trace the spill back to its point of origin
- Predict the best solutions and where to apply them (deploying oil booms, skimmers, applying detergents, etc...)

GIS allows the nations of the Gulf to develop real-time responses to immediate natural and man-made disasters, and long term strategic plans to combat oil and industrial pollution, and fishery and environmental management.



The Persian Gulf: National Oceanographic and Atmospheric Administration NOAA

The Persian Gulf as a “Special Area”

Few people outside the region realize the scale of the challenge faced by Gulf States environmental ministries. There are 200 oil facilities in the Persian Gulf and more 17,000 ocean going vessels travel to its ports each year. The Gulf is one of the most

heavily travels bodies of water anywhere in the world. At the same time, the fisheries of the Gulf are a tremendous food source for more than 150 million people living in the region. According to the UN Food and Agriculture Organization (UNFAO) the nations of the gulf harvest 5,260 tons of fish each year.

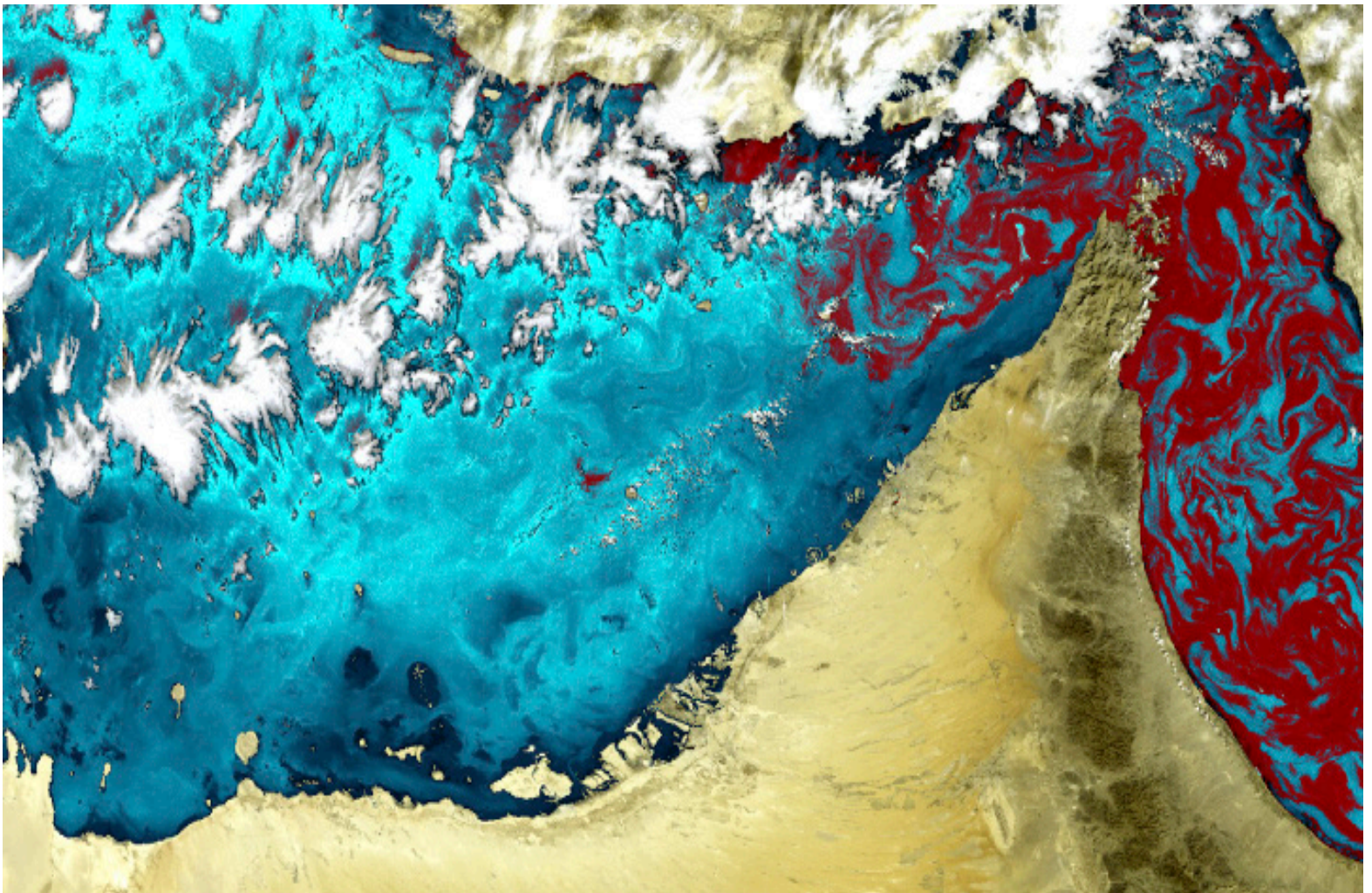
Iran’s Port and Maritime Organization (a division of the Ministry of Roads and Transportation) has developed a strategic plan in dealing with Gulf issues based on models and methods already applied to management in the Caspian Sea. Iran’s Biotechnology Institute will play a major role in developing new innovative methods of dealing with pollution. Much of research conducted by the Institute is focused on engineering natural microorganism that clean oil and industrial pollutants from the environment. Using microbes that literally eat crude oil has been used in several Gulf of Mexico oil spills and other locations throughout the world. One particular benefit is their ability to degrade the organic sulfur found in fossil fuels and the waste water generated by textile manufacturing.

Environmental biotechnology may prove to be an excellent solution, but success is wholly dependent on understanding the Gulf’s tides and currents, the dispersal of oil in different locations, the impacts of temperature, wind and other factors. It will require the comprehensive understanding provided by GIS.

GIS Tracking of “Red Tide”

From the summer of 2008 thru autumn 2010 the Persian Gulf experienced the longest “Red Tide”. The “Harmful Algal Blooms” lasted for 9 months – a world record. Satellite monitoring (using MODIS fluorescence data) tracked the tide from its point of origin off Musqat in the Gulf of Oman and provided daily updates on its movement as it entered the Straits of Hormuz and progressed along the northern Gulf coast. A Red Tide is really a dense concentration of Phytoplankton that produces a toxin that paralyzed the nervous systems of fish and marine and coastal wildlife. This led to massive fish kills throughout the waters of the northern Gulf, seriously limiting the harvest.

Red Tides are natural phenomena. Algae growth is supported by the presence of organic matter and lowering ocean temperatures. In the case of the Persian



Source: esa.int

Gulf Tide of 2008-2010, the algae blooms lived well beyond their normal life cycle. Lack of treatment of urban sewerage and industrial wastewater around Bandar Abbas and the Qeshem industrial area released increased levels of chlorophyll into the Gulf and supported the algae.

Monitoring the Coral Reefs of the Persian Gulf

Coral Reefs are among the most important living structures on earth. They form the base of multiple food chains throughout the oceans. Coral is a living animal and reefs provide food and shelter to sea life from the smallest microbes to shellfish and sea flora and schools of fish, and predators and prey alike. When coral reefs die, so do the waters around them.

GIS plays a critical role in monitoring the health of coral reefs everywhere in the world, including the area around Iran's Kish and Farur Islands in the Persian Gulf. The increasing death of corals around the main shipping lanes and desalinization plants is being tracked along with areas

of recovery. It will also play a crucial role in preventing future oil spills and industrial pollution from reaching the reefs. Once again, developing a comprehensive understanding of sea conditions, the impact of tides, currents, winds and weather will guide marine management teams as they work to protect these vital resources of the sea.

Scientists were surprised to discover coral reefs living under a blanket of sludge just off the Iraqi coast where the Shaat Al Arab flows into the Persian Gulf. The waters of the Shaat are deeply polluted, carrying oil and industrial and toxins into the Gulf.

Looking to the Future GIS for the Persian Gulf and the Global Community

Geospatial technologies are being employed planet wide as scientists and environmental policy makers work to counter the effects of climate change, industrial pollution and municipal waste. Just as GIS is providing more complete data

on the Persian Gulf and the means to assess it, report it and implement plans, the world is moving toward new strategies to deal with global issues: disaster management, health, energy, climate change, weather, water, ecosystems and biodiversity. An integrated "world-view" will emerge along with a common architecture for sharing data, methods and technology. We live in a complex and changing world.

The Group on Earth Observations (GEO) has taken the lead in the construction of the Global Earth Observation System of System (GEOSS), an earth and space-based earth information system with the ultimate goal of providing policy makers with solid scientific data to support better decisions. GEOSS will measure air and water quality, surface, atmospheric and under-sea conditions and monitors a changing world while providing unified reporting in support of the decision maker. Pakistan, Iran and Bahrain have joined GEO/GEOSS and the models developed in the Persian Gulf will help form a model for managing our world. ■

First mobile game developed in UAE

Abu Dhabi-based Twofour54 key partner Ubisoft, has released its first mobile game app developed in the Abu Dhabi — CSI: Hidden Crimes.

The game has ten episodes available for free download on the Apple store, Google Play Store and Amazon Appstore and is a top ranking game in several countries.

“This achievement will cement our status as an emerging gaming hub, demonstrating our success in developing young creative minds for a career in animation and game development,” Al Kaabi said.

According to Gartner, the gaming software sales are expected to triple to more than \$111 billion within the next two years.

“Since coming to Abu Dhabi, we have enjoyed the benefits of twofour54’s collaborative community as well as fantastic support from the media zone. Our partnership with twofour54 has given us the possibility to create this original game, which features one of the world’s most popular television programmes and will appeal to gamers all over the world,” stated Yannick Theler, Managing Director at Ubisoft Abu Dhabi.

Smartphones and tablets to boost online sales to over \$400 billion by 2018

According to a report by Euromonitor, smartphone and tablet computer sales are expected to increase to \$400 billion in the next 4 years in the Asia-Pacific region. The data showed that the number of smartphones is will increase to nearly 700 million in 2017 from 390 million in 2013. While at the same time tablets and other portable computers sales will increase to over 56 million in 2017 from almost 30 million in 2013.

Dewa smart services now available

The hallmark achievement was accomplished in less than a year after the launch of the Smart Dubai initiative

This service will make a huge difference in the level of customer service available to the people and make Dubai into one of the smartest cities in the world with services and utilities run by integrated smart systems.

The achievement supports sustainable development in Dubai, complements the National Agenda launched by His Highness and raises the profile of Dubai as a global hub for trade, finance, tourism, green economy and sustainability.

“Dewa initiated implementation of all plans and strategies necessary to transform its services to smart ones in 2009 and launched the first smart application in 2010.

“The application has exceeded expectations with over 577,000 downloads to date. From 26,000 downloads in 2010, the app was downloaded 82,000 times in 2011, a growth of 208.7% compared to the base year.

“More than 124,000 downloads were recorded in 2012, an increase of 51.44% compared to the previous year. “In 2013, the app was downloaded over 206,000 times, a growth of 65.92%, reflecting a consistent increase in using the app to access Dewa’s services,” said Saeed Mohammed Al Tayer, MD and CEO of Dewa during a press conference held at Grand Hyatt, Dubai.

He said that in line with its leading role in environmental conservation, Dewa has used its smart services to promote sustainable development. Dewa is the first government organization to highlight the impact of using smart services on the environment.

Dewa customers conducted 3.3 million transactions in 2013 through its website and smart app. This helped eliminate the emission of 11,000 tonnes of carbon dioxide that could have resulted from customers travelling to and from Dewa offices. This equates to planting 56,331 trees in an area equivalent to 106 football fields.

“Through this smart transformation, Dewa is looking forward to contributing to shape a better future for every one by actively participating in translating the government’s

objectives into a reality.

Amazon’s 3D ‘Fire’ smartphone unveiled

Amazon revealed its much awaited 3D “Fire Phone”, a high end smartphone with breakthrough technologies. This phone is challenging market leaders Apple and Samsung with its 3D capabilities, high-definition camera and 24/7 tech support called Mayday.

This is the first smartphone released by Amazon and it ties in to Amazon’s vast array of other offerings, such as book, movies and music and allows users to connect to the firm’s cloud storage.

“Fire Phone puts everything you love about Amazon in the palm of your hand — instant access to Amazon’s vast content ecosystem” said Amazon founder Jeff Bezos.

Fire Phone has a 4.7 inch dynamic display which shows images in three dimensions, and a scanner that recognizes products for sale and a variety of other objects such as artworks. Amazon described these features as “two new breakthrough technologies that allow you to see and interact with the world through a whole new lens.”

The so-called “dynamic perspective” uses a sensor system “to respond to the way you hold, view, and move Fire, enabling experiences not possible on other smartphones,” Amazon said.

Another feature dubbed “Firefly” recognizes things in the real world such as Web and email addresses, phone numbers, bar codes, and millions of products, “and lets you take action in seconds” to buy a product or create a music playlist, for example.

Contrary to some speculation, Amazon is not shaking up the pricing model for the smartphone market — selling the device to US customers through AT&T at \$200 with a contract, starting July 25.

As a financial inducement, consumers who buy the phone will get one year of “Amazon Prime,” which includes free delivery of goods and access to digital offerings such as video and streaming music.

Analysts gave a mixed reaction, saying Amazon did not appear to offer a compelling reason to consumers to switch, but could appeal to its loyal customers.



Improving Ambulance Efficiency in Pakistan

By: Muhammad Bazil

Ambulance management systems come in a variety of forms. They are used to improve the whole process of emergency response. In countries like the United States and Austria, ambulances are equipped with devices and systems that streamline the process and allow for the most efficient response to emergency situations.

GIS (Geographic Information Systems) or GPS (Global Positioning System) can be used in ambulance management systems to increase efficiency on multiple levels. For example, when a dispatcher receives a call; he or she will be able to quickly and easily

locate the nearest ambulance and send the emergency response team in that ambulance all of the key information necessary to find and treat the patient.

This will reduce the response time dramatically by locating the closest ambulance to the scene of the emergency and dispatching that vehicle to respond to the situation. It will also increase the efficiency of the whole process by finding the shortest possible route to the caller (taking into account on the ground realities like traffic and bad roads). Furthermore, the dispatcher will be able to send along key information about the situation while staying on the line with the caller until the emergency response team arrives on the

Consolidated Report of Emergency Calls and Rescue Operations in Punjab

District	Total Calls	Emergency Calls	Road Accidents	Medical	Fire	Building Collapse	Crime Incidents	Drowning	Blast/Explosion	Misc.	Fake Calls	Patient Rescued
Lahore	13,251,113	536,098	243,481	247,692	14,594	1,074	13,301	630	288	15,038	16,86	546,359
Rawalpindi	3,252,446	73,500	33,847	31,069	3,929	84	1705	144	30	2,692	145	80,652
Faisalabad	5,366,282	220,016	92,367	82,910	6,369	720	15,051	394	67	22,138	210	224,779
Multan	3,689,189	181,109	52,507	112,531	3,707	194	5,326	167	22	6,655	174	193,745

scene.

This ability will decrease response time and improve the performance of both the vehicle and the emergency response team. In the Punjab province of Pakistan, where only about 5% of the calls made result in a patient being rescued, the use of such systems could be a dramatic improvement in the emergency response system and the overall quality of life for those people who rely on the emergency services here.

In a region where traffic, poor roads, and accidents present a major obstacle to the efficiency of ambulances and the general timeliness of emergency response; GIS and GPS would be an invaluable resource which would prevent many unnecessary deaths and add an element of security and safety to the daily lives of residents.

The Current Situation in Punjab, Pakistan

Each year in the Punjab province of Pakistan, 2,555,903 calls are made to the emergency service providers of each region. Of these calls, about 104,553 result in patients being effectively rescued. It is important to note, however, that not all calls to emergency service providers are actual emergencies.

At least 221 calls per year end up being fake calls. That is, the caller has no real emergency and no need of an ambulance. In addition to fake calls, there are many callers who, while believing they may need emergency services, are actually healthy and able enough to go to the hospital on their own. So, the dramatic difference between number of calls and number of patients rescued can, in part, be attributed to this discrepancy in need for rescuing.

While a portion of the calls that do not result in a patient being rescued can

be attributed to the factors mentioned above; the rescue rate is certainly also being affected by poor or ineffective ambulance management systems.

Many ambulances in the region lack GIS or GPS technology and must negotiate dangerous road conditions or heavy traffic on their way to the emergency caller. This is a particularly pressing issue in urban areas where roads are congested much of the day and vehicle accidents have been increasing to as much as 130 accidents per day. Casualties of these accidents have increased by about 40% over the past three years (from 5,704 casualties in 2011 to 8,002 casualties in 2013).

The increase in accidents on the road is the result of a number of factors: more vehicles on the road, more frequent traffic jams, lack of sidewalks or designated pedestrian areas; unsafe roads; and lack of designated areas for pedestrian crossing.

Fortunately, there is a plethora of data about road and traffic conditions available via Google Maps as well as local

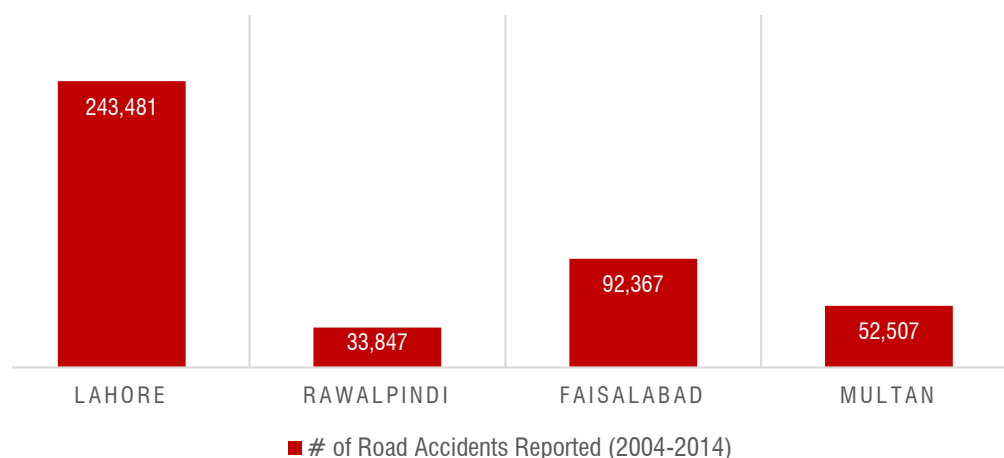
transport authorities. Thus, consolidating and processing real time data about the roads via the use of GIS or GPS systems is theoretically feasible.

Ambulance Management Systems in Austria and the United States

Similar systems are already in use in many countries such as Austria and the United States. In Austria, the dispatcher who receives the emergency phone call is already equipped with a computer at which he or she can immediately identify the closest ambulance to the caller. The dispatcher can then notify that ambulance while still keeping the caller on the line to ask further question and get more details regarding the nature of the emergency. As he or she gathers more information about the situation, he or she can send it to the ambulance while it is already en route to the location (using GIS technology).

In the ambulance, there is a GPS system which helps the emergency response team identify the shortest possible route

ROAD ACCIDENTS REPORTED (2004-2014)





to the patient from where the ambulance is currently located. The result of using this technology is that Austria's average emergency response time is between 5 to 10 minutes in urban areas and 8 to 15 minutes in rural areas.

The United States implements a few different systems since it has both publically operated and privately owned ambulance services. The publically operated ambulances (typically managed by the local police departments) work in much the same way as those in Austria. Dispatchers receive the call, locate the closest ambulance, and dispatch it all while remaining on the line with the caller.

In addition, they will employ decision support software like AMPDS (Advanced Medical Priority Dispatch System) which helps identify the most urgent cases so that ambulances can respond to the most immediately life threatening situation first. This works to prioritize the most important cases to decrease the number of deaths overall.

Through the use of this technology, the United States has cut its average response time to between 10 and 15 minutes (although the generally accepted target response time is within 8 minutes).

How GIS and GPS Systems Can Be Used in Punjab

GIS (Geographic Information System) is a system which both stores

and analyzes a wide range of spatial data. Such data is primarily collected via GPS (Global Positioning System), topographic photography, and remotely located sensors. By consolidating and integrating this data, GIS is able to create detailed maps (updated with real time information) that can be used in conjunction with a shortest route algorithm to identify the fastest route to reach the patient.

Implementing such systems at both the central call center and inside the ambulance itself would help improve ambulance response times and increase the efficiency of pre-hospital care while the ambulance is en route to the hospital.

A potential obstacle to implementing such a system in Pakistan is the cost, both in terms of time and money, of creating a system with the capacity for handling and processing such large amounts of data. The technology does, however, exist and the investment will be well worth it in the long run.

The Social Impact

An improved ambulance management system which uses GIS and GPS technology would vastly improve the overall quality of life in Pakistan. Ambulances would be able to respond to the scene faster, provide adequate pre-hospital care, and transport the patient to the nearest hospital more effectively. Furthermore, with the amount of data available through GIS, the ambulance management system would be better able to

distribute ambulances throughout the region so as to target those areas with the highest need for emergency services.

