

in entrepreneurship
BABAR KHAN works at the EMEA Division of Ephlux as its Chief Marketing Officer and is a member of the prestigious MENA Board of the CMO Council.



AGRITECH Pg2

Agricultural research activities in Pakistan

PAKISTAN has a national agricultural research system (NARS) consisting of federal as well as provincial research institutions. Overall, there



are 74 research establishments at the federal level and 106 research institutions/agricultural research stations at provincial level. Each province has its own commodity based/multidisciplinary agricultural research institutes/research stations and substations that cover crops, livestock, forestry, and in some cases, fisheries. There are 63 research establishments in Punjab.....

AGRITECH Pg5

Saline agriculture impression in soils and its management....

AGRICULTURAL productivity is severely affected by soil salinity because salt levels are harmful to plant



growth. Estimates show that at present about 20 per cent of the irrigated land in the world is affected by salinity. The loss of cultivable land due to salinity is likely to increase over the next 20 years. At present, there are nearly 954 million hectares of saline soils on the earth's surface. All these salt affected soils are distributed.....

INFOTECH Pg5

Pakistan's Draft Computer Crimes Law.....

The ARTICLE 19 and Digital Rights Foundation Pakistan are concerned about the draft Prevention of Electron-



ic Crimes Act of Pakistan 2014 (Draft Law) currently being prepared for presentation before the Pakistani Parliament. Although the Draft Law contains a number of welcome procedural safeguards, several provisions violate international standards on freedom of expression. We therefore call on the .....

HUMAN HETGH Pg5

Lozenges in action: Anti-irritant and Anti-microbial potential

THE WORD LOZENGE is derived from a word to refer as a diamond i.e a form of Rhombus. It is basically a



French word 'LOSANGE'. About 1000 B.C, the Egyptian used to make from honey flavored with citrus herbs, and spices, which was more curable for the treatment of sore throat. As right from the time of immemorial, there have been .....

Commercialisation of S&T R&D vital for socio-economic development

STAFF REPORT LHR: Research and development have emerged as a driving force behind national progress, as has been evident from the development of the West. Pakistan desperately needs to promote, R&D culture, commercialise research works and improve integration of research and education at all levels.

"We should work on commercialisation of faculty's research work in collaboration with university's research office and Higher Education Commission, so that their hard work could play a positive role in socio-economic development of Pakistan," said Government College University, Lahore, Vice Chancellor Prof. Dr. Khaleeq-ur-Rahman, while addressing a recent meeting of the university's senior faculty.

Purpose of the meeting was to hone the research potential of the university, Director Research, Innovation & Commercialisation Prof. Dr. Zakria Butt, was also present on the occasion.

He stressed that research papers should not stay buried in journals. He revealed that this year, GCU's nine faculty members including Dean, Prof. Dr. Islam Ullah Khan and Registrar Dr. Akhyar Farrukh were conferred the prestigious Research Productivity Award (RPA) by the Pakistan Council for Science & Technology (PCST) in recognition of their outstanding research publications, which were published in the international impact factor journals.

He called upon the RPA recipients to work on commercialisation of their research work in collaboration with the university's research office and HEC so that their hard work could play role in socio-economic development of the country.

The Vice Chancellor also revealed that the university's Advanced Studies and Research Board has adopted



very strict rules to enhance the quality of research done by the scholars for their PhD programme. "The university is giving no relaxation to scholars and they must have to leave for registration in the GCU PhD programme," he said adding that the university is also giving research grants to its scholars from its own budget, so that they should do the quality research for the socio-economic development.

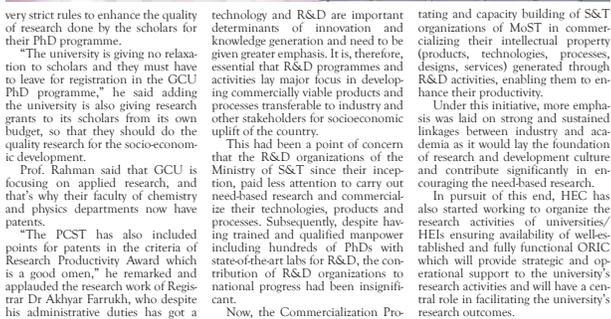
Prof. Rahman said that GCU is focusing on applied research, and that's why their faculty of chemistry and physics departments now have patents. "The PCST has also included points for patents in the criteria of Research Productivity Award which is a good omen," he remarked and applauded the research work of Registrar Dr. Akhyar Farrukh, who despite his administrative duties has got a

technology and R&D are important determinants of innovation and knowledge generation and need to be given greater emphasis. It is, therefore, essential that R&D programmes and activities by major focus in developing commercially viable products and processes transferable to industry and other stakeholders for socioeconomic uplift of the country.

This had been a point of concern that the R&D organizations of the Ministry of S&T since their inception, paid less attention to carry out need-based research and commercialise their technologies, products and processes. Subsequently, despite having trained and qualified manpower including hundreds of PhDs with state-of-the-art labs for R&D, the contribution of R&D organizations to national progress had been insignificant.

Now, the Commercialization Promoting and capacity building of S&T organizations of MoST in commercializing their intellectual property (products, technologies, processes, designs, services) generated through R&D activities, enabling them to enhance their productivity. Under this initiative, more emphasis was laid on strong and sustained linkages between industry and academia as it would lay the foundation of research and development culture and contribute significantly in encouraging the need-based research. In pursuit of this end, HEC has also started working to organize the research activities of universities/HEIs ensuring availability of well-established and fully functional ORIC which will provide structural and operational support to the university's research activities and will have a central role in facilitating the university's research outcomes.

grantee of MoST has been initiated under FSPD Project 'Strengthen of MoST' for guiding, supporting, faci-



PCST confers award on PARC scientist

STAFF REPORT ISB: The Pakistan Council for Science and Technology (PCST) has conferred Research Productivity Award in category-D to Principal Scientist, Officer (PSCO) of Pakistan Agricultural Research Council (PARC), Dr. Ramzan Khan, for the year 2013-14.

Khan is the only scientist from PARC to achieve this honour as a recognition of his research contribution in Molecular Biotechnology and Genomics during 2012.

The PCST manages the Research Productivity Award (RPA) every year for the productive scientists of the country with the aim to encourage them for their valuable contribution in serving the nation in various fields. The award is conferred to scientists working in public or private sector universities, science and technology as well as research and development organizations in addition to ministries and divisions engaged in basic and applied research.

Experts for research in geosciences to cut risks

STAFF REPORT ISB: Disaster risk reduction should be incorporated in planning processes at every administrative tier, but in order to achieve this objective, the country has to first compile disaster vulnerability assessments, coordinate its scientific research efforts and create a general awareness among administrators to think ahead in terms of natural disaster preparedness. Speakers echoed these thoughts at a recently conducted national forum on geosciences and disaster risk reduction here, organised by the Geological Survey of Pakistan (GSP) in collaboration with Germany's Federal Institute for Geosciences and Natural Resources (BGR).

The forum aims at bringing different research organizations together to discuss disaster prediction and mitigation measures. GSP Director-General Dr. Imran Khan said on the occasion. Pakistani research organizations can, however, lobby decision makers to implement policies to ultimately save lives and avoid financial losses, he suggested and added, but first, these organisations have to join hands and work together across disciplines. Iftekhar Bhatti, General Manager, SUPARCO, said that satellite imagery is being used in Pakistan for post-disaster damage assessment and crop estimation among other similar analyses.

