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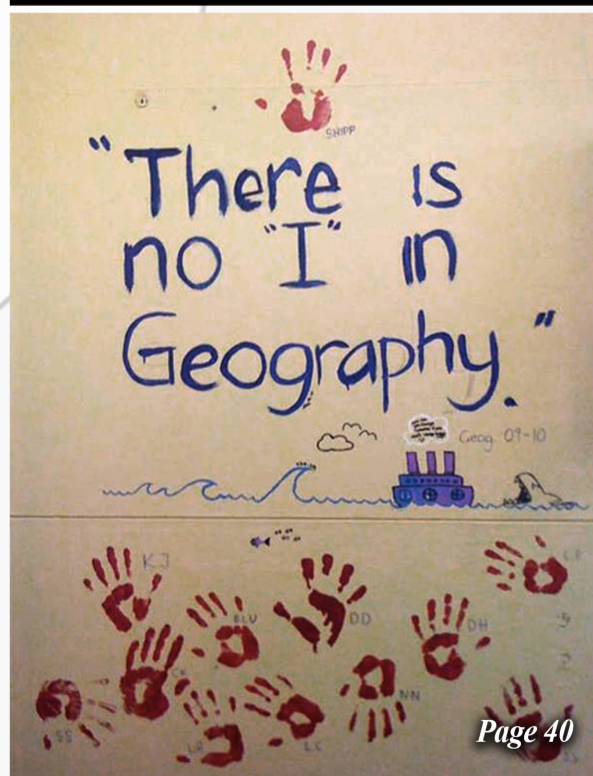
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# Spatial Knowledge & Information Management for **building prosperity**



**B**oth for-profit and not-for-profit establishments require business models to measure their failures and successes. A business model is simply the architecture of a company and its network of partners for creating, marketing and delivering value and relationship capital to its customer's base in order to either provide relief, strive for a cause, or generate profitable and sustainable revenue streams.

In today's volatile economy effective and successful business models are those that are capable of measuring and addressing time and geographic barriers. Global communication and transportation technologies, global culture, global social norms, global knowledge base, and global political stability are the major drivers of a global business environment. An understanding of global expectations, regionalism, nationalism, laws, security situations, environment, time zones, and language differences are crucial in order to penetrate and compete in global markets, product and services branding, and operations.

According to a study announced by Gartner Inc; and Financial Executives Research Foundation (FERF); Business Intelligence [BI] is the top area for CFO technology investment through 2014. The study shows that 15 of the top 19 business processes; which CFOs have identified as requiring improved technology support are largely addressed by BI, analytics and performance management technologies.

Though, Business Intelligence,

Artificial Intelligence, or Human Intelligence, are highly charged concepts to relate and reflect, and complex to understand and integrate. Furthermore, the introduction of sweet and savor online collaboration platforms, innocent crowdsourcing tools, and a huge explosion of data availability through openly access platforms are highly important developments specially for the developing World; but then at the same time; they are endangering as well to the security, independent decision making, and well thought-out socio-economic planning and development of a developing nation.

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Before the advent of the Internet, magazines served much greater purpose than they do now. Magazines were our primary source for news, reviews, business ideas, and tutorials. Geo World, ITID, Economist, Wired, Byte, PC Plus used to be our magazines of choice. Having said this; magazines still serve a tactile purpose, it is in your hands and

you are reading it, that being on the Internet just cannot provide. Magazine is still nice to read with a cup of tea, on the train, plane, or bus.

A touch still carries a lot of weight, it geo-references a thought!

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SKIM Magazine will be available both in hardcopy and through SKIM web portal [www.skim.pk] for download.

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

**Mehdi Bokhari**  
Executive Editor  
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**Governance**

# The Missing Link in the Governance Structure of Pakistan

Nadeem Ahmad

Democracy, as enshrined in the 1973 constitution of Pakistan, has to be established at three levels – the federal, the provincial and the local. Among all, the local government system is necessary for people-centered development and service-oriented government. The local governments need political, administrative and financial decentralization to deliver services at the grass root level. However, elected governments do not priorities establishment of local bodies due to the fear of losing their political power brokerage, administrative control and financial independence for development work at the constituency level. The entire political structure in Pakistan anchors upon constituency level politics and development rather than broader political ideology or national vision. This apathy towards local bodies has its origins in historical local government experiments, tendency of federal governments to centralize powers as well as lack of democratic culture within the existing political parties in Pakistan.

After Independence in 1947, there was little emphasis on setting up local government within the broader governance structure due to three main reasons. First, pre partition local governments played little role in the independence movement. There was considerable antagonism towards local institutions as pre independence local governments had strong ties to the British and much of the independence movement was driven by political party mobilizations at the provincial and higher levels. Second, during 1950s Pakistan faced political

instability leading to a strong central government that was run by the civil and military bureaucracy. Third, Unlike the Congress Party in India, the Muslim League in Pakistan failed to organize as a political party and to utilize local bodies for developing its political base, thus had to rely on bureaucracy to manage the local affair of the state. Despite being critical to pre-partition role of local governments, the modus operandi did not change much after the creation of Pakistan as the bureaucracy, like British era, was still used to control local bodies. Moreover, the local bodies were successively denied legitimacy by not holding elections and wherever such elections were held, mostly in Punjab, were plagued by elite capture and massive malpractices.

Following the imposition of the first Martial Law in 1958, national and provincial assemblies were disbanded and General Auyb Khan, Martial Law Administrator, introduced Basic Democracy (BD) in 1959. Unlike elected governments of the past, who denied legitimacy to local governments, the Ayub's military government used BDs to legitimize his essentially unitary new Presidential Constitution (1962), which explicitly linked the office of the President to the newly created local bodies by declaring the 80,000 Basic Democrats as the Electoral College for the election of the President and national and provincial assemblies. The BD local governments comprised of a hierarchical system of four linked tiers. The lowest tier (the union councils) was elected directly on a non-par-

ty basis and officials at all the higher tiers were either indirectly elected by elected officials at the lower level or appointed by the central government.

The system of Basic Democracies mirrored British era tactics to control political leadership through bureaucratic controlled local governments. The BD system failed to provide essential political mobilization, and democratic legitimacy for local level of governance.

THE STATE SHALL ENCOURAGE LOCAL GOVERNMENT INSTITUTIONS COMPOSED OF ELECTED REPRESENTATIVES OF THE AREAS CONCERNED AND IN SUCH INSTITUTIONS SPECIAL REPRESENTATION WILL BE GIVEN TO PEASANTS, WORKERS AND WOMEN.

1973 Constitution Article 32

Ironically, there was no system of local governance during Prime Minister Zulfikar Ali Bhutto's democratic government from 1971-77. Bhutto's government failed to implement local government legislations in 1972 and 1975. Above all, he failed to fulfill constitutional requirement of ensuring local government institutions that he himself advocated in the 1973 constitution. During the entire period, the administrators continued to govern local institutions.

*The next local governments were once again introduced by a military ruler to legitimize his rule in the*



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**country. General Zia introduced Local Government Ordinance (LGO) in 1979 and local bodies were elected in all four provinces during 1979 and 1980 on non-party basis. This was again an attempt to reduce the influence of popular political parties like his military predecessor.**

The LGO 1979 failed to ensure both administrative and financial decentralization. Like BD, the District Commissioner continued to hold three important local level functions: coordination, magistracy and revenue collection. Rather than elected District Councils, the DC exercised control over government line departments through respective line department District Officers (DO). Additionally, the magistracy allowed the DC to hold court and exercise control over district Police. Similarly, district revenue collection remained under the DC's administrative control allowing District Council to approve taxation but play a minimal role in implementation of revenue collection framework. Additionally, as in the Local Bodies of Act of 1959, the DC had the authority to disallow, stop or amend any decision of the District Council.

While there are many similarities between LGO of 1979 and BDO of 1959, enhancement in the roles and responsibilities of local government bodies did happen. Union Councils (the lowest tier) were now made responsible for provision and maintenance of roads and streets, public buildings, schools, health facilities, lighting of public ways, water supply, and maintenance of parks and plantation of trees. This was a substantial increase in empowerment of local communities.

It is interesting to note that under both Zia and Ayub, local governments lacked constitutional protection and their existence was left at the whim of unelected provincial governments who retained the power to suspend them.

The local government during Zia era worked directly under the federal government until 1985 when the provincial governments were elected on non-party basis. With the return of democracy after almost a decade, members of the provincial assemblies were nominated as managers of development activities. Both provincial MPs and local governments assumed similar roles which led to tension between local tiers of government and MPs. This tension concerning expenditure at the local tiers and political parties seeking to undertake development activities in the respective constituencies of provincial and national legislators further increased after the return of full democracy in 1988. The same tension is still the source of conflict between three tiers of the governance as the role of national and provincial MPs has not much changed.

After Zia, the elected governments of Benizer Bhutto and Nawaz Sherrif continued to assert direct control of federal government through bureaucracy. However, unlike military rulers, who used local bodies to gain legitimacy, the democratic governments used administrative officials as tool for political leverage for

their party advancement in new areas or official patronage ahead of the next elections.

History repeated itself yet again, as the local governments were yet again set up by another military ruler. Gen. Pervez Musharraf introduced the Local Government Ordinance of 2001, with significant administrative and financial devolution of powers to the lowest administrative divisions of the country. For the first time in Pakistan, an entirely elected, although non-party, system of local bodies was devised with wide ranging control over almost all government functions at the district level and below.

Unlike DC, the elected District Nazim headed the local administration and supervised and appraised the DCO and DPO and exercised complete autonomy over district administration. With the suspension of the divisional cadre (i.e. the commissionerate) the divisional powers were also devolved to districts. This administrative and financial devolution under LGO 2001 transformed Pakistani politics at the local level.

The new system was a three tiered local government. The lowest tier, namely Union Council had an elected council made of 21 members. Union Council was headed by Nazim and Naib Nazim who were directly elected and they supervised Union Council secretaries. Tehsil/Taluka Councils and District Councils were composed of Union Council Naib Nazims and Nazims respectively as general members. However, Tehsil/Taluka and District Nazims were elected through indirect election with all members of Union Councils in respective electoral wards forming the Electoral College. At the district level, the Nazim supervised district administration through DC office and respective EDOs of line departments.

There was also considerable political participation in the affairs of the local government through creation of community based organizations for development purposes such as Citizen's Community Boards (CCBs) and Village and Neighborhoods Councils (VNCs) which could access the development budgets of Union Councils and undertake independent development schemes in their respective areas. Moreover, Musaliha-i-Anjumans were also set up for speedy alternative justice at the community level.

***The constitutional protection to LGO 2001 ended in December, 2009. The 18th Amendment of 2011 has reinstated the Article 140/A of the 1973 Constitution and asked provincial governments to ensure decentralization, devolution of powers and establishment of working local government system.***

Despite the 18<sup>th</sup> constitutional amendment which provides much needed constitutional protection, local governments have remained in limbo since 2009 as provincial governments have failed to materialize new legal framework. By 2010-2011, all the four provinces had set up interim mechanisms for restoring the

functionality of local governments, but did not held elections during the entire PPP tenure. Since none of the political parties have ever established democratic party structure at the local level, neither they have any experience of undertaking thorough exercise to develop a local government system which is grounded on local realities, they are now unable to come up with legislation.

Since mid-2012, the Supreme Court has been pushing provincial governments to hold local body elections. The SC demand has become more vocal after establishment of the newly elected PML(N) government and is asking the provinces to fulfill a Constitutional requirement as enshrined in the 18th Constitutional Amendment and immediately announce schedules for these elections. The provincial governments are in the process of legislating their respective local government acts.

Given limited legislative capacity of the provincial governments, lack of political will to devolve political administrative and financial authority, usage of local government system as leverage to political gain, and chronic conflicting service delivery and development role of local leadership and MPs, the provincial governments are struggling to establish a legal framework for local bodies. Each province is trying to come up with ad-hoc version of local government laws through trial and error. Sindh has planned to restore the LGO of 1979, KPK is amending the LGO of 2001, and Punjab has passed a new provincial LGO with mixture of these two while Balochistan has yet to make a start. Though diverse in many aspects, all new provincial legislations has not making serious effort to ensure fully empowered and democratic local governments.

Despite these traditional bottlenecks, it is expected that with 18<sup>th</sup> Constitution amendment in place which has successfully transferred the powers from the center to the provinces, a watchful Supreme Court and vocal media we have begun our journey towards a truly devolved local bodies. With successive democratic governments the political parties are expected to have better democratic structures for their own survival. The

**“140A. LOCAL GOVERNMENT.  
— EACH PROVINCE SHALL, BY LAW, ESTABLISH A LOCAL GOVERNMENT SYSTEM AND DEVOLVE POLITICAL, ADMINISTRATIVE AND FINANCIAL RESPONSIBILITY AND AUTHORITY TO THE ELECTED REPRESENTATIVES OF THE LOCAL GOVERNMENTS.”**

persistence of democratic tradition and matured political parties will indeed set the foundation for autonomous, inclusive and efficient local government systems as enshrined in our constitution. For sustainable local government systems, the provinces must ensure devolution of all the three key elements of governance i.e. political, administrative and financial. Any skewed and unbalance system would yield same results as it has been in the past.

Functioning local governments with essential political devolution will facilitate greater popular participation in governance. Such devolution will bring government closer to the people and reduce their alienation from the political process in Pakistan. Administrative devolution in true spirit will curb excessive concentration of power at the top, allow better maintenance of law and order, enable local people to articulate their interests and needs, and will ensure bottom up development process. Fiscal decentralization will allow retention of resources at local level which result into stimulation of local economies, employment opportunities local level and further mobilization of local resources for development process.

It can be clearly seen from the above debate that once truly empowered local bond are set up and start asserting themselves only then the basic tenets of good governance, e.g. openness, transparency, fairness and probity can be assured. Without vibrant, participatory, and autonomous local government, the much need goal of good governance will remain a distant dream in Pakistan.

Local Governments Systems in Pakistan

1947	Local Authority Service Act passed in Sindh. Provincialized the key posts in local Governments.
1947-59	Continued operation of 1911 Punjab Municipal Act. Period of inactivity.
1959	Basic Democracies Ordinance enacted by General Ayub Khan. Abolished in 1972.
1972-9	Enactment of People's Local Government Ordinance 1972 by the PPP government.  Promulgated but not implemented.
1979	Local Government Ordinance enacted by General Zia-ul-Haq
2001	Local Government Ordinance enacted by General Pervaiz Musharraf. Expired in 2009
May, 2010	The Balochistan Local Government Act, 2010
March 2011	The Punjab Land Revenue (Amendment) Act 2011, Re-established divisions in Punjab and Restored administrative powers of DC
May 2012	Khyber Pakhtunkhwa Local Government Act 2012
August 2013	Punjab Local Government Act 2013
August 2013	Sindh Local Government Act 2013
August 2013	Khyber Pakhtunkhwa Local Government Bill 2012 (Draft)



GOVERNANCE

**Ministry IT, PTCL sign MoU for hosting of e-governance applications**

ISLAMABAD, Sep 19 (APP): A Memorandum of Understanding (MOU) between Pakistan Telecommunication Company Limited (PTCL) and Ministry of Information Technology (MOIT) for data center hosting facility was signed here on Thursday.

The MoU signed by Minister of State for Information and Telecommunication, Anusha Rahman and President PTCL Waleed Irshad, will enable the Ministry to host e-governance software applications at PTCL data center free of cost for a period of 15 months. It is important to mention that PSDP project titled Federal Government Data Center and internet was approved through Executive Committee of National Economic Council (ECNEC) in July, 2004.

However, Electronic Government Directorate (EGD) has remained unable to deploy data center to date.

During the MoU signing ceremony Waleed Irshad, President PTCL said the government of Pakistan is in the process of implementation of E-Governance program across the country so PTCL fully supports the E-Governance initiative.

PTCL considers it as an honor and mandate to support government of Pakistan, especially for the provision of hosting E-Governance applications at PTCL tier-3 Data Center, he added.

The Minister of State for IT appreciated PTCL for its support and voluntarily provision of Data Center facility to host e-governance applications.

The Minister further added that E-government will play a significant role in bringing paperless environment, efficiency, transparency and good governance in the government.

Source: APP, September 19, 2013

**Pakistan, Germany sign 102.5m euros agreement**

*The Nation, September 07, 2013*



ISLAMABAD - The Government of the Islamic Republic of Pakistan and the Government of the Federal Republic of Germany on Friday finalised bi-annual government-government negotiations for calendar year 2013 and 2014. Euro 102.5 million (Rs 14.3 billion) were allocated with this agreement to new and existing projects in the focal sectors of German-Pakistani Development Cooperation: Education, Energy, Governance and Health.

After the Federal Cabinet's approval, the signing of the agreement was carried out by Ms Nargis Sethi, Secretary Economic Affairs Division and Dr Uta Boellhoff, Director General Europe, Middle East and Asia; Multilateral Development Policy of the German Federal Ministry for Economic Cooperation and Development today.

The geographical focal areas of cooperation remain in the provinces of Khyber Pakhtunkhwa (KPK) and the Federally Administered Tribal Areas (FATA). In addition, selected national programmes and projects focusing on the metropolitan areas of and around Lahore and Karachi are in implementation.

German Development Assistance to Pakistan has contributed more than Euro 2.5 billion since 1961.

On this occasion, the Secretary EAD said that this Financial and Technical assistance, some of which have already started flowing, will enhance the efforts of Federal and provincial Governments in Pakistan in the fields of Governance, basic education, basic health and renewable energy.

Dr Böllhoff said that "This German commitment is an expression of the German support to bring forward crucial reforms by the new Government, especially in the energy sector and towards reforms of the tax system." The German funding is also in support of the reforms agreed upon as part of the Extended Fund Facility approved on September 4th by the Executive Board of the International Monetary Fund (IMF).

It is important to mention here negotiations took place at a time when the newly elected governments on federal and provincial level carry forward various reform efforts in different sectors.

This new commitment by the German government will be used to strengthen the existing support for Vocational Education and Training (TVET, co-funded by the Dutch Government and the European Union) to support the implementation of the national TVET Reform. In health, additional funding is provided on federal and provincial level to enhance Human Resource Development and the implementation of social security systems. In addition projects to improve energy supply for the national grid, decentralised rural energy solutions as well as energy efficiency projects with the industries providing job opportunities, have received additional funding. The financial support to Afghan refugees and refugee hosting areas implemented through UNHCR will also be upgraded.

Dr Uta Boellhoff and delegation from the German Federal Ministry for Economic Cooperation and Development during their stay in Pakistan, used opportunity to engage in stakeholder discussions with the government on federal and provincial level and with civil society representative.

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## Democracy and Elections

# Political Crossroads: Where do we go from here?

(By Sheharyar Khan)

I have often argued that revolution is a bloody business and Pakistan, as a nation, is neither 'ready' nor 'willing' to enter such a phase. However, I was delighted to see my opinion being proven wrong, when people turned up in large numbers to vote in the May 11 general elections.

Former cricketer-turned-politician and chairman of political party Pakistan Tehreek-e-Insaf, Imran Khan made waves in popular media after popularizing the chant of "change" -- somewhat similar to what Barrack Obama did in the U.S. -- and created a following from major urban cities, especially from those that belonged to the general youth group of 18 to 30 (on average).

Change, soon became synonymous with "Revolution"; Political revolution, educational revolution, Pakistani revolution, but revolution nonetheless that ensured a simple, burden-free transition to a state that would see prosperous days the moment one man and his political party would come into power. As it gained momentum,

Pakistan Tehreek-e-Insaf started making promises which I found to be highly absurd -- Educational emergency, eradication of corruption within 90 days of power and the list goes on -- followed by praises from the masses, who not only absorbed the party's manifesto but soon decided to stand by it without any technical knowledge.

Ultimately, the argument to vote for PTI boiled down to a simple premise, "what choice do we have?"