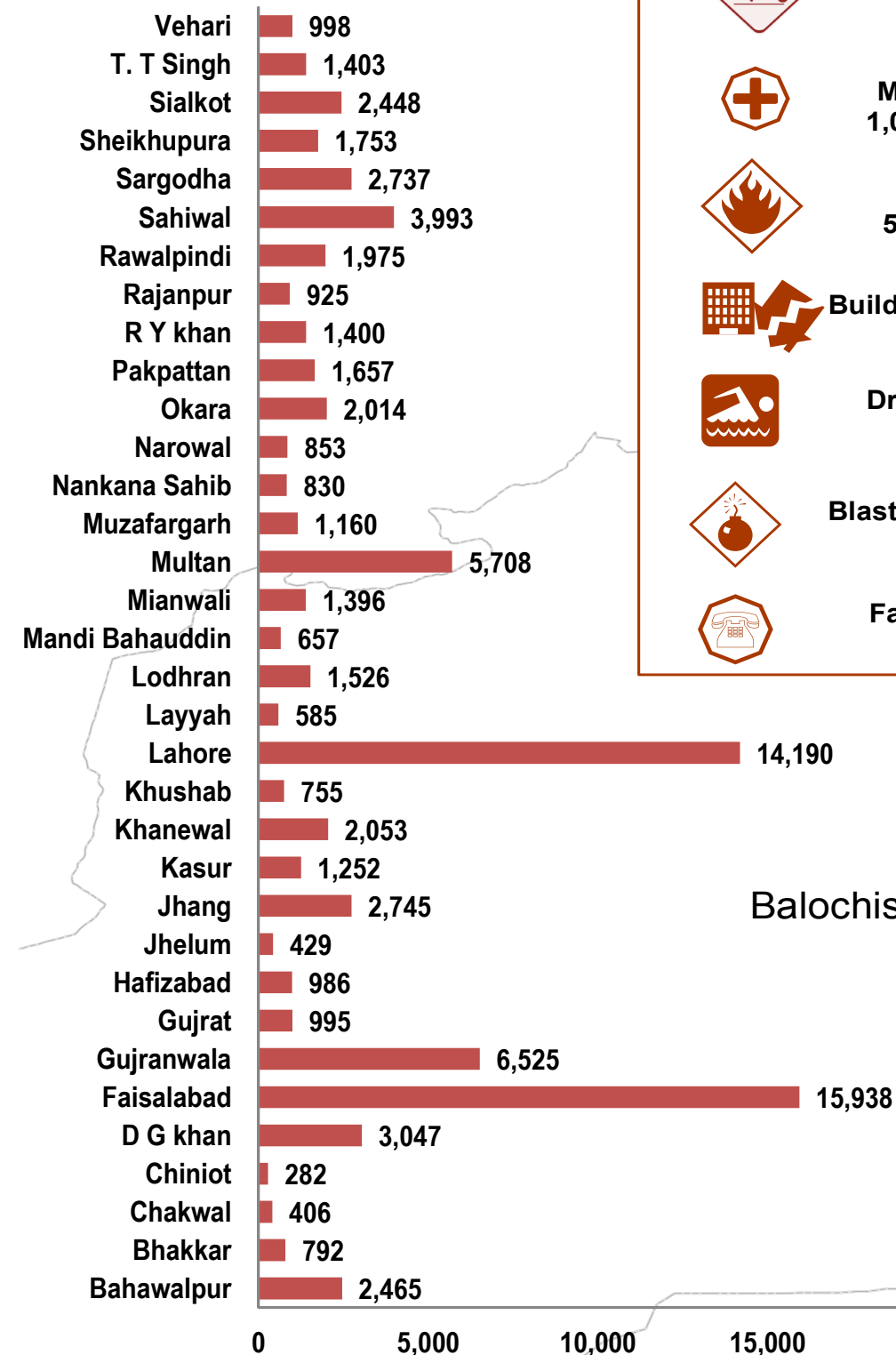
Data has already been collected on where accidents and injury are most frequent so ensuring that there is a higher ratio of ambulances in these accident-prone areas would further improve ambulance response times where it will be most valuable. The data on where accidents most often occur can be correlated with data on when they most often occur so that ambulances can relocate to peak accident areas.

This would increase the number of patients rescued and lower the overall fatality rate in the country. Ultimately, there will be greater security and renewed confidence in the healthcare system so that more people can benefit from the resources available to them. ■

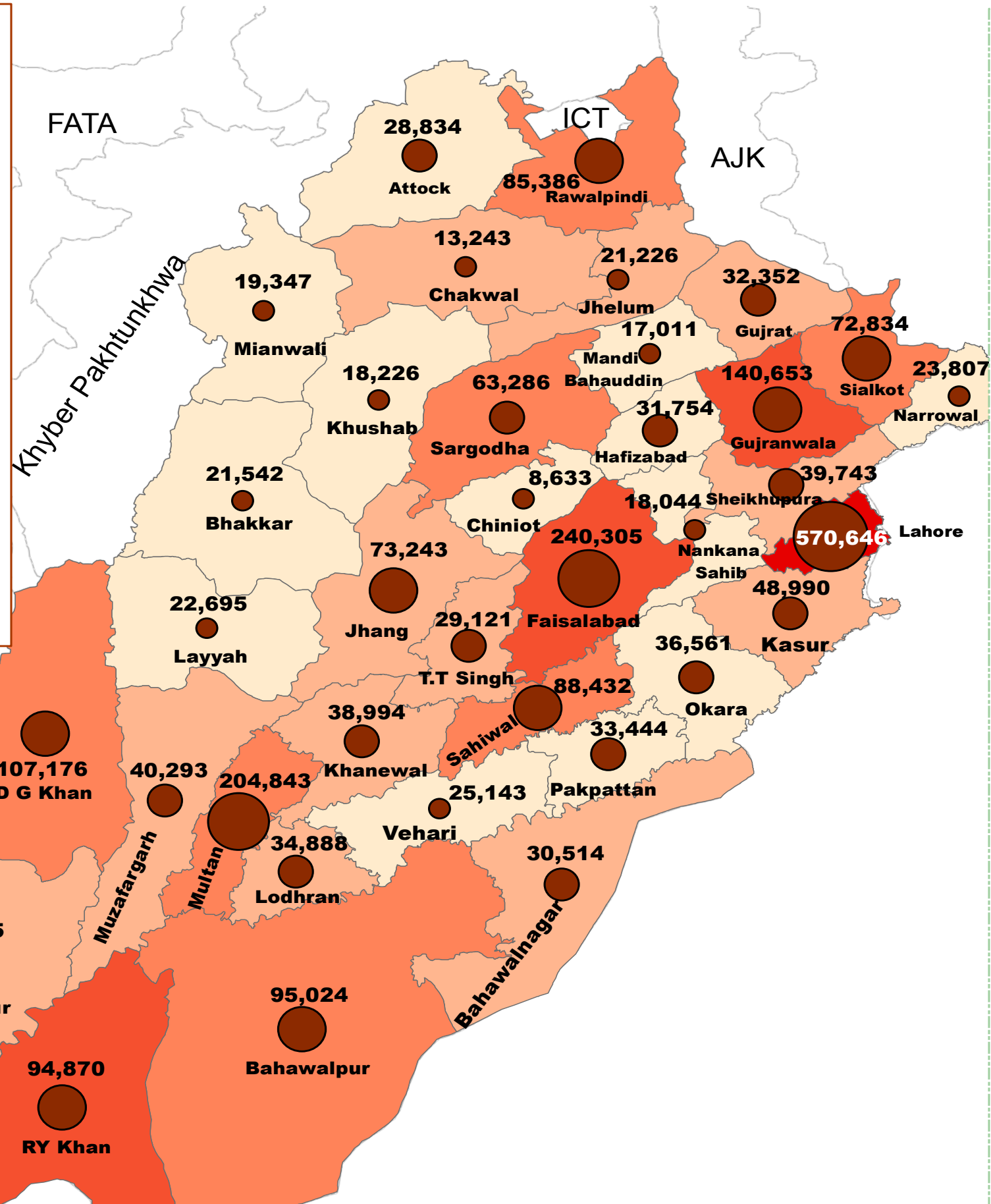
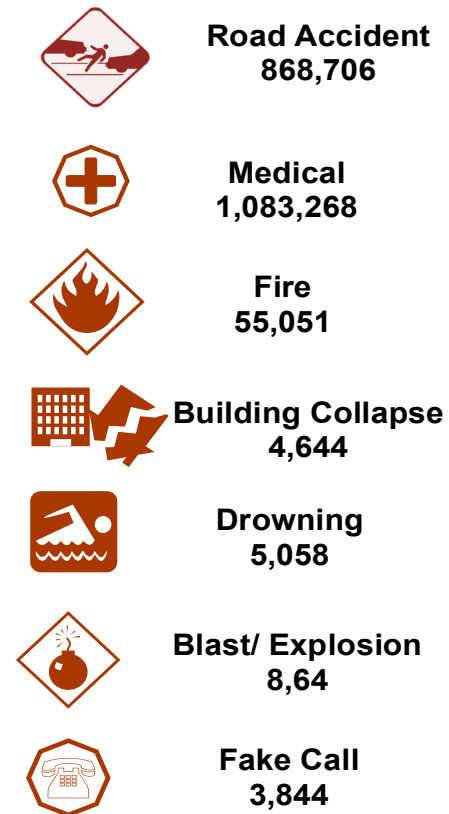
ADVERTISE
YOUR
BUSINESS

EMERGENCY CALL RESCUE OPERATION - PUNJAB

District wise Rescue Operation (Crime Incident) - Punjab 2004 - 2014



Category Wise Rescue Operation Punjab 2004 - 2014

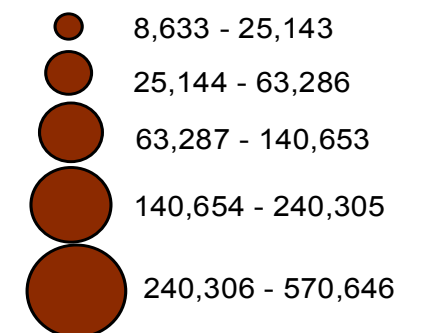


Legend

Total Emergency Call

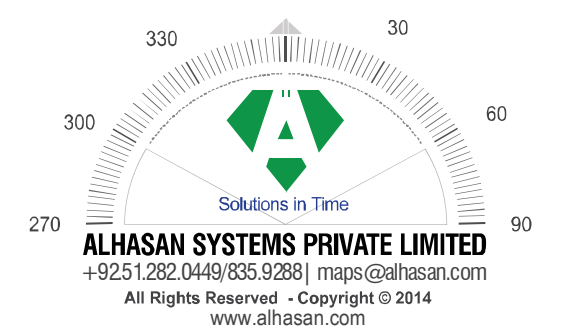
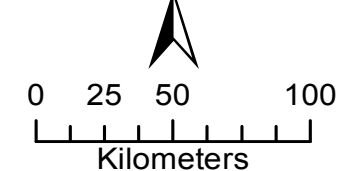


Total Rescued Patient



Provincial Boundary

Date of Creation: June 10, 2014
Projection/Datum: WGS 84 Geographic



Data Source(s)

PCO: Admin Boundaries
Rescue 1122: Performance of
Rescue 1122 - 2004 to 2014

MERS cases decline but there is still cause for concern

Although the number of MERS cases has been on the decline, the World Health Organization said countries must maintain vigilance for the Hajj pilgrimages to Saudi Arabia.

MERS is the viral respiratory illness caused by MERS-CoV. It was first reported in Saudi Arabia in 2012, and CDC, along with global health partners, has been closely monitoring it ever since.

The first cases were reported back in April, 2012 and the situation continues to be of a concern as in May 2014, the first 2 imported cases of MERS-CoV were confirmed in the United States. Both cases were linked to healthcare workers who traveled to the United States from Saudi Arabia, where they were believed to have been infected.

According to the UN health agency “the situation continues to be of concern, especially given the anticipated increase in travel to Saudi Arabia related to Umrah, Ramazan (IS THIS RAMADAN?) and the Hajj,”

The communiqué was issued after a teleconference of health officials from seven countries where there have been cases of Middle East Respiratory Syndrome (MERS). They were Algeria, Iran, Jordan, the Netherlands, Saudi Arabia, the United Arab Emirates and the United States.

MERS has killed 284 people in Saudi Arabia since it first emerged in April 2012, and hundreds more have been infected. Twenty-two countries have reported cases.

It is considered a deadlier but less transmissible cousin of the Severe Acute Respiratory Syndrome (SARS) virus that appeared in Asia in 2003 and killed hundreds of people, mostly in China.

Fasting reduces risk of diabetes

Researchers at the Intermountain Heart Institute at Intermountain Medical Center in Murray, Utah, claim that fasting can reduce cholesterol levels in pre-diabetic people over an extended period of time.

The studies indicate that after 10 to 12 hours of fasting, the body starts scavenging for other sources of energy throughout the body to sustain itself and pulls LDL (bad) cholesterol from the fat cells and uses it as energy.

This biological process in the body converts bad cholesterol in fat cells to energy, thus combating diabetes risk factors.

As half a million Pakistanis flee North Waziristan, fears of polio spreading increases

About 435,000 have left their homes and moved to other areas of Pakistan and 50,000 people have crossed the border to eastern Afghanistan to escape air strikes. Pakistan’s military ordered North Waziristan residents to leave the region as they prepared for major ground offensive by the army against Islamist militants.

The spread of polio is a major concern as the local governing Shura or religious leadership in North Waziristan has banned polio vaccination for the past two years, demanding US to halt drone strikes.

The number of Pakistanis who have fled to Afghanistan since military operations began on June 15 jumped from 7,000 last Friday to an estimated 50,000, Dan McNorton of the UN refugee agency told a briefing. Most are in Khost and Paktika provinces. “There was a temporary halt to military operations, to air strikes on Sunday ... So that why we have seen the figures rise particularly quickly in the last couple of days,” McNorton said. Most of the 435,000 displaced within Pakistan are in Bannu, Lakki Marsat, Dera Ismail Khan and Tank in Kyber Pakhtunkhwa province, but some arrived in Punjab and Balochistan, he said. The ban on vaccinations in North Waziristan has led to a “huge outbreak of polio”, accounting for 53 of the country’s 82 cases recorded so far this year, WHO spokeswoman Sona Bari said. Last year Pakistan had 93 cases of polio, a crippling disease that invades the nervous system and can cause irreversible paralysis within hours.

There is no cure but it can be prevented by immunization. Children are the most vulnerable. “So there is a risk that now with the population moving out (of North Waziristan) that the virus will move out,” Bari said. But the exodus from North Waziristan also represents the first opportunity to vaccinate these people in two years, she said, noting that Afghan authorities and Pakistan authorities in bordering districts were trying to vaccinate those fleeing.

Playing football can decrease blood pressure

According to a recent study by Magni Mohr from University of Gothenburg in Sweden, playing recreational football can help lower blood pressure in women aged 35-50. The studies indicate that football training reduces blood pressure more than twice as much as swimming performed over the same period of time. The studies show that by playing recreational football for 15 weeks, women within this age group with high blood pressure achieved a significant reduction in blood pressure and body fat percentage.

“After 15 weeks of participation in recreational football, systolic and diastolic blood pressure had fallen by 12 and 6 millimetres of mercury (mmHg) and the women had lost 2.3 kg of fat on average,” said Magni Mohr from University of Gothenburg in Sweden.

The study involved 41 untrained women aged 35-50 years of age with high blood pressure of around 140/90 mmHg.

“As well as the impressive effects on blood pressure and body composition, we also saw a drop in cholesterol and a big improvement in physical fitness as a result of the 15 weeks of football training,” said Peter Krstrup, professor at University of Exeter in Britain.

Health care market in GCC to reach \$56 billion

Using Ministry of Health data from 2012, Falak Consulting’s Research Department (FCRD) projects that the market size for health care delivery services in the GCC will increase to \$56 billion in about six years from \$37 billion in 2012.

The Saudi Arabia health care market will continue to be the largest at \$28.7 billion by 2020, while spending in private and public hospitals in the UAE will hit \$12.5 billion.



GCC's Solar Energy Future: An Economic and Technological Analysis

Solar energy is the most abundant, sustainable, and renewable energy source in the world. Now more than ever, governmental bodies are being pressured to implement renewable energy initiatives. This pressure can be seen in large organizations such as the European Union, which is under pressure to review and define its 2030 renewable energy target, and in the United States, which now has over 30 state-wide regulations promoting renewable energy.

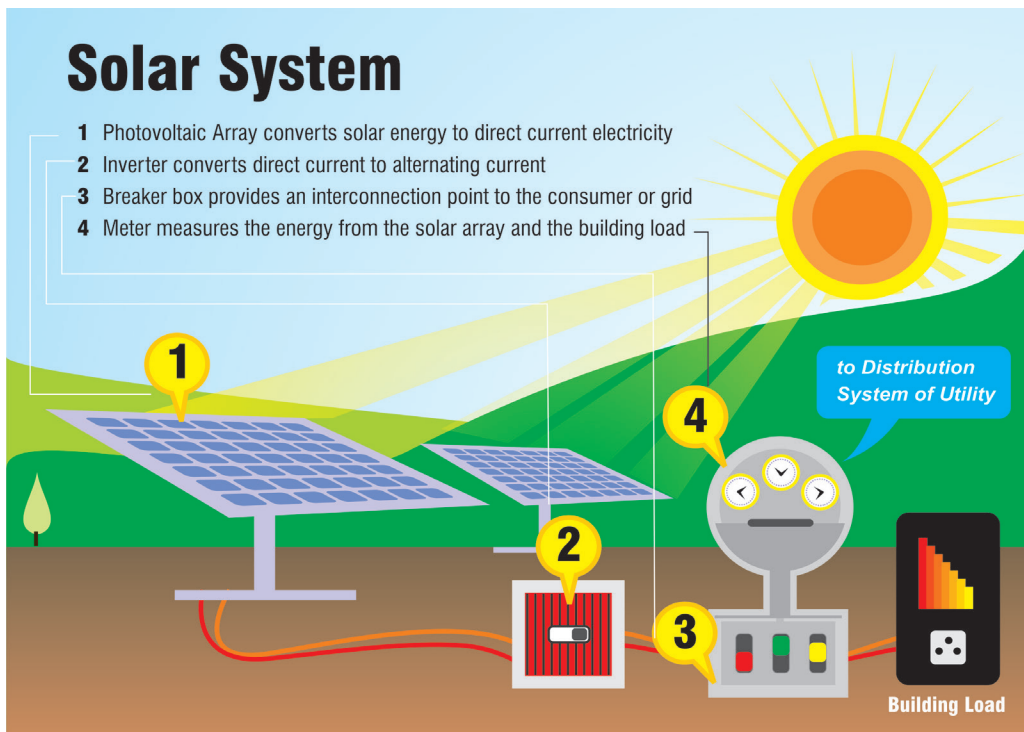
By: Nicholas Denittis

The environmental and economic pressures for transitioning to renewable energy are not exclusive to the Western

Hemisphere - the Gulf Cooperation Council (GCC), which includes the member states of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE, are also experiencing pressures within their respective governments to exploit renewable energy sources. Due to its geographic positioning, Gulf countries are in a unique position to take advantage of the gradual shift to renewable (specifically, solar) energy.

The Mechanisms of Solar Energy

Solar energy is radiant light and heat transmitted from the sun. It is vital to the continued existence of all living species on the planet, as our food supply is wholly dependent upon this energy source. Further,



Source: Union of Concerned Scientists

solar energy is necessary to create the biomass (biological material derived from both living and dead organisms) which, in turn, produces the fossil fuels that are needed to sustain life. Solar energy, while a nearly infinite source, must be converted to be used for electricity, heat, hot water and cooling mechanisms for homes, businesses, and industry. This conversion is accomplished through technological innovations, namely solar panels, which provide electric currents that are converted into an electrical source for commercial and residential use.

Solar Energy and the GCC Economy

The transition from traditional oil and gas energy sources to alternative energy is a challenge for every nation. The GCC countries are uniquely challenged due to their economic structure and incentives (subsidies) that encourage the production and consumption of energy generated by fossil fuels. According to the International Monetary Fund, oil and gas accounts for about 70% of total government revenue and 65% of all export earnings. Virtually all non-oil government expenditures (investments education, infrastructure, etc.) are a direct result of government dependency on this single source of wealth and the prospect of GCC energy diversification appears questionable.

At the same time, two major factors are supporting diversification. There is a

reduced demand for oil and gas products from the importing nations and that has led to a weakened market. Increased oil and gas production in nations such as the United States, the UK, Norway and others has caused a slowdown in revenues coming in to the GCC countries. Technical innovation by importing countries is the second factor as investments in alternative sources are creating “increased production and greater substitution of other energy sources.” Most economic analysts have declared that the GCC market share of oil production will steadily decrease.

According to the International Renewable Energy Agency (IRENA), Gulf countries have had a dramatic 8% rise in energy consumption a year as a result of increased domestic economic activity. At this rate, generating capacity will have to nearly double every decade to meet demand and that is unsustainable.

The Persian Gulf is changing. Population growth, high rates of urban development and increased industrialization all lead to increased energy consumption. It places pressure on hydrocarbon resources and generates environmental and public health issues, and increases the cost of both.

GIS technologies have been, and will continue to be, an important tool for countries exploring alternative energy sources. GIS has already produced tangible results in developing solar energy projects

throughout GCC region. The geographic location of the Persian Gulf means that sunshine is an abundant resource for the GCC states making solar energy the solution of choice in many countries. Improved technology and increased competition is driving down the costs throughout the industry. IRENA agrees and points to the demand patterns in a region where air conditioning constitutes the majority of electricity demand.