Bioterrorism workshop for greater safety measures

STAFF REPORT ISB: In a dynamic global environment and the overwhelming asymmetric threats from the non-state actors, it is of utmost importance to understand the bio-security issues and initiate a coordinated global effort to cope with bio-security and bio-safety breaches and develop an effective response mechanism.

Japanese Ambassador Hironaka said while addressing a workshop recently arranged by the Quaid-i-Azam University The Quaid-i-Azam University Department of Biotechnology and the School of Policy and International Relations that explored concerns in biotechnology. The workshop, titled 'Raising awareness on dual use concerns in biotechnology,' focused on the misuse of knowledge and emerging techniques, including the creation of unique and novel pathogens that can be used as

weapons or harm life, material or the environment. Inomata said that as genetic engineering and synthetic biology advance, concerns about misuse will increase. Department of Biotechnology Chairman Zabta Khan Shanwari said development of genetic engineering and bioscience technology have increased the risk of bioterrorism, and if virus and pathogens used for research are released from laboratories, they would cause harm. QAU VC Etaz Ahmed said the wave of research and discoveries has created great social and economic benefits, and the scientific community must respond to concerns as part of its relationship with society.

The workshop was part of the European Union CBRN Centres of Excellence Risk Mitigation Initiative and Inter-Academy Panel through Pakistan Academy of Sciences.

PINSTECH cleared in contaminated injections case

STAFF REPORT ISB: The Supreme Court has disposed of a suo motu case regarding the alleged supply of cancer-diagnostic injections by the Pakistan Institute of Nuclear Science and Technology (PINSTECH).

The court, after examining the committee's report, observed the news report was not based on 'the correct appreciation of the relevant facts'. "In any case, it has served a purpose i.e. on intervention of the Court, PINSTECH had the allegations investigated and the findings referred to lend credibility to the exercise undertaken by PINSTECH. In the afore-mentioned circumstances, the proceedings have fructified and are being disposed of accordingly," the bench, headed by Chief Justice Tassaduq Hussain Jilani, said in its order.

Commercialisation of 30 GM cotton, corn varieties against rules

STAFF REPORT ISB: The federal government has approved over 30 varieties of



genetically modified (GM) cotton and corn/maize seeds for commercialisation and field test purposes, which is in violation of the rules and quality standards. The approved varieties of Bt cotton seeds contain such low levels of toxin that not only do not kill pests that destroy crop production but also build resistance in worms, impacting biodiversity among human beings.

Laboratory test results show that the approved GM cotton and corn/maize seeds contained low toxin between 0.3 and 0.7 microgram/gram against the international standards of 1.8 microgram/gram set by the United States Department of Agriculture. Documents also revealed how in 2010 genetically modified Bt cotton seed varieties were approved which were substandard and had low genetically modified toxin to kill pests. "In March 2014, the GM cotton varieties with even lower Bt toxin were approved overlooking the minimum standards through the National Bio-safety Committee (NBC), Climate Change Division, which does not have the jurisdiction outside the federal capital," said an expert in the field of GM organisms at the PARC. When contacted, Secretary Climate Change Division Raja Hasean Abbas said the NBC, Climate Change Division, had approved the GM crops after consultation with the law ministry.

6.8 million tons rice targeted for next year

STAFF REPORT ISB: Pakistan's Federal Committee on Agriculture (FCA) has set a target of 6.8 million tons of rice (basmati milled) production from an area of 2.78 million hectares for the next crop.

According to local sources, of the 6.8 million tons rice production target, the Punjab province is expected to account for 3.5 million tons, Sindh for 2.6 million tons, Khyber Pakhtunkhwa for 100,000 tons and Balochistan for around 600,000 tons.

Pakistan is among the world's top five rice exporters. According to the USDA, Pakistan's rice production in 2013-14 is estimated at around 6.4 million tons from a cultivated area of around 2.7 million hectares. Pakistan's rice exports in 2013-14 are estimated at around 3.4 million tons. Local sources say that the Guangdong Grain sector in China is interested to increase rice imports from Pakistan and has offered training and technical support to rice farmers in Pakistan to improve production in Pakistan.

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## EdTweat

### Rising volume of grey trafficking

Through the government's formal announcement to auction the 36-46 spectrum auction this month has rekindled the hope of a sizeable foreign investment in the local telecom sector, which has dried up since long in terms of financial injections, yet the increased volume of grey telephony has emerged as a potential factor which is inflicting heavily on the national kitty. According to the fresh data, the recorded volume of incoming international calls dropped from an astonishing two billion minutes to less than 500 million minutes per month in two years, courtesy the mushroom growth of illegal telephony exchanges across the country. The subsequent annual loss, which is around one billion dollars, can also trigger more financial troubles for the already cash-strapped Pakistan, which is currently moving international financial institutions to seek capital on tougher terms and conditions to meet its monetary liabilities at home. The establishment of controversial International Clearing House (ICH) by the previous government in October 2012 has been termed the root cause of increased volume of grey telephony in the country. This speaks volume about the "inefficiency" of decision makers or the vicious elements in the previous government as a couple of members of the PPP government's 'kitchen cabinet' were reported to have involved in getting major kickbacks to turn their backs on this illegal business in the country. Under the ICH, the entire incoming telephonic traffic has been put at the disposal of the PTCL. All the 14 long distance and international (LDI) licence-holding operators formed a consortium which through an agreement had allowed the PTCL to manage the incoming telephonic traffic and, in return, receive their proportionate share in the income. True that the ICH was the brainchild of the previous government, but what to say when we see that the grey trafficking has increased significantly now and the incumbent government, despite having passed about 10 months in power, has not taken any tangible measures to arrest this illegal practice. At this stage, one would not deny the fact that the grey trafficking gets encouraged in the country when the incoming call charges are exorbitantly high, as the elements involved explore all illegitimate options to offer cheap rates to masses. Pakistan is fast going for the next generation of telecommunication where more foreign investments are going to be pumped in besides stirring economic activities as well as employments. At this crucial stage, the authorities along with all stakeholders should rise to the situation so that the national kitty is saved from this continued heavy revenue loss.



The opinion and views expressed in these letters are purely of the public and do not necessarily reflect the policy and the views of the newspaper.

editorial@technologytimes.pk

**Solar energy: Starting a campaign**  
RECENTLY I saw some antennas installed by cellular companies atop a stylish high-rise water tank. But what caught my attention was an array of six solar panels facing the sun, also installed alongside these antennas.

The sunlight falling on the solar cells, interconnected with one another and with the power to the antennas is provided by batteries, also installed near the solar panels. Pakistan has millions of houses, apartments, offices, shops, factories, educational institutions, whose rooftops are without any use. We can utilise this space by installing solar panels.

We should also establish such facilities for solar cells. The raw material for the manufacture of solar cells is available in abundance. It would have been much better if the facilities had been established for the solar park being established in Bahawalpur and we would have ingeniously produced solar panels and cells for this park.

**Campaign for solar energy needed**  
The ICH committee has explained that the issue of grey traffic has no linkage with ICH, as the main objective to establish ICH was to achieve stabilization of PTA determined Approved Settlement Rates (ASR) which was compromised in pre-ICH era resulting in heavy losses to the national exchequer and LDI industry.