It is indeed true that the Pakistani citizens are tired of the corrupt environment that engulfs them. Tried and tested politicians who have major holdings in their local constituencies have had nothing to fear -- historically speaking -- and their influence and power ensures that they enter the halls

being governed by your inferiors."

So, how does one define revolution, especially in a society that is increasingly becoming self-centered. Let's take a recent example, The Arab Spring: A series of Middle Eastern revolutions against authoritarian governments, supposedly believed to be exploiting the local citizens that is on-going and has led to the death of thousands, if not millions of people



of parliament, over and over again. An honest, law-abiding citizen -- for most of the part -- not only avoids political engagement, but refuses to partake in any political activity that could potentially benefit them. Somehow this reminds me of what Plato said once:

One of the penalties of refusing to participate in politics is that you end up

and the ruin of many more. Keeping that in mind, one can simply conclude that revolutions are, bluntly speaking, bloody. Picky any historic revolution around the world and you'll find nothing but bloodshed -- change a distant reality.

Nonetheless, what should've been Imran Khan's moment of glory, soon

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turned out to be a victory for Nawaz Sharif; Pakistan's current Premier and President of Pakistan Muslim League Nawaz -- the majority party in the National Assembly. Ignoring allegations of corruption, one is only left to wonder how Nawaz Sharif found his way towards achieving a third tenure as prime minister of a nuclear state. The answer is simple: Politics and democracy are not governed by the masses; they are governed by a well-placed system that not only understands but exploits the human behavior.

Winston Churchill once said, "Politics is the ability to foretell what is going to happen tomorrow, next week, next month and next year. And to have the ability afterwards to explain why it didn't happen."

In a country like Pakistan, where people are governed by fear and intimidation, especially in areas that are under landlords, it is easy to guide them towards an intended purpose. If we had better sense, and the ability to listen to reason, perhaps we wouldn't have plunged so deep. Alas! That is not the case. The defenders of democracy feel that Pakistan is headed towards the right direction -- a few more churns and the democratic wheel would be refined to a point that Pakistan would see days of greater glory.

Personally, I would like to disagree. True change would only come if we start working on ourselves, and no amount of PTI's or Imran Khan's can help us with that. A politician is merely a representative of the people, and if he or she is as bad as everyone claims them to be, then that could only mean one thing: We're just as bad, and we are just as much to blame.

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## DEMOCRACY & POLITICS

### Punjab's LB polls slated for December

Source: The Express Tribune, September 23, 2013

Advocate General Punjab Mustafa Ramady told the court that the Punjab government had told the Election Commission of Pakistan that the provincial government will hold the local bodies polls on December 14. He was asked to file a written statement by the next hearing.

### Sindh's LB polls hinge on law and order situation

Source: The Express Tribune, September 23, 2013

Additional Advocate General Sindh in his reply said that the provincial government was ready to hold local bodies election but law and order situation may prove to be a hindrance. The bench retorted by saying that an earlier a statement from the counsel had mentioned a date for November 27 and stated that there was no further room for excuses. The bench asked the provincial government to hold the LB polls on the earlier given date.

### K-P yet to legislate for LB polls

Source: The Express Tribune, September 23, 2013

The two-member bench turned down a request of the Khyber-Pakhtunkhwa government to grant 45 days for legislation to hold LB polls and directed the Advocate General to submit a written statement.

### Balochistan yet to finalise LB poll date

Source: The Express Tribune, September 23, 2013

The Balochistan government was also directed to submit a written statement. The Advocate General Balochistan said that due to the incomplete composition of the Cabinet in the province, he was not ready to provide a final date for the elections. The hearing will now resume on Tuesday.

## Strengthening Voices for Democracy



*The Nation, September 16, 2013*

ISLAMABAD - Like other parts of the globe, International Day of Democracy observed in Pakistan on Sunday under the 2013 theme 'Strengthening Voices for Democracy'.

Democracy is a universal value based on the freely expressed will of people to determine their own political, economic, social and cultural systems and their full participation in all aspects of their lives.

The subject of this year's theme, "Strengthening Voices for Democracy" aims to shine a spotlight on the importance of people's voices, both expressed directly and through their elected representatives, in today's political, economic, social, developmental, environmental and technological debates.

The ability of people to raise their voices and decide how they are governed lies at the heart of democracy. The Inter-Parliamentary Union is promoting the International Day of Democracy through its Member Parliaments in 162 countries around the world.

The UN General Assembly, encourages govts to strengthen national programmes devoted to the promotion and consolidation of democracy, and also decided that September 15 of each year should be observed as the International Day of Democracy.

In his message on this day, UN Secretary General Ban Ki-moon said: "This year's International Day of Democracy falls amid volatile political transitions in several countries, prolonged economic crisis, and dramatic demographic and social change. These events all underscore the need to strengthen people's voices in how they are governed an imperative that lies at the heart of democracy.

He said despite advances in civic engagement, apathy has become democracy's most insidious enemy in a growing number of societies.

"Inclusive participation is the antidote. It is not only an end in itself, it prepares communities, societies and entire countries to address opposing points of view, forge compromises and solutions, and engage in constructive criticism and deliberations. Inclusive participation helps communities develop functioning forms of democracy for government, corporations and civil society," he added.

Ban Ki-moon said: "We live in a new era of ever greater possibilities for individuals to obtain information and influence decision-making, facilitated by evolving technologies. These can help people to play a more direct role in areas that I consider the most immediate global priorities for our age: reducing inequalities; preventing armed conflict and building a safer and more secure world; supporting nations in transition; empowering women and young people; and advancing sustainable development."

The UN Secretary General said "As we strive to accelerate progress on attaining the Millennium Development Goals by the target date of 2015, we are shaping a vision for development beyond that year. Global consultations on the post-2015 development agenda - in themselves an unprecedented effort to bring people's voices to international policymaking have re-affirmed the importance of putting people at

the heart of development".

The million voices represented in the UN's MY World survey overwhelmingly call for open and responsive government, placing this in the top three goals they seek in a future development.

### LB polls: SC demands written responses from provinces

*The Nation, September 16, 2013*

ISLAMABAD: The Supreme Court on Monday asked the Advocate Generals of Punjab, Sindh and Balochistan to submit a written statement about holding local bodies election in the respective provinces.

A two-judge bench comprising Justice Jawwad S Khwaja and Justice Sheikh Azmat Saeed resumed the hearing on Local Body (LB) polls on Monday and directed the Additional Attorney General of Pakistan to produce a copy of the notification regarding local polls in Islamabad on Tuesday.

The court accepted the plea of Attorney General of Pakistan (AGP) Munir A Malik for more time to complete the consultative process with all the political parties for holding the local bodies elections in the cantonment boards.

The AGP said that a ten-member committee has been constituted for the process and that a proposal will be finalised during the first week of October. Following that, a bill would be tabled in the House for approval.

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Education

# What ails **the Education System of Pakistan?**

(By Fayyaz Ali Khan)

No one, with a rational frame of mind, would argue the fact that there is no quick fix for the myriad hitches that confront the underdeveloped or developing countries and its populace. However, if one has to single out one underlying reason for the progress of the developed countries or for the ever worsening state of affairs of the poor countries, it, inevitably, would be the universality and quality of education or its lack thereof in that particular country.

Today, Pakistan's economy is failing and its social and economic development indicators are one of the worst in the region. Progress here is primarily hindered by the ever-increasing population, poor governance, mismanagement of depleting natural resources, and, since the last few decades, the menace of terrorism. Many might disagree but if one digs deep, the underlying reasons for most of these ills of Pakistan are rooted in the lack of and poor quality of education.

Education in Pakistan is handicapped by a number of de-

bilities. The first and foremost is the fact that a large majority of the population simply does not have trust in the value and usefulness of acquiring education. They consider it a waste of time and an unnecessary drain on their meager resources. They usually cite the example of the educated jobless youth in their neighborhoods, which cannot find a job commensurate with their academic qualification and despise skilled or menial jobs. Due to the large number of children, the parents want their children to start contributing to the family income as soon as



possible. They follow the old adage: a bird in hand is better than two in the bushes, literally. The status of girls' education is even worse. In most cases they are unwanted and considered a burden that should be got rid of at the earliest, and with bare

minimum investment in their upbringing.

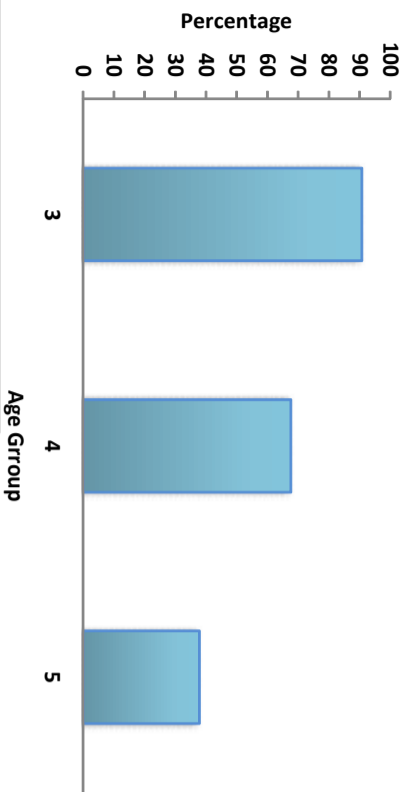
Though, since recently, some investments are being made in higher education, education up to the secondary level is in tatters. Teaching at the primary level, particularly in the government schools, is no one's priority as it is one of the lowest paid and hence least appreciated jobs. The medium of instructions is English and none of the teachers at the lower levels is proficient in the language. Take the results' gazette for any year and most of the failed candidates would have an 'E' in front of their name, which means that they have failed in English, which is a major reason for the high dropout rate. Who knows how many brilliant children are deprived of higher education just because they cannot grasp a foreign language and not necessarily for their own fault but may be of the teacher who him/herself is ill equipped to teach that language.

If, somehow, the ones going to the government schools overcome the language barrier at

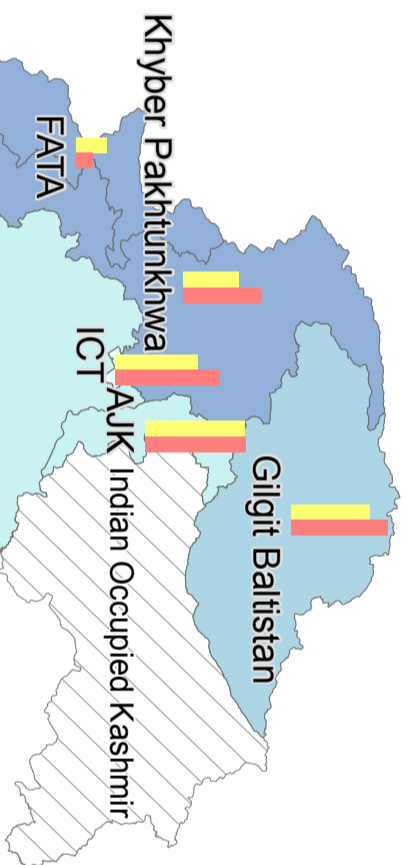


# PERCENTAGE OF OUT OF SCHOOL CHILDREN-2012

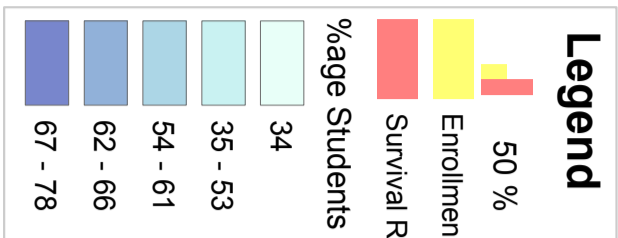
3-5 Years Dropout Children



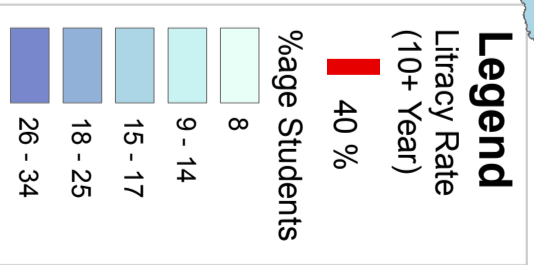
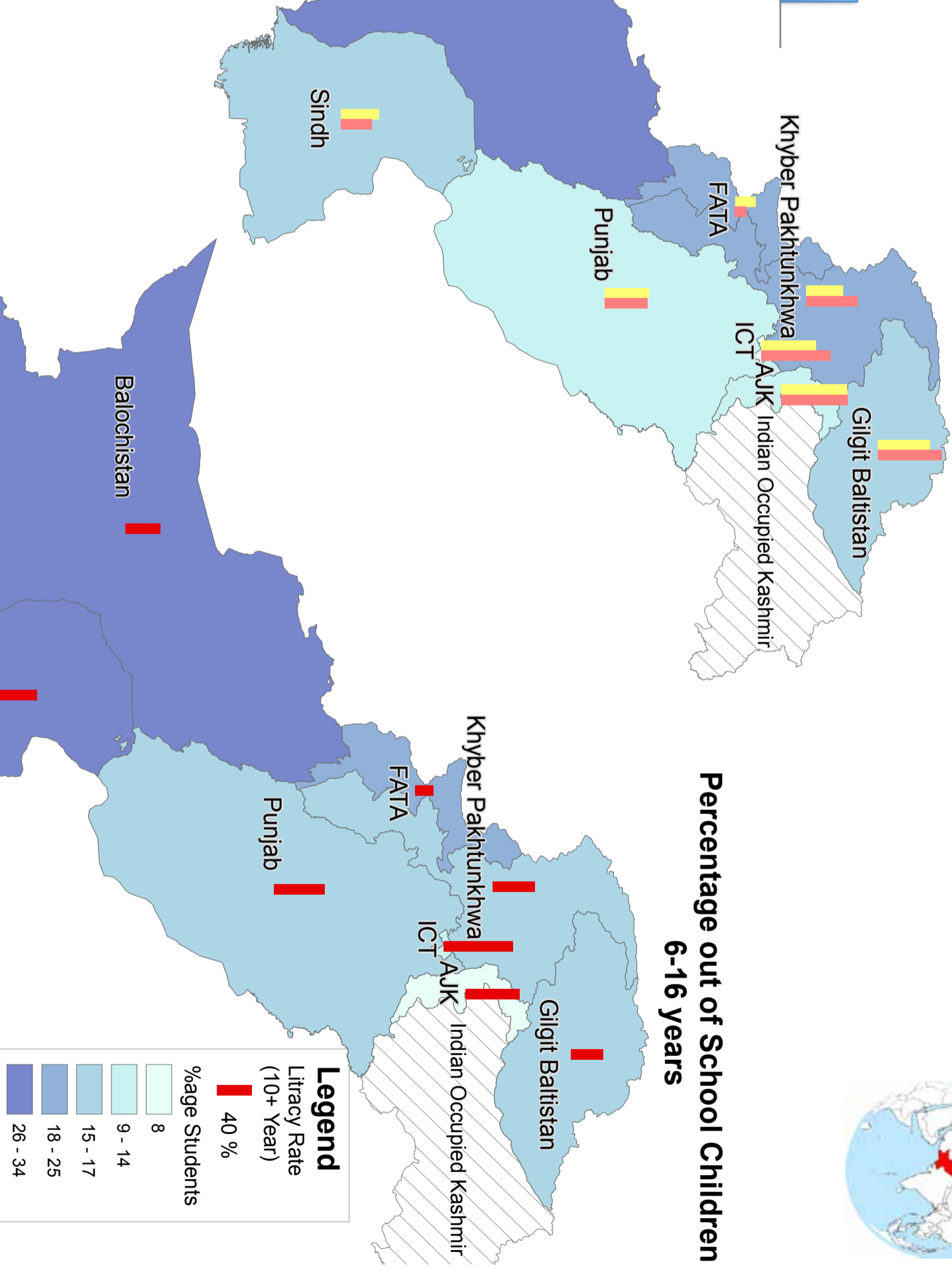
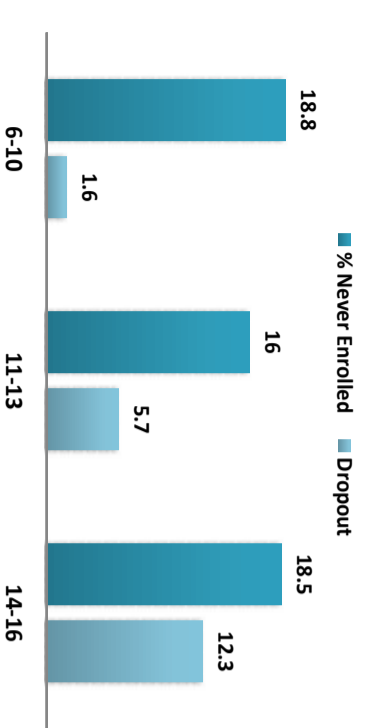
Percentage out of School Children 3-5 years



Percentage out of School Children 6-16 years

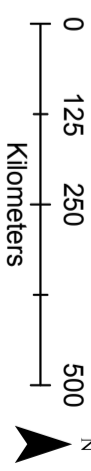


6-16 Years Out of School Children



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**Data Source**  
 Annual Status of Education Report ASAR Pakistan-2012  
 Alir Alian District Education Ranking 2013





the lower levels, later on at the higher levels, they are disadvantaged when in competition with the students from the English medium schools as then all the subjects are taught in English. Their plight gets even worse when they try their luck at the competitive examinations for civil services as high level proficiency in English language is a prerequisite to qualify in these exams.

Language is not the only handicap that discourages poor parents taking interest in their children's education, as the examination system is rotten as well. There are mafias that control examination boards, auction examination halls and guarantee high marks for those who can afford it. Unfortunately, the story does not end here. Most of the government jobs are up for sale or require the right reference. With such little hope for their children earning a livelihood through education, and in most cases being unaware of the perils of child labor, the parents find it prudent to send them to work places where at least their jobs are guaranteed.

The education system in Pakistan does not only suffer from the aforementioned discriminatory anomalies but there are other incongruities that affect the quality of education. Instead of having clear concepts, rote learning is the key for students to secure high marks. Resultantly, the system churns out students who are barely educated.

In Pakistan, unlike the developed countries, there is no link between the educational institutions and the job market. The students are mostly at a loss once they finish their education. There is no dearth of graduates with a Master's degree in Political Science, Sociology, Psychology, History, Islamaia, Persian and so on and having no idea as to what are they good for or how could they put their knowledge to help them earn a decent livelihood.

There is a dire need for changing the systems of supply and access and affordability. Medium of instruction till tenth grade should be in the mother tongue with compulsory learning of English or for that matter any other international language, e.g. Chinese or Arabic that could help the students when they embark upon a career path.

The examination system needs a complete overhaul. There ought to be an independent national testing service that functions transparently and efficiently.

It is not enough to insert a clause in the constitution that education up to 10th grade is free. The government must use a stick and carrot policy to achieve the millennium development goals for education. While the stick could be strictly forbidding child labor, non-issuance of driving licenses etc. to illiterate persons, incentives could be in the shape of cash or free lunches etc. It is the need of the hour to attract the

best talent of the country to opt for teaching at the primary level. Lack of funds is no excuse as there are a number of areas in the government spending from where funds could be diverted to the education sector. I am more than positive that if thoughtfully approached, the military establishment would more than willingly accept cutting down the defense budget to be spent on education as they know it better than anyone else that there is no better defense than educating our future generations.

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## EDUCATION

### World Bank to promote technical education

Source: Pakistan Today, September 18, 2013

LAHORE - The World Bank Mission held a meeting with Technical Education and Vocational Training Authority (TEVTA) management on Wednesday at Tevta Secretariat. The five member World Bank Mission comprised Ms Scherezad Joya Monami, Muqaddisa Mehreen, Ayesha Khan, Patricia Tibbetts and Usman attended the meeting.