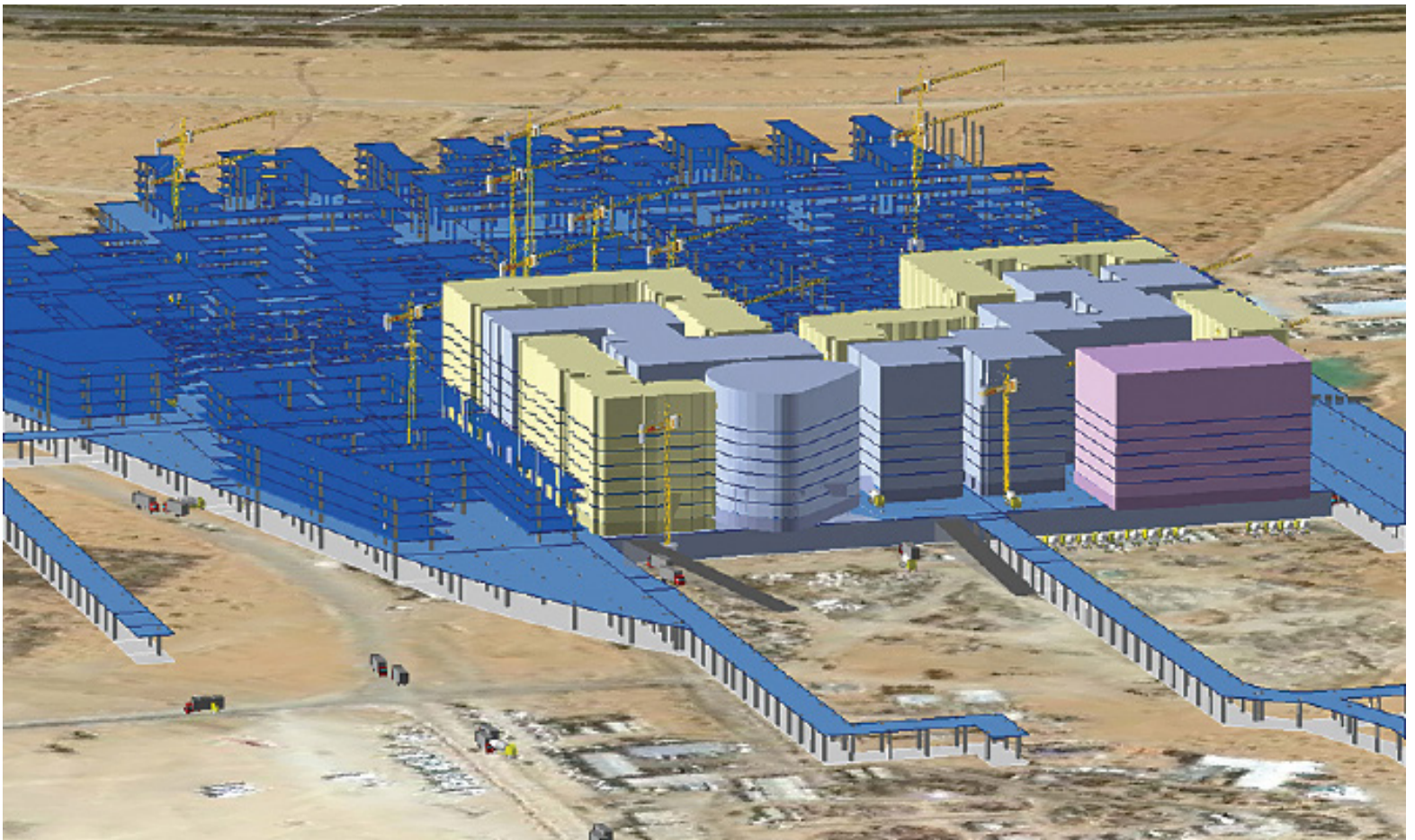
Solar Energy and GIS

Geospatial services offer direct support for the implementation of solar projects by providing the retrieval and analysis geographical data for the best options laying out new power grids and using LIDAR mapping to determine the placement and orientation of solar panels. GIS-based technologies point the way to the efficient development of photovoltaics (PV), planning and performance assessments as well.

Currently, GIS technologies are being used to analyze the potential of solar and other alternative energy sources. For example, Web GIS technology allows the mapping of current solar installations, tracking of progress of solar energy initiatives, and the analysis of potential solar energy generation in various locations.

In one major city of the United States, GIS analysts developed spatial software to calculate solar radiation available on rooftops of buildings. The analysts built a digital elevation model (DEM) of the city, allowing them to model incoming radiation, taking into account numerous factors, including “variation in elevation, orientation (slope and aspect), the shadows cast by topographic features, and changes with time of day or year.”

If Abu Dhabi (UAE) has enjoyed a dynamic and growing economy from its oil revenues, they still see the need for diversification. The city has taken a proactive approach its economic future and the development of solar and other renewable energy sources. In 2006 Abu Dhabi began the “Masdar City,” a project to plan and build the sustainable city of the future. The goal is to demonstrate the long-term economic capability of sustainable resources, resulting in both a reduced carbon footprint and the creation of jobs within the clean technology and energy sectors. One of the targets of the project is to also demonstrate the environmental promise that



Staff members at the Masdar City utilize GIS technology for model building information

Source: Esri

solar and other renewable energy sources present in the form of lower CO₂ emissions.

Abu Dhabi awarded the contract to plan and construct their city to Masdar (hence the name), an engineering and consulting firm that relied on GIS technology to design, build and operate the project. According to the GIS manager of Property Development Unit, Masdar, “GIS is imperative in managing the overall spatial information necessary for designing, building, and operating Masdar City.”

The project involves the gathering and analysis of various types of geographic data: sun angles, wind patterns, street widths, and building density and height. The information included in the geodatabase includes transportation, structures, boundaries, terrain elevation, bathymetric data, and remotely sensed imagery.

Spatial analysis and modeling to are also used to ascertain the most advantageous positioning for various facilities within the city. The data allows for the effective planning and construction of water and treatment plants, recycling centers, a solar farm, geothermal wells, and the planting of

various tree species.

Abu Dhabi is not the only location within the GCC to discover and further develop alternative energy sources. Ambitious projects have in been either implemented or announced in Dubai, Bahrain, Qatar, Kuwait, Saudi Arabia and Oman . These projects are being supported by renewable energy targets, innovative research and development, and public and private investments across the entire industry.

Solar energy has gained modest growth in the GCC countries and elsewhere. It’s happened through both public and private efforts. However all stakeholders should take an active approach in educating themselves about the economic and other benefits of investing in solar energy sources. Technology, and most particularly GIS technology, has made it possible to discover and implement economically advantageous projects. The greatest challenge is in conveying our discoveries and their benefits to both the general public and to investors.

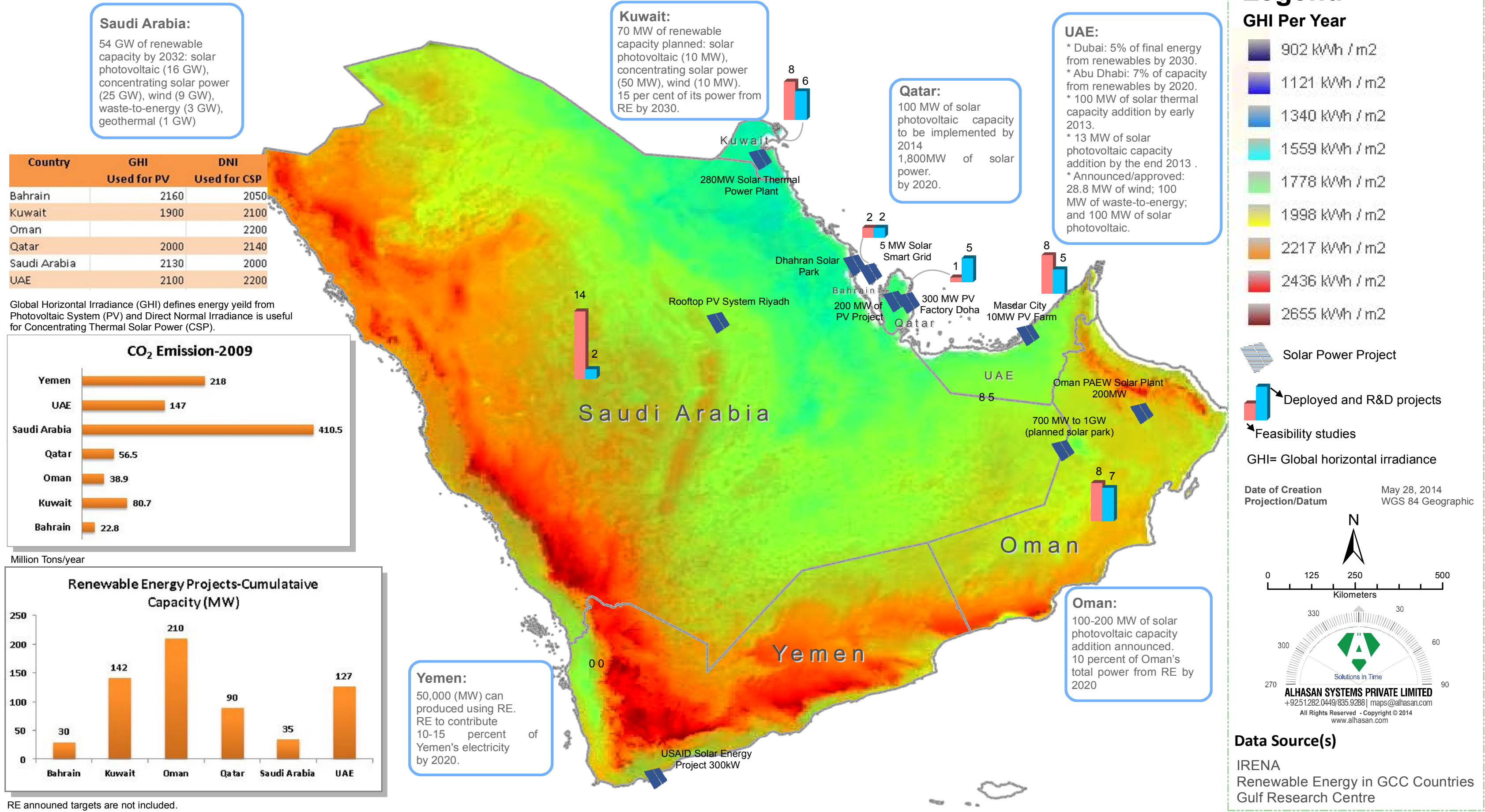
The potential for robust growth in alternative energy is apparent to anyone who will look. There are still barriers that create

disincentives to growth: highly subsidized fossil fuels and the lack of renewable energy initiatives are among the main roadblocks. In countries that do not have as many resources available, governments need to promote small to medium-sized projects, including the installation of solar PV panels and solar water heaters in advantageous areas, such as cities or large towns.

The GCC countries, along with other nations in the Middle East, can gain substantially benefit from investments in solar and other alternative energy sources. Few locations are as richly endowed with renewable resources as this area of the world. Abundant sunshine and vast areas of open land are key reasons why the GCC and other Middle Eastern countries are in a unique position to lead the transition into alternative energies.

In spite of the obstacles, the GCC countries are moving to meet the challenges of a new era. They are discovering that that solar and other renewable energy resources are available, cost-efficient, and the goals are achievable. GIS, along with other technologies, are playing their roles in creating a new future. ■

SOLAR POTENTIAL IN GCC COUNTRIES



Solar Energy Potential in the Gulf Cooperation Council

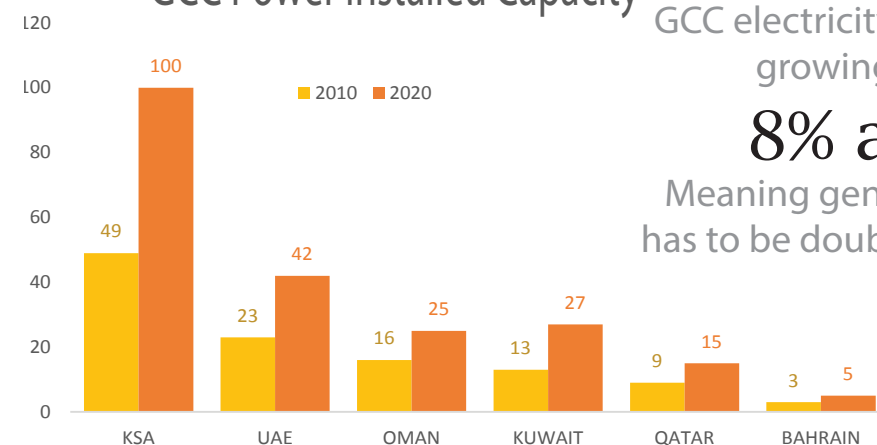
The GCC region accounts for about 45% of the world's proven oil reserves and contributes 25% to the world's oil exports. Why should the GCC countries consider solar energy as an alternative source?

GCC region represents
0.6%
of the global population

GCC countries are responsible for
2.4
of the total greenhouse gas (GHG)
emissions produced globally

Gulf countries will require
100 GW
of additional power over the
next 10 years to meet demand

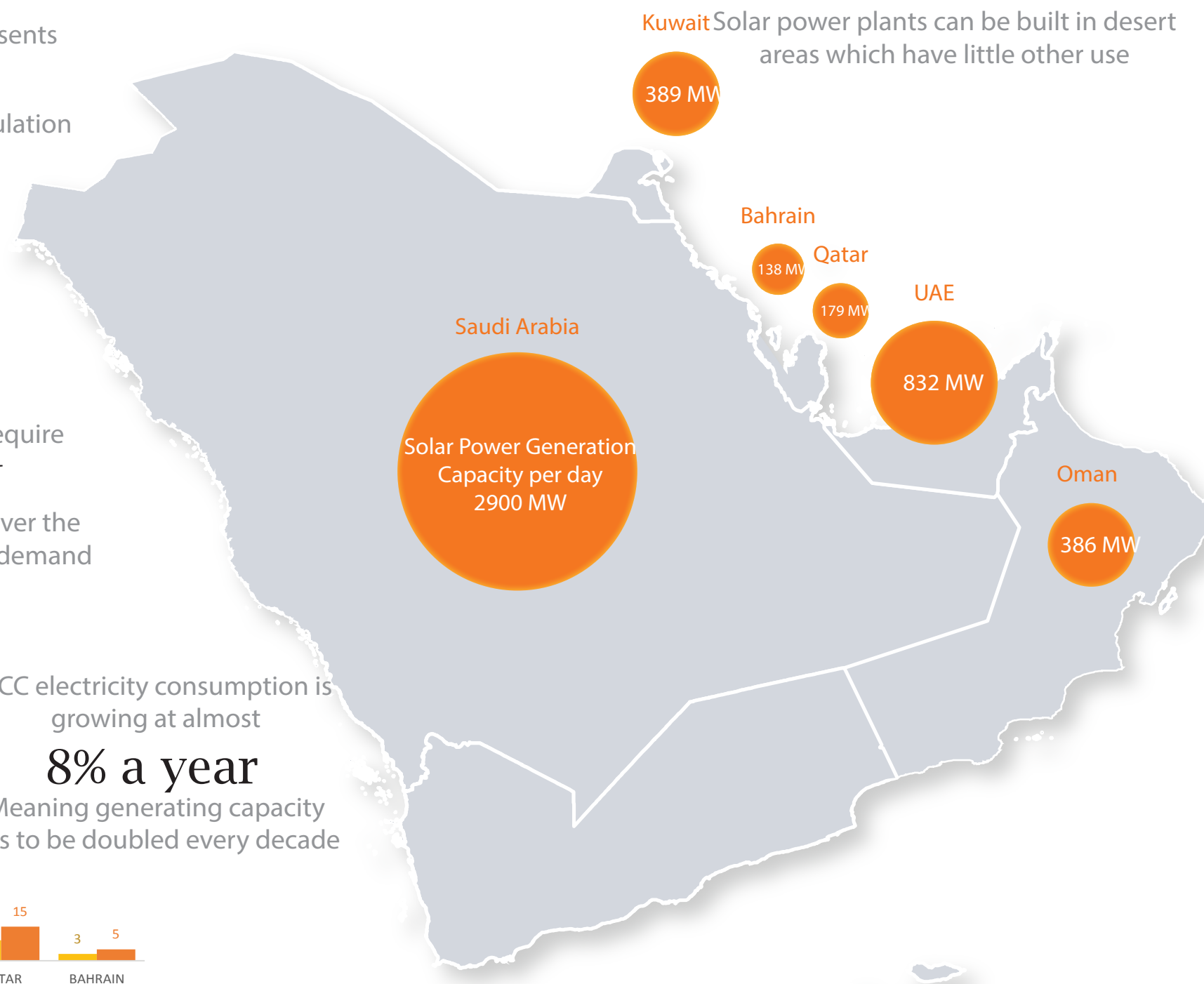
GCC Power Installed Capacity



GCC electricity consumption is
growing at almost
8% a year
Meaning generating capacity
has to be doubled every decade

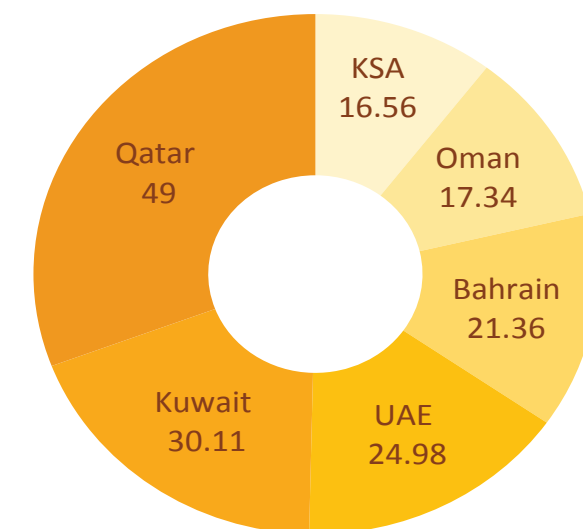
Enough solar energy falls on the earth's surface
in twenty minutes to meet our needs for a year!

Kuwait Solar power plants can be built in desert
areas which have little other use

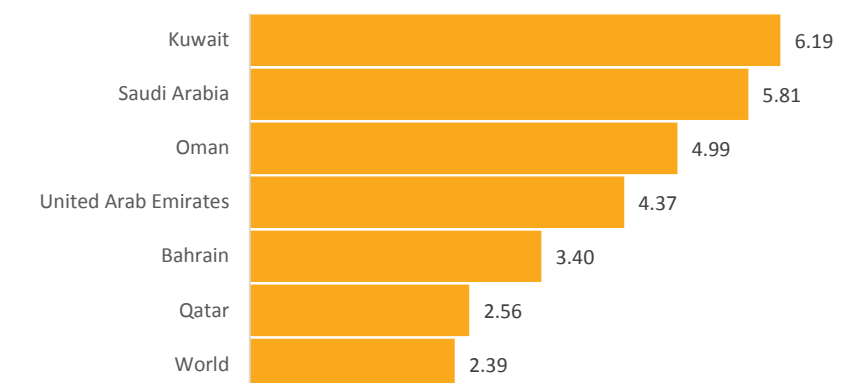


CO₂ Emissions (metric tons per capita)

GCC 26.56 World 4.76



GCC GDP Growth (Annual %) 2012



Benefits to adopting Solar Energy as an alternative energy source

1. Increase long term energy security by exploiting a renewable resource as opposed to a finite source
2. Increase oil & gas export revenue potential by reducing domestic consumption of fossil fuel
3. Reduce Greenhouse Gas emissions
4. Create opportunities for capital investment
5. Create high value jobs within the region

Sources: IRENA, The EU-GCC Report 2013, The World Bank

Solar-power future bright in Qatar

Doha, Qatar – Qatar now has the ability to produce 300MW of energy a year, with their investment in the first of its kind solar panel factory, making it the largest solar power producer in the region.

Qatar Solar Energy Company revealed a three-phase plan to produce 2.5GW of solar energy a year in the near future, but exact timelines were not disclosed.

Qatar is the largest exporter of liquid natural gas in the world. QSE board member Reyad Fezzani said although Qatar is not likely to trade fossil fuel production for solar energy anytime soon, the time had come to focus on renewable energy. By 2020, Qatar's government intends to convert 2% of its power output to renewable sources.

The development of solar power has taken off in recent years around the world, but particularly in the Middle East, where a day rarely goes by without long periods of the sun beating down on the desert sands.

"When the demand is there, we'll be ready ... There is nobody else producing 300MW in the region," he said.

Qatar Solar Energy board member Kamel Ounadjela said 300MW would provide enough energy for 100,000 homes each year in high energy-consuming countries such as Qatar or the US.

\$13.2bn interest-free gov't loan signed by Saudi Electricity Co

State-owned power utility Saudi Electricity Co (SEC) and Saudi Arabia's Ministry of Finance signed an agreement for an interest free loan of 49.4bn riyals (\$13.17bn). The loan will be used to help fund power generation projects in the country.

The SEC plans to spend 622 bn riyals by 2023, adding 40,000 MW of installed generation capacity and expanding transmission and distribution networks. The electricity demand has been increasing at around 7% to 8% a year over the last decade and this loan is part of the long term strategy for sustainable growth.

UAE among top 10 places to fuel up your tank

According to latest statistics, petrol prices in the United Arab Emirates are among the cheapest in the world. The price of petrol ranked as the sixth most economical in the world with \$1.77/gallon (Dh6.5) according to figures released by Bloomberg.

According to Bloomberg, UAE is the eighth biggest oil producer and the government subsidizes about 68% of the cost of petrol as of 2010. It takes about 1.5% of a day's wages to buy a gallon of petrol considering the average daily income is \$121.

Despite being a poor country but a major oil producer, petrol prices are lowest in Venezuela where it costs just \$0.04 per gallon.

After Venezuela, the top 10 countries selling cheapest petrol are Saudi Arabia (\$0.45), Kuwait (\$0.81), Egypt (\$1.01), Iran (\$1.52), UAE (\$1.77), Nigeria (\$2.23), Malaysia (\$2.42), Russia (\$3.19), and Mexico (\$3.58).

Bloomberg data showed that petrol prices are the highest in European countries and Norway's citizens pay the highest price for a gallon.

Despite being a major oil producer in the world, the per gallon petrol cost in Norway is \$9.79. Second comes the Netherlands, where one gallon costs \$9.46 followed by Italy (\$9.34), Denmark (\$9.14), Greece (\$8.81), Belgium (\$8.61), Portugal (\$8.56), Germany (\$8.50), Turkey (\$8.47) and Finland (\$8.44).

Among the other major world countries, petrol prices in the UK are the 13th highest in the world as the Brits pay \$8.25 for a gallon of petrol.

In Pakistan, a gallon of petrol cost \$4.08. Bloomberg said Pakistanis must put in more than a full day's work to afford a single gallon as average daily income in the country is \$3.55.

UAE and Saudi Arabia signed an agreement to develop green energies

King Abdullah City for Atomic and Renewable Energy and Masdar have signed an agreement to jointly invest in clean energy projects and green technology investment funds. At a time when interest is increasing in renewable energy across the region, the agreement was signed

by Dr Sultan Ahmed Al Jaber, Chairman of Masdar and Dr Hashim bin Abdullah Yamani, President of K.A.CARE.

This agreement will lay down the framework to work collectively for advancement of renewable energy and clean technologies across the region. It will also create opportunities for collaboration in research and development of advanced clean energy technologies, including solar, wind and water, a statement said.

"By sharing our knowledge and experience with K.A.CARE, we believe that together, we can further advance the use of renewables and ensure our long term economic and energy security."

The King Abdullah City for Atomic and Renewable Energy was established in 2010 with the aim of diversifying Saudi Arabia's energy sources, to include nuclear and renewables.