There are countries having higher termination rates than Pakistan and those countries are effectively fighting the menace of grey traffic. Grey traffic is a global phenomenon

and Pakistan are responsible to curb grey traffic. Before formulation of ICH, the government was losing a huge amount of foreign exchange due to grey trafficking. The concerned government authorities in collaboration with the FIA have been trying to bring more minutes of international incoming calls into the national kitty and the issue still persists.

The pre-ICH scenario is only benefiting the foreign telecom operators who were making wind fall margins at the expense of Pakistani telecom operators.

The ICH has already invested around \$30 million to curb the grey traffic. This was for the first time in the history of the country when funding was arranged by the industry to deploy integrated system for lawful interception and monitoring of grey traffic.

The post-ICH, the foreign exchange inflow has increased five times compared to the pre-ICH regime, achieved as a result of sustained level of rates (ASR) charged to foreign operators. The rates which the ICH intends to stabilize are those determined by the PTA and are lower than the rates charged by international carriers from Pakistani LDI operators for terminating Pakistan traffic in countries in Middle East and Europe.

This has also resulted in increased collection of taxes from total revenues in terms of payments to the PTA. Most and all the government exchequer in connection with the annual licence fee, research and development fund, annual USF contribution and 100% collection of mandatory payments, e.g. APC for USF.

Wajahat Zeeshan Khan  
Spokesperson, ICH Committee  
Islamabad

## AGRI TECH

# Agricultural research activities in Pakistan

PAKISTAN has a national agricultural research system (NARS) consisting of federal as well as provincial research institutions. Overall, there are 74 research establishments at the federal level and 106 research institutions/agricultural research stations at provincial level. Each province has its own commodity based/multidisciplinary agricultural research institutes/research stations and substations that cover crops, livestock, forestry, and in some cases, fisheries. There are 63 research establishments in Punjab, 22 in Sindh, 15 in NWFP and 10 in Balochistan. The provinces have also established monocrop institutes concentrating on specific crops.

All the provinces have agricultural universities where the basic and applied research is a vital part of their academic activities. In Pakistan agricultural research is poorly staffed and underfunded in all senses. It is also identified that the research system in Pakistan offers limited career growth opportunities and little financial incentives even to the highly qualified scientists. The high level research leadership often lacks skills of human resource management. Most of the institutions lack access to quality literature and modern lab equipments to undertake quality research. Pakistan must introduce a more knowledge intensive agricultural research system that must focus on technological innovations at the system level and has access to modern

biological sciences.

It is widely accepted that the conventional breeding, extensively used during the Green Revolution era, no longer offer any significant breakthroughs in the yield potentials and in providing solution to the complex pest and diseases, and drought stress. The recent achievements in the field of biotechnology offer the potential to increase the crop and livestock productivity, improve nutritional quality, broaden crop tolerance against biotic and abiotic stresses and enhance crop resistance against pests and diseases. The tools of modern biotechnology are precise and make development of new strains of improved crop and livestock more rapidly.

It is envisaged that the next breakthrough in agricultural productivity would be due to recent developments in plant molecular biology, genetic engineering and rapid advancement in genomics. Traditional biotech activities particularly related to plant tissue culture have been carried out in few agricultural and research institutions of Pakistan since 1970s. An exclusive national center of Molecular Biology (CEMB) was established in 1983-84 at Lahore. The National Institute for Biotechnology and Genetic Engineering (NIBGE) started work at Faisalabad in 1994. During the past few years, there is growing interest in establishing Biotech centers in major cities. Despite all these developments, there is no coherent national policy regarding biotechnology in

general and agriculture biotechnology in particular.

Agricultural Biotechnology is suggested to focus on areas of traditional biotechnology as well as modern biotechnology like genetic engineering and plant

Biological pest control is

most of the sprayed chemical are washed away from plant surface and end up in the soils. The chemical residues have already started appearing in our food chain and feeds of livestock. In these circumstances, it is particularly

and intense microbial activity. The application of organic fertilizer is limited and that of chemical fertilizers is increasing. This coupled with unbalanced use and faulty management practices the fertilizer efficiency is quite low. It results not only in rising production costs but also in degradation of land and water resources. The development and use of bio-fertilizers in combination with organic and chemical fertilizer may improve crop yields, reduce costs, and conserve land and water resources. In Pakistan, the government directly or indirectly supports much of the current research in research on bio-fertilizers. The demand for bio-fertilizers is nominal due to poor and uneven quality, short shelf life, absence of distribution system, and small contribution to crop yield. The research efforts to increase the shelf life and effectiveness of bio-fertilizers through genetic engineering of strains are crucial for enhancing acceptance and use of bio-fertilizers in the country. The modern biotechnology has widened the range of useful traits that can be applied to develop new varieties by the virtue of technical ability to transfer genes conveying desirable traits from any organism into any other organism. It reduces time in which desired changes in plant characteristics can be made to about half of that required through traditional methods.

**Agricultural biotechnology R&D is suggested to focus on areas of traditional biotechnology as well as modern biotechnology like genetic engineering and plant genomics. The techniques of modern biotechnology can be applied for diagnosis of pests, diseases, contaminants, vaccine development and quality traits; micro-propagation to provide disease free plantlets of vegetatively propagated species; generating genetic markers, maps, and genomic information in marker assisted selection and breeding**

genomics. The techniques of modern biotechnology can be applied to diagnosis of pests, diseases, contaminants, vaccine development and quality traits; micro-propagation to provide disease free plantlets of vegetatively propagated species; generating genetic markers, maps, and genomic information in marker as

another promising area for research in agricultural biotechnology. The high use of chemical pesticides to control pests and diseases has not resulted only in high production costs but also has serious implications for environment and national health. The chemical pesticides are highly inefficient as

important that efforts are made to substitute chemical pesticides with bio-pesticides, which are environmentally friendly and are more target specific and do not leave harmful residues. In Pakistan, soils are generally deficient in organic matter and essential plant nutrients, due to high tempera-

## AGRI TECH

By Zeeshan Sattar M.Sc (Hon's), Usman Shaheen, Iqra Ashfaq and Javed Ishaq

# Saline agriculture impression in soils and its management strategies



ZEESHAN SATTAR

AGRICULTURAL productivity is severely affected by soil salinity because salt levels are harmful to plant growth. Pakistan must introduce a more knowledge intensive agricultural research system that must focus on technological innovations at the system level and has access to modern

land was being damaged by salinity at a rate of about 40000 hectares annually.

Causes of salt accumulation

The location of Pakistan is in arid and semi-arid climatic zones. The average summer temperature is about 45°C and the minimum winter temperature remains between 2°C to 5°C. The annual rainfall varies between 100 mm to 700 mm throughout the country. The evaporation rate is generally very high and exceeds that of precipitation. Thus, the insufficient rainfall

occurring salt. As soil salinity increases, salt effects can result in degradation of soils and vegetation.

Salt is a natural element of soils and water. The ions responsible for salinization are Na<sup>+</sup>, K<sup>+</sup>, Ca<sup>2+</sup>, Mg<sup>2+</sup> and Cl<sup>-</sup>. As the Na<sup>+</sup> (sodium) predominates, soils can become sodic. Sodic soils present particular challenges because they tend to have very poor structure which limits or prevents water infiltration and drainage.