During the meeting, the team members said they would identify possible areas of intervention to support vocational training being offered at Tevta institutes across Punjab. For this purpose, the team said the mission would visit Tevta institutes in Gujranwala and Sialkot. They explained that industry-institute linkage, teachers training and placement of pass-outs are the important areas to consider for finalising the projects. Addressing the meeting, Tevta Chief Operating Officer Jawad Ahmad Qureshi gave detailed presentation to the team. He briefed them about the present technical education and vocational training being offered in Punjab and he said the WB may provide financial assistance for training centers, staff and establishment of new institutes to improve access and quality of the said education.

### 6.5 million Pakistani children deprived of primary education

Source: Pakistan Today, September 18, 2013

ISLAMABAD: A report published by UNICEF states that 6.5 million children in Pakistan are deprived of a primary education. According to the report, three out of every ten children never attend school.

Furthermore, the report states that 2.7 million children in the country do not receive a secondary education. The report says that poverty will increase in the country if the education emergency is not immediately addressed. The report highlights statistics on the state of education in Pakistan: 38.9 percent of girls never attend primary school. 30.2 percent of children never attend school.

42.8 percent of children leave school before completing their education. Girls outnumber boys in the number of children being deprived of an education.

## Reforms in education sector



### begun in KP, says Imran

Source: Reuters, September 10, 2013

PESHAWAR: Pakistan Tehreek e Insaaf (PTI) Chairman Imran Khan has said that his party wants to introduce a uniform educational policy in the country. Speaking at a function here on Tuesday, the PTI chief said that his government has already begun reforms in the education sector in Khyber Pukhtunkhwa.

He said there will be a single and transparent syllabus in the entire province.

Imran regretted that the country could not make progress due to poor and class based educational system.

The PTI chief further said that he would persuade overseas Pakistanis to make investment in education

sector.

Khyber Pakhtunkhwa is the most terrorism-hit province of the country, he lamented, adding that his party wanted to bring peace in the province which would help bringing foreign investments.

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**Health**

# Public Health Expenditure of Pakistan

(By Hadya Ali)

Health is one of the basic essentials of any society and a primary requirement for development of a Nation. Countries, where government fails to provide its people with quality health facilities, have struggled to develop sustainably as compared to those countries, where health is among the top priority areas for the administrators. OECD (Organisation for Economic Co-operation and Development) Countries are role model for the Least Developed Countries (LDC), where almost 8 % of the GDP is spent on provision of quality health system for the general public. The World Health

agencies and nongovernmental organizations), and social (or compulsory) health insurance funds. Total health expenditure is the sum of public and private health expenditure. It covers the provision of health services (preventive and curative), family planning activities, nutrition activities, and emergency aid designated for health but does not include provision of water and sanitation”.

As per the indicators of World Bank, the table below illustrates the total health expenditure by Pakistan and its neighboring countries; the table below clearly indicates Pakistan having one

are beset with numerous problems including structural fragmentation, resource scarcity, and inefficiency, lack of functional specificity, gender insensitivity and inaccessibility. These problems have mainly occurred due to the lack of Government spending in the Health Sector. The above mentioned statement is very much supported by a report published by the Research and Advocacy Fund which states, “The overall budget allocation for the health sector is low as the percentage of GDP has never exceeded 0.7 per cent. Besides, a major chunk of the budget — 71.75 per cent is spent on specialized hospitals and curative

Country	Total % of GDP	Public % of Total	Out of Pocket % of Total	External resources	Per capita \$	Per capita *PPP \$
Pakistan	2.5	27.0	63.0	5.1	30	69
India	3.9	31.0	59.4	1.0	59	59
Afghanistan	9.6	15.6	79.4	16.4	56	50
Bangladesh	3.7	36.6	61.3	6.6	27	67
SriLanka	3.4	44.6	45.9	2.7	97	191

Source: World Bank

Organization (WHO) recommends and encourages all its member states to spend at least 5% of their GDP on health in order to meet the Millennium Development Goals (MDGs).

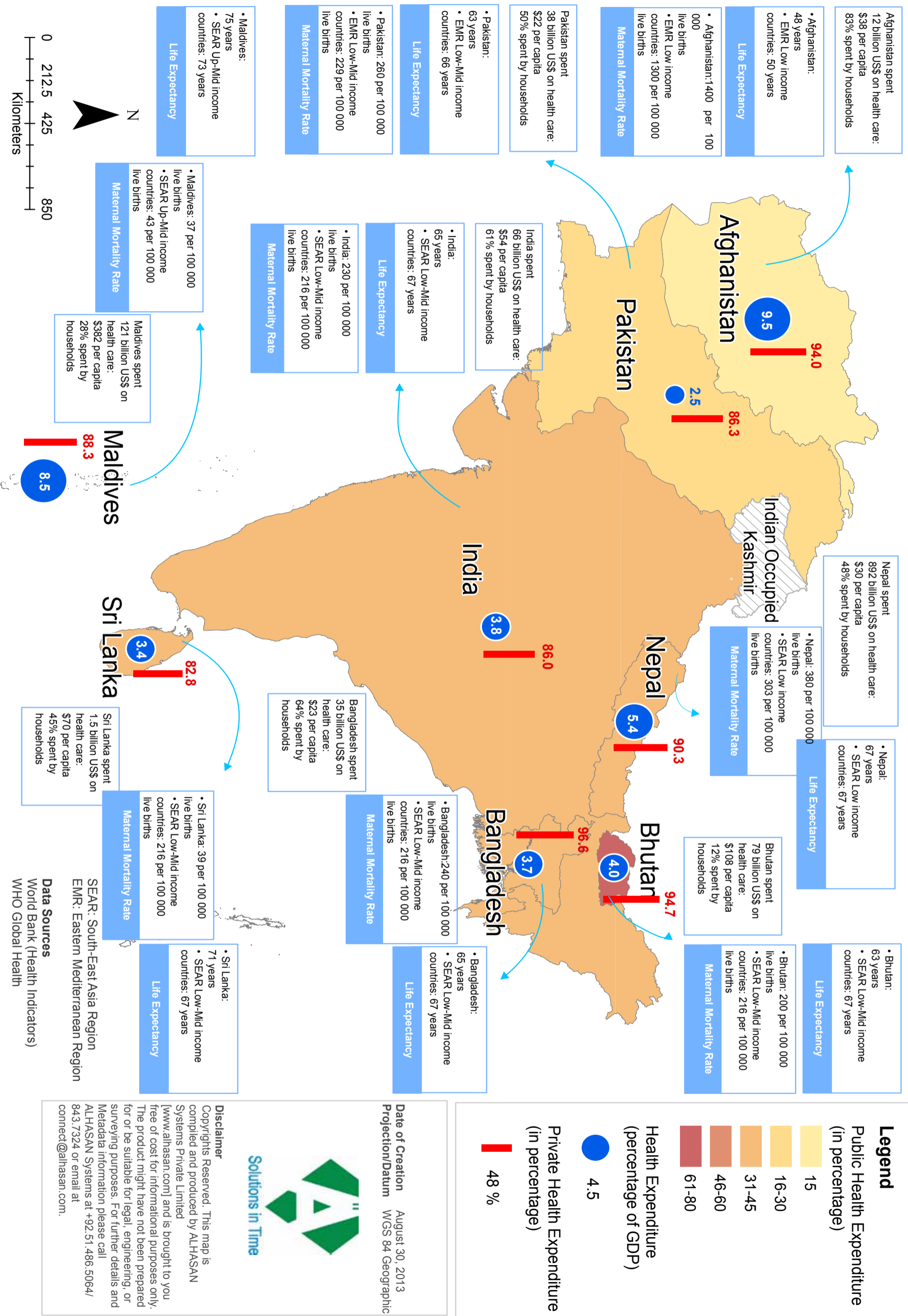
According to the World Bank, “Public health expenditure consists of recurrent and capital spending from government (central and local) budgets, external borrowings and grants (including donations from international

of the lowest expenditure on health in South Asia

Recently in Pakistan, major changes were made in health sector. Under the 18th Amendment of the constitution, health has now become a provincial subject, where all provincial departments of health have been given complete autonomy and Federal Ministry of Health has been abolished. Currently, these provincial departments of health

care, leaving few resources for primary healthcare facilities”. Furthermore, a report published by UNDP on Human Development points out that “Pakistan has one of the lowest investments in terms of education and health — it spends 0.8 percent of its GDP on health and 1.8 percent on education.” These statistics are very alarming as it clearly indicates that Government expenditure on Health should be raised in order to provide reasonable health

# HEALTH EXPENDITURE 2011 - SOUTH ASIA



SEAR: South-East Asia Region  
EMR: Eastern Mediterranean Region

**Data Sources**  
World Bank (Health Indicators)  
WHO Global Health

**Legend**

Public Health Expenditure (in percentage)

- 15
- 16-30
- 31-45
- 46-60
- 61-80

Health Expenditure (percentage of GDP)

- 4.5

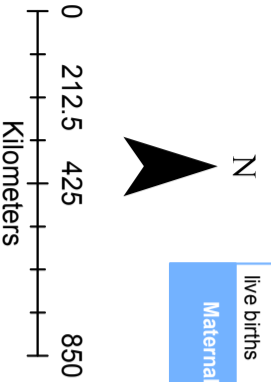
Private Health Expenditure (in percentage)

- 48 %

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**Date of Creation** August 30, 2013  
**Projection/Datum** WGS 84 Geographic

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services to its people.

Another issue which is plaguing the health sector of this country is the ever widening gap between the quality of public and private health facilities. Failure to bridge this gulf by the authorities is leading to division and mass unrest in the society, since quality facilities are only accessible to people with means, while poor and lower middle class are withering away.

This argument is supported by research study on "Equity Issues in Public Spending on Mother, Newborn and Child Health (MNCH) in Pakistan", where it has been highlighted that "in Pakistan the extent of inequality in distribution of benefits is higher in some services than in others. For instance, in 2007-08, the distribution of benefits from all MNCH-related health services was pro-rich to varying degrees. In 2010-11, it became pro-poor in some services (pre-natal consultation and immunization)".

At the provincial level, the condition of Government hospitals in cities is deteriorating and in rural areas the condition is much worse. People from villages, in the hope of getting better health facili-

ties, travel to cities where they end up getting more or less the same treatment. Moreover, this rural to urban migration is overburdening an already fragile resource base of the public health facilities at cities.

A recent study "Equity Issues in Public Spending on Mother, Newborn and Child Health (MNCH) in Pakistan" highlights that at the provincial level the extent of inequality in distribution of health benefits is much higher in Balochistan and to some extent in Punjab, compared to Sindh and Khyber-Pakhtunkhwa. This could be due to poor governance, deteriorating law and order situation, and sparse availability of public health services.

### Public Sector spending on Health Sector

For the fiscal year 2013-14, the present government allocated a

total of Rs 35.6 billion for the health sector in the annual budget, out of a total outlay of Rs 3.5 trillion which mean that only 1 percent went to the health sector. This by all means is very low compared to the size of our population that mainly includes lower middle class families, who cannot afford private health care.

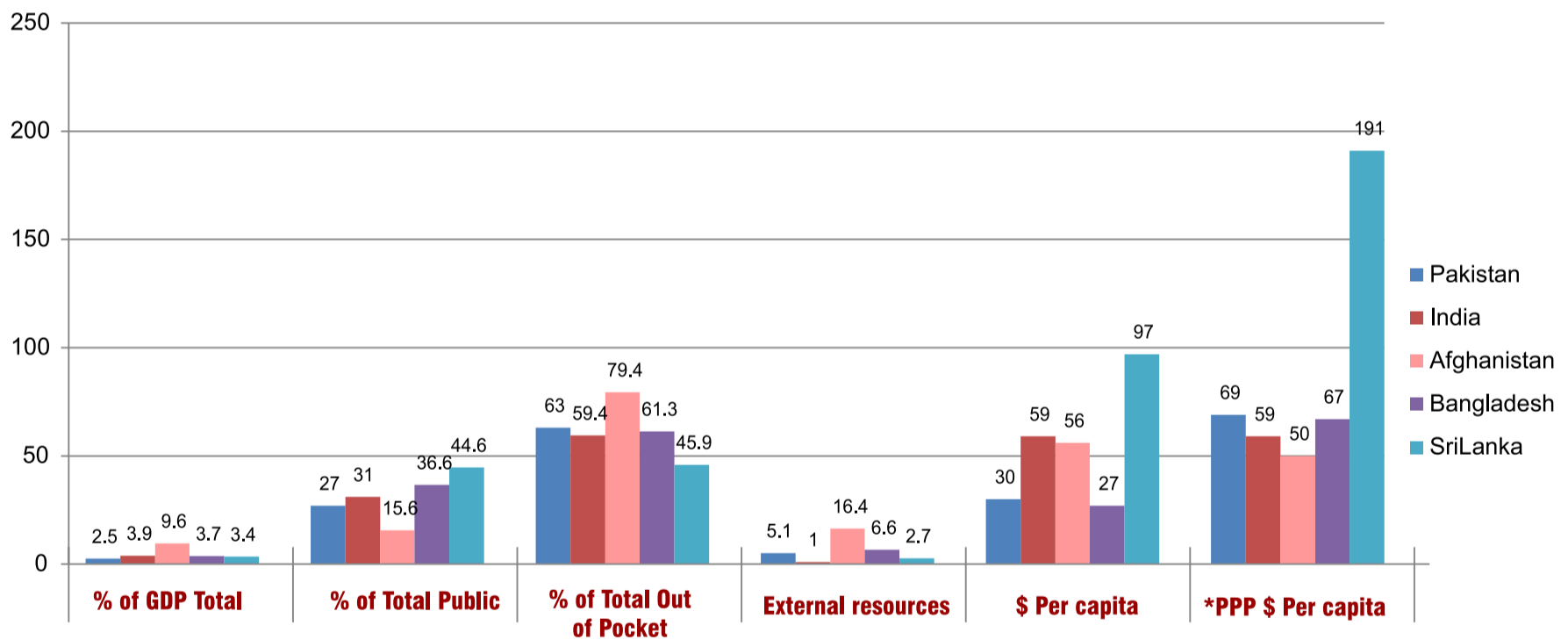
In the current budget the federal



government allocated Rs 9.9 billion for health affairs and services and under the Public Sector Development Programme (PSDP) a sum of Rs25.7 billion has been set aside. In the financial year 2012-13, a total of Rs 22 billion were allocated for the health sector.

According to the budget document, the amount has been allocated by the federal government for the 17 ongoing schemes and one new scheme. Also an amount of Rs 2.8 billion has been allocated for the Expanded Programme on Immunisation, (EPI) along with Control of Diarrhoeal Disease and National Institute of Health (NIH), Islamabad.

## Comparing Health Indicators of Pakistan with its Neighboring Countries



### Conclusion

A regional cross-country comparison shows that Pakistan has to go a long way in scaling up health expenditures. This is obvious from the table and graph given above which illustrates that Pakistan's total health expenditure on health is comparatively low in case of India, Afghanistan and Sri Lanka, respectively. This notion is supported by Pakistan's current national budget, in which only 1 percent is awarded from a total budget of Rs 3.5 trillion.

A quality health system cannot be established without a substantial government spending. For this to happen, the policy makers have to re-arrange their priority areas and chalk-out a conducive and workable strategy, through which a common man can receive quality health facilities at affordable price. Transparency behind investments in health sector is altogether missing. Weak accountability and poor governance compound the problem even more. Though it is critical to look for increased resources for health systems in order to improve the health of the nation but we must also strive to make efficient and intelligent utilization of the available scarce funds.

HEALTH

**AIDS patients in country cross 7,000 mark**

Source: Pakistan Today, September 23, 2013

A total of 7,854 patients of Acquired Immunodeficiency Syndrome (AIDS) have been registered in various hospitals of the country by April. According to a Ministry of National Health Services, Regulation and Coordination document, the total number of registered AIDS patients in Islamabad is 1,516 and 1,792 patients have been registered in Lahore, 242 in Sargodha, 383 in Dera Ghazi Khan, 26 in Faisalabad, 200 in Gujrat, 1,104 in Peshawar, 168 in Kohat, 1,967 in Karachi, 312 in Larkana and 144 patients have been registered in hospitals of Quetta.

**Anti-dengue drive: ICT campaign continues in rural areas**

Source: The Express Tribune, September 24, 2013

ISLAMABAD: The anti-dengue drive in the suburbs of the federal capital is ongoing, according to a statement issued by the district health department of Islamabad Capital Territory (ICT) administration on Monday.

District Health Officer Dr Najeeb Durrani, who is also in-charge of the Dengue Fever Control Cell, said that over 20,000 pamphlets containing preventive measures against dengue have been distributed in Islamabad's rural areas. He said that lady health workers have visited 15,000 houses and 40 schools as part of awareness campaign.

Besides, he said around 30 active breeding sites have been eliminated and anti-dengue spraying has been carried out at over 50 sites including solid waste disposal areas. He urged citizens to take necessary preventive measures against dengue and keep their houses and surroundings clean. The ICT administration had launched an anti-dengue drive in the rural areas in September.

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**Pharmaceutical firms depriving masses of Rs90 billion annually**

*The Express Tribune, September 24, 2013*

ISLAMABAD - Health Watch on Sunday said it has calculated impact of unlawful drug price hike on the masses by pharmaceutical companies at Rs 90 billion annually.

It lauded the Supreme Court (SC) for putting pharmaceutical firms on notice for overpricing of drugs on false grounds pushing healthcare out of the reach of millions of the downtrodden.

Many local and multinational companies are exploiting masses with the help of health authorities which should also be taken to the task, said Mian Aftab, President Health Watch.

In a statement issued here, he said that the SC's move is a turning point in the history of Pakistan which will save the poor from onslaught of greedy pharmaceutical companies.

Mian Aftab said that pricing scandal is bigger than the Ephedrine scam but people are not bothered since no big names are involved.

He added that the federal government on July 13, 2012 reduced prices of 92 pharma products but influential companies refused to cut price. Many continued to sell medicine on inflated prices while dozens increased prices as there is no law in the country.

He said that pharma industry is acting like a mafia and the situation speaks of rampant corruption in the ministries while the end-user is the ultimate victim who is made to pay Rs 90 billion additionally per annum.

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Money

# Revival of the **Khyber Pakhtunkhwa**

(By Muhammad Tayyab Rauf)

The last decade, without a shadow of a doubt, has been the darkest period for the people of Khyber Pakhtunkhwa. War on terror, energy crisis, earthquake, floods and IDP's influx; all contributed their fair share to the woes of this province. The situation was further aggravated by the fact that the two previous successive governments were inept to lay out and implement a comprehensive plan for socio-economic development. As a result, the provincial economy grew at a snail's pace, while all the crucial sectors like agriculture, industry and tourism suffered severely.

According to the State Bank of Pakistan's annual report of 2012, despite receiving about Rs 34 Billion in loans and grants from the federal government, KPK still had a budget deficit of Rs 3.7 billion. The revenue collection through taxation remained low while expenditure grew by 30.2 percent. Under the previous government, the economy grew at around 3-4 %, while between 35 to 40 % population remained under poverty line.

The election this year brought

in a new wave of optimism and enthusiasm in the people. Voters turned up in large numbers to choose a new ruling party, which had promised them of a system based on equality and social justice. So far, they may not have lived entirely to their pre-election political slogans and campaign rhetoric; especially the one claim to "eliminate corruption in ninety days", but there are signs which indicate that they are focused on uplifting the standards of poorest strata through provision of quality education, health and other basic services. The key challenge for them, however, is

viewed as a balanced budget and has generally received good press for allocating substantial sum to education (29.8%), development (18.8%) and health (8.5%), which is unprecedented in the province's history. Now it has to ensure that money allocated to these sectors is properly utilized for long standing results. At the same time, the coalition government is looking to adopt strict a fiscal discipline by smoothening the revenue collection system. In this regard, they have formed Khyber Pakhtunkhwa Revenue Authority (KPRIA) under the Excise and Taxation Department,



to kick start the economy on a sustainable path, in the face of existing energy crisis and security problems.