Since its establishment in 2006, Masdar has played a key role in extending Abu Dhabi's energy leadership beyond hydrocarbons. The company has deployed close to 1GW of clean energy projects in the UAE and around the world.

Possibility of oil shortage due to Iraq crisis puts pressure on Saudi Arabia

The current crisis in Iraq is threatening to disrupt the country's oil output and Saudi Arabia is starting to feel the pressure to help support the global oil supply if the oil from Iraq can't be accessed. Iraqi oil output accounts for about 3.5 % of the global supply.

Coincidentally, OPEC met last week and decided to leave its oil production quota unchanged. This all happened before the shockingly quick deterioration of the Iraqi security and ISIS take-over of regions in Iraq. The global oil production was already on the verge of coming dangerously close to just meeting demand. Saudi Arabia was already going to have to increase production in order to avoid a price surge later this year.

With the current crisis in Iraq, the pressure for Saudi Arabia to increase its production is even stronger. Saudi Arabia held 1.96 million barrels per day in the first quarter which is significantly less than Iraq's supply of 3.3 million barrels per day. This crisis can mean crude oil would go up to \$150 a barrel.



Impact of Technology on the Finance sector

There is ample evidence that clearly indicates that a strong financial sector plays a critical role in the overall economic development of any nation. This is especially true, when it comes to developing economies. It is clear that the development of the financial sector is not simply an outcome of economic growth, but it also continually contributes to the growth of the nation. Well established financial systems provide reliable information easily and quickly, which in turn lowers transaction costs and improve resource allocation resulting in economic growth. They also support the growth of small and medium sized enterprises (SMEs)

by providing stable and convenient access to different financing options. Small and Medium sized businesses usually create more jobs and opportunities as they tend to be more labor intensive.

Among the benefits of developing a strong financial sector is that it plays a significant role in alleviating extreme poverty, reduces inequality and supports inclusive and sustainable development. The Global Financial Development database at the World Bank measures the depth, access, efficiency and stability of national financial systems. Although, all the indicators are equally important, access to financial systems is an especially important indicator as it has a direct correlation with economic

By: Rabeea Wajeeda

growth and development.

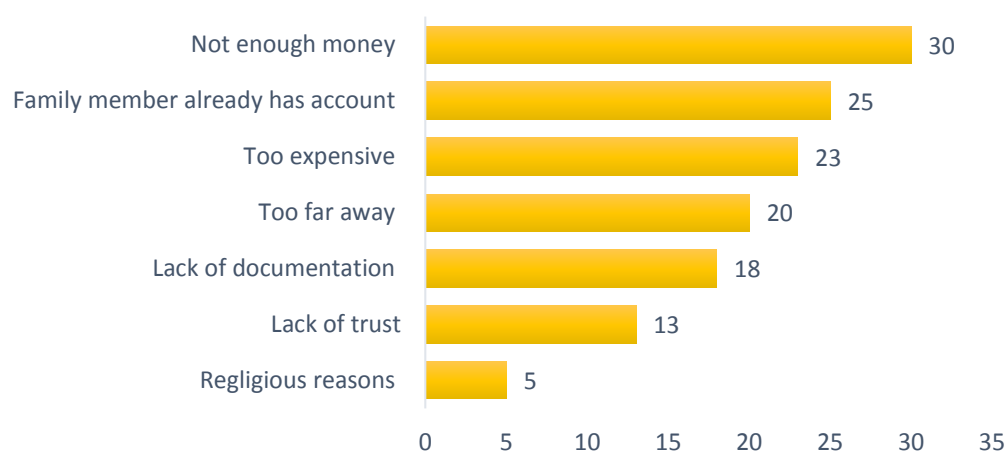
The greatest challenges are faced by the poor, women, youth and rural residents when it comes to accessing payments, savings, insurance and other basic financial services. There is substantial evidence indicating that the poor benefit greatly from accessibility of these services. Cost, documentation requirements, lack of financial literacy, along with traveling distance are the barriers faced by some 2.5 billion adults around the world. Half of the world's adult population does not have a bank account with a formal financial institution. Access to financial services is an equally important aspect for the wealthy as they expect to be able to use these services conveniently and with the least amount of hassle.

Innovations in technology show great promise when it comes to dealing with the wide spectrum of clients in the financial sector. Mobile banking and payment, internet banking and biometric identification technologies (finger printing, iris scans and so on) will drastically reduce transaction costs, information problems, and moral hazards in credit markets along with providing clients with security and the convenience of not having to leave the comfort of their homes. Innovations in technology will also improve product design and increase financial literacy.

Mobile and Internet Banking

Recently, there has been a great deal of attention being given to the role of mobile banking in its ability to provide basic financial services. Mobile banking is a brilliant solution for those that indicate

Reported Reasons for Not Having a Bank Account



distance and cost to be the main barrier to having a bank account at a formal financial institution.

The greatest appeal for using mobile banking is that mobile phone penetration has been growing rapidly around the globe and is within reach for most of the world population. An analysis of the GCC countries, along with Afghanistan and Yemen (Figure 1.2), shows that regardless of a country's income level, mobile cellular subscriptions are greater than 50% of all inhabitants and well over 100 in the GCC countries. Research shows that countries with low and middle income populations have higher access to a mobile phone than a formal bank account.

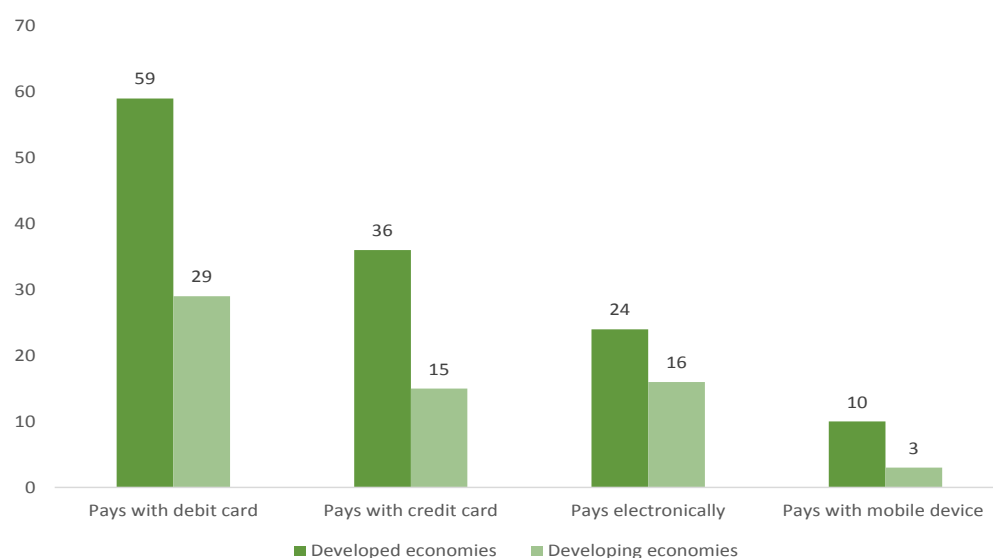
While having access to a mobile phone does not necessarily translate into the adoption of mobile banking, the potential

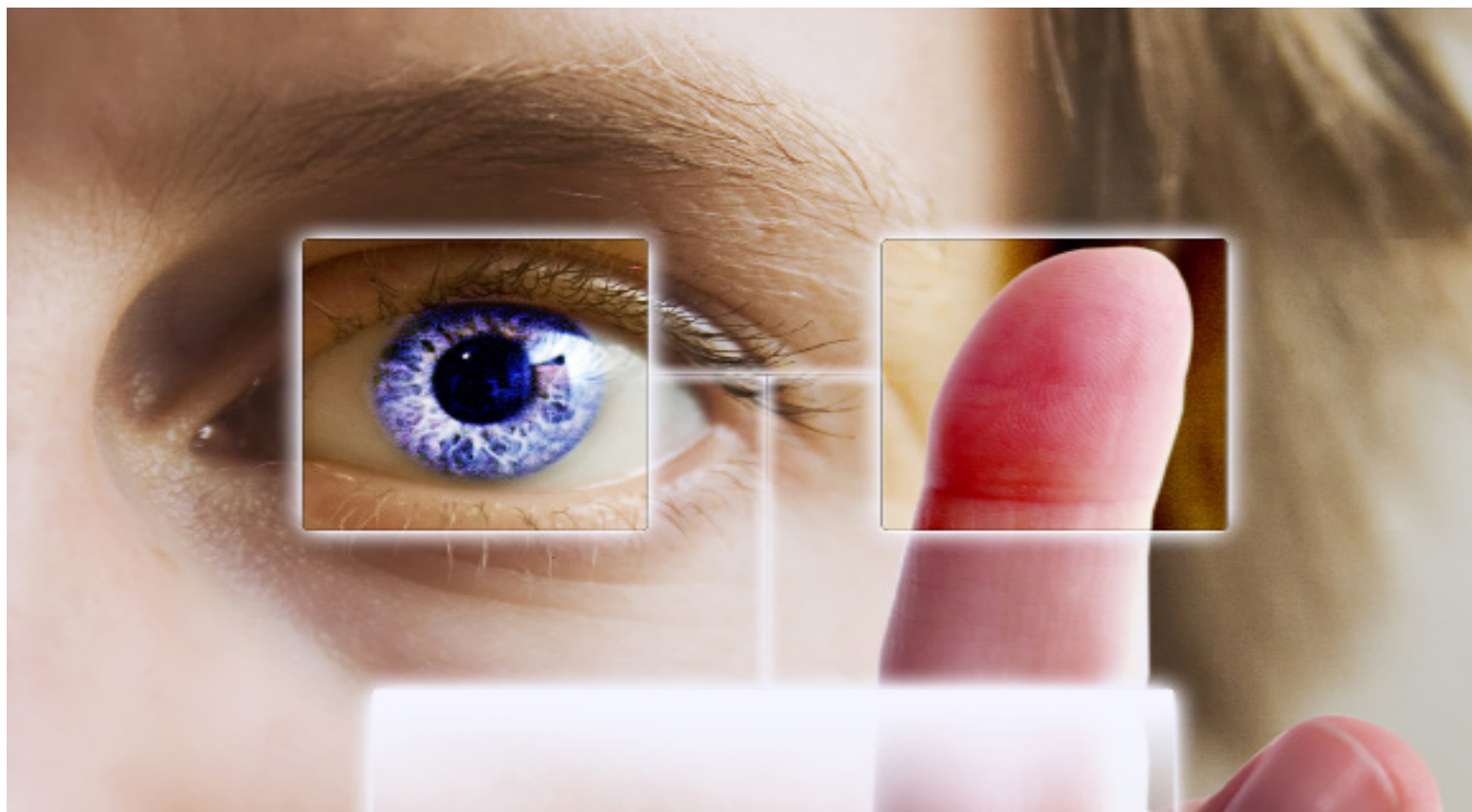
is there. In many countries, government policies and regulations play a big role in the adoption of a new technology. A great example of that is Pakistan's Benazir Income Support Programme (BISP), which uses mobile banking to disburse payments to low and middle income individuals. Mobile payments are a great way for the government to reduce administrative costs and increase transparency, while the mobile banking providers can increase their client base into the low and middle income markets. So far, BISP has been very successful and the share of payments made through this mobile network is expected to grow to 75% as more government payment plans are digitized.

For lower income countries where number of bank branches per person is small, mobile and internet banking provides flexibility in serving their clients without having to invest in brick and mortar branches. Banking correspondents are being utilized to assist with reaching those clients where access to financial institution is not readily available. "A banking correspondent is a representative of a bank who operates transactions on behalf of one or more banks outside the bank's branch network. The term "banking correspondent" is often used broadly and may include post offices, supermarkets, grocery stores, gasoline stations, and lottery outlets that offer basic financial services." This is a great way to use the an infrastructure that is already in place to provide basic financial services and increase accessibility.

Mobile and internet technologies are also a key catalyst for improving financial literacy with minimum investment. Online tutorials and videos about basic

Selected Method of Payment, 2011





financial concepts can be used to increase understanding and confidence in making simple and complex financial decisions. As we have seen, access is already in the hands of many, many potential users.

Studies indicate that, as of May 2013, some 56% of the world population owns a smartphone.

According to Arab States Mobile Observatory 2013, a recent report by Deloitte: "Penetration is forecast to exceed 20% in most Arab States by 2016, with rates as high as 70% in Saudi Arabia. This will be possible due to expected decreases in smartphone prices: prices of premium communication devices are forecast to decrease in future years and, at the same time, entry-level smartphones priced at US\$ 150 or lower are expected to gain increasing market share." This recent trend presents a substantial opportunity for the financial sector in both developed and developing countries to offer convenient products and services through mobile phones.

With smartphones the potential is even higher as the internet banking sector is relatively untapped in these countries. For example, GCC countries have less than 20% online banking penetration, although the Individuals using the internet, (Figure 1.2) is well above 50% in all of the GCC countries.

According to a recent study by ATKearney, lack of trust and fear of online fraud has been stated as key barriers to broader online banking adoption, but this attitude is quickly changing as the consumers are embracing e-commerce and becoming more comfortable with making financial transactions online. This trend can be attributed to the changing consumer profile in the GCC countries as the new generation has grown up using technology and is more comfortable with its use.

There are a great number of benefits for the financial institutions looking to expand their market share by using the mobile and internet banking technologies. There are significant cost savings and opportunities as faster branch expansion can be utilized through light kiosk style outlets as opposed to full-fledged branches. With everyday transactions conducted online or via phone, bank staff will have the time to focus on customer care and sales resulting in improved customer experience and retention. As the online banking penetration increases, new opportunities for client acquisition will also rise. Through in-depth information collection, analysis and understanding of consumer profiles, banks are better equipped to design products that fit and cater to the needs of their clients. Since online and phone banking leads to fewer branch transactions, banks can reduce tellers and

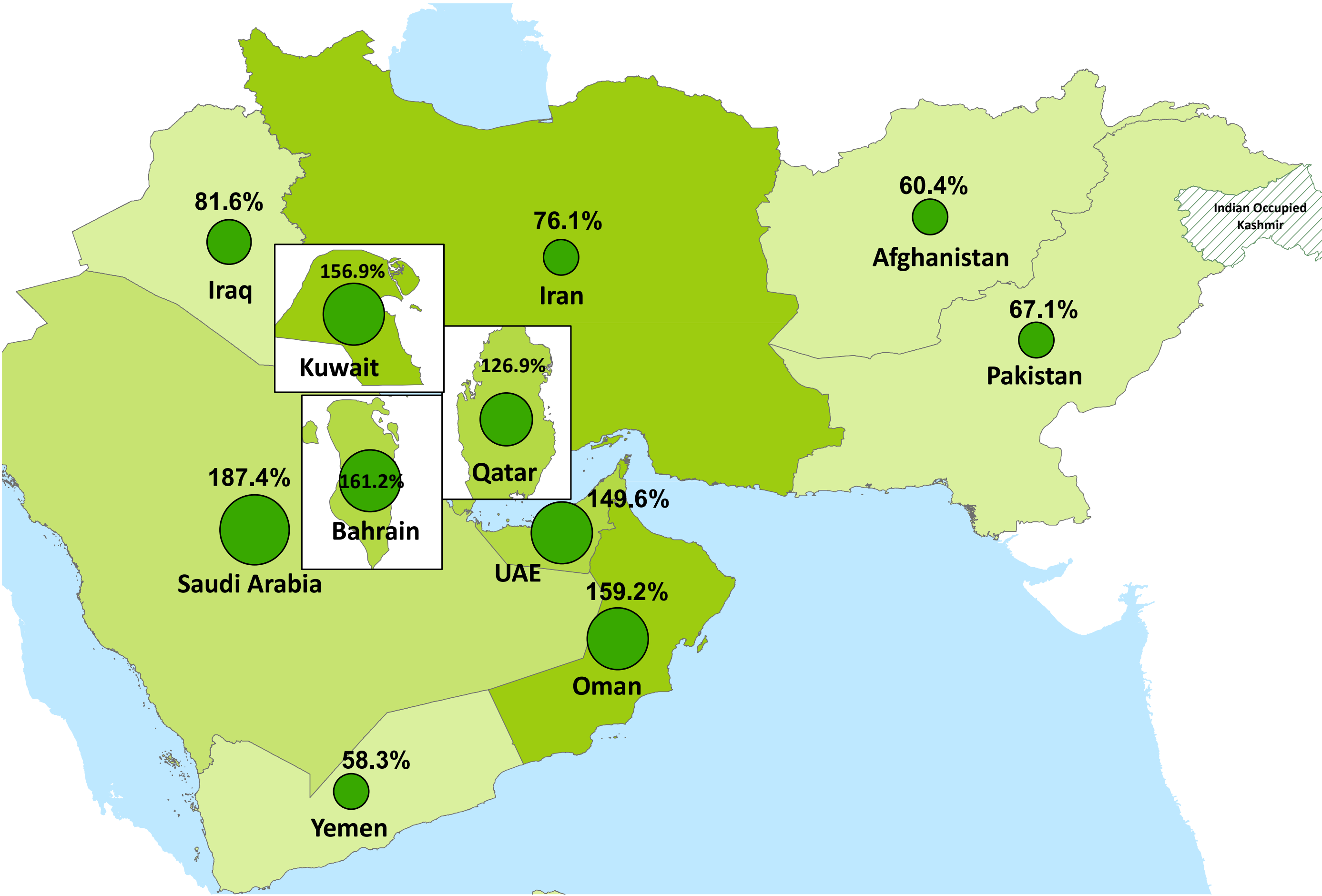
support staff, resulting in lower costs for renting and maintaining offices.

Biometric Technologies

Biometric identification technologies (finger printing, iris scans, etc...) will bring about a significant change in the way we do business. Many financial markets are severely handicapped by lack of information about customer identities and credit histories, and this limits their ability to make well informed decisions in the credit market. This is a major cause of financial exclusion in many cases. To mitigate the risk associated with lack of information, lenders tend to compensate by raising collateral requirements, and engage in costly screenings of borrowers prior to approval or refusing to extend credit. A comprehensive and well-connected database with built in Biometric identification technologies can prove to be right solution to deal with these problems and minimize risk for the lending institution.

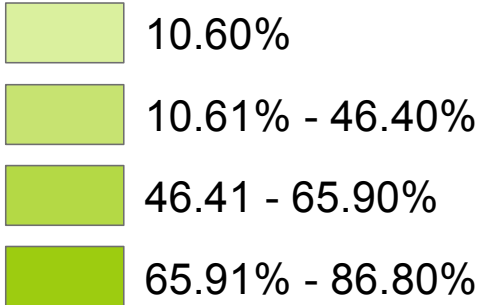
All these innovations in technology, from Mobile and internet banking, to "correspondent banking" and Biometric Identification are the way forward. Although the needs of low and high income country consumers vary significantly, these technologies will prove to be beneficial in providing the right solution. ■

FINANCIAL ACCESS THROUGH TECHNOLOGY

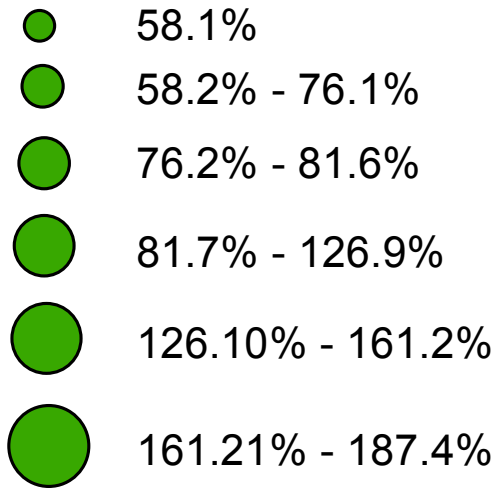


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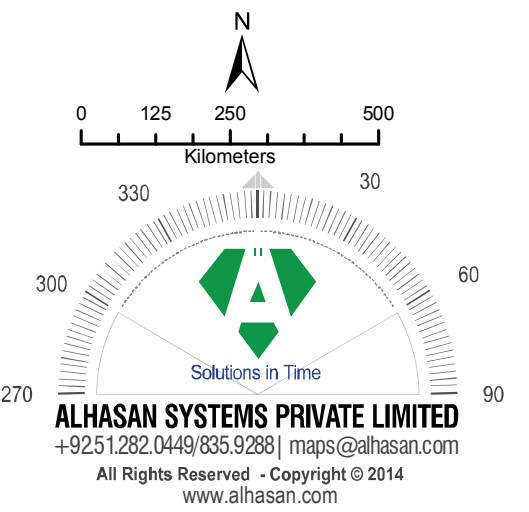
Account at a formal financial institution (% age 15+) - 2011



Mobile-cellular subscriptions per 100 inhabitants (%) - 2011



Date of Creation June 10, 2014
Projection/Datum WGS 84 Geographic



Data Source(s)

World Bank: The Little Data Book on Financial Development - 2014

Finance Act 2014: President gives his assent willingly

The Finance Act 2014 was signed by President Mamnoon Hussain, enforcing all changes in customs tariff, an increase in import duties and the imposition of taxes, including a regulatory duty on luxury goods and 5 % sales tax on several items, introduced through amendments to the Schedules of Sales Tax Act 1990 and Customs Act 1969, from June 26 2014 (Thursday).

The Finance Act signed by the President, has given a legal cover to new taxation and administrative measures of Rs 246.255 billion taken in budget (2014-15). Finance Act 2014 would be effective from July 1, 2014. However, the effective date for charging the revised sales tax rates would not be implemented in cases where amendments have been made to the Schedules of the Sales Tax Act 1990 and Customs Act 1969 for the purpose of charging new taxes or enhanced taxes. All such rate changes in import duties and the 5% sales tax or other taxes introduced through amendments in the Schedules of the Sales Tax Act and Customs Act are in effect as of from June 26th.

The specified clauses of the Finance Act 2014 shall be in effect from the day after assent to the Act by the President. Through Finance Act 2014, the FBR has obtained legal cover to enforce taxation measures introduced through amendments in Schedules before July 1, 2014. At the same time, changes made in the customs duty on the import of items through amendments in relevant Schedules of the Customs Act would be effective from the day after the signing of the Finance Bill by the President. Thus, such changes in customs duties would be applicable from June 26 2014.