Way to improving salt-affected soils

Growing of suitable crops at ECe, 15-20 dSm-1 - a highly saline soil. At high salinity (ECe 15-20 dSm-1, 9600-12800 ppm), with coarse textured soil, where good quality irrigation water is not available, the growth of majority of plants will be restricted and only some salt tolerant plants include: Barley, the palm, Cactus, Periwinkle, China rose, Drumstick tree, Wild banana, Wild cherry, Purslane and Reed plant can grow, provided under ground water table is not shallow.

Intensive cultivation on such soils without using gypsum has made them compact, hindering the penetration of roots to deeper layers. The physico-chemical conditions of such soils can be improved through better soil management practices. Use of gypsum, being a cash input, needs to be encouraged through advancing credit to the farmers and ensure its timely supply at convenient farm locations, at subsidized rates.

Soil samples should be taken after leaching the site for analysis to determine whether salinity level is suitable for planting. Later, the land may be irrigated again to get rid of some of the sodium sulphate that is formed in the chemical reaction but still carbonate remains as a calcium salt.

Salts are most efficiently leached from the soil profile under higher frequency irrigations (shorter irrigation intervals). Keeping soil moisture levels higher between irrigation events effectively dilutes salt concentrations in the root zone, thereby reducing the salinity hazard. The writers are associated with the Department of Plant Pathology, University of Agriculture Faisalabad, Pakistan. They can be reached at <zeeshansattar2006@yahoo.com>

## ENER TECH

By Naseem Aziz

# Biomass energy potential in Pakistan

PAKISTAN is experiencing a severe energy crisis these days which is resulting in adverse long term economic and social problems. The electricity and gas shortages have directly impacted the common man, industry and commercial activities. The high cost of energy mix is the main underlying reason behind the power crisis. The main fuel for the local power industry is natural gas, however, due to the continued depletion of this source and demands elsewhere the power generation companies are now dependent on furnace oil which is relatively expensive.

The way out of this crisis is to look for fuel sources which are cheap and abundantly available within the country. This research that has been conducted in Pakistan over the last decade shows that there is a wide range of plant species with varying levels of salt tolerance that can be used in saline agriculture. Like Date palm, Eucalyptus, Wild date palm, Danka, Pomegranate, Zizyphus, Kallar grass, Bermuda grass, Rhodes grass and Goswami.

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in the fields. During the year 2010-11, around 63,920,000 metric tons of sugarcane was grown in Pakistan which resulted in trash generation of around 5,752,800 metric tons. As per conservation estimates, the bioenergy potential from sugarcane trash is around 9,475 GWh per year.

Cotton is another major cash crop in Pakistan and is the main source of raw material for the textile industry. Cotton is grown on around 11 percent of the total cropped area in the country. The major residue from cotton crop is cotton sticks which is the material left after cotton picking and constitutes as much as 3 times of the cotton produced. Majority of the cotton sticks are used as domestic fuel in rural areas. Only one-fourth of the total may be considered as a biomass energy resource. The production of cotton sticks during 2010-2011 was approximately 1,476,693 metric tons which is equivalent to power generation potential of around 3,071 GWh.

**Animal Manure**  
Pakistan is the world's fourth largest milk producer. The cattle and dairy population is around

**The potential to produce power from biomass is very promising in Pakistan.**

Being an agrarian economy, more than 60 per cent of the population is involved in agricultural activities in the country. As per World Bank statistics, around 26,280,000 hectares of land is under cultivation in Pakistan. The major sources of biomass energy are crop residues, animal manure and municipal solid wastes

As per World Bank statistics, around 26,280,000 hectares of land is under cultivation in Pakistan. The major sources of biomass energy are crop residues, animal manure and municipal solid wastes

Wheat straw, rice husk, rice straw, cane trash, bagasse, cotton sticks are some of the major crop residues in Pakistan. Sugarcane is a major crop in the country and grown on a wide scale throughout Pakistan. During 2010-2011, the area under sugarcane cultivation was 6,029,000 hectares which is 4 per cent of the total cropped area. Cane trash which constitutes 10 per cent of sugarcane is currently burned

67,294,000 while the animal manure generation is estimated at 368.43 million metric tons. Biogas generation from animal manure is a very good proposition for Pakistan as the country has the potential to produce electrical energy equivalent to 1,654 GWh.

**Municipal Solid Waste**  
The generation of solid wastes in 9 major urban centers is around 7.12 million metric tons which is increasing by 2.5 per cent per year due to rapid increase in population and high rate of industrialization. The average per capita generation of MSW in Pakistan is 6.89 MJ/kg which implies power generation potential of around 13,900 GWh per annum.



INTERVIEW

# Babar sees new heights in entrepreneurship

Babar Khan works at the EMEA Division of Ephlux as its Chief Marketing Officer and is a member of the prestigious MENA Board of the CMO Council. He is also the Entrepreneur in Residence, charged with building Ephlux Insights and volunteers as mentor with Startup Weekend events in the APAC region as well as Pakistan's Representative for Junior Achievement, an organisation which helps children to value free enterprise through educational programmes.

During his recent interview with the *Technology Times*, he explained in detail about his entrepreneurship



Babar Khan

**Q:** What is exactly Entrepreneur in Residence (EIR)?  
**A:** It's a position that exists only within either a startup builder (Rocket Internet), venture capital firm (Mother Goose Venture Developers) or disruptive innovator (EIR). The EIR is assigned a startup concept that has never been attempted in itself entirety or within the region it's being executed. The role comes with very low personal and professional risk, implying full funding by the backers & investors which also means the EIR is the show runner and mastermind behind the idea. There can be multiple EIRs within the startup, with the responsibility of testing and computing the idea with the highest chance of success. In my case, the maximum time

frame for experimentation is 30 months, but it varies from company to company and can be max of five years. Moreover, the title also applies to former or current innovators hired at business schools that coach or mentor their students.  
**Q:** How is EIR supposed to work and what are his responsibilities?  
**A:** The EIR develops and tests multiple business models. An evaluation at pre-determined intervals justifies testing and measures earnings versus costs. The best fit model is then picked and expanded. In our case, we are creating an academic startup first and foremost, with a revenue model that stems from corporate branding and consultation services. The EIR leads in the product development and quality assurance in this regard, delegating support system tasks to his subordinates and partners.  
**Q:** What is the EIR concept in Pakistan?  
**A:** LinkedIn search for the term shows only 25 active EIRs in Pakistan. Business owners and investors are often against the idea because long

term risk and disruptive innovation are two elements outside of a risk adverse culture and mindset. The uncertainty of exploring a completely new and untested business idea is almost unheard of in our region. The backers of Ephlux Insights are Asian technopreneurs that have thrived and gained from disruptive risks and are thus less fearful of the prospect of experimentation.  
**Q:** What does Ephlux Insights deal in? And what is your job at Ephlux as EIR?  
**A:** Ephlux Insights is a fully funded academic startup based in Hong Kong that publishes deep insights and best practices shared by leaders in business, technology and disruptive innovation. It also has a revenue model in corporate branding services and brand strategy consultation, based on the teachings of Prof. Sasha Strauss of UCLA. Noticing the emerging trend where the C-level executives had the power to sway stakeholder engagement, Ephlux Insights facilitates the image augmentation of selected executives with various promotional packages.