The first provincial budget presented by the new government does seem to be a step in the right direction. It is widely

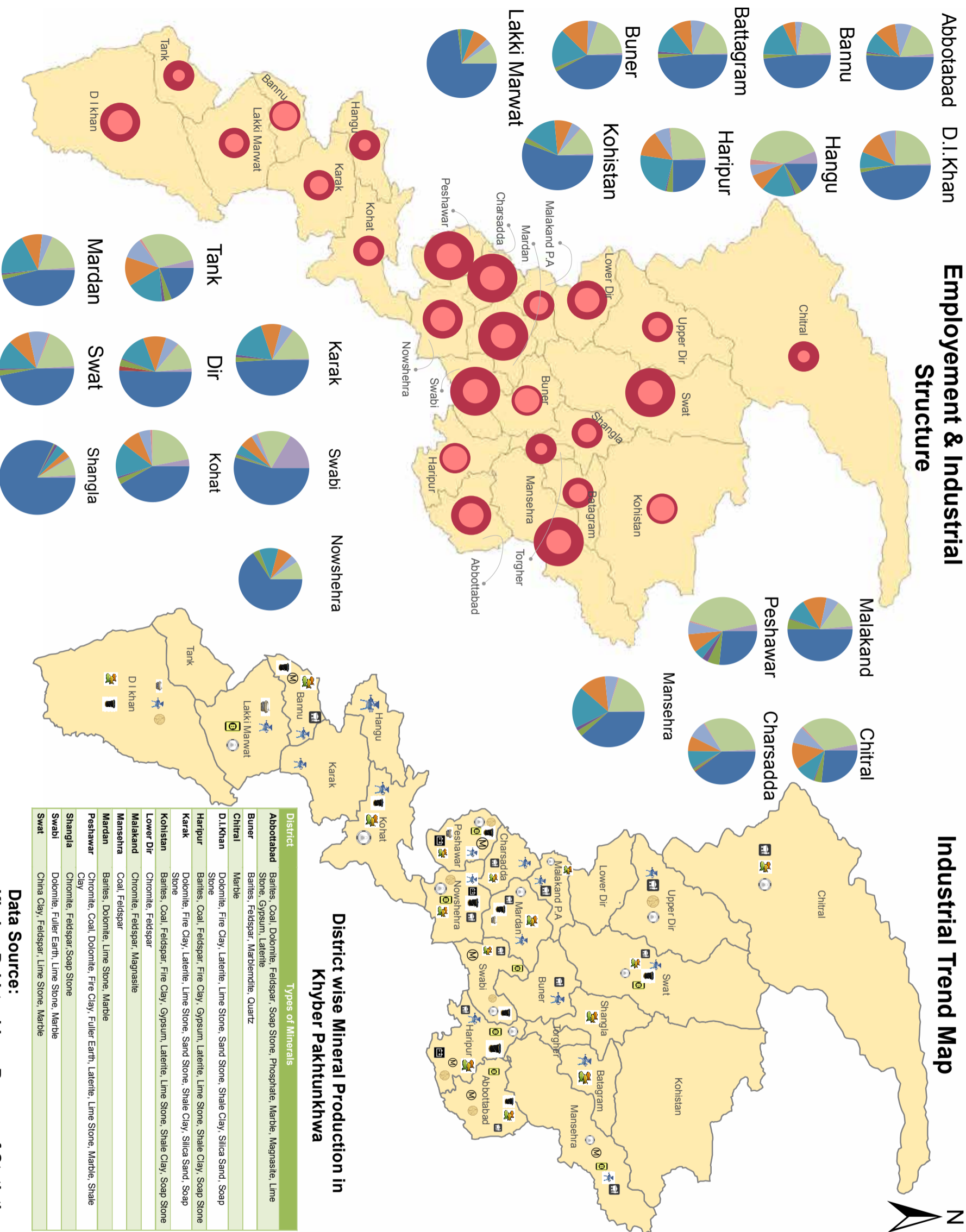
but it remains to be seen how this new administrative unit will broaden the tax net.

Investment, both domestic and foreign, is crucial to the economic recovery of KPK. Given the shaky history of the province with regards to law and

# ECONOMIC ACTIVITY MAP - KHYBER PAKHTUNKHWA - 2008

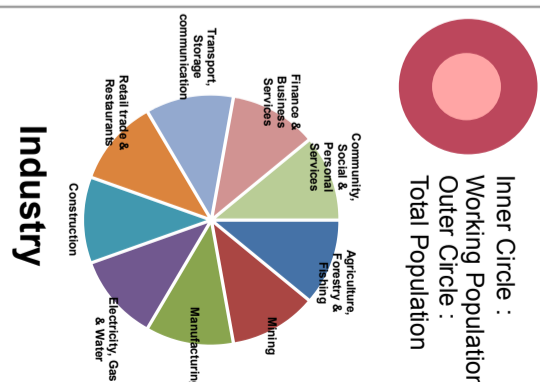
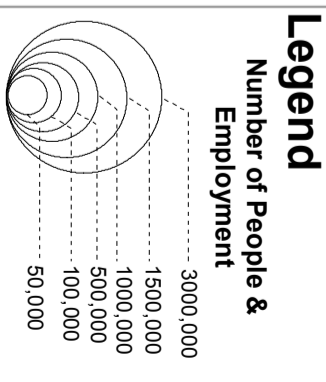
## Employment & Industrial Structure

## Industrial Trend Map

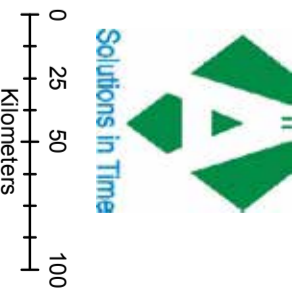


### District wise Mineral Production in Khyber Pakhtunkhwa

District	Types of Minerals
Abbotabad	Baries, Coal, Dolomite, Feldspar, Soap Stone, Phosphate, Marble, Magnesite, Lime Stone, Gypsum, Laterite
Buner	Baries, Feldspar, Marble, Quartz
Chitral	Marble
D.I.Khan	Dolomite, Fire Clay, Laterite, Lime Stone, Sand Stone, Shale Clay, Silica Sand, Soap Stone
Haripur	Baries, Coal, Feldspar, Fire Clay, Gypsum, Laterite, Lime Stone, Shale Clay, Soap Stone
Karak	Dolomite, Fire Clay, Laterite, Lime Stone, Sand Stone, Shale Clay, Silica Sand, Soap Stone
Kohistan	Baries, Coal, Feldspar, Fire Clay, Gypsum, Laterite, Lime Stone, Shale Clay, Soap Stone
Lower Dir	Chromite, Feldspar
Malakand	Chromite, Magnesite
Mansehra	Coal, Feldspar
Mardan	Baries, Dolomite, Lime Stone, Marble
Peshawar	Chromite, Coal, Dolomite, Fire Clay, Fuller Earth, Laterite, Lime Stone, Marble, Shale Clay
Shangla	Chromite, Feldspar, Soap Stone
Swabi	Dolomite, Fuller Earth, Lime Stone, Marble
Swat	China Clay, Feldspar, Lime Stone, Marble



- Fish Production
- Beverages
- Sugar Mill
- Electrics Goods
- Metal
- Furniture & wood
- Textile
- Mining
- Chemical
- Flour Mill



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order, it would be a while before the confidence of the investors is restored. This would obviously require a very aggressive marketing strategy by the administration and some sort of insurance on people's investments. There are several areas which could gain the attention of potential investors; they include energy sector, minerals and gem stones, tourism and SME development.

Already, the incumbent government has identified electricity generation, through province's water and gas/oil reserves, as one of its priority subjects to be addressed. Studies indicate that northwest extension of Indus Basin near Kohat is rich in hydro-carbon reserves. Similarly, this province has immense capacity to produce cheap hydro-electricity. But these endeavors can only be undertaken with huge initial investment and the government is in motion to find foreign companies that would be interested in these highly lucrative opportunities. If the substantial investment, in energy sector, does flow into the prov-

ince, it will result in the generation of cheap electricity and, in the long run, a much awaited end to load shedding crisis, that in turn will boost the industrial development.



According to an agriculture commodities professional, Faisal Malik, the long run socio-economic miseries of this unfortunate province can be addressed by paying serious attention to the agricultural sector. He raises a valid point

in his article, 'The Game Changer' that more than 80% of the province's 20 million people live in the rural areas and about 35 % of the total cultivable land accounts for cultivated waste, which mean if

proper attention is given, it could rejuvenate the provincial economy. Successful overhauling of the whole agriculture system by introduction of modern technologies and practices, and bringing

unused cultivable areas under farming, would lead to a healthy agricultural output, increased employment opportunities and emergence of a middle class, drop in food inflation and finally decline in poverty; which is the mother of all evils, as they say.

This province always had the required ingredients to excel in all the departments but the gross mismanagement and short-sightedness of the policy makers and politicians at the top made a mockery of socio-economic system. It would not be easy for the present leadership to guide the submarine out of the deep abyss in five years, but they can set a stunning example for their successors, through broad vision policy making and effective administration. It is about time that people of Khyber Pakhtunkhwa bear fruits of their unmatched resolve and resilience.

**Solutions in Time**

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## MONEY

### The Stream, September 9: Pakistan Pays High Economic Cost for Floods

Circle of Blue, September 9, 2013

Pakistan's economic growth was 2.9 percent over the past three years compared to a potential growth rate of 6.5 percent each year, a discrepancy that one expert says is largely attributable to three years of destructive flooding, AlertNet reported. Pakistan lost \$US 16 billion due to the floods, which killed more than 3,000 people.

#### Chemicals and Water

In an attempt to understand how exposure to chemicals affects human health, scientists at Oregon State University are studying how zebrafish react to a variety of chemical compounds, Yale Environment 360 reported. The fish can be used to model changes in development due to chemical exposure.

Researchers in Germany are conducting chemical analyses of bottled water samples to search for endocrine-disrupting chemicals that can affect hormones that regulate human development and reproduction, Chemistry World reported. A new study found at least one chemical that displayed these characteristics, though scientists say it is "early" to make conclusions about how harmful to human health it is.

#### Water Supply

California's Central Valley is increasingly leaning on groundwater resources to supply water for cities and agricultural irrigation, the Associated Press reported. In Fresno, the municipal water division became the region's largest energy demand due to the electricity required to run water pumps.

The Stream is a daily digest spotting global water trends. To get more water news, follow Circle of Blue on Twitter and sign up for our newsletter.

## Privatizing Pakistan's Economy

Pakistan Defence September 25, 2013

Sympathetic observers of Pakistan take progress where they can get it. So amid more outrage and tragedy—the Taliban double suicide bombing that killed 85 Christian worshipers at a Peshawar church on Sunday; the Baluchistan earthquake that killed more than 200 on Tuesday—at least there is some good economic news. Prime Minister Nawaz Sharif has launched a major effort to privatize state-owned enterprises that have long stifled Pakistani industry.



Officials have announced plans to sell 35 public corporations over three years, including power companies, Pakistan State Oil, Pakistan International Airlines and Pakistan Steel Mills. These enterprises currently lose taxpayers some 500 billion rupees (\$4.7 billion) a year, while delivering poor service. Inefficiencies in energy cause frequent blackouts, and the supply problem is exacerbated by government subsidies that have cost a further 1.5 trillion rupees over five years.

"Billions of rupees spent on government institutions functioning in deficit can be saved each year," Mr. Sharif said Saturday in a national address. He blasted state-owned enterprises for "nepotism, favoritism and financial mismanagement."

Now comes the implementation, which has proved difficult in every attempted round of reform since Islamabad established its Privatization Commission in 1991 (when the industrialist Mr. Sharif was first prime minister).

Already the opposition Pakistan People's Party has threatened to block the national highways in protest. In 2006, when the PPP was last in opposition, it successfully pushed the Supreme Court to scuttle a planned privatization of Pakistan Steel on grounds that officials executed the sale too hastily. Then as now, unions were loudly opposed to any change in the status quo. Since then Pakistan Steel has burned through tens of billions of rupees in losses and bail-out funds.

This time around, helpful pressure may come from the International Monetary Fund, which agreed recently to lend Pakistan \$6.6 billion over three years, subject to reform progress. Islamabad's new leaders are seeking an additional \$6 billion or so from other foreign lenders.

To better impress outside investors and lenders (to say nothing of diplomats), the Sharif government could extend its reform agenda to trade with India. After New Delhi granted most-favored-nation trade status to Pakistan in 1996, Islamabad was supposed to reciprocate in 2012 but never did. The excuse was India's nontariff trade barriers, but in reality the government bowed to domestic agricultural interests.

Neither country is a hero here, but the upside is clear: Normalized cross-border trade could amount to \$40 billion, up from \$3 billion today, according to the Woodrow Wilson International Center for Scholars.

Mr. Sharif has a long and mixed political record, and terrorism of the sort seen Sunday could derail his third premiership. But with growth down since 2008,

privatization is a laudable first step toward revitalizing Pakistan.

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**Agriculture and Natural Resources**

# Alleviation of Rural Poverty through Sustainable Agricultural Development

(By Muhammad Akhtar)

Poverty is widespread in Pakistan and is particularly predominant in rural areas. Nearly two thirds of the population, and 80 per cent of the country's poor people live in rural parts of the country, where agriculture is the main source of employment. Agriculture contributes 24 percent to GDP, employs 43 percent of the labor force and accounts for 60 percent of export earnings. Despite all sizeable economic contribution, the population associated with agriculture is suffering from chronic poverty. This phenomenon pose a serious challenge to the policy makers of the newly elected government of PML (N). There are scores of problems which are contributing to persistent rural poverty. The rising population, shrinking agricultural land, low per acre yield, inadequate infrastructure, traditional methods of crop production, inefficient water use management, lack of agricultural research, problems of land reforms and natural calamities, all have played their part. Agriculture remains a socio-economically and politically import-



ant sector in Pakistan and it is at the heart of the rural economy. Most of the rural people directly or indirectly rely on agriculture. Main cash crops include cotton, sugarcane, maize, jute, tobacco, citrus fruits, and mangoes. About 28 percent land is arable and nearly 80 percent of the cultivated area is irrigated.

Until the late 1960s, Pakistan produced a surplus of food items and enjoyed a favorable balance of trade for being a net

high population growth, water

*THE STATE SHALL ENCOURAGE LOCAL  
More than 4 million families have plots of less than 5 hectares, and 25 per cent of all farms consist of less than 1 hectare*

*. At present about 50 per cent of farmers own and operate their farms, while 26 per cent are tenant farmers.*

shortage and frequent natural calamities like floods; import of food items has become indispensable. The average annual agricultural

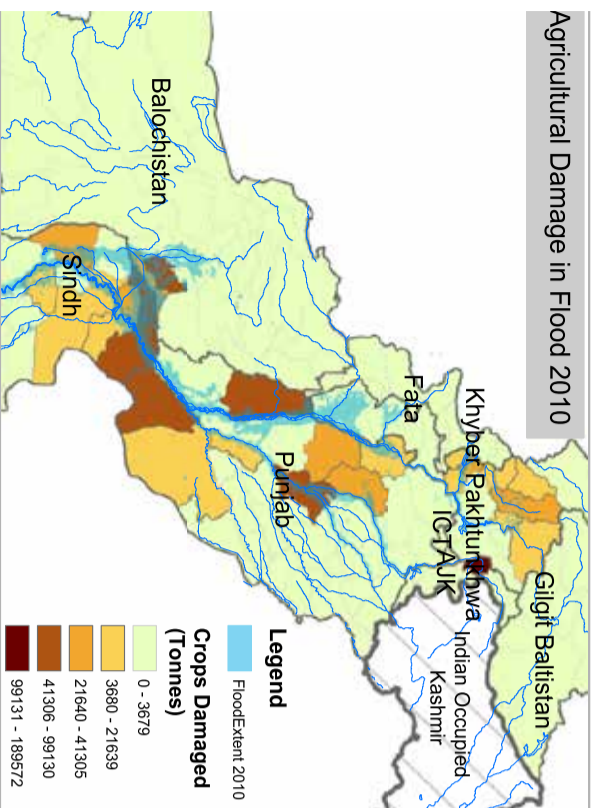


exporter of food products as well as cash crops. Thereafter, this position was retained intermittently for short intervals. Since the early eighties, due to

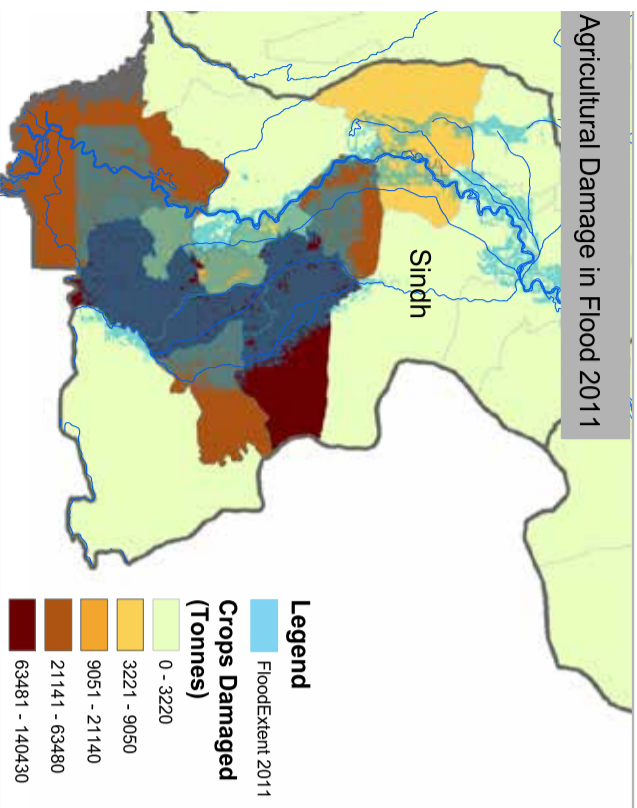
growth rate over the 1990s was 4.54% which was lower than the average in the 1980s. Agricultural output over the 1990s varied from year to year. Although the growth rate was slightly lower, it