Bahrain foreign investment tops \$989m

Bahrain's Foreign Direct Investment (FDI) topped \$989 million last year, an increase of 11% over the previous year and outpacing foreign FDI flows of 9%, a report has found.

The United Nations Conference on Trade and Development (UNCTAD) World Investment Report 2014 said that FDI into Bahrain in 2012 was \$891m, a 14% increase over 2011, Gulf Daily News reported.

Experts said if a similar growth trend were to continue this year, the inflows would cross the \$1 billion mark.

Last year was the second in a row featuring double digit growth in FDI for the kingdom.

The report also shows that last year Bahrain's inward FDI as a percentage of gross domestic product was 55.3%. FDI inflows as a percentage of nominal GDP was 3%, and FDI inflows as a percentage of gross fixed capital formation was 15.7% - the highest in the GCC.

"Foreign investment continues to help boost private sector growth in Bahrain and provide Bahrainis with new high value-added jobs," Transportation Minister and Economic Development Board Acting Chief Executive Kamal Ahmed was quoted as saying.

"This is a strong volume of FDI and, importantly for us, it is also smart FDI that creates sustainable growth and long-term Bahraini jobs."

The EDB, the agency with overall responsibility for attracting inward investment, announced in January that 35 international businesses had established operations in the kingdom last year as a result of its direct outreach activities alone, GDN reported.

The businesses, from North America, Europe and Asia, will create more than 800 jobs in Bahrain over the course of three years across a range of sectors, including financial and professional services, logistics, manufacturing, healthcare and ICT.

Kuwait Finance House reinforces e-services to better serve clients

AAL-Obaid said that KFH keeps pace with the latest technologies in order to reinforce service quality and retain personal customer

touch, while providing for their banking requirements through alternative channels.

He explained that KFH's e-service through KFH Online has become more significant for clients as it provides several banking, commercial, financing, investment and real estate services. He said that KFH has lately added some features like directly activating the payee KFH that conducts banking transfers round the clock in record time. He revealed that KFH has updated KFH Online application for smartphones IOS and android with number of new services that would further improve the online banking experience.

Moreover, he stressed the importance of KFH SMS service as it follows up on client account transactions, noting that KFH has added new notifications for this service regarding credit cards like (accepted, rejected, balance not enough, card not activated, or transaction is rejected for security reasons).

He shared that KFH has installed a new ATM at the Kuwait Disabled Sport Club in an effort to cover all pivotal locations in Kuwait, and address client wishes. KFH has enhanced the presence of MobiBaitak according to a flexible schedule of their coverage for fairs, events and vital areas across Kuwait. He revealed that KFH will soon announce the launch a first-of-its-kind spectrum of e-services in Kuwait.

Al-Obaid said that in terms of AloBaitak service, KFH has added services like; activating banking cards, sending IBAN numbers via SMS, and SMS subscriptions, in addition to offering auto answer lists to facilitate processing and save client effort.

Arab Monetary Fund to provide \$168 Million to Yemen

The Arab Monetary Fund (AMF) will provide a \$168 million loan to Yemen to help support reforms.

The AMF loan, signed by Yemen's finance minister in Saudi Arabia, aims to support Sanaa's economic reform program throughout 2014 and 2015, the AMF said in a statement. An agreement was also signed for Yemen to receive the second and final \$57 million tranche of a loan agreed to in 2013, the Abu Dhabi-based lender said.

The IMF expects Yemen's budget deficit to shrink to 6.7% of gross domestic product (GDP) this year from 7.1% in 2013, which was the biggest gap since 2009.



Pakistan: Major Internal Security Threats and Policy Inputs

Internal security holds a central place in national security policy of any country. Pakistan faces multi-dimensional internal security problems, in both its remote and urban areas to its physical and human security. These threats arise mainly out of intolerance, extremism, militancy and terrorism. They endanger the prosperity of the people and development of the state.

Each nation on the globe faces internal security challenges and so does Pakistan. Crime-corruption, sectarianism and ethnic divides exist in other countries too and they persist in Pakistan. The security

situation in Pakistan worsened to an unprecedented level after the US attack on Afghanistan in October 2001. It caused the rise of extremism, militancy and terrorism throughout the region. Major internal security threats emerged from tribalism and feudalism, political instability, weak governance, ethnic polarization; corruption, socio-economic conditions, and foreign intervention (within Pakistan) have assumed far greater importance than any external security threats.

According to Internal Security Policy for Pakistan 2014-18 (NISP), the global war on terror and the conflict in Afghanistan have altered the internal security paradigm of Pakistan. In the last ten years, Pakistan's

By: Muhammad Akhtar

economy has suffered a loss of more than US\$ 78 billion. More than 50,000 Pakistanis, including civilians, Armed Forces and Law Enforcement Agencies (LEAs) have sacrificed their lives.

The main players involved in the internal security environment are: polity (provinces and territories under the government), clergy, militants, the feudal elite and tribal chieftains and criminal mafias, all manipulating the religious sentiments and ethnic passions of the poorer and uneducated segments of Pakistani society. The Federally Administered Tribal Areas (FATA) having direct border with Afghanistan, are the main source of urban terrorism as well as militancy in the hinterlands. These areas are not only refuges for terrorists, criminals and militants coming in from Afghanistan, but they also export terrorism to other areas of Pakistan in the form of weapons, ideology and suicide bombers. Tehrik-e-Taliban Pakistan (TTP), an alliance of 28 different Taliban factions operating mainly in the South Waziristan Agency of FATA but now has expanded its range of activities not only in other agencies of FATA but also other parts of the country.

In Balochistan, tribal and sub-nationalist elements have been instigating militancy since 1947. Six main Baloch rebel groups are operating in the province. With some 150 training camps for militant groups in various areas of the province (40 of them are reported to be supported by Indian's RAW), are the major cause of insurgency in Balochistan. The local hosts of foreign players are supporting instability in the province due to its geo-strategic importance and resource potential along a future energy route.

Karachi, the economic hub of Pakistan, faces persistent security threats like targeted

killings, street crime, car snatching, burglary, kidnapping for ransom and land grabs. The actual problem of Karachi goes well beyond these societal crimes. The politics of agitation by various religious and political parties for their own ulterior motives has stuck at the life in this very cosmopolitan city. The deteriorating law and order situation has closed over 15,000 business and industries in Karachi and causes Rs.3-5 billion losses per day.

Madrassas (religious schools), linked up with the ideology propagated by the militants in FATA, have support and patronization by some political leaders had also played a threatening role for internal security in the country. Sect-based religious education in Madrassas leads to intolerance for other sects and adds extremism in the society to gain hegemony for their respective ideology in the country. These privately owned Madrassas have greatest net to attract the marginalized and the poor segments of the society because they provide free education, food and lodging to the poverty-stricken masses. According to government records, there are at least 15,148 Madrassas in Pakistan with more than two million students.

Militant organizations are another persistent threat to the internal security of the country. The government has banned 45 such organizations; three are banned under United Nations Security Council resolution (UNSCR 1267). Pakistan is member of United Nations and has pledged to comply its binding resolutions. But the real issue is that some of these organizations are still functioning under new names while the remaining ones carry out their agendas with the same name.

In order to devise a comprehensive internal security strategy, there is a dire

need to develop strong coordinated efforts and information sharing among different security, law enforcement and intelligence agencies. The creation of a capable, well-resourced, and institutionally autonomous police and law enforcement service is necessary. Moreover, steps should be taken for the de-radicalization of society by creating awareness and building capacity of the masses by providing economic opportunities; and enhancing the role of security forces to reduce religious militancy and curb the other criminal mafias.

The National Counter Terrorism Authority (NACTA), in consultation with other institutions supporting National Internal security Policy (NISP) 2014-18 will develop a National De-Radicalization Program with a holistic approach to combat terrorism at all levels - both ideological and practical. The government has taken-on various initiatives to consolidate internal security and counter terrorist activities. Under this policy it is proposed that Madrassas in the pluralistic society of Pakistan, should be integrated with the national educational system by supporting their administration, with financial audits and curriculum accreditation.

The government has also reinforced its anti-terror regulations in October 2013, as President Mamnoon Hussain approved the Pakistan Protection Ordinance (PPO) which proclaims all peace-disrupting elements as 'enemies of the state'. According to the PPO, the security of life, property and dignified living of the people will be the top priority. The Ordinance also states that the writ of the state will be restored with full might of law.

Technology is a powerful tool in the fight against terrorism. The use of new technologies such as the internet and Global



Positioning Systems (GPS) can minimize the threats of terrorism and eliminate the terrorists by adopting pro-active approach. These technologies were designed for military purposes in the beginning but now many countries use them for the fight against terrorism and to enhance commercial activities. When these services are available to the general public, the terrorist organizations are also using them at the level available to them.

It is essential the governments must devise a legal frame work for the use levels of sophisticated technologies in public to

Used this way, biometrics poses a threat to right to privacy. There exists a constant threat that this data can be used by cyber criminals, who can abuse sensitive personal information such as iris scans. A national biometric database poses questions about transparency regarding the sharing of data the local and international level.

Biometric and recognition technologies and visual surveillance have data integration capabilities including data mining and profiling techniques. Automatic Number Plate Recognition (ANPR) systems can glean authorization plate information from

range of available options for the state to protect national security. But many people are unaware of the social effects of technological counter-terrorism measures. These concerns can be partly addressed by introducing a checks and balances system, suggesting that public authorities should be held accountable for their laws, regulations, policies and actions. States with a long experience of counter terrorism need to develop legal frameworks of accountability.

For national unity, the protection of minorities and national intellectual assets should be safe- guarded on a continual basis. So much of Pakistan's success as a society has been made possible by the excellent contributions of every community. Developing public trust is critical for reducing crime and sustaining any reform agenda. What Pakistan truly needs are progressive and constructive policy shifts that matter in the long run. It is path that will be defined and driven by internal and regional factors, and Pakistan's place in the international community. ■



monitor expected terrorists activities. These technologies include biometrics, visual surveillance and the tracing of personal data.

Biometric devices and databases are used to collect the physical characteristics of individuals and store large amounts of data. The recorded information on individuals and stored data can be comprise of fingerprints, palm patterns, digital images of faces, DNA, iris scans, insurance information, vehicle registrations, criminal records and possibly even speech patterns, scars, and a distinct way of walking. Combined with 'smart' surveillance and recognition technology such as Closed Circuit Television [CCTV] systems capable of matching real-time information with stored data and images, biometric databases will be an important tool.

Biometric databases are creating a new trend in state surveillance where people are kept under continuous observation without any prior signs of one's involvement in criminal activities or disorderly behavior.

camera images, processing these images on the spot for police or referring it to a large-scale computer facility. The license information extracted from the image, can be compared with databases to verify identity, establish time and location.

Initially, visual surveillance was used by retailers, now present day visual surveillance systems are also used for countering terrorism. Biometric data or camera images are not only collected and retained, but also processed, disseminated and shared between governmental agencies. Sometimes it is shared with states having bilateral agreements for information sharing. Public authorities become so-called information-Governments (i-Governments) that work on data collection, retention, and mining and develop cross-sharing techniques to minimize all levels of risks to society.

Beyond the use of these technologies to counter terrorism, great concerns have arisen in relation to the state's accountability. New technologies have maximized the

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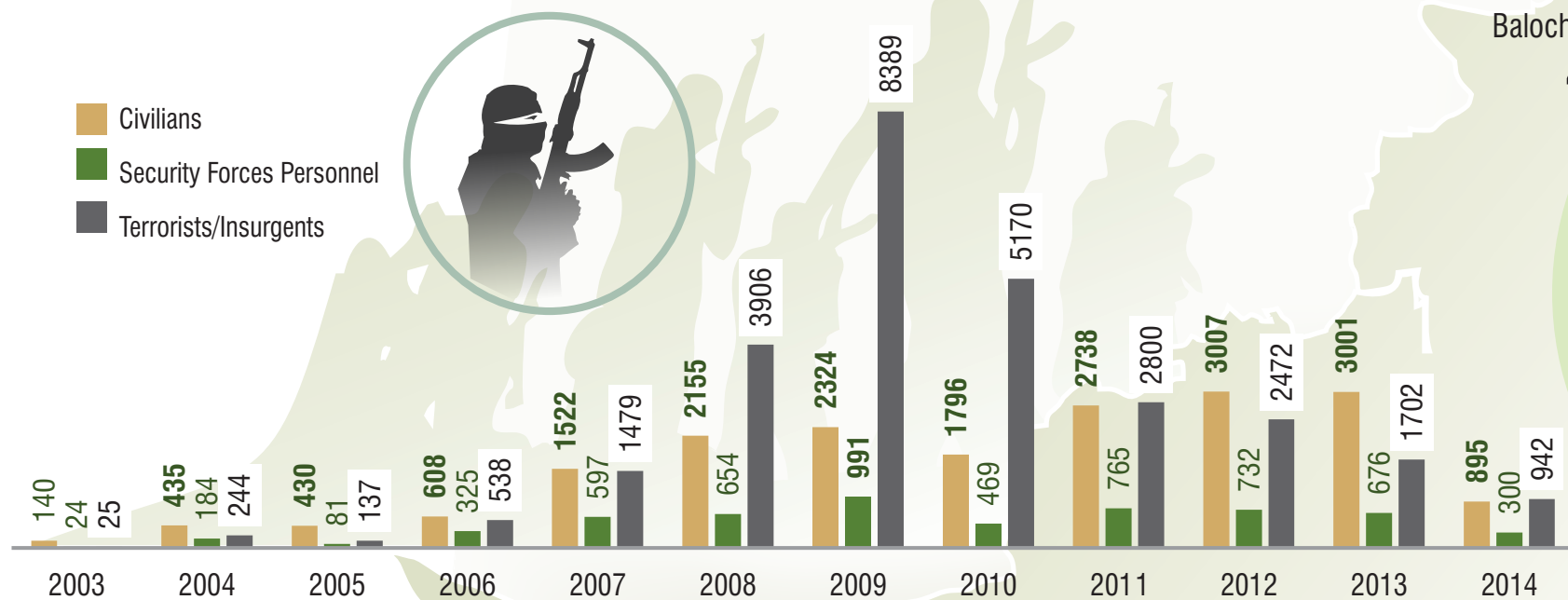
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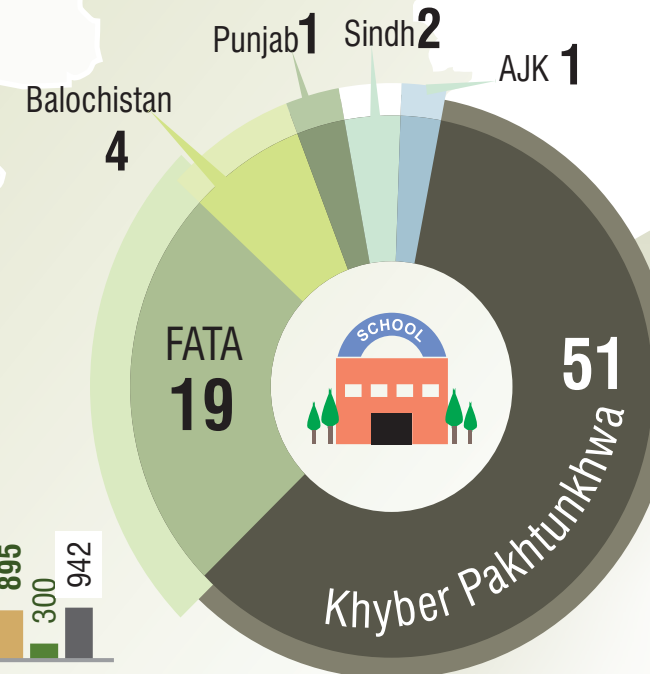
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PAKISTAN SECURITY PROFILE - 2013

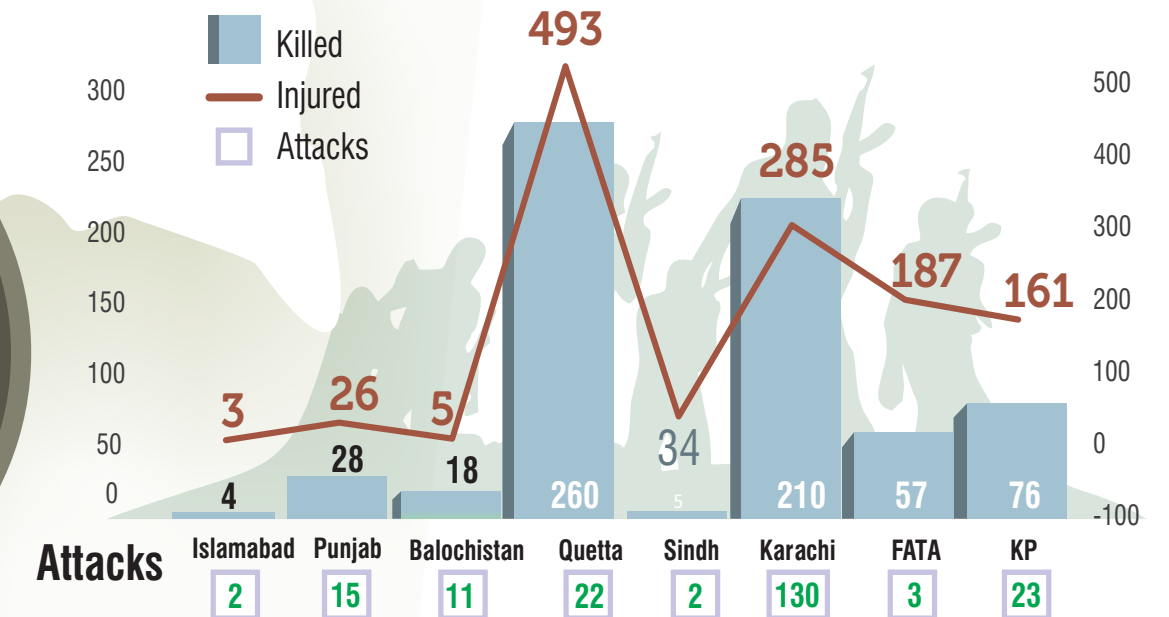
Fatalities in Violence 2003 - 2014



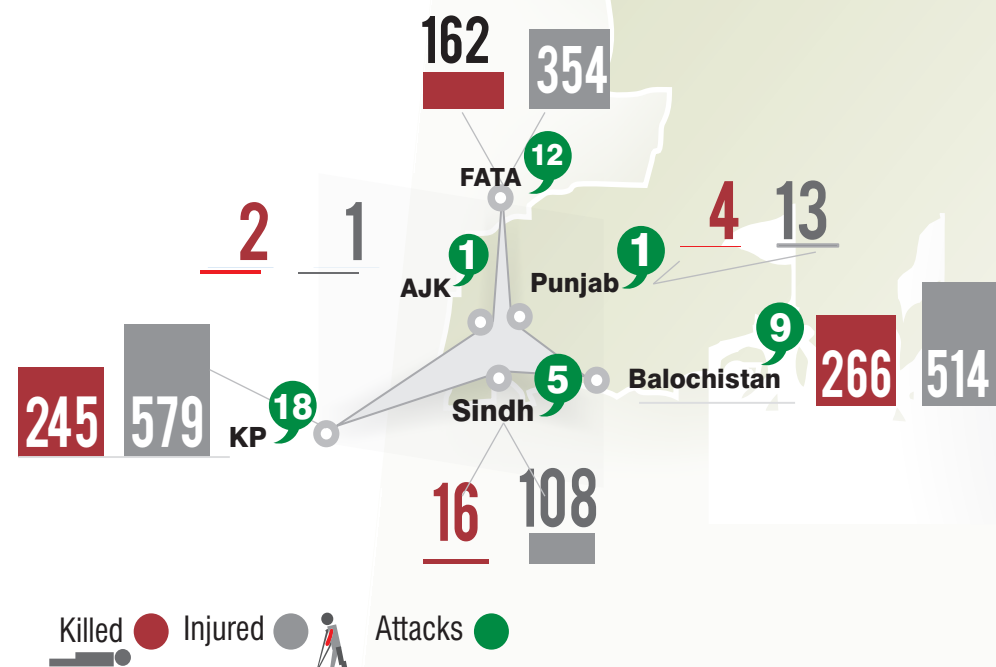
Attacks on Educational Institutes



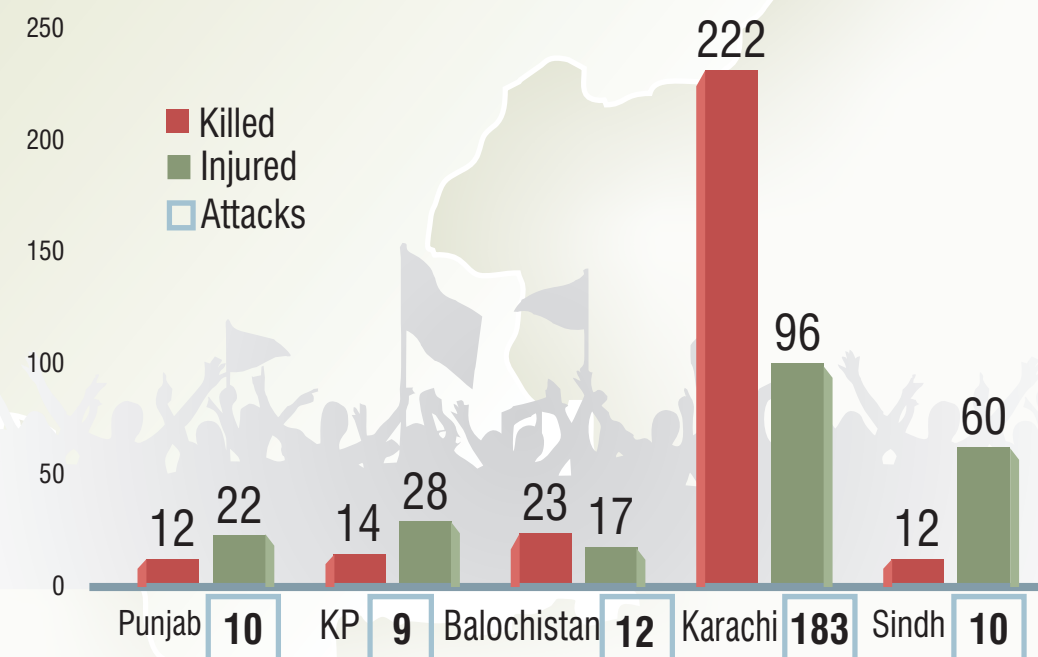
Casualties in Sectarian Related Attacks by City/Province