**Q:** Who are your clients?  
**A:** We primarily deal with NA and EMEA businesses in the brand, agency and consulting space, with special emphasis on the CEOs. We cater to various types of disruptive innovators like BCG Digital Ventures, Innovation Protocol and Maher Bird Associates and with the CMOs of D.E. Master Blenders, SandStorm Digital and Arnel Corporation among others. Because we are in our startup phase, most customers have opted for the video interview component of our 10-point corporate branding package as a test run and have found success in the form of leads and interest from investors. Our most comprehensive client project has been with Hong Kong based mobile tech company MULTICHANNEL Group, headed by Dmitry Fedotov, who opted for a video interview, media imagery placements for speaking engagements and contributing thought leadership to the on-line portal.  
**Q:** Your role or experience in lean start up method

unlearning for any good cause? An more importantly, we live in a society where people talk and talk, then do nothing about the causes that matter. We spend countless hours creating a human flag and yet ignore starving or homeless people. We gather and rally for YouTube ban removal, and yet sit on our hands when the driver asks us for a raise in order to educate his daughter. The question you should be asking is - if we the educated elite do not offer our time and

Q: Any suggestions you would like to give to people who are working to start their own startup?  
**A:** I suggest Googling "FullStart.com 4 reasons you should not be an entrepreneur" before jumping into the cut-throat world of entrepreneurship because it will be the biggest reality check of your life in terms of who is your friend or enemy but also in terms of what are your real strengths and weaknesses. When I co-started my digital agency, I

came from a career that told me that my brand development skills were top notch but I lacked in personal selling. When you get circling sharks and have no floaters or weapons, you learn to swim and fight re-

ally fast. In my case, I had no choice but to learn sails and learn fast.  
I'm happy we have a start-up movement in Pakistan, with TIE and StartUp Weekend events all over the country. Disruptive innovators are also pleased because it suggests that the new generation has the guts to own their destiny, a characteristic not commonly associated with millennials and it's a precursor to the accountability trail found in high performing leaders.

If you are going to do something, first get the stakeholders involved with millennials and understand that there will be long days in the sun for product testing or research and long nights pouring over usage cases & data analysis on where the product or service was flawed. Expect this sacrifice plenty but know that you will initially earn less than the amount you work then boom out of nowhere one day you will earn more than you work. That is the reward of perseverance, and it is the key differentiator between those who build their dreams and those hired to build.

	There is a GOD (GOD)	There is no GOD (No-GOD)
You are Good Person	1 ( You are good and GOD exists)	0 ( You are good and there is no GOD)
You are a Bad Person	-1 ( You are bad and GOD exists)	0 ( You are bad and there is no GOD)

**Q:** Why exactly "Volunteering" is better than "Working" in different social causes in the society?  
**A:** The following table will explain this question.  
So, the risk is higher when you are bad and don't believe on GOD. If you do so, you will start working for good, good people will be around you, you will do well always and good things will happen to you. More could be good, then Vol-

unteering to the poor underprivileged that lack a mentor or role model, then (a) can you really shoulder the risk of that person becoming a criminal or negative contributor to society and (b) if we don't do this then who will?

guidance to the poor underprivileged that lack a mentor or role model, then (a) can you really shoulder the risk of that person becoming a criminal or negative contributor to society and (b) if we don't do this then who will?

By Tehmina Hamdani and Sikandar Khan Sherwani

INFOTECH

## Pakistan's draft Computer Crimes Law endangers freedom of expression

The ARTICLE 19 and Digital Rights Foundation Pakistan are concerned about the Draft Prevention of Electronic Crimes Act of Pakistan (PECA) (Draft Law) currently being prepared for presentation before the Pakistani Parliament. Although the Draft Law contains a number of welcome procedural safeguards, several provisions violate international standards on freedom of expression. We therefore call on the Pakistani government to amend the Draft Law in accordance with our recommendations below before submitting it for Parliament's consideration.

**The Draft Law**  
The Draft Law, which has been drafted by the Ministry of Information Technology and Telecommunications, establishes specific computer crimes and procedural rules for the investigation, prosecution and trial of these offences. The Draft Law criminalises:

- illegal access to and interference with programs, data or information systems
- cyber terrorism
- electronic forgery and fraud
- the making of devices for use in these types of offences
- unauthorised interception of communication.
- Protecting human rights within computer crime legislation

ARTICLE 19 and Digital Rights Foundation Pakistan welcome the efforts of the Pakistani government to provide adequate procedural safeguards in the context of cybercrime investigations. However, all regulation of computer crimes must include the protection of human rights, in particular:

Article 19 of the International Covenant on Civil and Political Rights (ICCPR), to which Pakistan acceded in 2010. This defines the right to freedom of expression and sets out the requirements for limitations to this right. States can limit freedom of expression only in the interest of protecting reputation, national security, public order, health and morals.

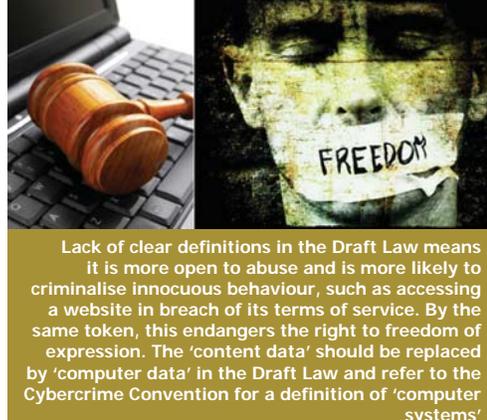
Article 17 of the ICCPR, which guarantees the freedom of individuals from arbitrary or unlawful interference with their privacy and correspondence.

In General Comment 34 on Freedom of Expression, the UN Human Rights Committee states that extreme

care must be taken in crafting and applying laws that purport to restrict expression in order to protect national security. Whether characterised as cyber-crime laws, treason laws, official secrets laws or sedition laws they must conform to the strict requirements of Article 19(3).  
In General Comment 16

more open to abuse and is more likely to criminalise innocuous behaviour, such as accessing a website in breach of its terms of service. By the same token, this endangers the right to freedom of expression. We recommend that 'content data' is replaced by 'computer data' in the Draft Law and refer to the

provisionally from Section 7 (1) (b) (vi).  
Criminalisation of "defamation against women": Although the attempts to offer special protection to women (e.g. through prohibitions on threatening sexual acts) are laudable, we find the provisions of Section 13 of the Draft Law problematic. Sec-



**Lack of clear definitions in the Draft Law means it is more open to abuse and is more likely to criminalise innocuous behaviour, such as accessing a website in breach of its terms of service. By the same token, this endangers the right to freedom of expression. The 'content data' should be replaced by 'computer data' in the Draft Law and refer to the Cybercrime Convention for a definition of 'computer systems'**

on the Right to Privacy, the UN Human Rights Committee states that interference by states can only take place when based on a law which itself specifies in detail the precise circumstances in which such interference may be permitted.

**Our concerns**  
In the light of these standards, ARTICLE 19 and Digital Rights Foundation remain concerned that the Draft Law violates international standards for several reasons:  
Lack of clear definitions: A number of definitions in the Draft Law are unclear, notably the definition of 'content data', which partially reproduces the definition of 'computer data' as stipulated in the Cybercrime Convention.

This is confusing as computer data and content data are separate concepts. In other instances, the Draft Law fails to define important terms such as 'information systems' or 'program or data'. The lack of clear definitions in the Draft Law means it is

Cybercrime Convention for a definition of 'computer systems'.  
Lack of public interest defence for hacking types of offences: The Draft Law criminalises unauthorised access to information systems, programs or data. While the Draft Law is presumably aimed at criminalising 'hacking', it fails to provide a public interest defence for cases where this type of conduct takes place for legitimate purposes, such as investigative journalism or research.