# AGRICULTURAL SCENARIO MAP OF PAKISTAN

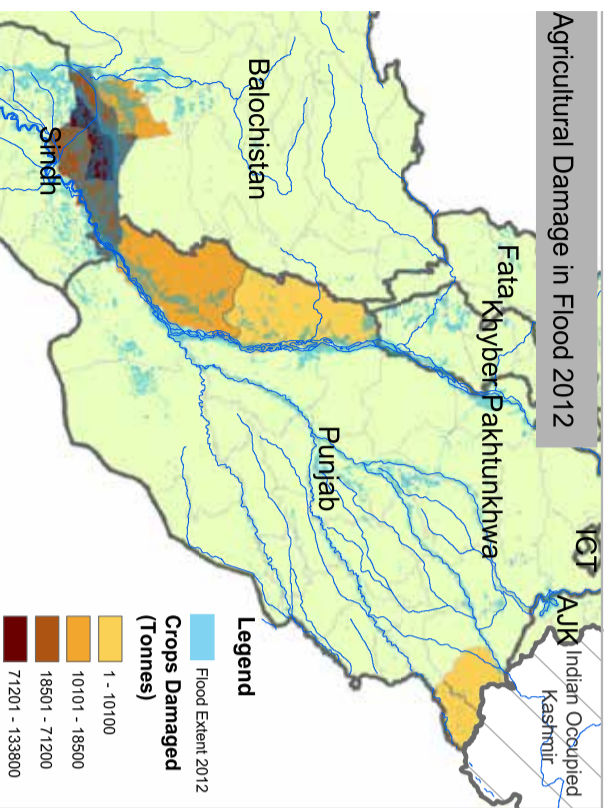
Agricultural Damage in Flood 2010



Agricultural Damage in Flood 2011



Agricultural Damage in Flood 2012



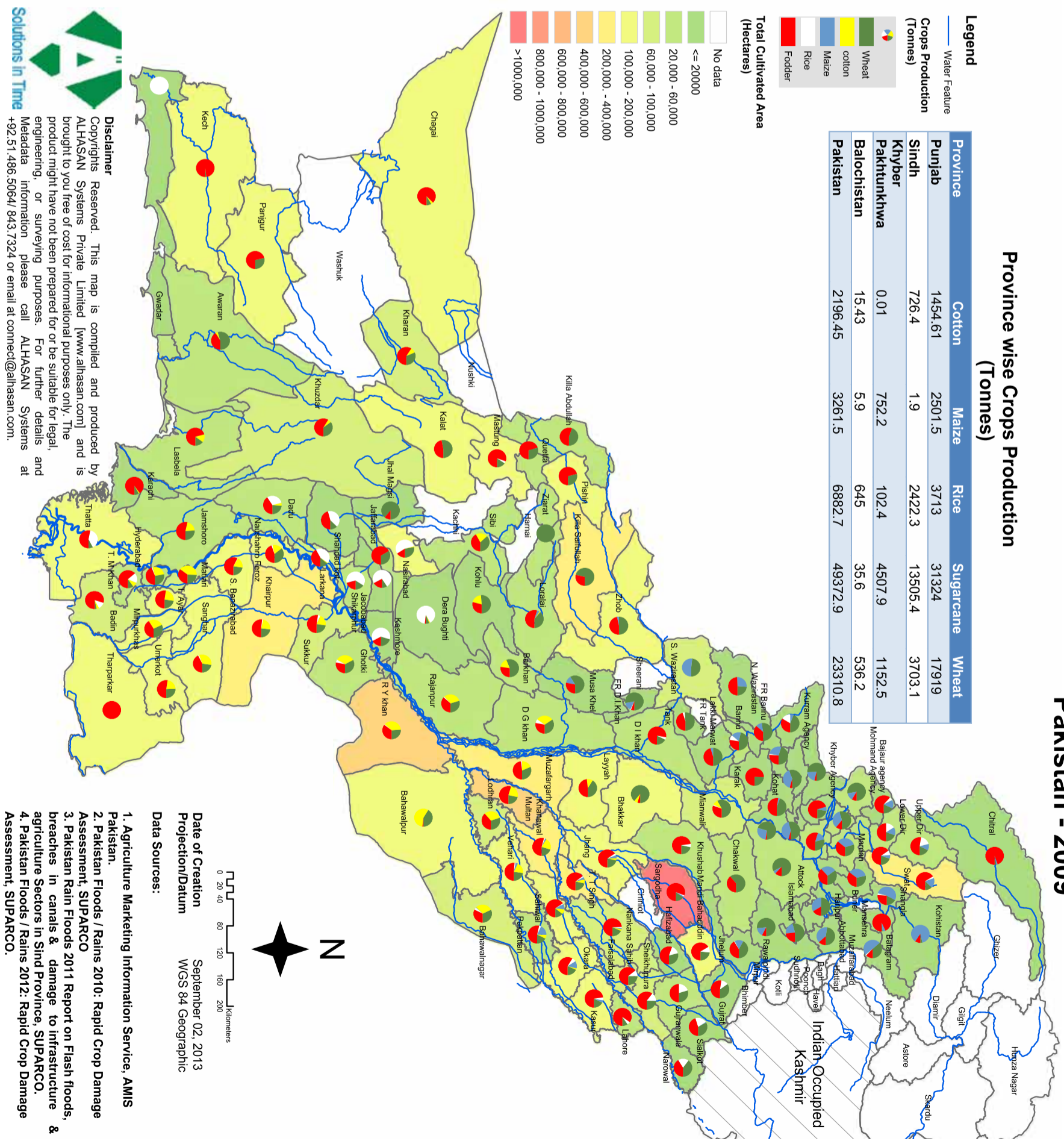
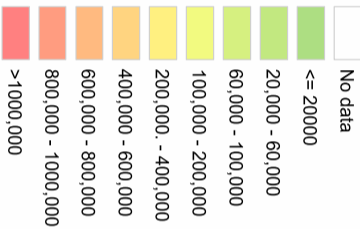
## District wise Crops Production in Pakistan - 2009

Province wise Crops Production (Tonnes)

Province	Cotton	Maize	Rice	Sugarcane	Wheat
Punjab	1454.61	2501.5	3713	31324	17919
Sindh	726.4	1.9	2422.3	13505.4	3703.1
Khyber Pakhtunkhwa	0.01	752.2	102.4	4507.9	1152.5
Balochistan	15.43	5.9	645	35.6	536.2
Pakistan	2196.45	3261.5	6882.7	49372.9	23310.8



Total Cultivated Area (Hectares)



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1. Agriculture Marketing Information Service, AMIS Pakistan.
2. Pakistan Floods / Rains 2010: Rapid Crop Damage Assessment, SUPARCO
3. Pakistan Rain Floods 2011 Report on Flash floods, breaches in canals & damage to Infrastructure agriculture Sectors in Sindh Province, SUPARCO.
4. Pakistan Floods / Rains 2012: Rapid Crop Damage Assessment, SUPARCO.

Date of Creation: September 02, 2013  
 Projection/Datum: WGS 84 Geographic

Data Sources:

remained positive throughout except for the period 1992–93. The country witnessed unprecedented drought during 2000–02 and, consequently, agriculture registered negative growth in these two years. The next two years witnessed a modest recovery in agricultural growth as a result of improvement in the availability of water for irrigation purposes. The average annual growth in agriculture was over 3.52% from 1995–96 to 2004–05; however over the last five years agriculture growth has witnessed mixed trends. Consequently, the rate of poverty in rural areas reached 38.65% in 2002–03. In 2004–05, remarkable growth reached as high as 7.5 percent. Due to 2010 floods, agriculture sector showed overall growth of 1.2% whereas major crops showed negative growth of 4% during year 2010 – 2011.

A large numbers of rural people are poor because of unequal land distribution. A few large landholders own a disproportionate amount of land. More than 4 million families have plots of less than 5 hectares, and 25 per cent of all farms consist of less than 1 hectare. At present about 50 per cent of farmers own and operate

their farms, while 26 per cent are tenant farmers. Sharecroppers who work on lands belonging to large landholders, are often in debt to their employers. To alleviate rural poverty there is a dire need to introduce land reforms. There is 2.6 million acre cultivatable agricultural land available with the government. It must create five acre plots and distribute it among the landless people which would immediately empower 58 percent of 897,000 landless farmers. In addition, government should provide the credit facility to small farmers on easy terms.

Water logging and salinity is a major cause of low yield and it reduces the cultivable land. To overcome this, installation of tube wells, repair of canal banks and drainage of water are needed. To increase per acre yield, High yielding variety (HYD) seeds are needed; which are expensive in Pakistan and most of the farmers can't buy. It leads farmers to purchase low quality of seeds that cause 20 percent reduction in total production. Government should provide HYV seeds at subsidized rates. Agricultural research is also need of the hour. There are only five universities in

Pakistan and around 15 research centers related to agriculture. Government should promote agricultural research by building capacity of the current agricultural research institutes and establishing more agricultural research centers.

*The country has lost sweet and fresh water worth \$6 billion in the last four months due to absence of water reservoirs and storages. The wasted water was seen enough to irrigate an area of 13 million acres.*

Modern techniques of irrigation should be employed, such as drip irrigation and sprinkle irrigation methods which are cost effective. Most of the farmers are illiterate and ill trained, government should start a program of capacity building and training of the farmers. The agricultural yield can also be increased to a great extent by using fertilizers and pesticides. Finally, there is a need to improve the means of transportation and communication. The agricultural areas of the country must be well connected to markets.

Climate change is posing some serious threats to agriculture and

water resources of Pakistan. As a consequence, the country's status as an agro-based economy has become vulnerable to unpredictable changes in weather and their consequences. To save agriculture which is country's backbone, farmers are now advised by the experts to revise their crop calendar. The country has lost sweet and fresh water worth \$6 billion in the last four months due to absence of water reservoirs and storages. The wasted water was seen enough to irrigate an area of 13 million acres. This has strongly revived the need for constructing a number of dams in the country to store the water for irrigation and drinking purposes.

Pakistan is an agrarian country where agriculture directly or indirectly contributes to the lives of the entire population. It provides livelihood and employment to millions of people and basic raw material for industries. Sincere efforts are required to improve the basic infrastructure of agriculture. Further, efficient use of scarce agricultural resources and a comprehensive agricultural strategy is required.

## NEWS - AGRICULTURE AND NATURAL RESOURCES

### Pakistan, Nepal to boost agriculture

Source: Dawn, September 24, 2013

ISLAMABAD: Pakistan and Nepal have identified a wide range of areas for cooperation in the field of agriculture at the end of the first Pak-Nepal Joint Working Group meeting which concluded here on Monday.

The joint working group meeting was held between National Agricultural Research Centre (NARC), Pakistan and Ministry of Agricultural Development (MOAD), Nepal.

The meeting decided to appoint NARC Director of International Cooperation and MOAD Chief Foreign Aid Coordination as focal persons in the two countries who would establish regular communications and exchange ideas for practical steps to be taken for enhancing cooperation in the agriculture sector. It was decided that new areas of cooperation would be explored through mutual consultations as exchange of experience in respective fields of agriculture would be beneficial for the two countries.

The areas of mutual cooperation identified were: exchange of germplasm experts; agricultural mechanization; bioremediation of sewerage/waste water; land resources and water management; bio-fertiliser and fertilizer use efficiency; integrating alternative energy and high-efficiency irrigation system; integrated plant, pest and nutrient management; forage production; rangeland management; pure breed improvement pro-

gramme; post-harvest technology; dry fruits; sharing of technological packages on tea, coffee, ginger, large cardamom, turmeric, true potato seed and mushroom; breed improvement programme in cattle, goat and sheep; cold water fisheries technology; vaccine production and associated technologies; agribusiness and value chain development; and agricultural policy analysis.

The Pakistan side urged Nepal to lift ban on the export of poultry and its products. It was mutually agreed that the issue will be discussed at a later stage in view of recent bird flu incidence in Nepal.

At the meeting, the Pakistani and Nepalese delegates exchanged information on each other's capabilities in the agricultural sector. NARC DG Dr Muhammad Azeem, who represented Pakistan at the working group meeting, informed the Nepalese side about strengths of Pakistan in plant sciences, natural resources and animal sciences.

Rajendra Prasad Adhikari, who led the Nepalese delegation, briefed his Pakistani counterpart on the ongoing agriculture and research activities; and about crops and horticulture and animal sciences and fisheries in Nepal.

It was mutually decided that the next meeting of the joint working group will be held in Nepal in 2014.

The Nepalese delegation visited various research establishments of NARC in Islamabad and Murree during their stay.

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## Energy

**Rs 950m allocated for Thar transmission***Source: Pakistan Today, September 15, 2013*

ISLAMABAD - The government has allocated Rs 950 million for the construction of a transmission network from Thar to Matiari and UCG Block-V, 8-10 MW pilot project led by Dr Samar Mubarakmand during the current fiscal year 2013-14. According to official sources, a sum of Rs 50 million was earmarked for the construction of transmission network and Rs 900 million for the pilot project. They said the transmission project would cost Rs 22 billion while the total cost of the pilot project was estimated at Rs 1.8 billion. The sources said the Sindh government was also actively working on the coal mining development for power generation based on the Thar Coal. It had already issued three leases to mine developers in Thar, they added. Giving details, they said that as per the planned timeliness, the Sindh Engro Coal Mining Company (SECMC) was planning to initiate mining activity early 2014 and it would take 3.5 years to reach coal production stage. The SECMC planned to generate power based Thar coal in 2017-18, they added. The sources said that other lease holders, M/s Sino Sindh Resources Limited and M/s Oracle Coalfields Pvt Ltd had plans to initiate mining activity in Block-I and VI during 2014.

**Pakistan encourages Japanese investments in energy sector: Sartaj***Source: The Nation, September 23, 2013*

Adviser to the Prime Minister on National Security and Foreign Affairs Sartaj Aziz, Wednesday, said that Pakistan encouraged greater Japanese investments in energy sector and infrastructure development. While talking to Japanese Parliamentary Vice-Minister for Foreign Affairs Minoru Kiuchi here he highlighted incumbent government's commitment towards strengthening democracy, good governance and economic reforms in the country.

Japanese Parliamentary Vice-Minister for Foreign Affairs Minoru Kiuchi is visited Pakistan from September 11-12 and held meetings with Pakistani leadership and high ups.

While highlighting the present government's commitment towards strengthening democracy, good governance and economic reforms in the country, the Adviser stated that Pakistan would like to encourage greater Japanese investments particularly in overcoming energy shortage in Pakistan and infrastructure development.

The Adviser appreciated Japan's ongoing assistance in various social, educational and health projects adding that Pakistan considered Japan as a great friend and strong development partner.

The visiting Japanese dignitary briefed the Adviser on Prime Minister Shinzo Abe's policies particularly in the trade and economy. He also shared Japan's outlook on global issues in particular Japan's efforts towards peace and stability and economic development of Afghanistan.

**Infrastructure, Planning and Development****Multan to get Rs5 billion for uplift projects***Source: The Express Tribune, August 25th, 2013.*

MULTAN: Funds of Rs.3.87 billion will be provided to complete the district's incomplete flyover projects, Rs.640 million for ongoing projects of the district government and tehsil municipal administrations and Rs.470 million for new projects. This was stated by Food Security and Research Minister Haji Sikandar Hayat Bosan and the Chief Minister's Special Assistant and Coordinator on Southern Punjab Saud Majid while addressing a meeting of the District Coordination Committee here on Saturday.

They said funds for mega projects in the district would be arranged from the federal government. The Defence Ministry would be contacted to acquire 111 kanals from the Cantonment Board for extension of Multan airport and construction of link road and sewerage system.

They said funds for the extension of Multan Institute of Cardiology and construction of a cancer department in Nishtar Hospital would be requested from the chief minister.

The leaders said recommendations for establishment of a medical university, veterinary university and management and technology university in the city would also be sent to the CM.

The minister said allocation of funds for health and education sectors would be given most importance and priority. He said free health facilities and education for every citizen was a target of the government and he would do all he could for provision of funds for incomplete projects in the city.

Taking notice of the reports of shortage of urea and its marketing in black, the minister directed the district coordination officer and city police officer to crack down against the elements selling fertiliser on high rates. He said the government had imported 300,000 tonnes of urea, but the fertiliser was being sold on high prices.

Saud Majid said approval for new posts in kidney centre, burns unit, intensive care unit of Nishtar Hospital; emergency ward of the cardiology institute and Nawaz Sharif Hospital would also be sought to ensure there was no delay in provision of health facilities to the public.

He said development funds of Rs.10 million from each provincial and district government were being provided to all MPAs and claim-ed all their projects would be completed during the current fiscal year.

He said the provincial government would return Rs.33 million to the Parks and Horticulture Authority while the construction of expressway from Jalalpur Pirwala to Nag Shah Chowk was a priority.

Senator Rafiq Rajwana said there was a need to upgrade the cancer ward of Nishtar Hospital. 'There are only 22 beds in the ward while number of the patients in the region is more than 20,000,' he added.

Provincial Minister for Prisons Chaudhry Abdul Wahid said there was an immediate need for higher secondary schools on Old Shujabad Road, as thousands of girl children were forced to go to schools established outside the railway station.

DCO Syed Gulzar Hussain Shah in his briefing

informed the meeting that Rs750 million had been allocated for the completion of Bosan Road, Rs530 million for Nag Shah Flyover, Rs40 million for University for Women Multan, Rs74 million for Nawaz Sharif Hospital, Rs300 million for Children Complex, Rs150 million for Judicial Complex and Rs100 million for the beautification of Nishtar Hospital. He said the district government would spend funds equally in all union councils.

Multan Institute of Cardiology Executive Director Dr Rana Altaf told the meeting nine operations were conducted daily in five operation theatres of the hospital, while about 700 patients visited the outdoor patients department daily but there were only 205 beds. He added an extension plan of 224 beds had been sent to the departments concerned, but to no avail.

Dr Altaf said over 90 per cent of patients who visited the institute were poor and to counter shortage of funds, donations of Rs3 million in the form of Zakat were collected from philanthropists to provide free medicines to poor patients.

Nishtar Medical College Principal Dr Sami Akhtar said his hospital was facing shortage of staff, particularly in the ICU.

He said the hospital had 1,100 beds but the number of patients was over 2,000.

Over 6,000 patients visited the hospital daily, he added.

He said there was an immediate need to increase the number of beds and staff in the hospital.

**Nawaz Sharif Kidney Hospital Swat to be completed by May next year***Source: : Independent News Pakistan (INP), Sep 21*

ISLAMABAD: A meeting of the Board of Trustees of Nawaz Sharif Kidney Hospital (NSKH) was held under the chairmanship of Finance Minister Senator Mohammad Ishaq Dar at the Finance Minister's office here on Saturday. The Board which reviewed the progress of work of the construction of the NSKH, a 116 bed hospital located in Swat, Khyber Pakhtunkhwa, was informed that work on the hospital would be completed by May31, 2014. The Nawaz Sharif Kidney Hospital is being constructed through funds raised entirely by private philanthropists and is aimed to provide state of the art facilities to the people living in and around the adjoining areas of Swat. The Hospital spread over an area of 32 kanals with a constructed area of 84,600 sq feet shall have a diagnostic, O.P.D., Male and Female Wards, operation theatre, dialyses unit and other facilities. While expressing satisfaction over the work, the Board approved the revised cost of construction including finishing work and Purchase of equipment for the Hospital. The meeting was told that substantial grey work of the construction had been completed while recruitment work would be carried out simultaneously so that it is completed at the same time when finishing work is completed.



**Public and Environmental Safety**

# Flooding and Communicable Diseases in Pakistan

(By Waqar Bokhari)

**Risk assessment**

Floods can potentially increase the transmission of the following communicable diseases:

- Water-borne diseases, such as typhoid fever, cholera, leptospirosis and hepatitis A
- Vector-borne diseases, such as malaria, dengue and dengue haemorrhagic fever, yellow fever, and West Nile Fever

**Water-borne diseases**

Flooding is associated with an increased risk of infection, however this risk is low unless there is significant population displacement and/or water sources are compromised. Of the 14 major floods which occurred globally between 1970 and 1994, only one led to a major diarrhoeal disease outbreak - in Sudan, 1980. This was probably because the flood was complicated by population displacement. Floods in Mozambique in January-March 2000 led to an increase in the incidence of diarrhoea and in 1998, floods in West Bengal led to a large chol-

era epidemic (01, El Tor, Ogawa).

The major risk factor for outbreaks associated with flooding is the contamination of drinking-water facilities, and even when this happens, as in Iowa and Missouri in 1993, the risk of outbreaks can be minimized if the risk is well recognized and disaster-response addresses the provision of clean water as a priority. In Tajikistan in 1992, the flooding of sewage treatment

District, Trust Territories of the Pacific in 1971 disrupted catchment water sources and forced people to use many different sources of groundwater that were heavily contaminated with pig faeces. As a result, there was an outbreak of balantidiasis, an intestinal protozoan. A cyclone and flooding in Mauritius in 1980 led to an outbreak of typhoid fever.

There is an increased risk of in-



plants led to the contamination of river water. Despite this risk factor, no significant increase in incidence of diarrhoeal diseases was reported. A typhoon in Truk

fection of water-borne diseases contracted through direct contact with polluted waters, such as wound infections, dermatitis, conjunctivitis, and ear, nose and

empty space

**here**

*so far*

throat infections. However, these diseases are not epidemic-prone.

**Vector-borne diseases**

Floods may indirectly lead to an increase in vector-borne diseases through the expansion in the number and range of vector habitats. Standing water caused by heavy rainfall or overflow of rivers can act as breeding sites for mosquitoes, and therefore enhance the potential for exposure of the disaster-affected population and emergency workers to infections such as dengue, malaria and West Nile fever. Flooding may initially flush out mosquito breeding, but it comes back when the waters recede. The lag time is usually around 6-8 weeks before the onset of a malaria epidemic.