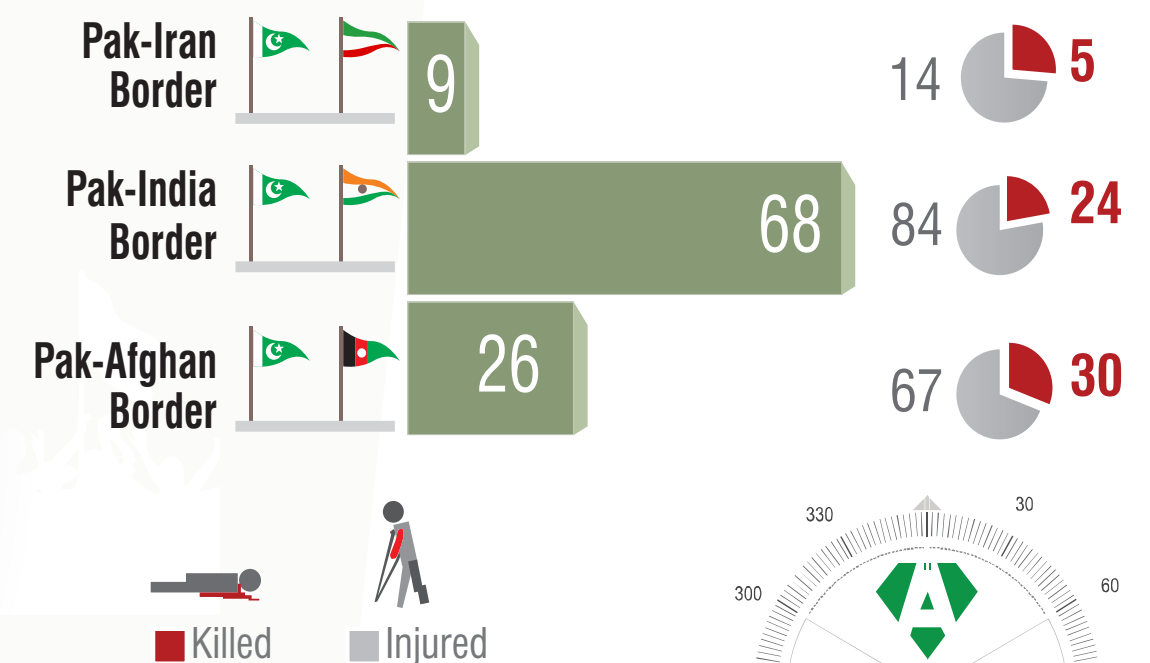
Suicide Attacks



Incidents of Ethno - Political Violence



Border Attacks/Clashes



Data Source(s): Pak Institute for Peace Studies (PIPS): Pakistan Security Report - 2013, South Asian Terrorism Portal: Fatalities in Terrorist Violence in Pakistan

Iran Supports Development, Security in Afghanistan

The Iranian parliamentarian and Head of the Iran-Afghanistan parliamentary friendship group expressed Tehran's support for any approaches leading to development and the establishment of security in neighboring Afghanistan.

Gholamreza Asadollahi made the remarks during his meeting with the Head of the Women's Affairs Committee of Afghan Meshrano Jirga (Senate) Sediqa Balkhi in Tehran on Saturday. Commenting on the deep historical and cultural bonds between the Iranian and Afghan nations, the Iranian lawmaker also called for expanded ties between Kabul and Tehran.

Asadollahi added that, "Historical, religious, and lingual common points have prepared a good ground for political, economic, and cultural interactions between the two countries." The Iranian MP noted that stability and security in Afghanistan will positively affect the regional peace, reiterating that the Islamic Republic of Iran believes that sustainable development in Afghanistan should be gained only by the Afghans themselves. The head of Iran-Afghanistan parliamentary friendship group also hailed the recent presidential election in Afghanistan as an introduction to the development of civil society and democracy in the country.

For her part, Balkhi pointed to spiritual and financial supports offered by Iran's government and nation during years of war in Afghanistan. She emphasized the importance of developing ties with neighbors especially Iran, adding that high-ranking Afghan political and parliamentary officials are willing to increase political, economic, and cultural ties with Iran.

Pakistan Army takes security charge in Islamabad

On the directive of Federal government Pakistan's Army has been deployed in the national capital of Islamabad to assure security amid terrorism threats.

As many as 250 army soldiers were deployed in the red zone, the sensitive and most important areas of the city. The army has taken over internal security of the federal capital. Soldiers have also been deployed in the diplomatic enclave to prevent any terror bids and also started patrolling Margalla hills. Sources said that the security was handed over to the army to prevent the possible backlash against the military operation targeting militants in Waziristan.

UAE ranked high for security provision

UAE has ranked ninth in the The UAE has ranked ninth in the world in providing order and security for its residents, according to a recent study. The Rule of Law Index also found that, for the third consecutive year, the country took top place in the Middle East.

Overall, taking into account all the survey's categories, the UAE ranked first in the region and 27th in the world. The index is administered by the non-profit organization World Justice Project (WJP) and it measures the adherence of countries to the rule of law. Its objective is to provide governments, non-governmental organizations, businesses, academia and civil societies with independent and reliable data to make targeted and effective reforms.

The UAE's public institutions were found to be relatively well developed and free of corruption, ranking 17th globally, up from 23rd in the previous ranking.

"Institutions in the UAE are modern and they're so young compared to more established democracies, which have been around for thousands of years. So in the newness of them, the fact that they're ranking so high is remarkable, especially compared to developed countries."

The UAE ranked 23rd globally in regulatory enforcement, 33rd for civil justice and seventh on criminal justice, up from its previous ranking of 12th.

"The court system is efficient and relatively independent by regional standards," said

the report. The UAE also ranked 42nd in constraints on government powers, 52nd in open government and 73rd in fundamental rights.

The Middle East and North Africa region ranked in the top half of the world in most categories, including order and security, control of corruption, regulatory enforcement and effective civil and criminal justice. The worst overall rankings in the region were Egypt at 74th and Iran at 82nd, among the 99 countries in the index.

OIC to discuss Iraq security crisis

The foreign ministers of the Organization of Islamic Cooperation (OIC) member states are likely to discuss the worsening security situation in Iraq at their two-day meeting in Jeddah.

Most of the foreign ministers or the deputies of 56 of the 57 members of the OIC have confirmed their participation. Syria has been suspended from the organization.

The meeting has evoked considerable interest because it is being hosted by regional powerhouse Saudi Arabia.

OIC Secretary General Iyad Madani expressed concern over the situation in Iraq, especially the events in Mosul over the past few days. He called on the Iraqi leadership to take steps to solve this critical situation because it may have serious consequences for the security and stability of the whole region.

All members of the Arab League are also members of the OIC. Arab League Secretary-General Nabil El-Arabi confirmed in Cairo that foreign ministers of the member states would meet on the sidelines of the OIC summit to chart the next course of action on Iraq. Addressing an extraordinary meeting of the permanent representatives of the Arab League in Cairo, El-Arabi expressed deep concern at the escalating attacks on the Iraqi people.





Water Conservation and Drilling Methods

In India, Afghanistan, and Pakistan the immediate need to maintain usable water levels to support the population is crucial and wastewater conservation is embracing new methods to contain and recycle contaminated water from traditional drilling methods. In all, a dim picture is being painted for the region:

- The drought in Pakistan is expected to reduce the available water to 31% below the population's need by 2025. (Rana, 2013).

- In Afghanistan 50.25 % of Afghanistan's water pollution is

sourced from industries using drilling methods (NationMaster, 2014).

- In September of 2013, The Times of India published an article stating: "Experts say that population of cities such as Jamshedpur, Dhanbad and Kanpur have increased manifold, resulting in increased demand for water." (Kumar Dash, September 9, 2013).

In her 2011 report "When Demand Surpasses Supply: Water Scarcity in Afghanistan," Linda Lavender states that "countries with water availability of less than 1,000 cubic metres per year per person will be 'water scarce' societies; and countries with less than 1,700 cubic metres per person per year will be classed

By: Kimberly Anne Klemm

as ‘water stressed’’. Droughts, water resource management issues, and exploding populations have led to serious concerns that India, Afghanistan, and Pakistan will soon face a “water scarce” situation sometime within the next decade.

Drilling methods, in agricultural, industrial and energy production seriously affect the precious resources of a nation and directly impact water conservation efforts. By closely examining newer, efficient drilling methods better wastewater containment and recycling we will find some of the Best Practices for water management.

Among these newer technologies are Zero Tillage (ZT) drilling, Hydrothermal Spallation Drilling, and Sonic drilling. All of them hold promise for the present and the future. Each of them present viable over traditional method such as percussion or rotary drilling; jetting; sludging; and auger drilling.

Agricultural Research council (PARC).” (Samandani, 2014) ZT drilling plants seeds in the soil by breaking through the top layers into the seedbed without resulting in soil turnover or tillage. An organic topsoil is maintained unbroken. ZT drills are usually not single drill bores, but several drill heads positioned on a machine to move across the acreage, bore directly under the earth, and drop seed (see picture below).

Water conservation and wastewater cost efficiencies are solid, proven benefits from Zero Tillage drilling resulting from allowing the topsoil layers to remain intact to prevent soil-moisture evaporation. The successful implementation of Zero Tillage drilling in Pakistan over the last decade has produced positive results in farmland and wastewater conservation efforts. The ZT drilling method creates less need for irrigation and improves soil fertility. Because sowing is uniform and seed is drilled into the ground, the planting benefits from the soil’s properties

have reduced fuel consumption, improved stability, and increased water-retention capabilities.

Hydrothermal Spallation and Sonic drilling are developing technologies and aren’t widely used at the moment. Both can deliver great benefits and for more widespread in India, Afghanistan and Pakistan is worth considering. The employment of more advanced alternatives requires more electricity than traditional drilling methods and there are greater initial costs to establish alternative drilling equipment on-site. Although energy is at a premium, this isn’t about the energy – it’s about the water. These new technologies increase both soil and water protection and India, Afghanistan and Pakistan cannot afford to ignore alternative drilling methods. There may be additional resources required, such as a heat source or extensive sampling; but again, it’s about the water.

Hydrothermal Spallation and Sonic drilling methods

The possibilities of reducing waste and increasing water conservation are enormous when ZT drilling, Hydrothermal Spallation drilling, and Sonic drilling are effectively employed. Looking closely at each of these methods pinpoints their contributions to water conservation. In the industrial sector, Hydrothermal Spallation drilling is being explored as an alternative to traditional drilling methods. Heat shocks are used to break thorough ground and rocks rather than attempting to use contact force from a physical drilling instrument (a large drill bit). A cooling water spray is used with a burner assembly producing a flame jet that heats natural flaws in the surface to be drilled, causing buckling and then fracture of the flaw. Wastewater produced from Hydrothermal Spallation drilling has fewer pollutants and less integration with drilled material.

- The drilling fluid is water based and heated. The heating creates an evaporation factor that offsets the need to contain wastewater in massive volumes as drilling progresses.

- Cooling water is used to maintain the drilling case and this cooling water is circulated rather than released.

According to IFAD, 22% of fresh water resources are used for industry globally (IFAD, 2014). Hydrothermal Spallation

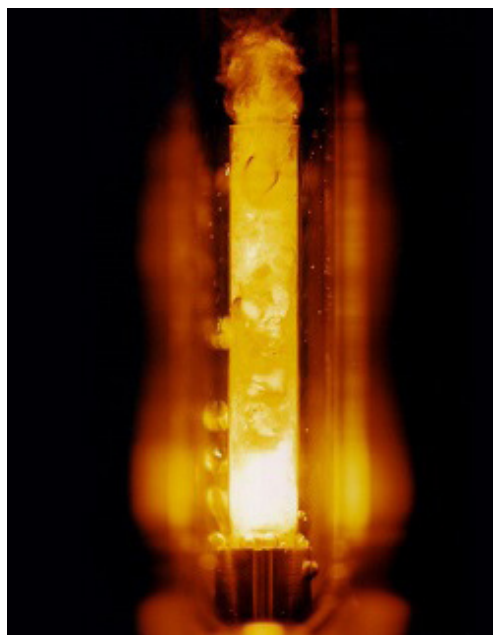


One Type of Zero Tillage Drilling

Better Drilling for Better Agriculture and Industry

Zero Tillage (ZT) drilling is largely used in agriculture in India and Pakistan. “The seed drill for ZT was developed at Massey University of New Zealand and was later fabricated in Pakistan with the help of Dr. Chaudhry and other experts from New Zealand with the collaboration of Pakistan

that are retained and wastewater from soil preparation is not created. Successes of ZT drilling include: 1) Reduced technology impact at the ecosystem level, 2) Less energy budget used, and 3) Positive changes in the knowledge base and morale of farmers (Singh, et. al., January, 2012). Zero Tillage drills have improved over a decade of implementation and solved issues with more modern equipment. Newer ZT drills



Hydrothermal Spallation Drill in Action

drilling reduces the volume of fresh water used to drill, and reduces contaminants within the wastewater residue resulting from drilling implementation. This offers an opportunity for countries such as India and Afghanistan to use this new technology in industrial endeavors such as: mining, construction and oil production.

“Mud invasion during drilling causes contamination of underground water resources” -Pakistan Journal of Nutrition, 2013.

Sonic drilling uses no drilling fluids. High frequency oscillations are transmitted as frequency vibrations through the drill head and the vibrations fluidize the drilling surface. It eliminates the traditional drilling risks of contact with and creation of drilling mud. Water is only used to cool the drill barrel casing in order to prevent core samples affected by the barrel heat.

Sonic drilling attacks the rock or hard surfaces without disturbing the ground except for the displacement of the drilling target. There is no mud waste contamination. Sonic drilling protects underground water sources and eliminates the introduction of drilling contaminants into the soil making it a very useful new technology for well construction, environmental borings and gravel mining. In drier climate situations, the Sonic drilling of wells could protect the above ground water system of the Amu Darya River, Helmand River, and Kabul River by preventing severe soil degradation and Basin contamination from washes resulting from improper well founding.

Drilling waste does not have to be contained and stored with Sonic drilling.

There are limitations in using sonic drilling. It is effective only to a depth of 500 ft. (Robertson GeoConsultants, Inc., 2014).

The current energy crisis creates a difficult situation for industries that employ drilling in their operations. Advanced drilling equipment requires greater energy resources to sustain productivity. On the other hand, new drilling equipment and techniques generate a higher yield and have a longer operational life with less definitive costs incurred in spite of the energy needs. There are always trade-offs.

Traditional drilling methods require excavations known as “sumps” to store drilling waste. At drilling sites soil conditions are pre-evaluated for proper consistency and density for sump construction and re-evaluated periodically after drilling waste disposal to ensure proper drilling waste maintenance. Bioassay toxicity assessments are usually conducted on drilling waste to ensure the waste storage sump, tank, or unit is properly compatible with disposal needs. Land spraying is an alternative waste disposal method that involves dispersing liquid or slurry waste on topsoil. Land spraying is a process that may be used in conjunction with the drilling as the drilling occurs and it is more conducive to alternative vs. traditional drilling methods. Soil incorporation can also be used with land spraying to return drilling waste with valuable components, such as nitrogen, to the land to enrich the earth.

Technologically advanced drilling methods, such as Zero Tillage (ZT), Hydrothermal Spallation drilling, and Sonic drilling, eliminate the need for soil disturbance and leave less drilling waste behind them.

India has organized in many areas, (for example: Participatory Irrigation Management (PIM) and the Water Users Associations (WUAs), to step up water conservation efforts and fight significant and increasing climate changes. Soil moisture conservation is crucial in many rural parts of India and as industry expands, lessons learned through implementing technology such as ZT drilling (already widely used in India) can be passed on and combined with newer technologies for improvements to drilling equipment and techniques. In Afghanistan, water conservation as an

organized effort is a challenge due to the prolonged drought. Uncertain steps have been made by many private stakeholders and Councils in efforts to manage the water resources of Afghanistan and to create an integrated system of conservation, planning and development activities, including wastewater recycling. Sonic drilling methods, could benefit Afghanistan in the establishment of wells and water resource connections while preserving the reservoirs from wastewater contamination created during construction. Drilling technology initiatives could, and need to become coordinated public and private sector water conservation efforts.

The Karachi Water Partnership in Pakistan has two successful principles of “cost-synergy” and “mutual accountability” (Global Water Partnership, 2014). These principles are applied in partnerships with private industry to control the agricultural and industrial uses of water and the production of waste. Resource management and environmental concerns have resulted in positive efforts for water conservation and wastewater planning such as The National Water Sector Strategy (NWSS).

Alternative drilling methods are one component of improved water conservation and wastewater recycling efforts. Deliberate and careful discussions with private business investors and the implementation of advanced drilling technologies could promote more public and private partnerships to advance water resource management. ■

Planning Engineer

·Country: United Arab Emirates
·Location: Abu Dhabi
·Job Status: Full Time

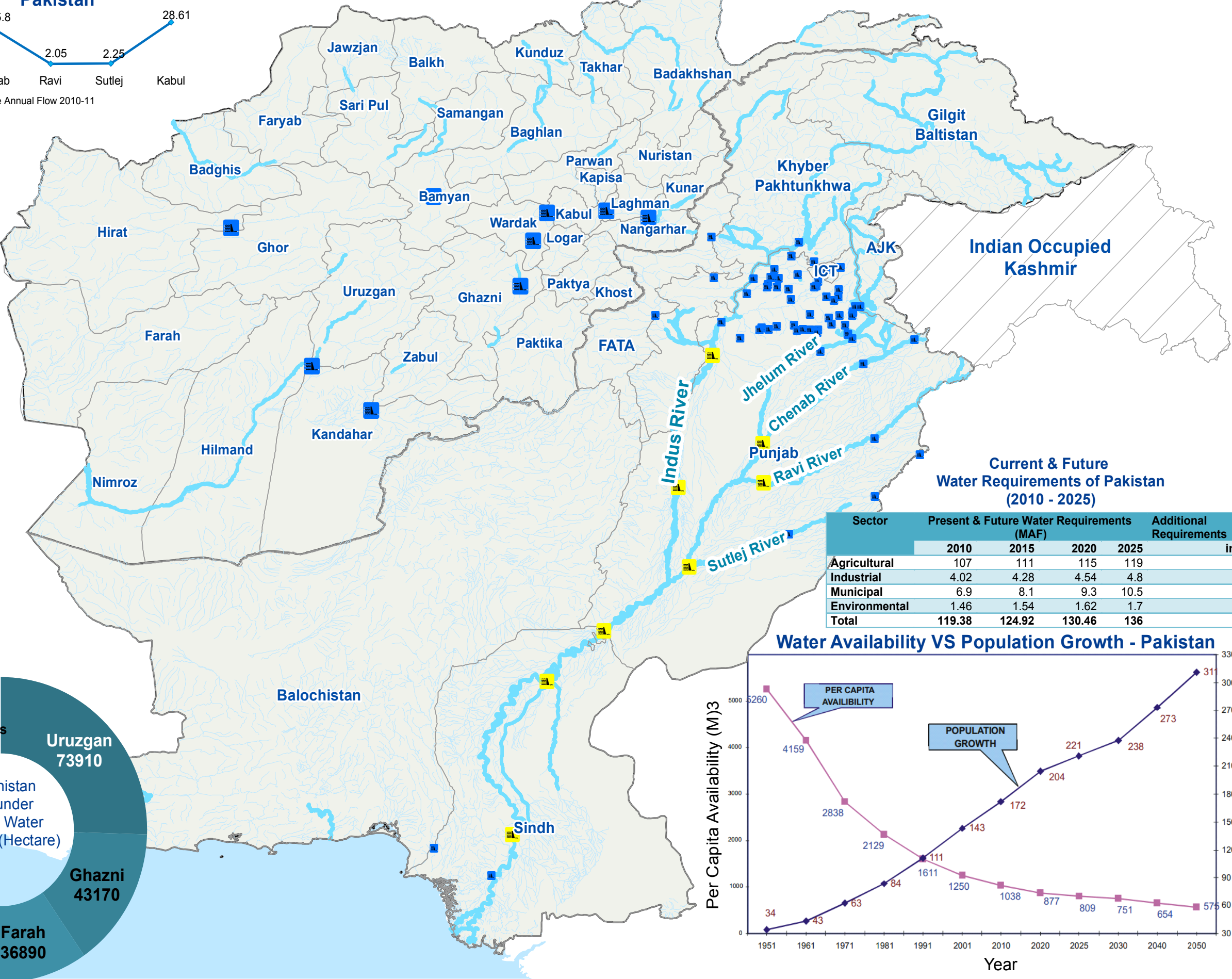
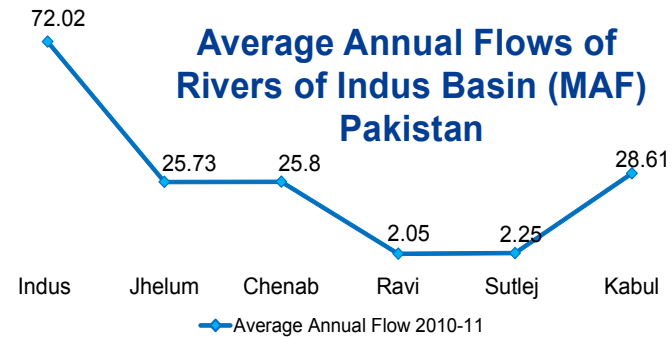
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PAKISTAN AND AFGHANISTAN MAJOR DAMS AND BARRAGES