Overly broad cyber-terrorism offences: Section 7 (a) and (b) fails to make an explicit reference to "violence" as part of the offence of cyber-terrorism. Cyber-terrorism should be more clearly linked to the risk of harm or injury in the real world, and in particular harm against the welfare of individuals. It should not be equated with even moderate disruption of public services or damage to property. It is not clear that sections 7 (1) (b) (i) and (ii) would meet that threshold if read inde-

pendently from Section 7 (1) (b) (vi).  
Criminalisation of "defamation against women": Although the attempts to offer special protection to women (e.g. through prohibitions on threatening sexual acts) are laudable, we find the provisions of Section 13 of the Draft Law problematic. Sec-

tion 13 criminalises "defamation against women" and other vaguely phrased offences such as "distorting the face of a woman".  
Lack of procedural safeguards against surveillance activities carried out by intelligence agencies: Although efforts have been made to provide effective procedural safeguards against unchecked surveillance by law enforcement, not true of intelligence services, which remain subject to the provisions of the Pakistan Telecommunications (Re-Organisation) Act 1996.  
In our view, if the Draft Law were to be adopted in its current form, it would be in breach of the right to freedom of expression and privacy under international law.  
We, therefore, call on Pakistani legislators to protect the rights to freedom of expression and privacy in accordance with Pakistan's obligations under international law by reviewing the Draft Law in line with the above recommendations.

HUMAN HEALTH

## Lozenges in action: Anti-irritant and Anti-microbial potential

**THE WORD LOZENGE** is derived from a word to refer to a diamond i.e. a form of Rhombus. It is basically a French word "LOSANGE". About 1000 B.C., the Egyptian used to make from honey flavored with citrus herbs, and spices, which was more curable for the treatment of sore throat. As right from the time of immemorial, there have been a number of remedies and practices are being used to ease throat and pain. Drinking warm water, beverages such as herbs tea with honey or even just hot water with or without honey can help to relieve the pain of throat. Herbal nature of additive is no doubt beneficial. Even in the 9th century some physician discovered morphine and Heroine which have a role in the suppression of cough.

A throat lozenge is no doubt a pleasant and effective small tablet for the relief of coughing, oral thrush, blocked etc. Simply just sucking the medicated lozenges allows to be dissolved slowly in the mouth and its active ingredients work directly on the sore area of the mouth and throat. Lozenges also help to lubricate and soothe the painful area. However, one of its actions that have been explored is to kill microbes particularly the bacteria associated with mouth and throat infection. It also coats the nasal passage and equally targets the area of the mouth and throat. Lozenges also provides relief of cough. It provides energy to lungs and also provides relief from difficulty in breathing, irritation of lungs, dryness and roughness of the air passages of lungs. Lozenges can also be successfully used in the early stage of whooping cough, bronchitis and pharyngitis. In Karachi, our research laboratory at Department of Microbiology, Federal Urdu University took an initiative to screen them out and explore the anti-bacterial and anti-fungal potential i.e. indeed a totally new horizon. Our laboratory has screened the lozenges that have a natural active ingredient against almost 14 bacterial cultures and 14 fungal cultures and are highly pathogenic to humans.

Most commercial lozenges contain benzocain, an anesthetic or eucalyptus oil, which with Pakistan's obligations under international law by reviewing the Draft Law in line with the above recommendations.

menthophan, menthol, peppermint oil, honey, herbs as their active ingredients. Several cough suppressant lozenges are manufactured



**A throat lozenge is no doubt a pleasant and effective small tablet for the relief of coughing, oral thrush, blocked nose. Simply just sucking the medicated lozenges allows to be dissolved slowly in the mouth and its active ingredients work directly on the sore area of the mouth and throat. Lozenges also help to lubricate and soothe the painful area**

commercially available in Pakistan such as strepsils, pulmonal, surficol etc, they come in varieties of flavors and could stifle the soreness and there are some brand lozenges that are best in taste and largest selling over the world includes, chloroseptic, strepsil, ludens, Hall's, Vicks, fisherman's etc. These in fact depend on where the people live and peoples can buy them from some places and other places easily. Some of these lozenges also help to numb the throat in order to stop or dull the sensation, and open regular lozenges that simply coat the throat can help to keep it from feeling raw and painful.  
This is a fact that medicine and their possible side effects can affect individual people in different ways. If the children under six years of age and people with rare hereditary problems of fructose intolerance, glucose, galactose malabsorption (The lozenges contains glucose and sucrose). If somebody exper-

ience this so he/she ought to stop using lozenges and consult to doctors. Moreover, one should be careful for dosage as well as lozenge



every 3-6 hours if needed, but do not use more than five a day. Move the lozenge around the mouth while sucking it, this will help to prevent any irritation in the mouth. It has been noticed that side effects are uncommon and are usually not really critical.  
As we all know, sore throat is an inflammation of pharynx which is the tube that extends from the back of the mouth to the esophagus. There are certain strep throat and other form of bacterial pharyngitis cause sore throat often more severe and of worst nature like the chief symptoms include swallowing and redness appeared in the throat. Some other bacterial sore throat symptoms include fever, Body ache, headache, enlarged tonsils, swollen in the front of the neck.  
One should know the post-infectious complication as untreated strep throat can lead to rheumatic fever and scarlet fever. In view of this, it is highly important to procure medical help as early as

possible for mild sore throat that accompany a cold or allergy. Similarly, a throat infection with fungi (candida or "yeast") sometimes can



possible for mild sore throat that accompany a cold or allergy. Similarly, a throat infection with fungi (candida or "yeast") sometimes can

### Nokia X launches sale in Pakistan

**STAFF REPORT KHI:** Nokia Pakistan has launched Nokia X, the part of the new Nokia X family of affordable smart phones that run Android™ apps, in Pakistan. The new device is the perfect introduction to a world of Android apps, coupled with signature Nokia experiences, and the most popular Microsoft services, as well as free internet for 6 months from Telenor Pakistan.

The Nokia X features Nokia's renowned quality and design, with a fresh, tile-based user interface inspired by the Lumia family. It comes with Fast Lane, a screen which lets people switch between their favourite apps more smoothly.

People can access curated, quality-tested apps from Nokia Store, more than a dozen third-party app stores and by side-loading. All these are also pre-installed with a variety of very popular third-party apps and games.

"We believe that our new offering will resonate with consumers around the country and set a great precedent for the level of quality that can be achieved in the fast-growing, affordable smart phone segment," said Arif Shaheque, Country General Manager, Nokia Pakistan & Afghanistan.

Omer Bin Tariq, Director Internet & Devices at Telenor Pakistan, commented: "Telenor is proud to be supporting societies through communication technology."



New Nokia X Family

### Telenor, UNICEF join hand to boost birth registration

**STAFF REPORT ISB:** In an effort to augment the present low birth registration rate, Telenor and UNICEF have joined hands to launch a pilot project to mediate child's right to identify through mobile birth registrations.

This unique pilot project aims at helping create an enabling environment by making the process of birth registration user-friendly, and providing facilitation to citizens and other stakeholders through the use of technology and innovations.

The project will not only aim at increasing the number of registrations in selected union councils of Sindh and Punjab but will also induce a proactive approach towards enabling birth registration services to the public.