The risk of outbreaks is greatly increased by complicating factors, such as changes in human behaviour (increased exposure to mosquitoes while sleeping outside, a temporary pause in disease control activities, overcrowding), or changes in the habitat which promote mosquito breeding (landslide, deforestation, river damming, and rerouting).

**UNICEF RAMPS UP EMERGENCY RESPONSE AS PAKISTAN FLOOD TOLL GROWS**

**Preventive measures**

Communicable disease risks from flooding can be greatly reduced if the following recommendations are followed.

**Short-term measures**

**Chlorination of water**

Ensuring uninterrupted provision of safe drinking water is the most important preventive measure to be implemented following flooding, in order to reduce the risk of outbreaks of water-borne diseases.

- Free chlorine is the most widely and easily used, and the most affordable of the drinking water disinfectants. It is also

highly effective against nearly all waterborne pathogens (except *Cryptosporidium parvum* oocysts and *Mycobacteria* species). At doses of a few mg/litre and contact times of about 30 minutes, free chlorine generally inactivates >99.99% of enteric bacteria and viruses.

- For point-of-use or household water treatment, the most practical forms of free chlorine



are liquid sodium hypochlorite, solid calcium hypochlorite and bleaching powder (chloride of lime; a mixture of calcium hydroxide, calcium chloride and calcium hypochlorite).

- The amount of chlorine needed depends mainly on the concentration of organic matter in the water and has to be determined for each situation. After 30 minutes, the residual concentration of active chlorine in the water should be between 0.2-0.5 mg/l, which can be determined using a special test kit.

**Vaccination against hepatitis A**

- The use of hepatitis A vaccines for mass immunization is not recommended.

Vaccination of high-risk groups, such as persons involved in the management of drinking water, waste water or sewage might be considered.

**Malaria prevention**

Insecticides: flooding does not necessarily lead to an immediate major increase in mosquito numbers, and there may still be time to implement preventive measures such as indoor residual spraying, or the retreatment/distribution of ITNs

- in areas where their use is well-known. This will also have an effect on other mosquito-borne diseases.
- Early detection: it is import-

ant to track weekly case numbers and provide laboratory-based diagnosis (perhaps only for a % of fever cases to track the slide/test positivity rate), to pick up the early stages of a malaria epidemic.

Free medical care: with artemisinin-based combination therapy should be provided when a falciparum malaria epidemic is confirmed, and an active search for fever cases may be necessary to reduce mortality in remote areas with reduced access to health care services.

Insecticide-treated bed nets (ITNs) are now a major intervention for malaria control.

**Health education**

- Promote good hygienic practice.
- Ensure safe food preparation techniques.
- Ensure boiling or chlorination of water.
- Vital importance of early diagnosis and treatment for malaria (within 24 hours of onset of fever).

**Long term measures**

Legislative/administrative issues

- Create Disaster-Preparedness Programmes and Early Warning Systems.
- Improve surveillance on a local, national, international and global level.
- Promote tap-water quality regulation and monitoring.
- Enforce high standards of hygiene.

**Technical issues**

- Improve water treatment and sanitation.
- Keep infectious disease control programmes active and efficient.

**Tips to Prevent Dengue Fever**

Incidence of dengue is increasing day by day. Dengue fever is a viral disease which not only found in rainy seasons but can also found in any season. It is the vector borne disease transmitted by the bite of *Aedes* mosquito. It takes around 3-14 days for symptoms to appear.

Typical symptoms of dengue include mild to high fever, severe body ache, headaches and even rashes on skin. Dengue hemorrhagic fever which includes abdominal pain, vomiting, bleeding is potentially lethal complication, affecting mainly children.

So, it is always better to take precautions than treatments. Let's have a look on Top 10 Tips to Prevent Dengue:

- Keep water vessels clean and covered.
- Do not keep tray under air conditioners as it can increase nest of mosquitoes.
- Water in flower vases should be changed daily.
- Always use mosquito repellants.
- Wash unused utensils at least once in week and keep them dry.
- Clean your walls, edges of the house in the kitchen, comfort room, bathrooms at least once a month.
- Check canal and scupper drains where stagnant water builds up.
- Always use mosquito net at home so that you will be protected from mosquito bites.
- Apply mosquito repellents on your skin which are generally in lotion form and safe to use too.
- Keep your door closed and windows screened at evening and night time



## PUBLIC AND ENVIRONMENTAL SAFETY

### Fishing figures

Source: *The Express Tribune, September 25, 2013*

Around 300 water bodies, including the river, canals and lakes are illegally occupied by influential people across the province. "There are around 1,209 water bodies in Sindh, according to the fisheries department record but 200 to 250 of them have dried up," Shah added.

Quoting the official figures, he said the annual production from this inland fishing stood at around 185,000 tons per annum while the marine fishing is far higher with 485,000 tons a year. "The estimated revenue generated from inland fishing is in billions of rupees every year but the fishermen are deprived of taking due share from it," Shah said, adding that the provincial government collects only paltry taxes from it. According to him, only Rs17.5 million were collected in taxes last year.

### The law

Under the law, the Sindh Fisheries Department issues licences not leases to an individual fisherman. This law allows fishermen to use only one boat per licence for fishing through the year, except for the time when fishing is banned across the province due to environmental reasons.

The fisheries deputy director, Ghulam Mujtaba Wadhar, while addressing the seminar, was unable to share figures of the licences issued. Wadhar said the fisheries official in every district take action against illegal activity and register cases against the suspected offenders. Despite all his claims, he failed to share the details of the cases registered so far.

### Fishermen's concerns

"We continue to live under the threat of the influential people that if we dare fish in the waters, our families will face the consequences," said Muhammad Hussain Mallah, a fishermen from Hamal lake in Qamabar-Shahdadkot district. He maintained that even if fishermen can get licences they will be of no use because the people occupying the water bodies will never let them fish. "There are 20,000 to 25,000 fishermen living around the water bodies, which are under illegal occupation of some 300 to 400 influential people and the earnings, which should be shared by these thousands of fishermen are snatched by these handful of bullies," says Hussain Mallah, who hails from Togachi lake in Sanghar. Advocate Sattar Sarki who has previously fought numerous cases on behalf of the fishermen, blamed the government for failing to implement the law. He said the poor fishermen feel too frightened and face lack resources to start litigation against the influential people. "The department should put in place an effective monitoring system so that anyone indulging in illegal activity is booked under the law," he suggested. Sindh Agriculture and Forestry Workers Organisation's Suleman G. Abro pointed out the issues in accessing markets, getting a fair price of their catch and about curbing exploitation by the middlemen.

## Hydrogen Centre can resolve energy crisis thru environment friendly solutions

Source: *The Nation, September 02, 2013.*

LAHORE - The International Association of Hydrogen Energy (IAHE) has asked the government to approve special funds for establishing Hydrogen Research



Centre with a view to resolve energy crises through environment friendly solutions.

The IAHE Pakistan Chapter president Dr. Syed Zafar Ilyas, in a letter to Punjab CM Shahbaz Sharif, has observed that looking at the present scenario of energy crisis, the govt has to take colossal decisions, harnessing the alternate sources of energies to improve the growth rate of economy.

"The only solution is to exploit renewable energy sources preferably the clean energy source, i.e., hydrogen energy (the future energy). There is already an innovation made to use hydrogen gas as a source of energy despite the fact the gas is inflammable but hydrogen fuel based combustion engines are in operation today on a limited scale. The people of Pakistan get most of its energy (about 80pc) from fossil fuels and wood at the expense of great damage to the forests of the country and environment. Renewable energy technologies are initially expensive but the conditions of weather in Pakistan would make it acceptable provided scientific efforts are put in a right direction."

Dr. Syed Zafar Ilyas maintained that the hydrogen energy is considered as a solution to the interrelated global problems of depletion of fossil fuels and environmental damage caused by the combustion of fossil fuels through the greenhouse effect, acid rains, ozone layer depletion, pollution and oil spills. The emerging concept caught the imagination of many scientists, engineers and research projects on the hydrogen energy, he added. Projects on hydrogen energy were started in many universities and research organizations around the world.

"Our neighboring country, India has already spent billions of dollars on hydrogen energy research and education programmes. The hydrogen energy was found to be a viable system to replace the present fossil fuel consumption not only by researchers, but also by established industries and industrial entrepreneurs. As a consequence of its unique properties, hydrogen has been making roads in many sectors of the energy system."

He observed that more than 38 years have passed since the hydrogen energy was formally proposed at The Hydrogen Economy Miami Energy (THEME) Conference, March 1974, Florida, as an answer to the global energy and environmental problems. Since then, there have been many accomplishments in every front from the acceptance of the concept as an answer to the energy and environment related global problems to research, development and commercialization. Dr. Zafar Ilyas stated that Pakistan is a fast developing country with growing energy requirements. The country would greatly benefit from the hydrogen energy conversion system for electricity production. "Govt has consistently sup-

ported research and development pertaining to the solutions of energy and environmental problems. We need a strong R&D Program on Hydrogen Energy. At the same time, the energy requirement of Pakistan is growing, while the environmental problems, especially pollution, caused by the combustion of fossil fuels are increasing at an alarming rate.

## Fishy business: Influentials hold inland fishing sources despite law

Source: *The Nation, September 02, 2013.*

HYDERABAD: It has been years since the Sindh Fisheries Amendment Act, 2011, was enacted, its implementation, however, remains elusive to the advantage of a few.

The law was framed chiefly to end the contractual system that benefited only a few feudal and political lords but it has yet to be implemented. To this day, fishermen remain at the mercy of their local lords. At a seminar titled 'Implementation of Law for Abolition of Contract System' on Monday, the speakers



described how the old system of dominance by a few, to the detriment of many, persisted in a modified form.

"The 2011 amendment although did away with the old lease system that gave whole water bodies [canals, lakes, etc] to individual contractors but still illegal occupation by former contractors and influential people continues," said Muhammad Ali Shah, the chairperson of Pakistan Fisher folk Forum, which organised the event.

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# SCOPE OF ROOFTOP SOLAR RENEWABLE ENERGY IN PAKISTAN

(By Sidrah Hafeez)

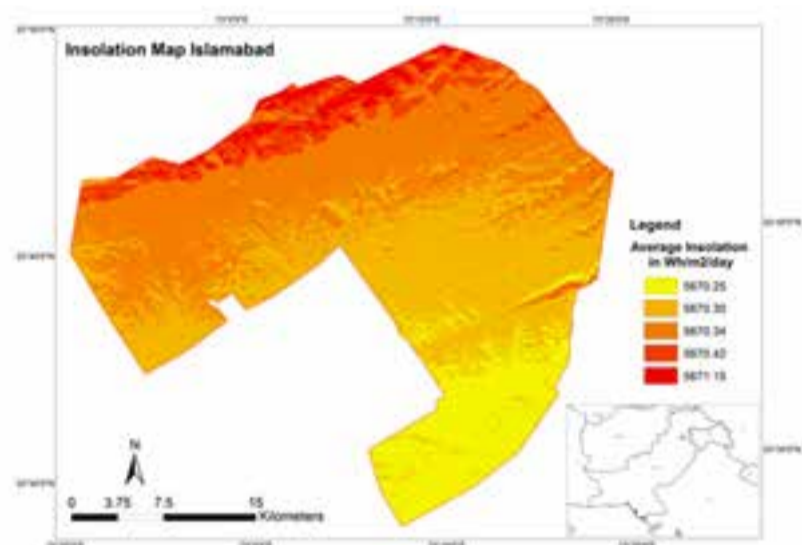


Increase in price of fossil energy, growing concern of environmental preservation and high risk of unstable electricity supply in the country leads to the search for alternative energy resources in order to attain sustainable economic development. Pakistan is rapidly growing house hold electricity consumption country. There is approximately 9% increase in domestic consumption in recent years while consumption in other sectors like commercial, industrial and transportation is also expanding by 2.8, 3.8 and 4.6%, respectively (Tariq, nasir, & Arif, 2010). According to Pakistan energy year book 2012 major energy generation sources are gas (29%) oil (35.2%) and hydro (29%). Currently per day electricity demand of Pakistan is around 14,000 to 15,000 MW, and the demand is likely rise to approximately to 20,000 MW per day by end of 2014. Per day production of electricity is about 11,500 MW so Pakistan is facing 3000 to 4000 MW of shortfall per day. The continuous shortage of electricity shortfall has badly affected almost every aspect of life, most notable the economic growth (Khan & Ahmed, 2010).

Government now realizes that to ensure energy security and sustainable development in the country, there is need to diversify its energy mix. Energy consumption statistic shows that 45% of energy is consumed by households in country (Tariq, nasir, & Arif, 2010). In order to attain sustainability, energy mix for residential use should diversify with renewable energy trends.

Among various alternative energy sources, Photovoltaic (PV) technology now has established itself as a viable environmental friendly source of energy. In present energy crisis situation in Pakistan, using rooftop for solar renewable energy without the need of any additional land is feasible idea as consuming agricultural land for solar field is threat to food security. Geographical Information System (GIS) is very strong tool to determine the suitable location to install the PV solar Panels on rooftop. (Lopez, Roberts, Heimiller, Blair, & Porro, 2012). According to National Renewable Energy Laboratory (NERL), Pakistan on average receive solar radiation energy of 5.4 KWh/day which is very good amount of solar radiation in terms of solar panel system installation. Renewable source of energy for residential sector can solve energy crisis situation of Pakistan to large extent. Pakistan has enormous potential of renewable energy production but still it is not properly used except some hydro-electric power plants (AEDB, 2006).

Photovoltaic (PV) is a technology in which direct electricity is generated from solar radiation. Solar panels used for Photovoltaic are composed of number of solar cells containing a photovoltaic material. Solar energy is being used in many areas of world for electricity generation. Different countries generated whole city's solar radiation maps

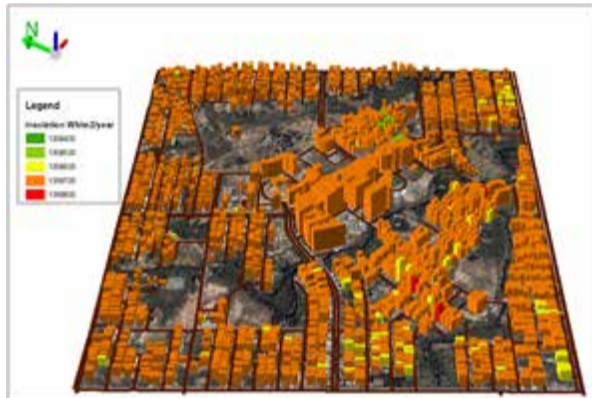


Islamabad Solar Radiation Map

and calculated total rooftop areas suitable for solar energy. Mostly ground observation data of pyrometer is used for solar radiation calculations but solar analysis can also be done very accurately with GIS techniques.

Islamabad has average solar radiation around 5.3 kWh/m<sup>2</sup>/day thus has large po-

tential for solar energy as renewable energy. 3D solar rooftop is a sophisticated technology and provides better view, management and support in decision making process. Total rooftop area suitable for solar system is very important factor to estimate solar system integration installation and output. First time scalable methodology for rooftop solar energy using sampling of various GIS data was proposed in Spain in 2008 (Izquierdo et al., 2008).



3D view of Received solar radiation F-11 Islamabad

This case study presents the finding of potential of rooftop energy in F-11 sector Islamabad which was tested for Digital elevation model of 1m resolution as input and GIS techniques to calculate rooftop area suitable for solar panel installation using environment, social, physical and economic factors. The study area is north western part of Islamabad and is surrounded by F-10 sector, E-11 and G-11 sectors. The study area lies from 33° 40' 50" to 33° 41' 08" north latitudes and 72° 58' 27" to 73° 00' east longitudes. The total area of the sector is 2 kilometers square, about 0.7 Kilometers square consist of built up area with total 1700 buildings includes residential, commercial, educational, religious, organization headquarters and community center thus variety of rooftop size and type exist in sector. Average Insolation of F-11 sector is about 5.4 Wh/m<sup>2</sup>/day with average of 7 peak solar hours. Geographical Information System (GIS) have attained a high level of maturity and emerged as a powerful tool to build solar energy strategies and to integrate other technologies to develop flexible and efficient energy systems. For calculating total rooftop area in region suitable for solar panel factors such as shading, other uses, orientation of rooftop, material used for roofing, PV panel efficiencies and average solar radiation in the region are of core importance. Varying demand and supply of energy with seasonal variation can be calculated by using these technologies (Wiginton, Nguyen, & Pearce, 2010). Photovoltaic energy is considered as reliable source but it is expen-

sive so accurate analysis are very crucial. 3D orientation of building provides better view to analyze PV system installation and output.

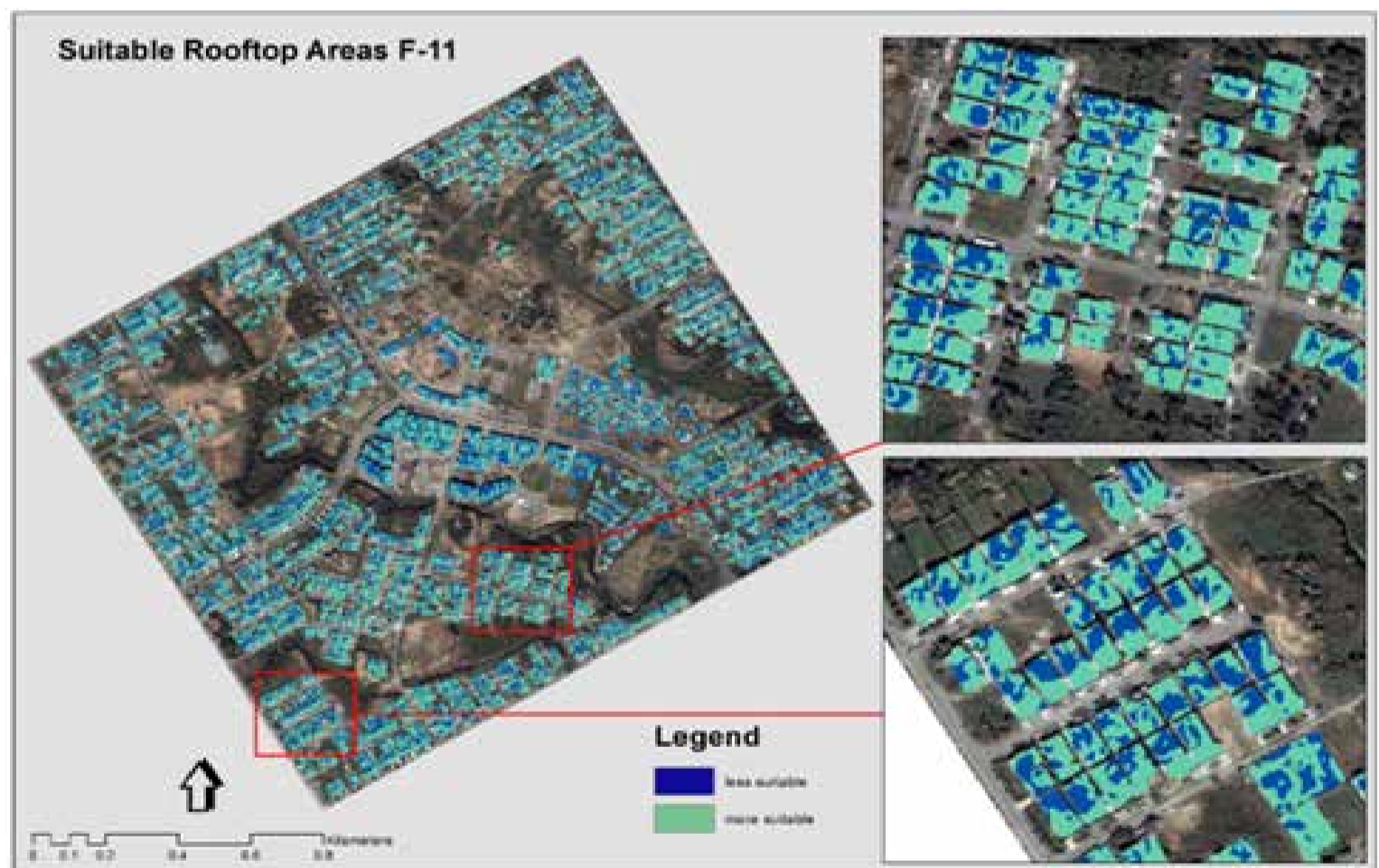
Result of research shows Islamabad on average receives solar radiation of 5.6 KWh/m<sup>2</sup>/day, data of Meteorology Department showed solar radiation for year 2012 was 5.35 Wh/m<sup>2</sup>/day for Islamabad. Area solar tool insolation output value is 5670 Wh/m<sup>2</sup>/day for Islamabad considering clear sky parameter. According to Meteorological Department data, per year calculation value of whole Islamabad is 1.938787 MWh/m<sup>2</sup>/year. Solar Area tool insolation output value is 1.873233 MWh/m<sup>2</sup>/year and 4359.4 peak solar hours for whole Islamabad city. Both values (value of PMD data and value calculated by solar area tool) are very close. Research showed solar radiation 1.335821 MWh/m<sup>2</sup>/year with average value 5686 Wh/m<sup>2</sup>/day and 4359 solar hours per year.