Legend

- Dams
- Barrages
- Inland Water
- River

Date of Creation: June 10, 2014
Projection/Datum: WGS 84 Geographic

0 50 100 200 Kilometers

330 300 270 60 90

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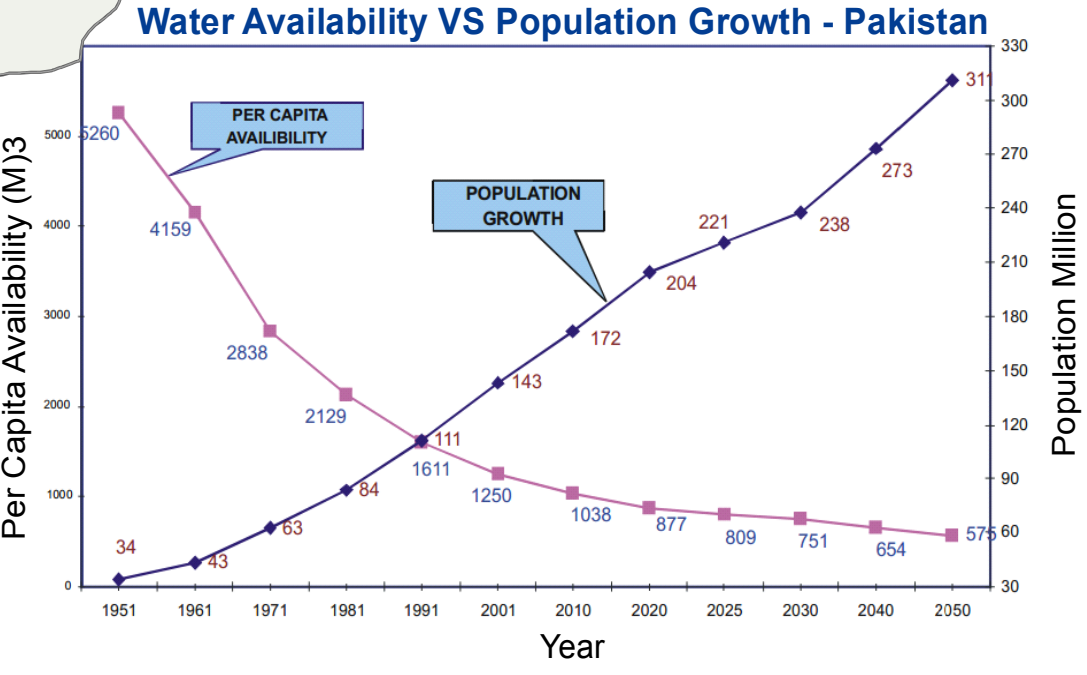
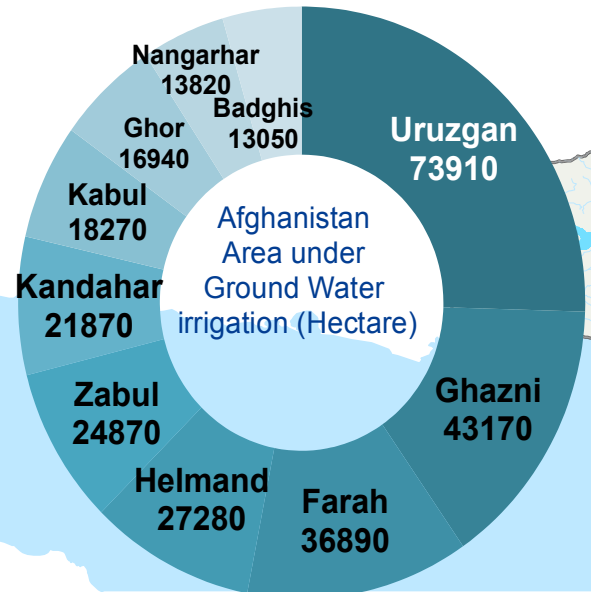
Data Source(s)
PCO: Pakistan Admin Boundaries
USGS: Afghanistan Admin Boundaries, Inland Water Feature and River

Current & Future Water Requirements of Pakistan (2010 - 2025)

Sector	Present & Future Water Requirements (MAF)				Additional Requirements in 2025
	2010	2015	2020	2025	
Agricultural	107	111	115	119	12
Industrial	4.02	4.28	4.54	4.8	0.78
Municipal	6.9	8.1	9.3	10.5	3.6
Environmental	1.46	1.54	1.62	1.7	0.24
Total	119.38	124.92	130.46	136	16.62

Province wise Distribution of Different Irrigation Systems in Afghanistan (Hectare)

Povince	Canal	Spring	Karez	Wells	Mills
Badakhshan	212	82	0	54	730
Badghis	120	50	30	0	500
Baghlan	109	63	0	0	565
Balkh	250	92	3	82	912
Bamyan	179	137	0	300	651
Farah	312	94	352	327	260
Faryab	157	79	960	867	1030
Ghazni	818	604	1519	636	994
Ghor	804	570	4	263	500
Helmand	227	135	276	60	516
Heart	302	153	228	450	1302
Jawzjan	382	87	2	443	475
Kabul	177	81	321	436	616
Kandahar	279	258	631	252	383
Kapisa	285	72	49	176	638
Kunarha	223	67	0	13	681
Kunduz	88	0	0	55	363
Laghman	45	3	0	0	561
Logar	154	169	124	91	433
Nangarhar	274	210	495	15	1001
Nimroz	193	2	18	140	133
Paktia	625	392	528	800	171
Parwan	120	93	34	0	756
Samangan	20	73	7	271	190
Takhar	316	288	509	653	
Uruzgan	363	429	84	210	1266
Wardak	589	519	336	822	
Zabul	199	756	743	148	373



Pakistan, Brazil to work on bilateral agriculture cooperation

Security & Research (MNFSR) Sikandar Hayat Khan Bosan said that Pakistan and Brazil need to work together closely in the agriculture sector to expand and strengthen bilateral agricultural ties.

The Minister also said that Pakistan could emulate the success of Brazil in Zero Hunger and School Feeding Programmes for ensuring future food security for the growing population of Pakistan. The minister was talking to Alfredo Leoni, Ambassador of Brazil in Pakistan, after the latter called on the minister here on Thursday.

The two dignitaries agreed on widening the scope for the mutual sharing of information and knowledge in diverse fields of agriculture. Both sides discussed the possibility of exploring new opportunities for launching joint ventures in different sectors of agriculture, particularly in livestock and poultry. The minister said that Pakistan could benefit from the experience of Brazil in developing new ways of feeding, transporting, and marketing poultry products to further expand and modernize the poultry industry.

Both dignitaries resolved to expedite the finalization of pending their Technical Co-operation Agreements that would open up avenues of co-operation in multiple areas of agriculture between the two countries. During the course of meeting, the minister also apprised about his recent visit to Brazil where he held fruitful meetings with officials of the Agriculture Research Organisation (EMBRAPA) and the Ministry of Agrarian Development and exchanged expertise and information on scores of agriculture related matters.

Iran will launch three Earth Observation satellites in 2015

According to recent news, three Iranian remote-sensing satellites Zafar, Tolou and AutSat are expected to be launched on March 21, 2015.

The Iranian Space Agency (ISA) is Iran's governmental space agency and Iran became an orbital-launch-capable nation in 2009. Iran is one of the 24 founding members of the United Nations Committee on the Peaceful Uses of Outer Space, which was set up in 1958.

The satellites are designed to gather data from the environment and forecast natural disasters. Satellites can provide more accurate images of the earth in times of natural disasters such as flooding, tsunami and arson.

Zafar will be sent into a geostationary orbit, which is a circular orbit around 36,000 kilometers (22,320 miles) above the Earth's equator. The satellite will reportedly have a lifespan of one year and six months, and will capture images and transmit them to stations on earth.

Tolou satellite will also carry out remote sensing and topography missions, and will travel in an orbit of 500 kilometers above from the Earth's equator.

Moreover, AUT Sat, developed by Iranian scientists at Amir Kabir University of Technology, is a monitoring and telecommunications satellite, which weighs 100 kilograms. It is expected to have a lifespan of two years.

Role of technology in food security

The Arab Forum for Environment and Development (AFED) announced after a meeting of the organizing committee of its upcoming seventh annual conference, held in Amman that it will study, among others, the role of science and technology in enhancing water and food security.

The conference, set for Nov. 26-27, 2014 at the Royal Convention Centre at Le Meridien in Amman, will have food security options in Arab countries as its theme..

AFED Secretary General Najib Saab explained that "Arab countries have been pursuing a target of higher food self-sufficiency rate, but

achieving this goal remained beyond reach, as limited land and water resources were not used in efficient manner." Saab also revealed that the report will include the first map of its kind for water resources and agricultural and range lands in Arab countries.

The report and conference have the support of the Environment Agency-Abu Dhabi who is the Official Partner and Jordanian Petra University as the Organizing Partner. AFED is also collaborating on the production of the report with regional and international research centers and organizations such as the Arab Fund for Economic and Social Development, Islamic Development Bank, International Center for Agricultural Research in the Dry Areas (ICARDA), Kuwait Development Fund, the American University of Beirut and the Arabian Gulf University.

Abu Dhabi farms setting new produce records

Indigenous farming is at the heart of a country's food security plan and the UAE has worked very hard at arriving at this point in a relatively short time. Given the endemic challenges it faces — limited water and desert soil — the production of fruit and vegetables in the UAE has reached an impressive stage with an astonishing range of produce earning themselves the 'farm-to-plate' honour.

While it is true that the UAE does import more than 70 per cent of its food requirements, it is also true that it is increasing the volume of its local produce year by year.

In the upcoming 2014-15 agriculture season, for example, Abu Dhabi farms are expected to produce 38,000 tonnes of vegetables and fruit, as compared to 28,000 tonnes last year. The driving force behind this success story is the Abu Dhabi Farmers Service Centre (ADFSC), which is encouraging farmers' efforts with great incentives, such as a Minimum Guaranteed Price scheme that covers their cost of production even when the market price drops. The result is that the ADFSC has managed to farm out a win-win situation for all, including UAE consumers who get to buy local and eat local.





Lost and Found

I think it was Zig Ziglar who coined the phrase, “Those who fail to plan, plan to fail.” Planning is a critical component of any successful business. But what if planning and the setting of goals becomes a problem? We create business plans, strategic plans, marketing plans, and action plans. And sometimes, in the midst of all our planning and goal setting, we lose our way.

Pursuing Goals without Direction

By: John Weaver

Recently, I was sitting with Diane (not her real name) who was describing

her dissatisfaction with the way her life was going. Some of the decisions she found herself making were, by her own description, irresponsible. This hard-working and successful executive woman was making choices that were making her work much harder and held the potential to be harmful for her and for her organization. Even though she was aware of the implications, she could not stop herself from taking this self-destructive path.

Diane is one of the most organized people I have ever met, working at or near her capacity nearly all of the time. She obtained this skill through necessity when she was juggling a full-time job, family responsibilities and school all at the same

time. When things got difficult, she worked even harder and always found a way to make it work. She has made great strides in her career by applying the lessons she learned along the way. Then a member of her family became seriously ill. She adjusted her time and directed her energy to meet this new crisis. The quality of her work did not initially suffer, and she still made time for her family. But she noticed that she was making decisions that were negatively affecting her on a personal level. And, although she was aware of the problem, that awareness was not changing her behavior. She also knew that she was emotionally exhausted and worried that it was beginning to affect her work. Trying harder was not working anymore.

As we explored the problem, I asked her to comment on the things she did to “play.” Where did she find fun in her life? Initially she could not think of anything – everything she did was work. Gradually, she noticed that even her “play” had become work for her. She did nothing without a goal in mind. She became very quiet at this point of our conversation, and I asked what she was thinking.

“I feel so lost,” she said.

She was responding to the needs of her work and her family but she lost herself in the process.

Alternative Business

Is there an alternative way to do business?

In his book *Leadership from the Inside Out* (Executive Excellence Publishing, 2000), executive coach Kevin Cashman relates a story about a priest set in pre-revolutionary Russia. In this story the priest

is confronted by a soldier who aimed his rifle and demanded,

“Who are you? Where are you going? Why are you going there?”

Unfazed, the priest responded “How much do they pay you?”

The soldier, surprised by his question, responded, “Twenty-five kopecks a month.”

The priest paused and said, “I have a proposal for you. I’ll pay you fifty kopeks each month if you stop me here every day and challenge me to respond to those same three questions.”

Sometimes we confuse our pursuit of goals with having a direction. It is not that planning and goal-setting is wrong. It is an essential part of effective work. Goals are concrete and measurable. There is a sense of safety in tangible progress that can be assessed. But goals need to be in the service of something larger and more meaningful in both our personal and organizational life or we risk piling up accomplishments but losing ourselves in the process.

Goals that are disconnected from a meaningful purpose easily lead to job burnout. Talented and skillful workers are lost to organizations because their jobs do not bring real satisfaction. Some continue to hold the position and become “workaholics” but cannot generate any enthusiasm or creativity.

Where to begin

The priest in Kevin Cashman’s story recognized the importance of asking three questions. He also recognizes that asking the questions must be done with regularity. Many organizations have spent time and

energy creating a mission statement. When was the last time you looked at the mission statement, or thought about how your goals fit within it?

Who are you?

This question starts at a very personal level. What are my core values? What are the talents (inborn abilities) that I bring to the workplace? It expands to the organization. What is the mission of this organization? What does it contribute to the human community? This is a question of identity and it demands that the questioner look deeply.

Where are you going?

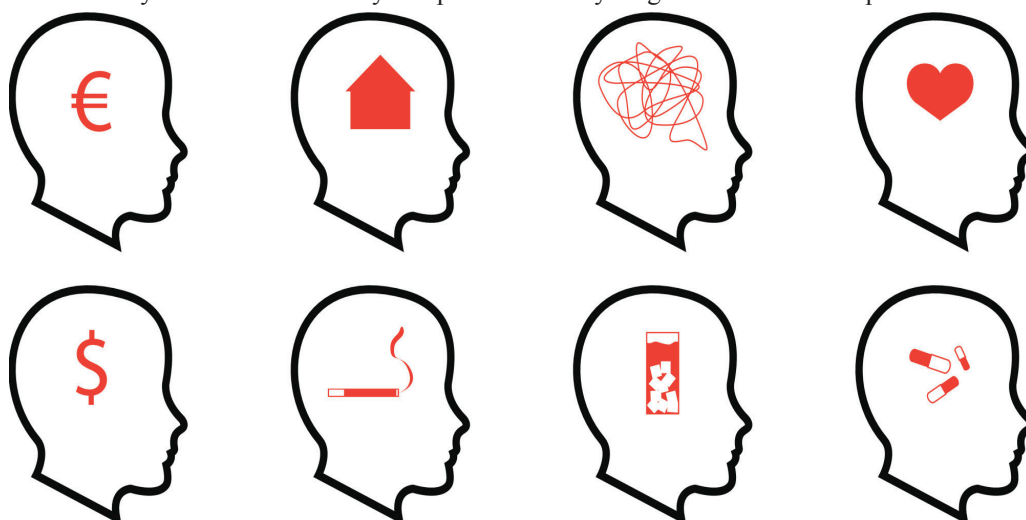
Suppose that you spend your life climbing the corporate ladder, and when you finally get to the top, you discover it was leaning against the wrong wall! It is easy to pursue activity that generates a sense of security, but much more difficult to pursue a path that leads to satisfaction. The path to satisfaction usually involves taking the risks necessary to be true to our talents and our values. This often conflicts with our need for security. We might need to let go of the need to be secure in order to be truly satisfied. This is a question of destiny and it demands that the questioner look to the future.

Why are you going there?

The answer to this question is a unique response from every individual (person or organization). I cannot set my direction and expect to achieve something meaningful by doing it because someone else did. There is a reason why an individual is drawn towards a specific career or an organization comes into existence. While the pressures of the day-to-day operations can obscure those reasons, it is important to re-connect to them. This is a question of purpose and it demands that the questioner returns to his or her roots.

The work that we do is a powerful aspect of our lives. It is more than a means to an end, it is also a means to express ourselves. If we lose sight of that, we are truly lost.

People in organizations are primarily looking for meaning in their work. But not many leaders act as though they believe that’s what really motivates people. They think money motivates people. At the end of the day, people want to know they’ve done something meaningful. -- Bill George ■





Healthy living: Keep your whites pearly

Acknowledgement

The SKIM Magazine gratefully acknowledges Syeda Kiran Zahra Hussain for her kind permission to re-print article, entitled "Healthy living: Keep your whites pearly." Kiran Zahra is a certified health coach and a holistic nutrition therapist. She believes in treating the cause of the disease rather than the symptoms by providing the right nutrition for the mind, body and spirit.

Phyllis Diller once remarked: "a smile is a curve that sets everything straight." Then why compromise it with yellow and stained teeth?

Here are a few simple home remedies to get the star shining on your teeth.

Brush with apples

Juicy, crunchy apples can be a potent treatment for dull teeth. Apples function as a natural tooth brush as you chew on them. They work to gently scrub your teeth by removing bacteria and excessive food

from the mouth. Just like strawberries, they contain Malic Acid that aids in dissolving stains. This natural compound is used in many whitening teeth products to lighten up the teeth.

Baking soda

Baking soda is the most sought-after natural remedy for sparkling teeth. It is used by many whitening toothpastes as a main ingredient. Baking soda can be added to your regular tooth paste and used when brushing. You can also mix baking soda with a few drops of lemon juice. This can be used in place of regular toothpaste. Another way is to mix baking soda with vinegar instead of lemon juice. This remedy

By: Kiran Zahra



is very quick and easy to follow, and guarantees fruitful results within a week's time.

Olive oil

Many dentists recommend the use of olive oil for stronger and whiter teeth. Olive oil contains Vitamin E that kills bad bacteria that may result in bad breath and gingivitis. It also removes tartar from your teeth, which cannot be removed by regular brushing alone. It is highly advisable to apply extra virgin olive oil to your teeth after brushing. Gently scrub your teeth and repeat this process three times per week to get rid of the tartar completely.

Veggie delight

Eat more vegetables like carrots, radishes, cucumbers, celery and broccoli as they are natural teeth whiteners. These vegetables work like a scrub and smoothly clean up the surface of your teeth.

Neem and basil treatment

Basil leaves and neem (margosa) are the most effective ayurvedic remedies. You

can fix your own tooth paste by mixing mustard oil with sun-dried basil leaves. It is a powerful treatment for dental hygiene and teeth whitening.

It also protects your teeth from infections and bleeding gums. This paste can be used by the help of neem twigs that act like a toothbrush. Apply this paste to your teeth and rub vigorously. The twigs release neem oil that acts like astringent and guarantees white teeth.

Banyan roots

Banyan roots can be used as disposable toothbrushes to clean your teeth. These roots carry whitening juices that make your teeth whiter and gums stronger. Wash the banyan roots well before use.

The citrus cure

Citrus fruits are great bleaching agents that make your teeth glowing white. Oranges and lemons contain citric acid that aids in saliva secretion and also helps clean stains present on your teeth. Lemon juice can be used once a week to rinse your teeth as it

helps to remove accumulated stains.

Hydrogen peroxide

Hydrogen peroxide is anti-septic in nature. A cheap bottle of hydrogen peroxide can easily give you the same result as any expensive whitening kit. It is a weak acid and has oxidising properties. Rinse your teeth regularly with hydrogen peroxide and follow it by a gentle scrubbing with your fingers. Then brush your teeth to obtain the best results.

Foods to avoid

To maintain glowing white teeth, it is important to abstain from foods that cause staining to the teeth. These foods discolour the teeth and make them lose their whiteness and brightness.

Avoid foods like tea, coffee, chocolates, soda drinks etc. More crunchy and juicy fruits with cleansing and astringent properties should definitely be a part of your diet. ■



Ensuring Sustainable Development through Urban Planning in Pakistan

By: Mohammad Qasim, Syed Shabih-Ul-Hassan Zaidi

Acknowledgement

The SKIM Magazine gratefully acknowledges Prof. Dr. Mukhtiar Ali Unar, Chief Editor of Mehran Research Journal of Engineering and Technology for his kind permission to publish this case study.

*The original case study can be seen at:
<http://publications.muet.edu.pk>*

The urban problems of Pakistan and in Rawalpindi are increasing day by day. Housing shortage is also accelerated with time. About one fourth of urban population is living in squatter settlements. Traffic congestion and delays, and evolution of slums and squatters and adverse environment are common features of the urban areas. Air and water is being polluted. Resources are being wasted. Urban planning in Pakistan is continued to be institutionalized and development plans and programmes are being produced and implemented but it seems that they are not achieving sustainable urban development. The case study of master

planning in Rawalpindi, Pakistan is taken as case study and its implementation through investigation of housing schemes and squatter settlements. Present development situation evaluated. Finally the recommendations to improve the urban planning to enable it to achieve sustainable development of human settlements have been made.

Urban Planning

Informally urban planning came into existence when the man started to think about the importance of shelter and its related facilities. Urban planning is a technical and political process concerned with the control of the use of land and

design of the urban environment, including transportation networks, to guide and ensure the orderly development of settlements and communities. It concerns itself with research and analysis, strategic thinking, urban design, public consultation, policy recommendations, implementation and management. In the late 20th century the term sustainable development has come to represent an ideal outcome in the sum of all planning goals.

Now the urban planning is one of the basic public functions in a modern urban society. Urban planning is an activity for managing the use of land and environmental change, for making provision of community facilities and services, enhancement of environment including transportation as well as for balanced use of land and adequate housing developments. The planners of the modern world include in the definition sustainable development as an important goal of Urban planning Measure.

Urban Planning and Sustainability

Urban planning has a central role in achieving sustainability. However, it is a service and does not necessarily result directly into goods. "Urban planning is judged by its product i.e. the outcome of implementations of the planning provisions and programmes. It provides documents based on plan to be used for physical development of the human habitat. Impliedly urban planning provides beacon light for "building" the environment which is fundamental for the attainment of sustained control and development of the environment".

The documents of Physical Planning are vehicles for environmental development in the immediate term and set the direction of future growth. It is achieved through the use of a plan backed-up with many legislative guidelines and administrative reports.

Sustainable Development

In Brundtland report (our common Future) in the World Commission on Environment and Development sustainable development has been defined as under:

"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs is sustainable Development". It means that for an economic activity to

be sustainable it must neither degrade nor deplete natural resources nor have serious impacts on the global environment inherited by future generations. When greenhouse gases build up ozone is depleted soil is degraded, natural resources are exhausted and water and air are polluted which means that present generation clearly has prejudiced the ability of future generations to support themselves.