The project will play a pivotal role in improved citizen interactions through process optimisation, better planning and management of data for the government, and improved health awareness through uptake of mobile health (m-health) services.

The partnership with UNICEF will not only help boost birth registration rate but will also establish the importance of technology for enabling a child's right to registration," said Asim Hafiz, Chief Corporate Affairs Officer Telenor Pakistan.

"This project has tremendous implications for the right of every child in Pakistan as birth registration is an important instrument to realise children's right to health, education and other services," said Dr. Bahar Mann, UNICEF Representative in Pakistan.



### PUAN-PYF summit unites bloggers, activists

**STAFF REPORT ISB:** The Pakistan-US Alumni Network (PUAN) and the Progressive Youth Forum (PYF) welcomed more than 300 attendees to the 2014 Social Media Summit held recently in Islamabad.

Abdullahi Dayo, a US exchange programme alumna and social media activist, and general secretary of PYF, organized the summit, which is funded by a small grant from the Pakistan-US Alumni Network (PUAN).

"You have an extraordinary capacity to make a positive impact in your communities and your country—and social media is a powerful platform for your voices to be heard," said US Ambassador Richard Olson on the occasion.

### SOCIAL MEDIA SUMMIT 2014

Social Media for Social Change

On the occasion, the attendees, including journalists, bloggers, social activists, and students, and US exchange alumni shared their experiences and exchanged ideas on a range of topics. Panel sessions also focused on social media for youth activism, peace promotion, women's empowerment, entrepreneurship, digital storytelling, and the impact of social media on the changing landscape of journalism.

The speakers included noted journalists, social media and civil society experts, and entrepreneurs. The summit, which also includes Skype sessions with international social media experts, will culminate in a group exercise: a debate on the future of social media in Pakistan.

### US improves IESCO ability to cut power outages

**STAFF REPORTS ISB:** USAID and Islamabad Electric Supply Company (IESCO) have inaugurated the Power Distribution Control Center (PDCC) at the IESCO headquarters, Islamabad, in order to mark a milestone in US support of Pakistan's energy sector.

According to details, the PDCC, built with assistance from USAID, enables IESCO to monitor the flow of power in real time, allowing technicians to reduce unplanned load-shedding in the region.

"This control center is enabling IESCO to monitor the electrical power flow throughout the region by interpreting and displaying data from more than 1,000 meters installed throughout each of their 79 grid stations," said Nancy Estes, Acting Mission Director for USAID.

She said that this system provides accurate information to both IESCO and the National Power Control Center (NPCC) at the IESCO headquarters, Islamabad, in order to mark a milestone in US support of Pakistan's energy sector.

The US and Pakistan are working together to help the latter meet the growing energy demands and implement the necessary reforms to improve efficiency of the energy sector to accelerate economic growth.

As part of the assistance program, USAID has funded renovations at Tarbela, Jamshoro, Mangla, Guddu, and Muzaffargarh power plants, aided the completion of Gomal Zam and Sattara dams, and helped improve power distribution throughout Pakistan.

### Pakistan needs indigenous technologies

**STAFF REPORT LHR:** Eminent nuclear scientist Dr Samar Marikandah has said that Pakistan needs to develop indigenous technologies to become an economic power which is a desperate of the hour.

"First world countries would never give their first grade technology to us, and rather they would exploit our resources through it," said Dr Samar while addressing a special lecture on "Power generation through underground gasification of coal and Pakistan nuclear deterrence" at the Physics Department of Government College University, Lahore.

The event was chaired by VC Prof. Dr Khaleeq-ur-Rahman while Prof. Rafi Dr Zakia Butt and Centre for Advanced Studies in Physics (CASP) Director Prof Dr Raiz were also present.

### NUST conducts three-day emergency training for students

**STAFF REPORT ISB:** Pakistan lags behind in the provision of emergency training, which is a prerequisite to handling any disaster and coping up with any crisis situation.

It was the crux of the three-day training workshop organised by NUST Bio Reach Society in collaboration with LUMS EMS (Emergency Medical Services) held recently.

The trainers informed the participants that emergency education was the part of curriculum across the world. In a third world country like Pakistan where the uncertain calamities are肆虐 every day unfortunately there is no trend of emergency training.

The training programme was held at the Attaur-Risalo Institute of Applied Biosciences, NUST, in order to equip students with basic MFR skills.

At the occasion, the trainees were divided into 10 teams, each headed by a team leader in order to effectively impart training and monitor their progress.

Lectures unfolding basic course and techniques were delivered along with practical demonstrations.

An emergency triage assessment was also conducted, which combined different emergency scenarios learnt by the teams and tested each team's first-response skills.

The participants dealt with emergency scenarios calmly and were accordingly evaluated by trainers.

Finally, the Rector NUST gave trophy to winning team. Team from LUMS was presented a certificate to commend their hard work and coaching NUSTians.

### Kinnow export to surpass target despite challenges

**STAFF REPORT ISB:** Despite a complete ban by Iran on the export of Pakistani Kinnow and impact of temporary ban imposed by Russia on the import of fruits/vegetables from Pakistan last year, the country would surpass the 300,000 metric tons (MT) Kinnow export target.

"Since the season is still on, a further export of 15,000 MT to 20,000 MT is expected by the end of April," spokesman and former chairman, All Pakistan Fruit and Vegetable Exporters, Importers and Merchants Association (APFVA) Waheed Ahmed told the media.

According to him, exporters have exported over 305,000 MT Kinnow worth \$180 million so far despite the fact that almost 50 per cent of the crop was badly affected by the climatic change in the country. The production of Pakistan Kinnow was at least 2,100,000 MT.

Beside the climatic hazards, door to Iranian market remained closed for the country's fruits causing the loss of over 80,000 MT worth of exports this year. However, an export of 40,500 MT was made to Indonesia with an increase of 15 per cent following the Preferential Trade Agreement (PTA) signed by the two countries, Waheed said.

This year, he said, Kinnow was exported to the traditional non-traditional buyers including United Kingdom, Canada, Philippine, Netherlands, Hong Kong, Bangladesh, Sri Lanka, Malaysia, Singapore, Africa, and the other Middle Eastern and Asian countries.

### WWF-Pakistan arranges exploratory visit of Indus wetlands

**STAFF REPORT ISB:** World Wide Fund for Nature-Pakistan (WWF-Pakistan) has recently organized an exploratory field visit for journalists to its Global Poverty Action Fund funded project Improving Livelihoods of Fishermen Communities of Central Indus Wetlands Complex, through effective natural resource management.

Through this capacity building initiative, journalists were taken to the project sites in Ke Aikda, Muzaffargarh district, Taunsa Barrage and Bela Forest, to observe biodiversity, explore aquatic life of the Indus River and highlight livelihood interventions undertaken by WWF-Pakistan.

On the occasion, the media persons showed interest in learning about project interventions such as empowering fisher communities, especially women, through vocational training centres, kitchen gardening initiatives, organic farming interventions, alternative livelihood methods and use of environmentally friendly bio-gas plants and efficient mud stoves.

The group also visited Taunsa Barrage Wildlife Sanctuary (TBWS) where they observed migratory birds residing near pond areas and undertaking a trek in Bela Forest. A jeep safari was also organized to witness the king deer in its natural habitat.

"It is challenging to work with communities with limited resources. WWF-Pakistan is organized to witness the king deer in its natural habitat."