This study suggests suitable rooftop locations for solar panel system installation considering environmental, physical, and economic factors. Other software along with Arc GIS was used for analyzing the reliability of system.

The study revealed that 0.4 km<sup>2</sup> of rooftop area is suitable for PV system installation while total buildup area is .66 km<sup>2</sup>. Yearly insolation calculations with monthly intervals suggested that residential and commercial buildings

Both isolated and gridded Photovoltaic (solar panel) systems can be installed, solar panel module of 190 W, 200 W and 300 W are best available in market for 400-500m<sup>2</sup> which cost approximately RS150/watt on average and total system cost approximately 2.5 to 3 lac rupees with 15-20 year warranty considering average house hold size of study area. When this cost is compared with monthly billing cost (considering current electricity rate of IESCO results shows that electricity billing cost would be about 5.5 lac rupees (for 20 years). Shadow analysis showed that 5-10 % of rooftop remains under shadow casted by adjacent building or close trees. Tree growth model suggest that this shadow increases 15-20 % after 20 years thus reducing the efficiency of installed module on rooftop.

The findings of the research can be used to launch pilot initiative for installation of rooftop PV system in Islamabad using GIS techniques. The cost benefit analysis of the PV system strongly suggest need of innovations from the organization working on renewable energy projects, decision makers and investor. The installation of isolated or gridded PV systems using rooftops can certainly help diversifying energy mix in Pakistan without required large amount of land or infrastructure development. Most importantly, such alternative energy projects will reduce the heavy cost of importing fossil fuel for energy.



Suitable Rooftop Map for solar panel installation F-11 sector Islamabad

receive 200MW of insolation in June and in 70MW in December which is very sufficient amount for PV panel installation. Suitability model and 3D shadow suggested that on average 400-500m<sup>2</sup> area of residential rooftop per building is suitable for solar panel installation.

# DISTRICT PESHAWAR



By Badar Gillani

The energy requirements of all the households, commercial, and industrial units in district Peshawar are spread across following four main categories

- Electricity
- Natural Gas
- Liquefied Petroleum Gas
- Petroleum Products (mainly Petrol and Diesel)

A small fraction of the total energy consumption is also met by the following energy resources. The data on these additional resources is sparse and hard to find for detailed analysis.

- Coal
- Firewood
- Solar Energy (Solar Panels for household and commercial purposes)
- Hydel power (Grinding Mills on Canals and Stream)

## Electricity

The electricity demand of the 0.42 million energy consumers is mainly provided and met by Peshawar Electricity Supply Company through a mature and well spread electricity distribution network. District Peshawar, by having Warsak Hydel Power Plant within its boundaries, is one of those districts, which have local production resources and contribute in producing electricity for the national grid.

The electrical distribution network and customer service in the district is managed by a total of 5 Divisional and 27 Sub Divisional Offices. The total installed capacity of transformers in the grid stations across the district is approximately 950 MVA. This translates into the a very interesting fact that the current Grid and Substations infrastructure can only meet a maximum of 950 MW of energy demand in the district. Primary mode of electricity generation is hydro and the installed capacity of hydro generation is 243 MW; whereas actual 1,052 Mill KWH. The total number of consuming units of electricity is 422,245 of which the highest percentage is of domestic units, which are 336,352. Below table gives a snapshot of the details of electricity consuming units.

## Number of Electricity Customers

Region	Domestic	Commercial	Industrial	Agriculture	Other	Total
City Rural Division	67,514	15,393	1,103	134	67	84,211
City Division	55,582	28,692	1,214	38	130	85,656
Cannt. Division	55,284	17,200	1,310	44	331	74,169
Rural Cannt. Division	78,796	6,723	1,160	235	67	86,981
Khyber Division	79,176	9,133	1,461	1,378	80	91,228
<b>Total</b>	<b>336,352</b>	<b>77,141</b>	<b>6,248</b>	<b>1,829</b>	<b>675</b>	<b>422,245</b>

The pricing tariff of the electricity is

- Rs. 4 to 20.50 per kwh from 50 to 700+ units for domestic customers
- Rs. 15.50 to 20.50 per kwh in off and peak hours for commercial units
- Rs. 17 to 20.50 per kwh in off and peak hours for industrial and agricultural units

## Gas and Fuel (Petrol and CNG)

Sui Northern Gas Pipeline Limited is the sole entity which provides and distributes natural gas in the district. Most of the areas in the district have access to this resource and currently 131,214 consuming units are utilizing this resource through approximately 900 kilometers of transmission and distributions pipeline network. Out of the total 132,214 units, 126,885 units are domestic, 3,732 are commercial, 144 are industrial, and a bulk supply is to other 453 units. Total demand of natural gas as of 30<sup>th</sup> June, 2013 was 310 MMCFD and the supply of this demand is fulfilled by contracting 212 MMCFD from other regions and 98 MMCFD from KPK.

Below table gives a snapshot of demand and supply from 2008 to 2013.

## Demand and Supply of Natural Gas in Peshawar

The pricing tariff of the gas for domestic sector including standalone meters and mosques, churches, temples and hostels. (Minimum charges are Rs. 143.29/month)

As on	Contracted	Available	Total	
30/06/2013		212	98	<b>310</b>
31/12/2012		206	101	<b>307</b>
30/06/2012		202	103	<b>305</b>
30/06/2011		191	86	<b>277</b>
30/06/2010		179	86	<b>265</b>
31/12/2009		172	65	<b>237</b>
30/06/2009		166	63	<b>229</b>
30/06/2008		158	67	<b>225</b>

- Rs. 106.14/MMBTU up to 100 cubic meter
- Rs. 212.28/MMBTU up to 300 cubic meter
- Rs. 530/MMBTU and 636.83/MMBTU for Roti Tandoor over 300 cubic meter

The commercial units are charged with a flat rate of 636.83/MMBTU with the minimum per month charges of 3,812.40 rupees. On the other hand the industrial units are charged at a flat rate of 488.23/MMBTU with the minimum per month charges of 16,436.14 rupees. Among heavy industrial units, Cement Factories are charged at a flat rate of 742.97/MMBTU and the minimum per month charges are 25,053.41 rupees.

There are close to 165 Petrol and more than 200 CNG filling stations to meet the district's energy demand related to transportation section. It is interesting to note that the number of CNG stations in the district surpasses the Petrol and Diesel stations by a margin of 23%. CNG price is 75.48/KG whereas the LPG prices are given as

- 100% Locally Produced = Rs.1,477 / 11.8 kg cylinder i.e. Rs. 125.16/kg
- 100 % Imported = Rs. 1,644/11.8 Kg cylinder i.e Rs. 139.32/kg
- Local & Imported Mix = 1,479 /11.8 kg cylinder i.e. Rs. 125.33/kg

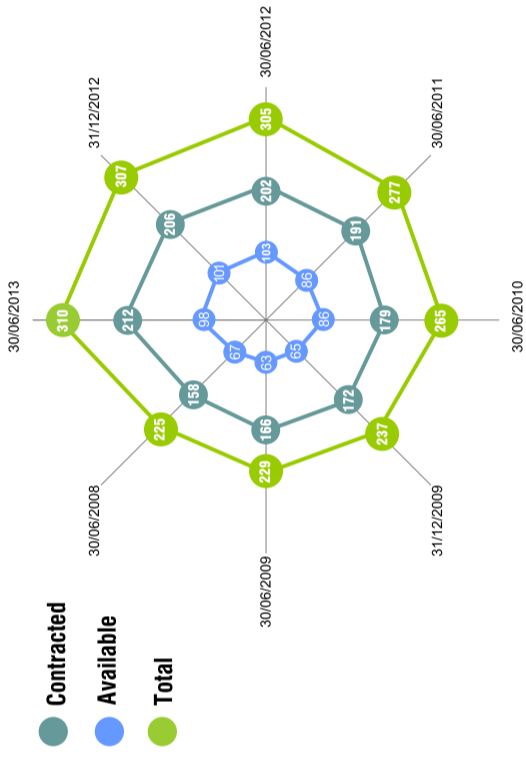
## Fuel Prices by type and provider in rupees

Type	Petrol	Diesel Oil
Admore	104.88	110.07
Askar	104.82	110.08
Attock Petroleum	104.80	110.06
Bakri Trading	104.81	110.07
Chevron	104.80	110.06
PSO	104.80	110.06
Shell	104.87	110.13
Total-Parco	104.80	110.10
Byco	104.81	110.06
Hascol	104.80	110.06

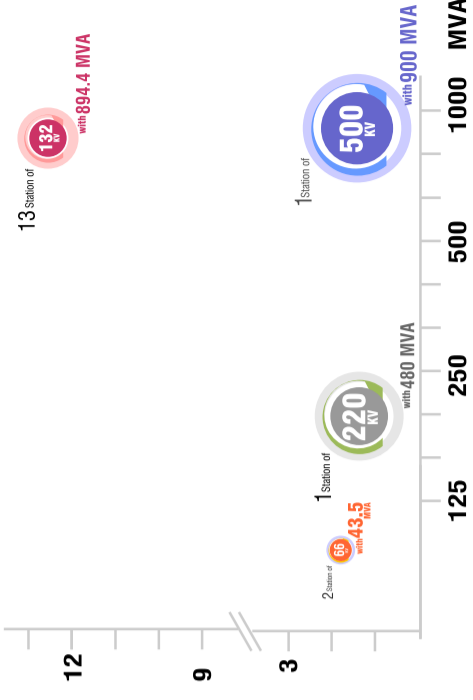
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# ENERGY INFOGRAPH - DISTRICT PESHAWAR, KHYBER PAKHTUNKHWA

## Natural Gas Distribution Capacity of Peshawar Region (MMCFD)



## Number of Grid Stations by Type and Installed Capacity



**Total Area**  
1,257 Km<sup>2</sup>

**Health Facilities**  
129

**Workforce**  
3,878

**Beds**  
4,187

**Literacy Rate (10+)**  
54%

**Urban**  
48.49%

**Total Population**  
3,091,240  
GR. 3.28

**Rural**  
51.51%

**Female**  
1,466,675

**Male**  
1,624,565

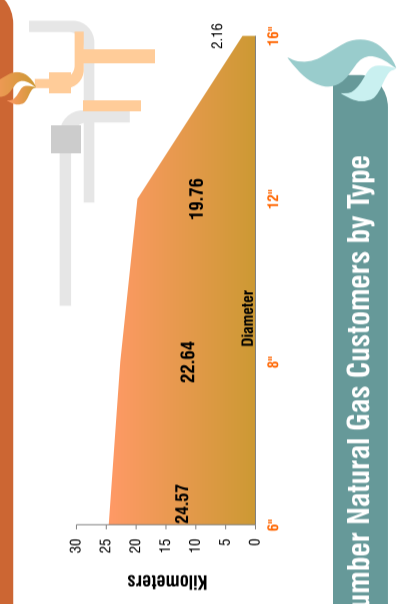
**Administrative Units**  
Tahsil = 1  
UCS = 92  
Mouzas = 279  
Patwar Circle = 94

**1998 Total Housing Units = 235,215**  
(52%) Pakka 122,685  
(48%) Other 112,530

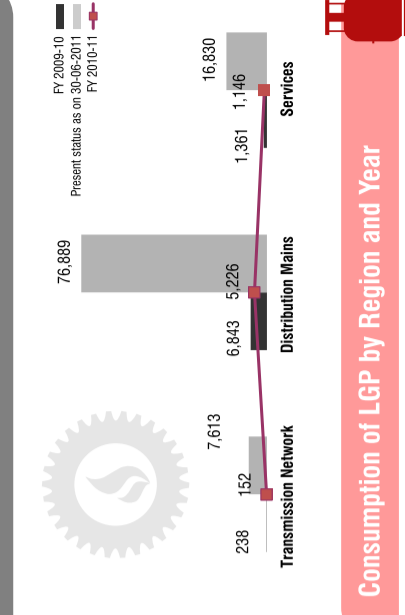
**Voters**  
1,375,597  
797,152  
578,445

**With Electricity**  
223,433 (95%)  
**With Gas**  
92,101 (39.15%)  
**With Piped Water**  
111,884 (47.6%)

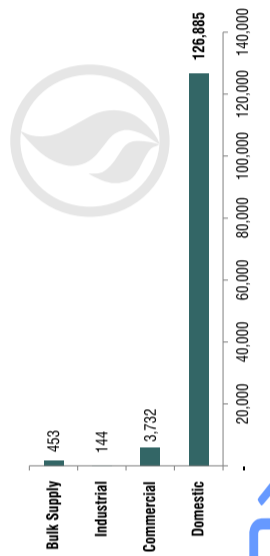
## SNGPL Gas Transmission Lines



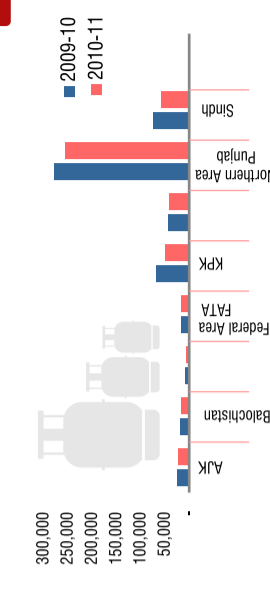
## SNGPL Infrastructure Network (Km)



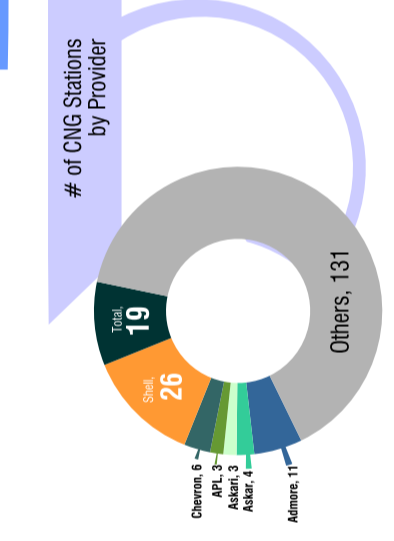
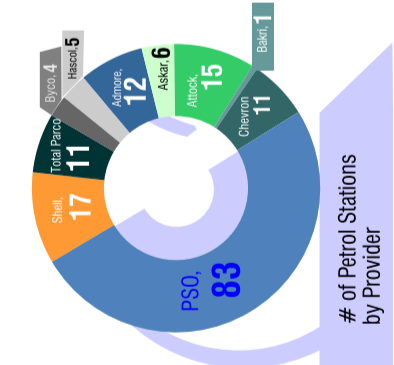
## Number Natural Gas Customers by Type



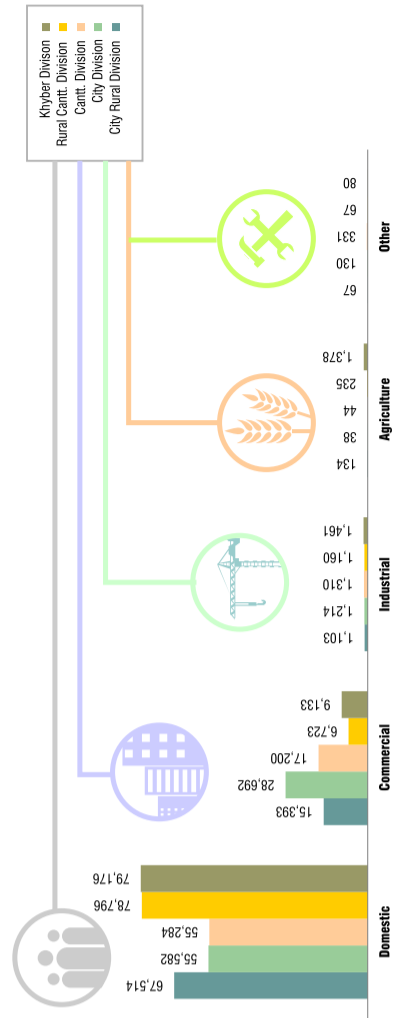
## Consumption of LPG by Region and Year



## Numbers of Fuel Stations by Providers



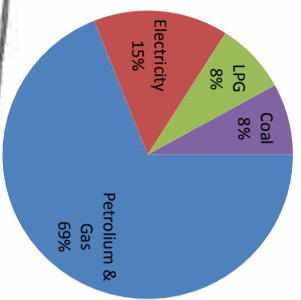
## Number of Electricity Customers by Region and Type



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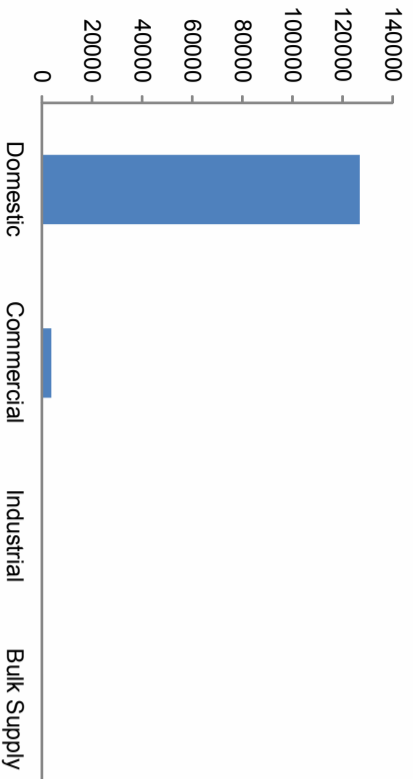
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Energy Consumption in Khyber Pakhtunkhwa

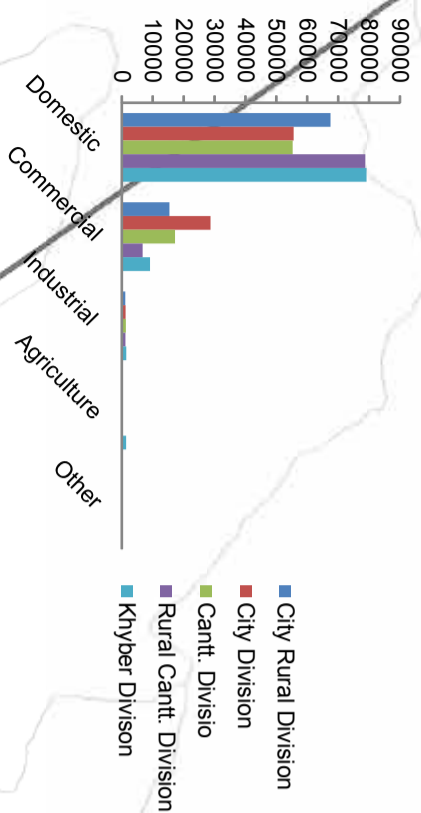


Grid Station Name	Transformer Details
132 KV Shahi Bagh	20/26 x 4
132 KV Pesh Cantt	20/26 x 4
132 KV Pesh City	20/26 x 2 + 40
132 KV Pesh Fort	20/26 + 40
132 KV Pesh University	20/26 + 40 x 2
132 KV Pesh Industrial	20/26 x 2 + 40
132 KV Maitani	20/26 x 2 + 5.4
132 KV Rehman Baba	20/26 + 10/13 x 2
132 KV Dalazak	10/13 x 1
132 KV Hayat Abad	20/26 x 2
132 KV Warsak New	10/13 + 20/26
132 KV Jamrud	20/26 x 3