Sustainable development links the environment, economy and social equity into practices that benefit present and future generations. In the concept of sustainable development environmental, economic and social sustainability are included to alleviate poverty and to attain quality of life for all.

Parameters of Sustainable Development

The United Nations Centre for Human Settlements in its conference held in 1996 established the parameters for sustainable development as follows:

"Measure of sustainability in the area of human settlement as established by the United Nations Centre for Human Settlements are quality of life of inhabitants, scale of non-renewable resource use, extent of recycling and re-use, the scale and nature of renewable resource use, waste produced from production and consumption activities as well as the impact of these wastes on environmental health and ecological systems".

Physical development of human settlements goes across the boundaries of conventional concerns as better social conditions, equity and better environmental standards, to issues such as concern for the impact of city-based production and consumption activities within and outside of the city.

It means that the waste and effluent and sewage polluting air and water and their treatment were included in the factors effecting the environment and consequently the sustainable development.

Urban Development System in Pakistan

Pakistan has responded to momentous urban challenges by establishing town planning and planning and housing departments at federal, provincial and local levels. Physical planning and housing

constitute a distinct 'social' sector in Five Year Plans. The environment and Urban Affairs Division of the Federal Ministry of Housing and Works coordinates urban development and housing policies at the national level. All four provinces have established town planning and housing as ministerial functions, though under different names, in their governmental structures. Major cities such as Karachi, Lahore, Faisalabad, Islamabad, Rawalpindi etc. have autonomous development authorities, primarily concerned with planning and development activities in their respective jurisdictions. Local Government System has been introduced under PLGO (Provincial Local Government Ordinance), 2001. Three tiers of local Government are established. Many local councils have appointed town planners and beginning to exercise development control authority. The extensive network of planning agencies and activities has evolved to deal with urban problems in the country. This organizational network and its functional activities jointly frame the urban planning practice/system of Pakistan. It stands in sharp contrast with continued and increasing pain of urban problems.

Conclusion

Conversion of use of land into housing schemes without prior approval of local planning agency is frequent. The housing schemes are simply land sub division into residential and commercial. No planning parameters are being followed. Land is not being used according to its capabilities. Negligible area is being allocated to green, social services, amenities and public buildings in the Housing schemes. This has increased the frequency of travel trips and the length travelled. More nonrenewable resource i.e. fossil fuels are being extracted and burnt. This causes depletion of natural resources and emission of greenhouse gases, SO_x, NO_x and Hydrocarbons causing global warming, climate change, depletion of O₃-zone layer and acid rains. This is affecting human life injuriously. Water and air is being polluted due to absence of comprehensive sewerage and drainage system and Solid waste Management. Municipal services are almost absent in the area. This shows that negligible planning, building and development control is being exercised by the concerned agencies.

The environmental aspects with reference to sustainable development are total ignored as no sewerage Treatment

Plant, very little water treatment and solid waste management has been established/ exercised in the schemes. The solid waste/ effluent produced during the activities of consumption and production is not being processed/treated and dumped in the right ways of roads/ highways and water steams polluting air and water and waste of resources. Land use conversion gives rise to nonconforming uses which is cause of noise pollution and deteriorating quality of residential areas.

In addition comprehensive planning is missing. Very development and building control is being exercised. Provisions of Master Plans are not being followed as these were/are not approved by the liable local agency.

Recommendations

On the basis of the above analysis following are recommended to enable urban planning to ensure sustainable development in Pakistan.

By amending urban planning process every local body be made entrusted to prepare urban and environmental development plans for their own areas. Local agency will be made responsible for planning and approval of the development plan and for effective building and development control in its areas.

Uniform planning and environmental standards be framed which applies throughout the area of the province. The standards and procedures prepared by Pakistan Environmental Protection Agency under Pakistan Environmental Protection Act for environmental clearance of the development project are too encumber some and over whilwing to employ hence these are not being implemented and therefore, needed to be amended as none of the housing schemes in Rawalpindi has not acquired environmental clearance before their development.

Urban and environmental development plans should be prepared keeping in view the target population. Within these plans projects/schemes be proposed accordingly.

Public participation in the planning process, monitoring and evaluation and revision of plans and programs for better effectiveness of urban and environmental development plans be made mandatory and part of the urban planning process.

Institutional framework of the agency liable to implement the urban and environmental development plans should be detailed out in the development plan and powers and duties and responsibilities of the officers/ official implementing the plan should be clearly spelled out backed by a strong legal framework. The officers especially who are entrusted to implement the proposed plans and programmes should be made accountable.

Provision of compulsory acquisition of land for public purposes i.e. housing for low income group, railway line, railway stations, sewerage treatment plants, Landfill sites, trunk sewers be made in Land Acquisition Act and the local agency be empowered in this connection. The payment of the land and building compensation be allowed to be paid in installment with some reasonable interest. For this necessary law be amended.

To promote the implementation of mitigation programmes campaign on environmental issues and programmes and plans be framed. The important points relating to the campaign be spelled out in the urban and environmental Development Plan.

Continuous evaluation of programs and plans and their effectiveness should be ensured by an independent body at regular intervals. This should be made mandatory and part of the Plan.

A comprehensive solid waste management system be made an essential part of the Urban and Environmental Development plan and also the fiscal support.

Arrangement of use of renewable source of energy like solar energy in the country be programmed as ample of sun shine is available in Rawalpindi.

The prescribed planning parameters are not being implemented for one reason or the other in all of the housing schemes. These need revision according to the socio economic conditions of the country. Maximum size of residential plot and housing density need to be reviewed and size be rationalized after a detailed study as the target population is the low income people where the housing deficit is maximum. Minimum size of the scheme should be determined in view of the comprehensive planning and sustainable development. To make the neighbourhoods green, self-sufficient and energy efficient following are

recommended to be made part of the urban and environmental development plans.

The neighbourhoods be made pedestrianized and cyclized. Walkable and cycleable distances for primary schools, secondary schools, dispensary/ clinic, local shopping centers and green area be ensure.

Provision of safe walking and cycle tracks along the vehicular streets may be made part of the development plans.

Relatively large percentage of green areas should be allocated to the parks at sub-neighborhood level to make it green, self-sufficient and energy efficient.

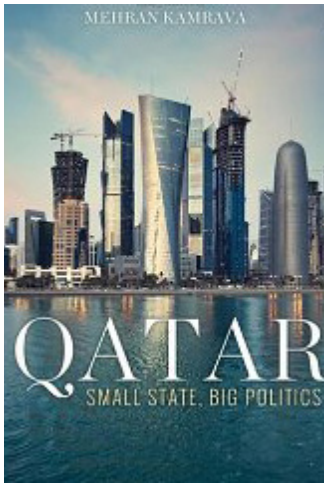
Water should be metered and charged accordingly. Water conservation strategies and its treatment to maintain the good quality of water should be made mandatory.

Planning and development of engineering landfill site along with composting site be made part of the master plan. Available foreign aids/soft loans form UN formations for this infrastructure be obtained by developing the feasibility. Subsidized cost if any should be recovered from the beneficiaries in very easy installments. Alternatively public private partnership should be used to finance the project.

Major portion of solid waste is biodegradable which can be converted into good quality of compost, a commercial commodity. Prerequisite for this is that the biodegradable waste be collected separately at the source level. Proper arrangement to collect solid waste into two categories i.e. Kitchen and the waste other than kitchen by the local liable agency should be made. Cost of running the landfill site be recovered by producing the compost. It is also a resource conservation strategy. This provision is made a mandatory part of the urban and environmental development plan.

For segregation of the waste at source level the local agency shall design a campaign and launch to motivate the resident to separate the waste into two categories. ■

BOOKS CORNER

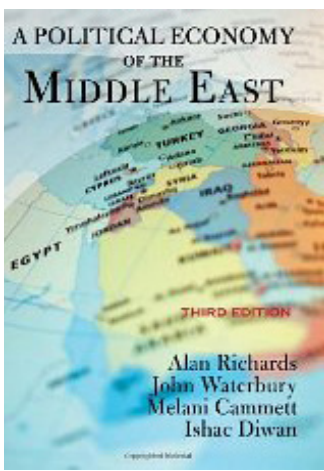


Qatar: Small State, Big Politics

By: Mehran Kamrava, Pages: 232, Price: \$23.86, Publisher: Cornell University Press; 1 edition (August 6, 2013)

The Persian Gulf state of Qatar has fewer than 2 million inhabitants, virtually no potable water, and has been an independent nation only since 1971. Yet its enormous oil and gas wealth has permitted the ruling al Thani family to exert a disproportionately large influence on regional and even international politics. Qatar is, as Mehran Kamrava explains in this knowledgeable and incisive account of the emirate, a “tiny giant”: although severely lacking in most measures of state power, it is highly influential in diplomatic, cultural, and economic spheres.

Kamrava presents Qatar as an experimental country, building a new society while exerting what he calls “subtle power.” It is both the headquarters of the global media network Al Jazeera and the site of the U.S. Central Command’s Forward Headquarters and the Combined Air Operations Center. Qatar has been a major player during the European financial crisis, it has become a showplace for renowned architects, several U.S. universities have established campuses there, and it will host the FIFA World Cup in 2022. Qatar’s effective use of its subtle power, Kamrava argues, challenges how we understand the role of small states in the global system. Given the Gulf state’s outsized influence on regional and international affairs, this book is a critical and timely account of contemporary Qatari politics and society.

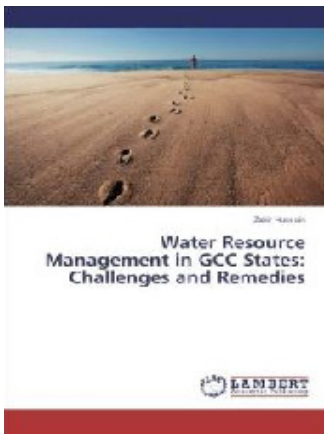


A Political Economy of the Middle East

By: Alan Richards, John Waterbury, Melani Cammett, Ishac Diwan , Pages: 528, Price: \$52.25, Publisher: Westview Press; Third Edition, UPDATED 2013 EDITION (August 6, 2013)

This integrated, analytic text presents a comprehensive analysis transformation and development of the political economy in the Middle East over the past several decades. In this updated third edition of A Political Economy of the Middle East, the book retains its focus on the interaction of economic development processes, state systems, and social actors even as it also:

- Explores the impact of the Arab Spring and subsequent events to the issues raised throughout the textbook in a wholly new chapter
- Documents the many changes in demography, education, labor markets, urbanization, water and agriculture, and international labor migration in the Middle East in recent years
- Considers the effect of rising oil prices on reinforcement of authoritarian governance in the region
- Refines its assessment of “the Washington Consensus” to provide a more nuanced approach to the issue of the shifting balance of state and market in economic growth and reform
- Presents Islamism as a vital force in the region that is nonetheless a vast, diverse social movement with many conflicting participants.



Water Resource Management in GCC States: Challenges and Remedies

By: Zakir Hussain, Pages: 60, Price: \$49.00 Paperback, Publisher: LAP LAMBERT Academic Publishing (Feb. 1, 2014)

The present work deals with the management of water resources in the GCC countries. Besides food security, water has been one of the most pressing challenges for the alliance. The GCC depends primarily on desalination to meet its daily water requirements, which not only increases pollution by discharging the brine into the narrow Gulf-water-passage but also consumes huge amount of energy, particularly oil. As a result, the GCC countries, which predominantly depend on oil revenues, are squeezed by growing oil consumption by water plants. This monograph underlines the risks involved in the security of these large desalination setups, particularly from the possible threats posed by the extremist forces, and nuclear radiation in the Gulf waters. Majority of the GCC countries’ water plants are on the Gulf coast, and strikingly most of the nuclear power plants either existing or proposed, are on the two sides of the Gulf coast. In this backdrop, the author tries to infuse some useful insights on the region’s water management & security. It also delves into the issues of terrorism that may possibly target these life-saving depots just to discredit the monarchical regimes.



Outsourcing the Global War on Terrorism: Private Military Companies and American Intervention in Iraq and Afghanistan

By: C. Christine Fair, Price: \$82.75 Hardcover, Pages: 244, Publisher: Palgrave Macmillan (April 9, 2014)

Outsourcing the Global War on Terrorism explores how the United States’ war on terrorism, in both Iraq and Afghanistan, has required the US military to employ thousands of contracted civilians working for US and foreign Private Military and Private Security Companies (PMSCs). The actions and operations of unsupervised PMSCs has created an environment that had the potential to not only negatively influence tactical US objectives, but could also harm strategic local capacity-building initiatives. Given the military and political importance of US operations in Iraq and Afghanistan, George C. Lovewine provides a much-needed analysis of the interaction between commercial entities, military operations, and policy objectives. Lovewine’s analyses identify the reactions and policy responses to these security issues faced by the United States military today.

Events

Academy of World Business, Marketing and Management Development Conference

Managing, Marketing and Financing Organizations in Today's Environment of Slow Economic Growth

To achieve the best level of performance in today's environment of slow economic growth, managers must be innovative and competitive. They must be prepared to acquire and utilize multi-dimensional skills that are essential for managing, marketing and financing organizations successfully. Contemporary research findings and theories presented at this conference will shed light into the policies and strategies that are vital for achieving effective growth and enhance organizational performance. This 6th biennial conference therefore aims to share research knowledge, theories and practice that exist in the world in the areas of business, marketing, finance and management.

When: 11th August to 14th September 2014

Where: Dubai, UAE, United Arab Emirates

Conference Registration & Hotel Information
<http://academyofworldbusiness.com>

TCSSE International Conference of Science and Technology

Welcome to the Canadian Research Centre for Humanities and Science (CRCHS) and Training Centre for Social Science and Education TCSSE, Toronto.

We organize a series of conferences around the year under the name of TCSSE International Conference of Science and Technology (TICST).

These conferences are for those, who are interested in presenting papers in all fields of Science and Technology and to publish their papers in the CRCHS International Journal of Science and Technology.

It is a pleasure to invite you to the 2nd TCSSE International Conference of Science and Technology

When: 26th to 27th August, 2014

Where: Dubai, UAE, United Arab Emirates

For more information,
please visit: <http://sciencecrchs.wix.com/tcsse>

SECURITY CRISIS INVESTIGATION AND THREAT RISK MANAGEMENT

MANAGING, MARKETING AND FINANCING ORGANIZATIONS IN TODAY'S ENVIRONMENT OF SLOW ECONOMIC GROWTH

The Security Crisis Investigation and Threat Risk Management, organized by the Creative Regional Consultant will take place from 20th July to the 24th July 2014 at the Copthorne Hotel in Dubai, United Arab Emirates.

The conference will cover areas like Intelligence Analysis, Restrictive or Open-Sourced Intelligence Gathering, Developing a Risk Assessment Plan.

When: 20 July to 24 July 2014

Where: Copthorne Hotel, Dubai, UAE

Organizer: Creative Regional Consultant
P.O. Box: 88685, Dubai, U.A.E
Dubai, UAE

ASIS 6th Middle East Security Conference & Exhibition

Set for February 15-17, 2015, in Dubai, UAE, ASIS Middle East 2015 will address a full spectrum of topics in security management such as: supply chain security, loss prevention, hotel security, intellectual property, maritime piracy, terrorism, executive protection, internal theft and fraud, competitive intelligence, brand protection, physical security, cyber security, investigations, due diligence and global business issues.

Who Should Attend

- Security management professionals
- Corporate executives in IT, supply chain management, strategic planning, and human resources
- Law enforcement and fire protection professionals
- Intelligence services and military personnel
- Government officials (Justice and Home Affairs, Foreign

When: 15 February to 17 February 2015

Where: Dubai, United Arab Emirates

For further information, please contact
middleeast@asisonline.org

GROWING ROAD NETWORK FOR THE EMERGING ECONOMY OF PAKISTAN

KARACHI - LAHORE MOTERWAY (KLM)

- 1 National Highway Authority (NHA), Ministry of Communications, Government of Pakistan is undertaking construction of Karachi — Lahore Motorway (KLM), a 1,152 Km long, high speed, controlled access, 6-lane modern motorway system. The motorway focus part of trade corridor linking ports of Karachi and Gwadar with China and Central Asian states. The General alignment runs parallel to the National highway N-5, which carries 65% traffic of Pakistan.
- 2 Expression of interest (EOI) is solicited front wall reputed domestic as well as foreign firms, joint ventures and consortia to undertake the following sections of KLM on Build, Operate & Transfer (BOT) basis: Hyderabad — Sukkur Motorway 296 KM, Khanewal — Lahore Motorway 276 KM
- 3 Interested parties may obtain the Pre-Qualification (PQ) Questionnaire from NHA against a (non- refundable) fee of Rs 3.000/- (equivalent to US \$30) or may download NHA website: www.nha.gov.pk
- 4 Last date for submission of PQ documents is July 15, 2014 till 1530 hours (Pakistan Standard Time)
Note: This advertisement supersedes the advertisement published June 05, 2014.
- 5 NHA shall issue Request for Proposals (RFP) of the Project the pre-qualified party (ies) only. The RFP shall contain, inter alia instruction to bidder, scope of work, draft concession agreement, investment policy of Board of Investment of Pakistan and NHA PPP policy & regulatory framework.
- 6 The NHA reserves the right to reject any or all applications of EOI.
- 7 Further information/ clarifications may be obtained from the office of the undersigned on any working day during working hours.



General Manager (P&CA)

National Highway Authority

28-Mauve Area, G-9/1, Islamabad, Pakistan, Website: www.nha.gov.pk



USAID
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INVITATION FOR SEALED BIDS

The **USAID-funded Energy Policy Program (EPP)** is a multiyear initiative to increase power generation, reduce transmission losses, increase cost recovery, introduce new technologies and facilitate power sector reform.

EPP invites sealed bids for services from well-qualified bidder to for **Supply and Delivery of 04 Sets of 200kV and 27 Sets of 132kV "Circuit Breakers" for NTDC and PESCO.**

Interested bidders with demonstrated past performance in providing similar services and a strong financial background may review and download EPP's

Request for Proposal No. EPP/C4/RFP/052 from the program's website: www.ep-ep.com.pk/opprtunities.html

Last date to submit sealed bids is Monday, July 14, 2014.

Sealed bids must be submitted with a bid security of 1% (refundable) of the total bid price, with a price validity period of 90 days from the last date of submission. Bids must be mailed to Procurement Department, Energy Policy Program, House # 4, Street # 88, G-6/3, Islamabad.

EPP's Evaluation Committee reserves the right to accept or to reject any bids and to cancel the bidding process without assigning any reason or justification.

Personal Development

Grant Management Essentials: How to Keep Your Donors Happy (Fm8)

Join our award-winning training in Dubai for a practical and fun introduction to grant management. Suitable for finance and non-finance staff who are new to managing grants, this 2-day course will equip you with the skills and confidence to manage multiple donor-funded projects. You will learn about key responsibilities of grant management, how to assess the terms and conditions in grant agreements and how to manage key relationships.

About the course

This course is specially designed for NGO staff who are new to grant management. It is suitable for those responsible for managing donor funds where programmes are implemented directly or through operational partners.

Registration deadline: 27 Oct 2014
Training date: 01 Dec 2014 to 02 Dec 2014
Where: UAE

If you have any questions or need help booking,
please email : training@mango.org.uk.

Disaster Risk Reduction

About the course

The modern risk management approach recognises that a wide range of geological, meteorological, environmental, technological and socio-political hazards threaten society – individually and through complex interactions. Risks are located at the point where hazards, communities and environments interact, and thus, effective risk management must address all of these aspects.

What does the course cover?

DRR Framework (inc. Hyogo Framework, Pakistan National Disaster Risk Management Framework)
Marginalized groups
Community level risk reduction
Education, information and communication
Disaster preparedness planning
Risk reduction after disaster
Mainstreaming DRR across different sectors M&E

Registration deadline: 27 Oct 2014
Training date: 28 Sep 2014 to 30 Sep 2014

If you have any questions or need help booking,
please email

Humanitarian Directors' Training Program - Reach high performance

The Center for Resource & System Management's (CRSM) "Humanitarian Directors Training Program" is a unique experience that aims to develop more effective directors.

Set within an international context and to be conducted by the experienced professionals in their relevant areas, the program is aimed at covering all the strategic aspects of a humanitarian organization and provide and enhance the learning of humanitarian leaders.

Training contents

Leadership and Governance
Strategic Planning
Strategic Financial Management
Project Management Essentials
Strategic Human Resource Management
Organizational Dev. & Communication strategy

Registration deadline: 18 Aug 2014
Training date: 25 Aug 2014 to 27 Aug 2014
Where: Islamabad-Pakistan

If you have any questions or need help booking,
please email: training@crsmanagement.net

Tailor-made Training in the Middle East (Arabic)

Since October 2013 RedR is increasing its capacity building initiatives in the Middle East in response to humanitarian crisis in Syria and is thus committed to develop the knowledge and skills of staff working for international and local humanitarian agencies working in the region.

RedR is therefore able to offer tailor-made courses to agencies in Arabic in the following subject areas:

Project Cycle Management (Proposal Writing, Report Writing, Needs Assessments, Monitoring and Evaluation, Project Management, People Management, Distance Management)
Humanitarian Practice
Disaster Management and Risk Reduction;
Camp Coordination and Management;
Training of Trainers

Registration deadline: 06 Aug 2014
Training date: 06 Feb 2014 to 06 Aug 2014
Where: Iraq

For more information, to discuss course content,
or for a quote, please contact us by writing to
middle.east@redr.org.uk

Classifieds



PERSONAL ASSISTANT

Required for a company in Dubai. Bachelor's degree is a must. Minimum 3 years' experience.
Filipino national Female / Male.
Email CV to: christine@lingerietrading.com



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FEMALE SECRETARY

Required experienced Indian, Sri Lankan, Pakistani female secretary in Dubai, for a real estate company. Fluent in English & excellent knowledge in computer.
Email: Alfadhheldxb@yahoo.com



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TOYOTA INNOVA, EX 2014 For Sale
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Email: aslamkhan198@gmail.com



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