"It is challenging to work with communities with limited resources. WWF-Pakistan is organized to witness the king deer in its natural habitat."

"It is challenging to work with communities with limited resources. WWF-Pakistan is organized to witness the king deer in its natural habitat."

### Wateen to provide free Wi-Fi service to CAA at airports

**STAFF REPORT KHI:** Leading ICT service provider - Wateen Telecom - has announced that the Civil Aviation Authority Pakistan (CAA) has selected it as an exclusive Wi-Fi provider for establishing state-of-the-art Wi-Fi Hotspot zones at all CAA major airports in Pakistan.

The Wi-Fi service was inaugurated by Sheikh Muhammad bin Nalyhan bin Mubarak Al Nalyhan, representative of the Chairman Board of Directors of the Abu Dhabi Group, along with the CCMO CAA Asif Bashir Khan.

Others present at the inauguration includes, GM Commercial & Land Division (North) Anjad Mukhtar Malik, Chief Transformation Officer Wateen Telecom, Asad Rezaei, Head of Special Projects Shabbir Khan and Marketing Manager (South) Farhan Nahi Khan.

Wateen has been selected after a transparent vendor selection process and it will manage and operate Wi-Fi services throughout all the major international airports in Pakistan over the five-year agreement between the two organisations will enable millions of travellers to use internet annually.

Through Wateen Wi-Fi services, all passengers will be able to experience state-of-the-art Wi-Fi access, allowing them quick and easy access to high-speed internet services.

### Mobilink set to invest \$500m by 2016

**STAFF REPORT KHI:** Mobilink has planned to invest \$500 million in the 3G technology in Pakistan during the next two years mainly on the infrastructure advancement of network, license fee and technical supporting projects.

Jo Lunder, CEO of VimpelCom, the parent company of the Mobilink, said this in a meeting with PM Nawaz Sharif, during his recent visit to Pakistan.

He said that Mobilink will bring investment from its Group having strong financial strength besides it would also explore local revenue including taxes.

"CEO VimpelCom assured that Mobilink is working on fast track to swap its network on new data and voice technology to provide new services to maximum customers as soon as possible," said an official of the IT Ministry.

### PTCL pledges to drive change thru ICT solutions

**STAFF REPORT ISB:** PTCL has reaffirmed its commitment to improve the standard of living of people, increase the productivity of businesses and drive change through integration of ICT services.

"In order to adjust with the ever changing environment, industries and businesses, we all need to work together, share ideas and develop strategies that will lead to more efficient utilization of resources, improvement in the way businesses operate and reduce distances between different markets," said Walid Irshaid, President & CEO PTCL while speaking at the Islamabad leadership conference held in Islamabad.

He remarked that PTCL's ICT solutions are geared towards enabling social, micro and macro-economic change and growth. The access to latest telecommunication solutions has helped increase the flow of market information, improve business productivity and create new opportunities for people, which have augmented the GDP growth of Pakistan.

"Innovating for Future", the conference brought together industry and political leaders and decision makers from a cross-section of industries and focused on the need for innovation for boosting trade and act as an incubation center for innovative ideas.

On the occasion, senior executives, human resource experts, national political leaders and eminent leaders representing various fields shared their views, experiences and strategies on bringing transformation in the leadership culture of the country.



### USAID starts training for engineers

**STAFF REPORT ISB:** As part of its support to the energy sector in Pakistan, the USAID's Energy Policy Programme has launched a capacity-building initiative for engineers to provide training, facility assessments, maintenance and plant outage support for state-owned thermal power plants.

According to details, as many as 60 engineers from Muzaffargarh, Guddu, and Jamshoro thermal power plants will undergo training in power plant management.

"The goal of the training is to establish best operational practices and modern management techniques at the power generation companies (GENCOs)," said Talha Javed, Energy Policy Programme's Deputy Chief of Party in a statement.

Ongoing USAID funded rehabilitation at the thermal power plants has successfully restored 770 megawatts to the generation capacity, sufficient electricity to meet the needs of 7.1 million people.

### Depletion of forests to spell disaster for communities

**STAFF REPORT KHI:** Forests are a primary source of livelihood for thousands of indigenous communities across Sindh but multiple threats and factors are accelerating their rate of depletion.

This was stated by speakers at a seminar recently organized by WWF-Pakistan to mark the World Forest Day. They emphasized on the imperative need to conserve forests throughout the province and country.

Ali Murtaza Dharejo, an environmentalist and author, said that "Around 1.6 billion people around the world are directly dependent on forests for livelihoods. Forests are also the biggest sinks of carbon dioxide and play a major role in decreasing air pollution," said

stating that it is causing losses of around one billion rupees per day.

"On average, a single tree is home to about one hundred organisms and one acre of forest absorbs the amount of carbon dioxide equivalent to the emissions by a vehicle covering a distance of 41,842 kilometers," said Dharejo.

The major threats to forests in Pakistan, according to him, are illegal reclamation, non-availability of river water, reduced rainfall and drastic climatic changes. "Building new dams and barrages will further exacerbate the situation," he warned.



### Wateen, Qubee decide to upgrade system for 4G

**STAFF REPORT KHI:** Wateen Telecom and Qubee have decided to upgrade their existing infrastructure to support high-speed Long Term Evolution (LTE) or 4G broadband in Pakistan.

In this regard, both the companies have signed an agreement with Huawei Technologies under which Huawei would supply the hardware for this network upgrade. According to a press release, this process is expected to be completed in a month.

"In the first stage the two companies would upgrade their infrastructure while the announcements regarding the improvement in services or new services would be made later," said Wateen's Manager Corporate Communications and Public Relations, Salman Mazhar.

### Government of Pakistan Ministry of Religious Affairs and Interfaith Harmony Plot # 20, Near G.P.O, G-6 Markaz, Islamabad

### Walk-in-Test / Interview

Walk-in-Test/Interview will be held in this Ministry of locally based candidates (Male/Female) from Rawalpindi/Islamabad for the following temporary posts for Hajj - 2014 (not exceeding five months) will be held on the dates mentioned against each:-

Sr. #	Nomenclature	Qualification and Experience	No. of Posts	Daily Wages	Date of Test
1	DPAs/DCOs (BS-16) (Data Processing Assistants)	Second Class or Grade 'C', Bachelors Degree in Computer Science/ Information Technology or equivalent qualification from a University recognized by the HEC.	15	Rs. 711/-	14-04-2014 at 09:00 a.m
2	DEOs (BS-12) (Data Entry Operators)	Bachelors Degree in Physics/ Statistics/ Economics with a minimum speed of 10,000 key depressions per hour for data entry.	30	Rs. 573/-	10-04-2014 at 09:00 a.m
3	L.D.Cs (BS-07)	Matriculation with typing speed 30 w.p.m.	09	Rs. 464/-	11-04-2014 at 09:00 a.m
4	Naib Qasid (BS-01)	Primary Pass.	08	Rs. 410/-	11-04-2014 at 09:00 a.m
Total			62		

- No candidate will be allowed to appear in the Test / Interview after 09:00 a.m.
- The candidates must bring attested copies of Certificates / Degrees / Experience / CNIC with four photographs.
- List of successful candidates will be placed at the Notice Board of the Ministry on 18th April, 2014.
- No TADA will be paid for appearing in the test / interview.

Sighatullah Kalwar  
Section Officer (Admn)  
Tele No. 051-9208035