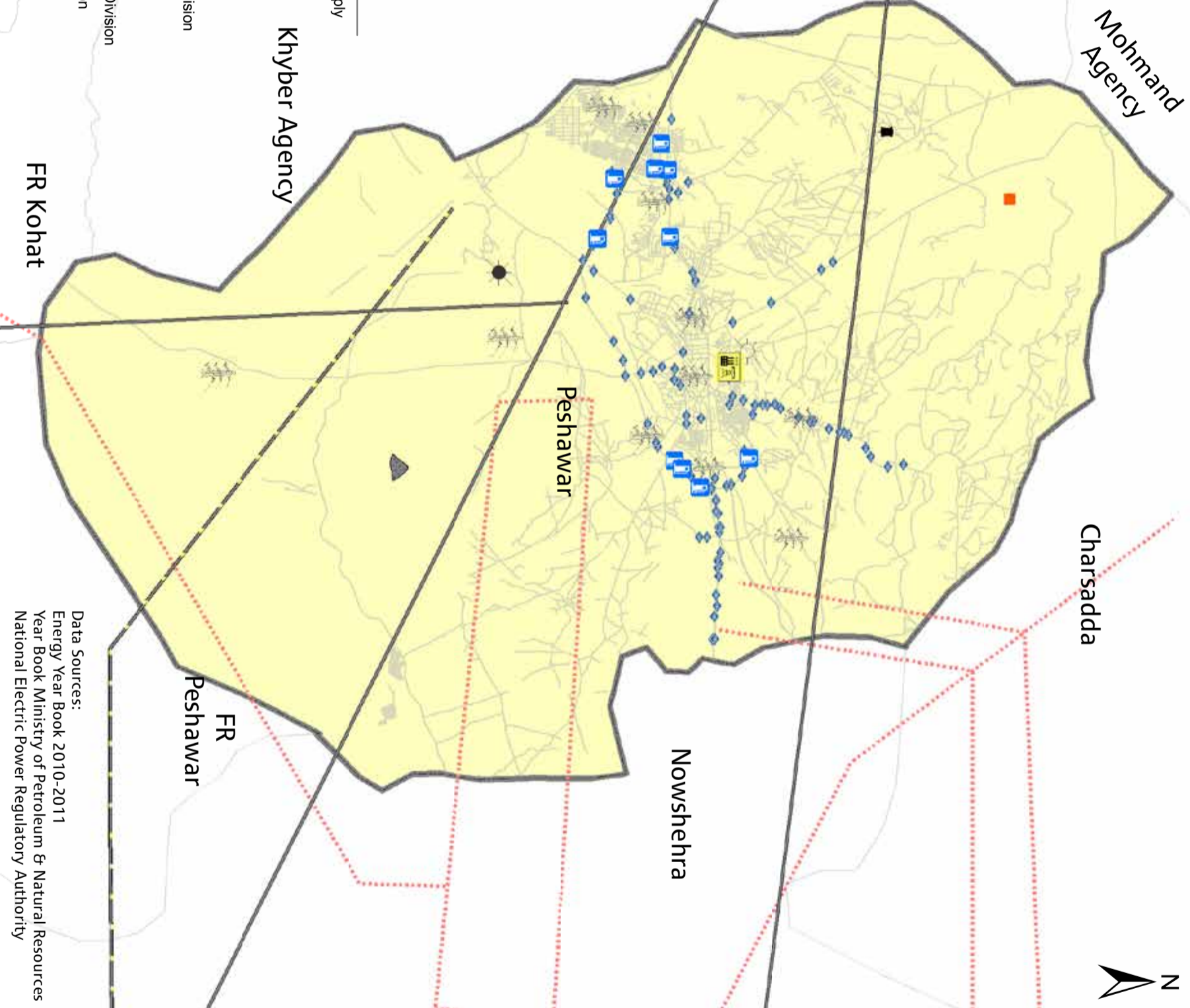
Gas Consumers



Electricity Consumers



- City Rural Division
- City Division
- Cant. Divisio
- Rural Cant. Division
- Khyber Division



- Legend**
- PESCO
  - Grid Station (132 KV)
  - Oil Storage Existing
  - Oil Storage Planned
  - Petrol Pump
  - CNG Station
  - Power Station
  - Silica Sand
  - Argonite Marble
  - Aviation Filling Satton
  - Transmission Line
  - SNGPL Gas
  - Oil Pipelines
  - Peshawar Road
  - Peshawar Boundary

Date of Creation: September 06, 2013  
 Projection/Datum: WGS 84 Geographic

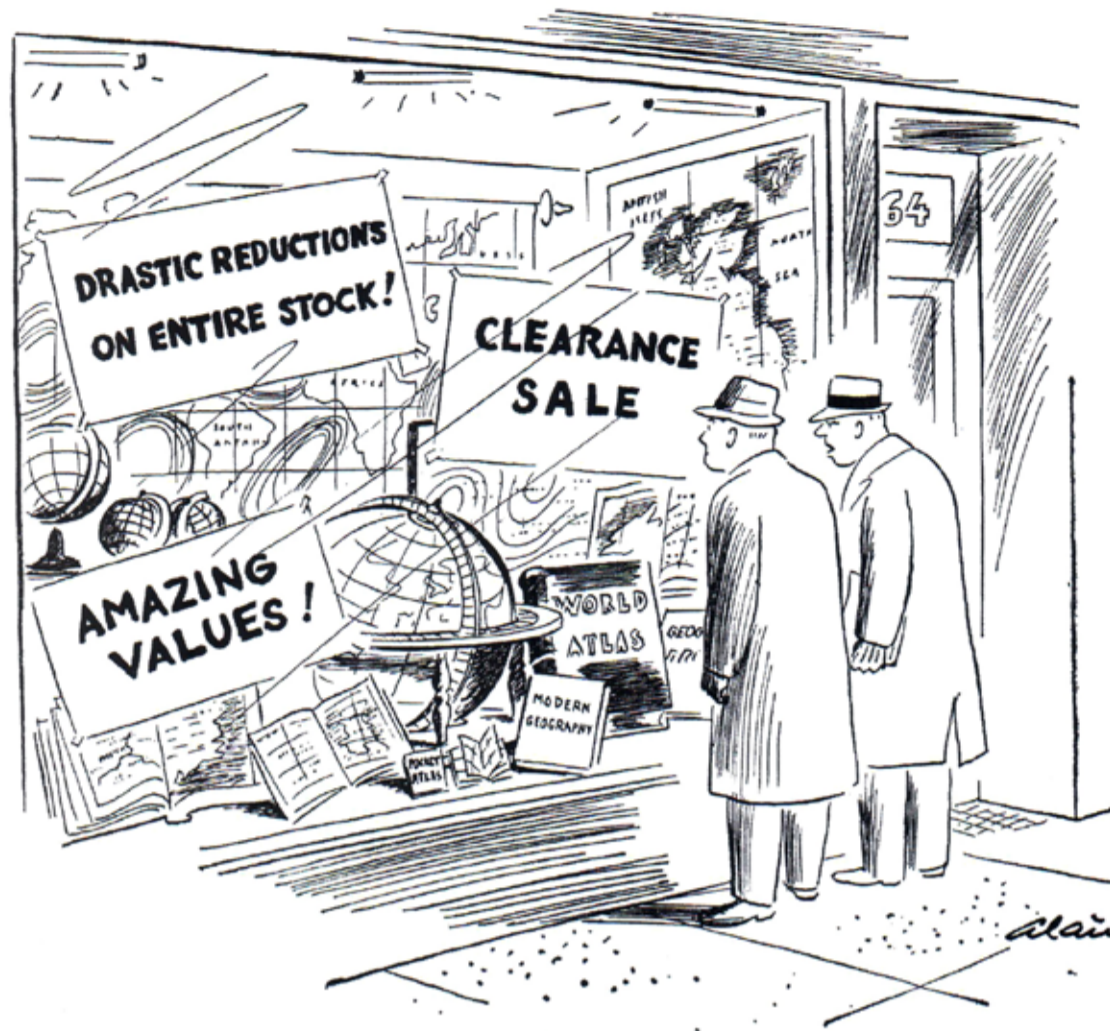


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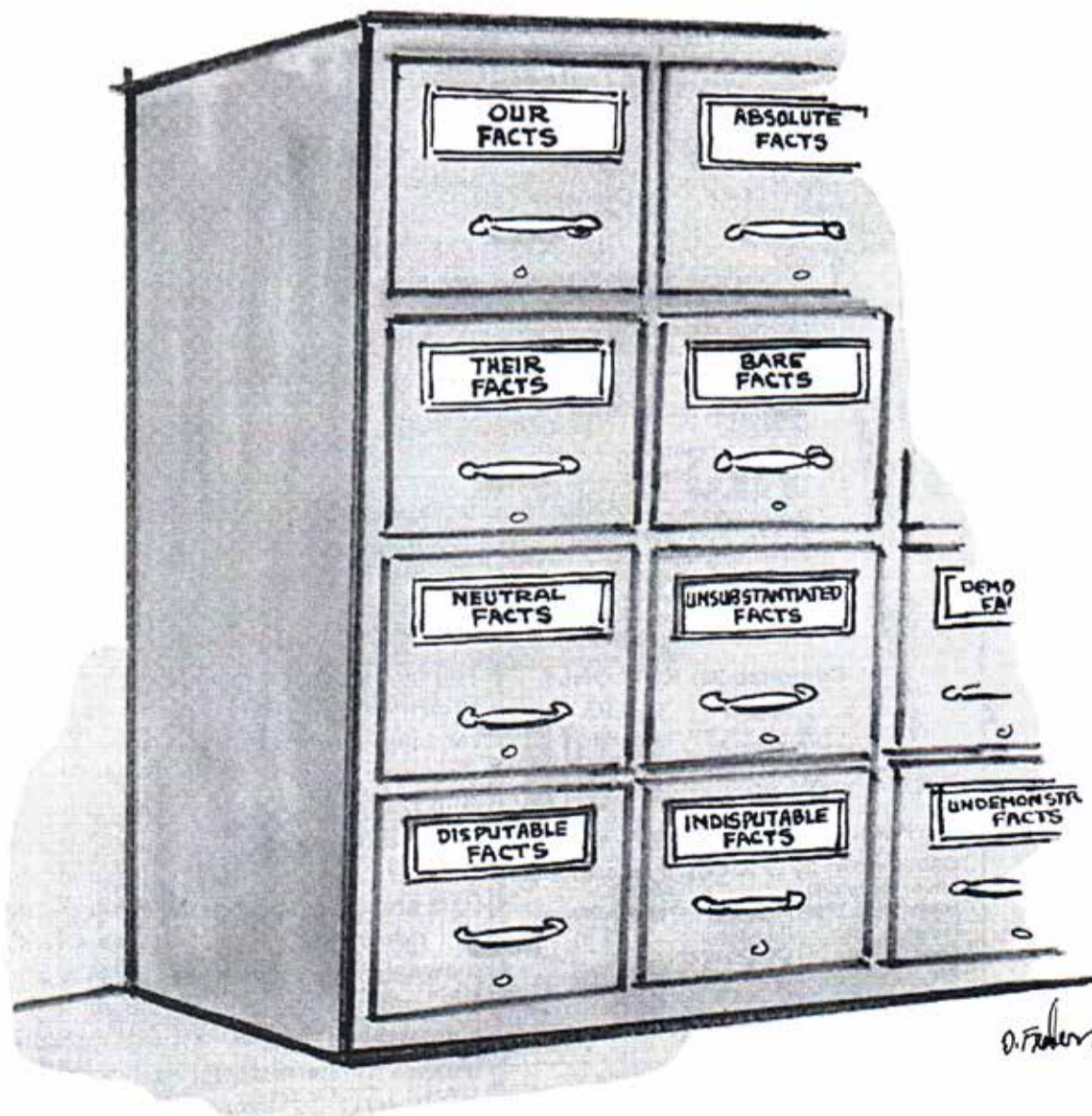
Data Sources:  
 Energy Year Book 2010-2011  
 Year Book Ministry of Petroleum & Natural Resources  
 National Electric Power Regulatory Authority



# Infotainment



*"Do you suppose they know something that we don't know?"*



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# Union Council Shahi Bagh, Peshawar Community Map

## Legend

-  Boys School
-  Girls School
-  Settlements
-  Police Station
-  Basic Health Units
-  Regional Highways
-  Main Roads
-  Local Streets
-  Union Council
-  Shahi Bagh

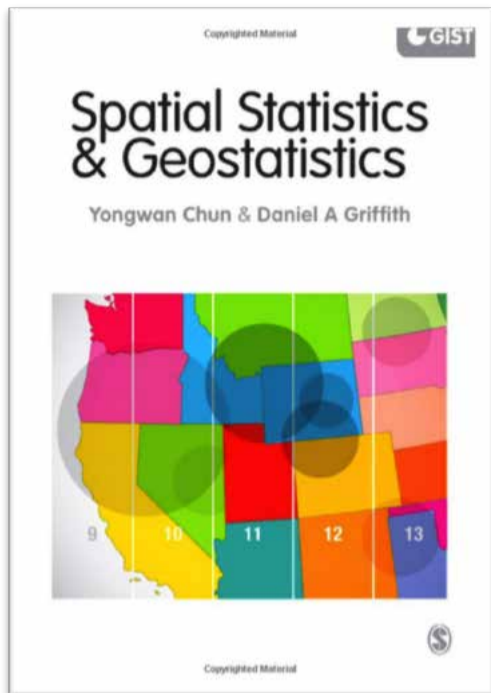


## Legend



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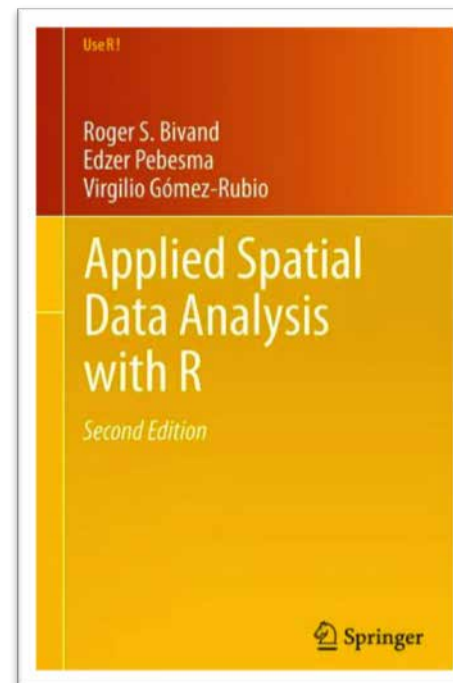
# Recommended Reading



Spatial Statistics and Geostatistics: Theory and Applications for Geographic Information Science and Technology (SAGE Advances in Geographic Information Science and Technology Series)

Authors: By.Yongwan Chun, Daniel-A:Griffths

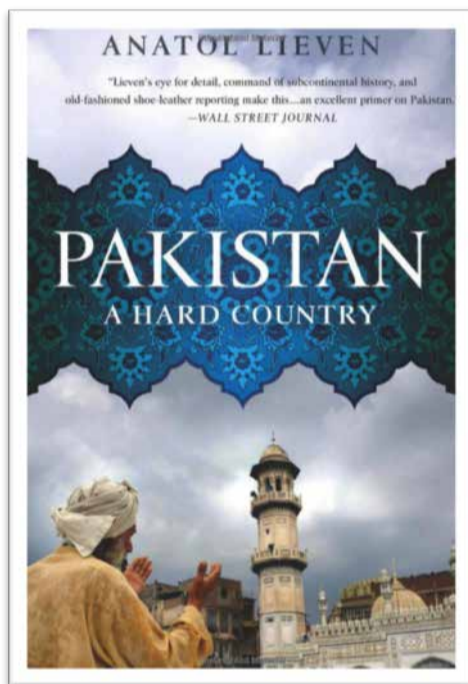
Publisher	Availability	Pages	Year
SAGE	www.amazon.com	185	2013



Applied Spatial Data Analysis with R, second edition, is divided into two basic parts, the first presenting R packages, functions, classes and methods for handling spatial data. This part is of interest to users who need to access and visualize spatial data. Data import and export for many file formats for spatial data are covered in detail, as is the interface between R and the open source GRASS GIS and the handling of spatio-temporal data. The second part showcases more specialized kinds of spatial data analysis, including spatial point pattern analysis, interpolation and geostatistics, area.

Authors: Roger S. Bivand, Edzer J. Pebesma, Virgilio Gómez-Rubio

Publisher	Availability	Pages	Year
Springer	www.amazon.com	423	2013



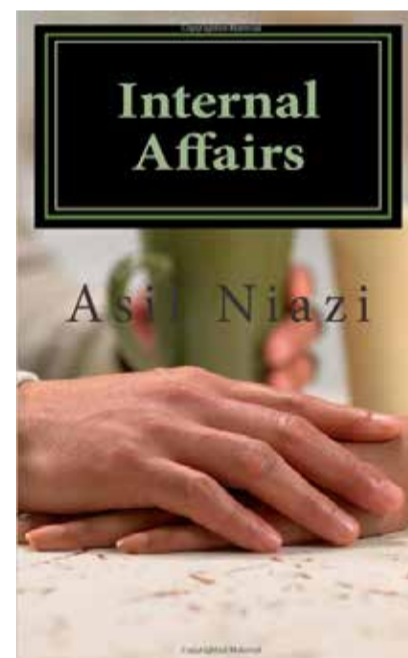
In the past decade Pakistan has become a country of immense importance to its region, the United States, and the world. With almost 200 million people, a 500,000-man army, nuclear weapons, and a large diaspora in Britain and North America, Pakistan is central to the hopes of jihadis and the fears of their enemies. Yet the greatest short-term threat to Pakistan is not Islamist insurgency as such, but the actions of the United States, and the greatest longterm threat is ecological change.

Anatol Lieven's book is a magisterial investigation of this highly complex and often poorly understood country. Engagingly written, combining history and profound analysis with reportage from Lieven's extensive travels as a

journalist and academic, Pakistan: A Hard Country is both utterly compelling and deeply revealing.

Authors: Anatol Lieven Top of FormBottom of Form

Publisher	Availability	Pages	Year
PublicAffairs	www.amazon.com	567	2012



Kamran, a United Nations employee in Pakistan, is deeply disturbed by the state of poverty in his country. The nefarious role of the army and religion has just become clear to him. But appreciation of the internal affairs of the country coincides with his falling in love with the beautiful Mona. The county is at the brink of war and she has to decide between east and west.

Internal Affairs is a literary fiction revealing the forces weaving the fabric of Pakistani society.

Authors: Asif Niazi

Publisher	Availability	Pages	Year
Amazon DS Inc.	www.amazon.com	204	2012

## OCTOBER EVENT CALENDER

Event	Location	Date	Further Information
Exchange for Change: Pakistan India 2012-2013 Exhibition	Karachi, Pakistan	October 1-, 2013	www.eventpakistan.pk
Gartner Symposium/ITxpo 2013	Orlando, FL, USA	October 6-10, 2013	http://www.information-management.com
GIS in Transit Conference	Washington, DC	October 16-17, 2013	http://www.urisa.org
8TH Annual MDM & Data Governance Summit	New York, NY, USA	October 20-22, 2013	http://www.information-management.com
ILGIS Fall Conference	Lisle, IL, USA	October 21-22, 2013	http://www.urisa.org



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